Changes to **92.2.4.1 Synchronizer**

Original	**Changes due to Comments / 833 / 987 & 690 / 670(aip) / 1013(aip) / 1035**
The synchronizer shall form a bit stream from the primitives by concatenating requests with the bits of each primitive in order from rx_data-group<0> to rx_data-group<15> (see Figure 92-##). It obtains lock to the 31*66-bit blocks in the bit stream using the sync headers and outputs 66-bit blocks, with the codeword structure being indicated by a locally generated sync header pattern. Lock is obtained as specified in the codeword lock state machine shown in Figure 92-##.	The synchronizer shall form a bit stream from the primitives by concatenating requests with the bits of each primitive in order from rx_data-group<0> to rx_data-group<15> (see Figure 92-10). It obtains lock to the 31*66-bit blocks in the bit stream using the sync headers and outputs 66-bit blocks, with the codeword structure being indicated by a locally generated sync header pattern. Lock is obtained as specified in the codeword lock state machine shown in Figure 92-10.
The incoming sync header pattern is 27 conventional (clause 49) sync headers (01 or 10), and then 00, 11, 11, and 00. The state machine performs a search for this pattern, and when it finds a perfect match of two full codewords (62 blocks), it then asserts codeword lock.	The incoming sync header pattern is 27 conventional (Clause 49) sync headers (binary 01 or 10), and then binary 00, 11, 11, and finally binary 00. The state machine performs a search for this pattern, and when it finds a perfect match of two full codewords (62 blocks), it then asserts the codeword lock.
When codeword lock is true, the decoder guarantees that the sync header of the last block in the codeword will be "11", and that no other sync header will have this pattern, even in the face of errors. This is achieved by forcing the first 27 sync headers to be conventional headers, and forcing the last four headers to be 00, 00, 00, and 11. This locally forced pattern then allows the subsequent FEC decoder logic to find the last block in the codeword with a trivial match of the sync header to 11.	When codeword lock is true, the decoder guarantees that the sync header of the last block in the codeword will be equal to the binary 11~~"11"~~, and that no other sync header will have this pattern, even in the ~~face~~ presence of errors. This is achieved by forcing the first 27 sync headers to be conventional headers, and forcing the last four headers to be binary ~~00, 00, 00, and 11~~ 00, 11, 11, and 00. This locally forced pattern then allows the subsequent FEC decoder logic to find the last block in the codeword with a trivial match of the sync header to binary 11.
	In addition, if the Persistent decode failure signal becomes set, then codeword lock is deasserted (this check insures that certain false-lock cases are not persistent.).

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The incoming sync header pattern is 27 conventional (Clause 49) sync headers (binary 01 or 10), and then binary 00, 11, 11, and finally binary 00. The state machine performs a search for this pattern, and when it finds a perfect match of two full codewords (62 blocks), it then asserts the codeword lock.	The incoming sync header pattern is 27 conventional (Clause 49) sync headers (binary 01 or 10), and then binary 00, 11, 11, and finally binary 00. The state machine performs a search for this pattern, and when it finds a perfect match of two full codewords (62 blocks), it then asserts the codeword lock.
When codeword lock is true, the decoder guarantees that the sync header of the last block in the codeword will be equal to the binary 11, and that no other sync header will have this pattern, even in the presence of errors. This is achieved by forcing the first 27 sync headers to be conventional headers, and forcing the last four headers to be binary 00, 11, 11, and 00. This locally forced pattern then allows the subsequent FEC decoder logic to find the last block in the codeword with a trivial match of the sync header to binary 11.	~~When codeword lock is true, the decoder guarantees that the sync header of the last block in the codeword will be equal to the binary 11, and that no other sync header will have this pattern, even in the presence of errors. This is achieved by forcing the first 27 sync headers to be conventional headers, and forcing the last four headers to be binary 00, 11, 11, and 00. This locally forced pattern then allows the subsequent FEC decoder logic to find the last block in the codeword with a trivial match of the sync header to binary 11.~~
When codeword lock is true, the decoder guarantees that the sync header of the last block in the codeword will be "11", and that no other sync header will have this pattern, even in the face of errors. This is achieved by forcing the first 27 sync headers to be conventional headers, and forcing the last four headers to be 00, 00, 00, and 11. This locally forced pattern then allows the subsequent FEC decoder logic to find the last block in the codeword with a trivial match of the sync header to 11.	~~When codeword lock is true, the decoder guarantees that the sync header of the last block in the codeword will be "11", and that no other sync header will have this pattern, even in the face of errors. This is achieved by forcing the first 27 sync headers to be conventional headers, and forcing the last four headers to be 00, 00, 00, and 11. This locally forced pattern then allows the subsequent FEC decoder logic to find the last block in the codeword with a trivial match of the sync header to 11.~~
When in codeword lock, the state machine continues to check for sync header validity. If 16 or more sync headers in a codeword pair (62 blocks) are invalid, then the state machine deasserts codeword lock.	When in codeword lock, the state machine continues to check for sync header validity. If 16 or more sync headers in a codeword pair (62 blocks) are invalid, then the state machine deasserts codeword lock.
In addition, if the Persistent decode failure signal becomes set, then codeword lock is deasserted (this check insures that certain false-lock cases are not persistent.).	