

FIG. 1

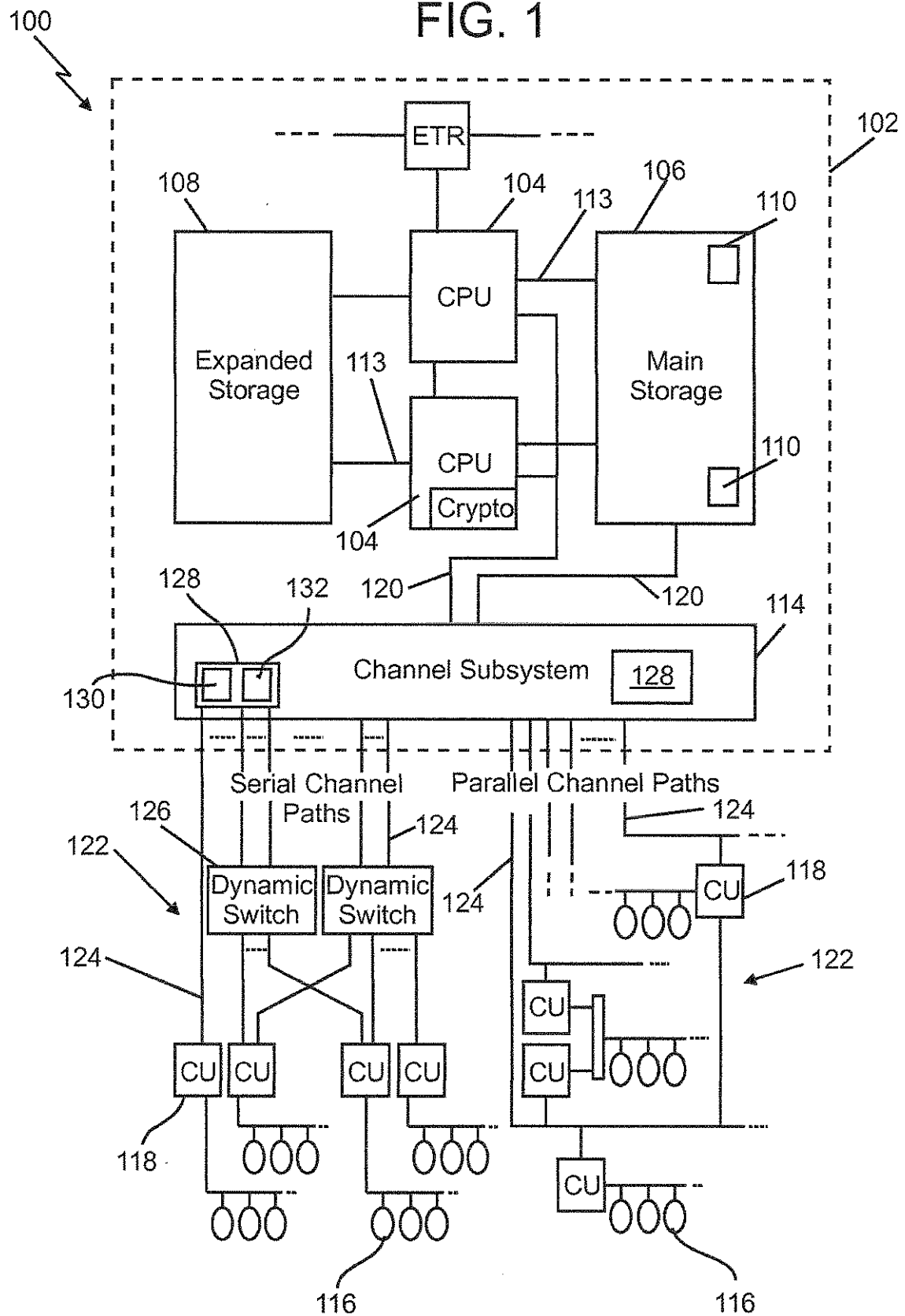


FIG. 2

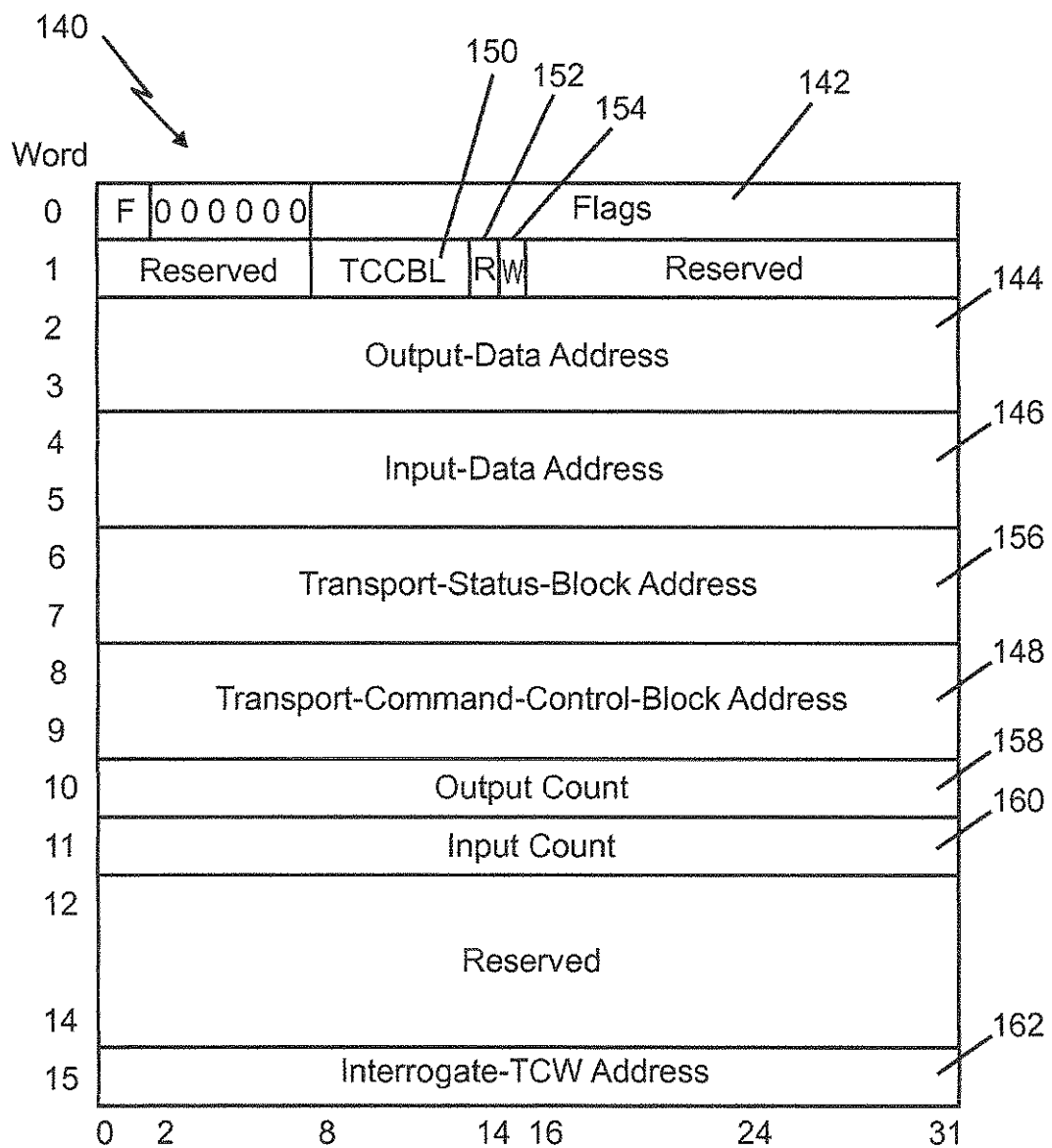


FIG. 3

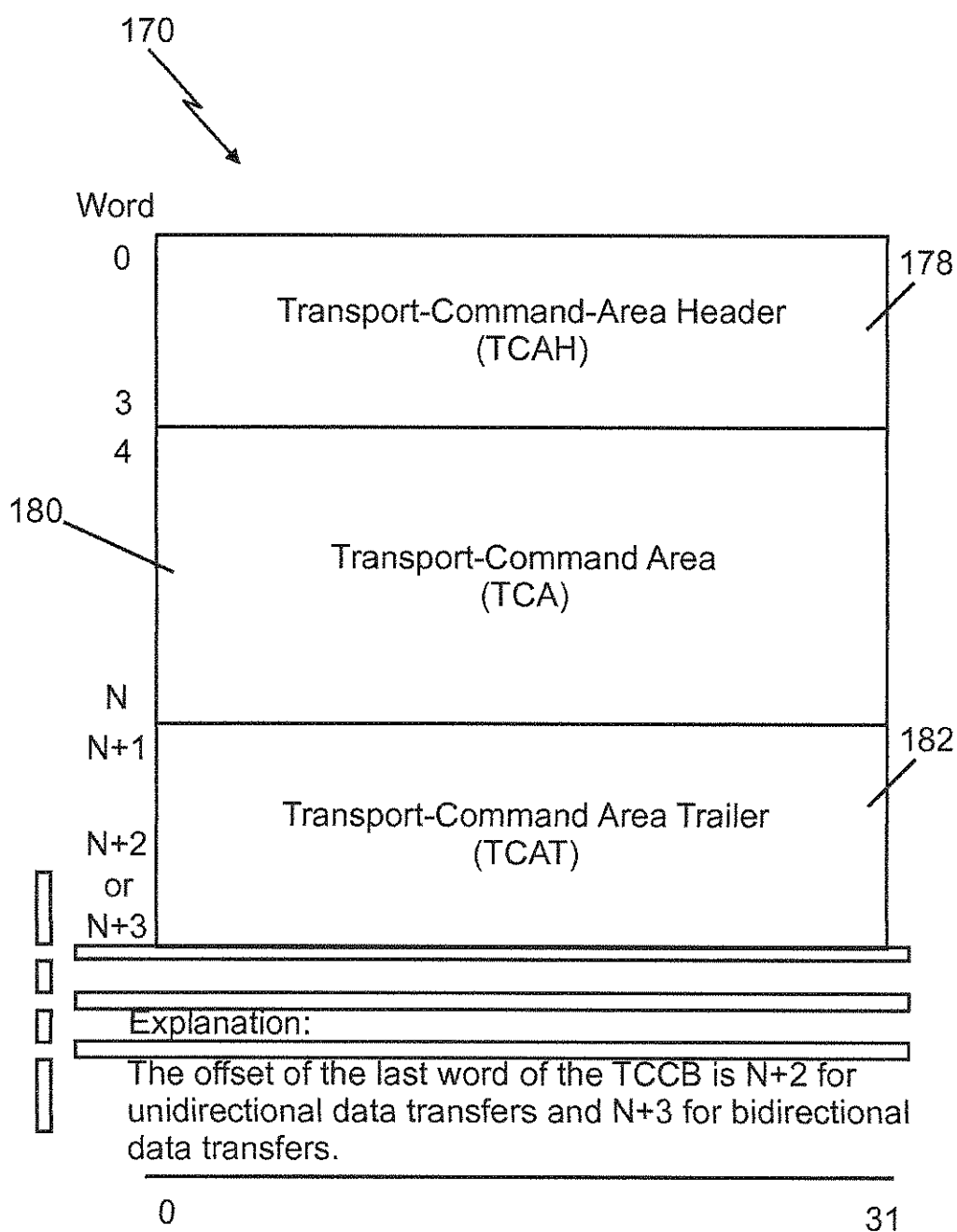


FIG. 4

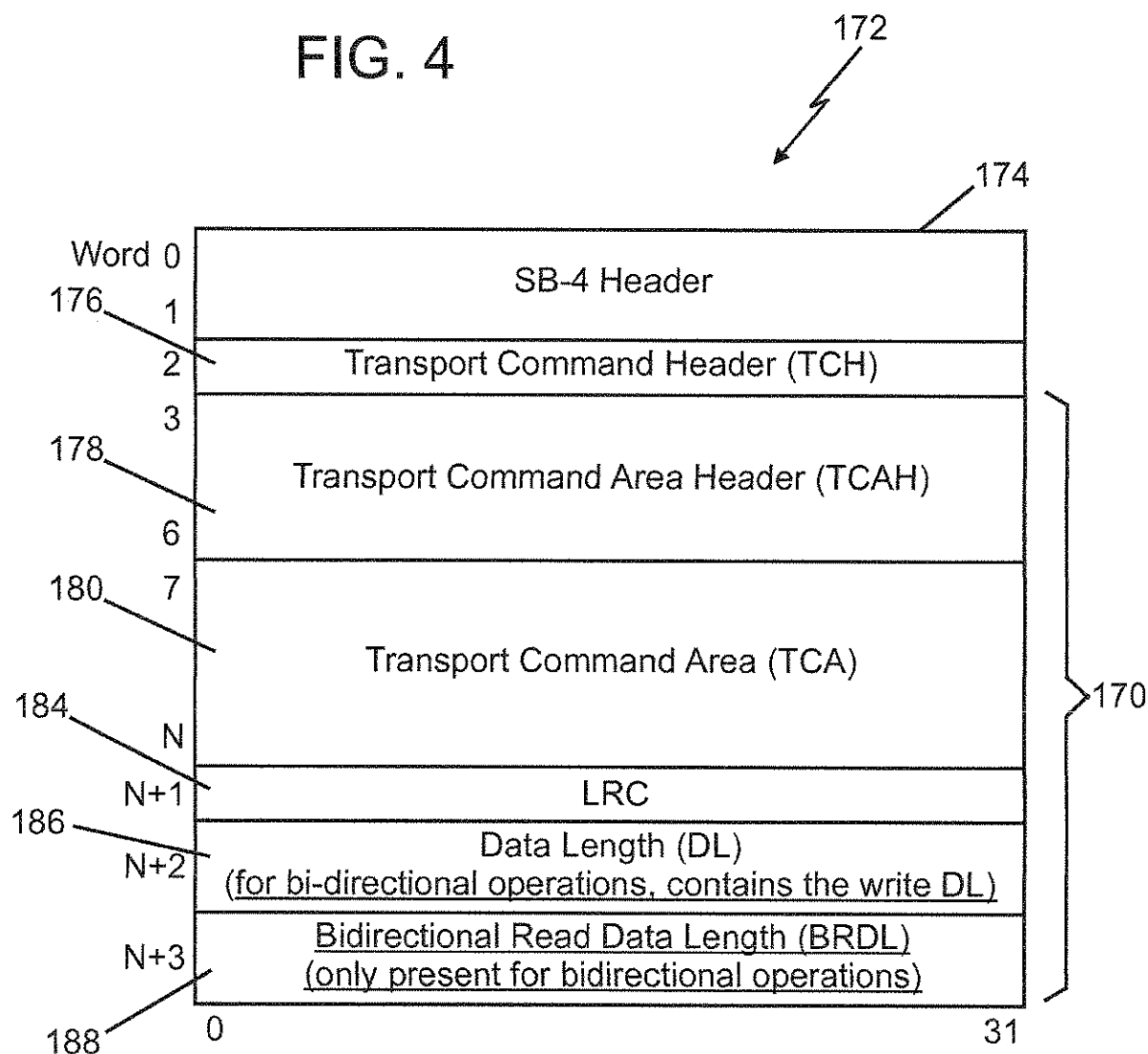
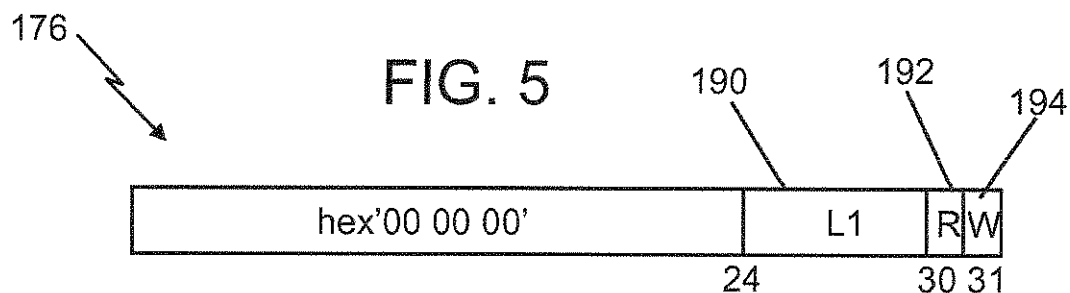
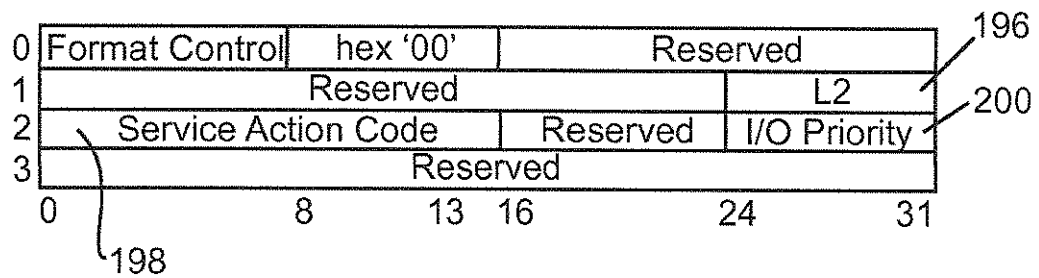


FIG. 5



178

FIG. 6



180

FIG. 7

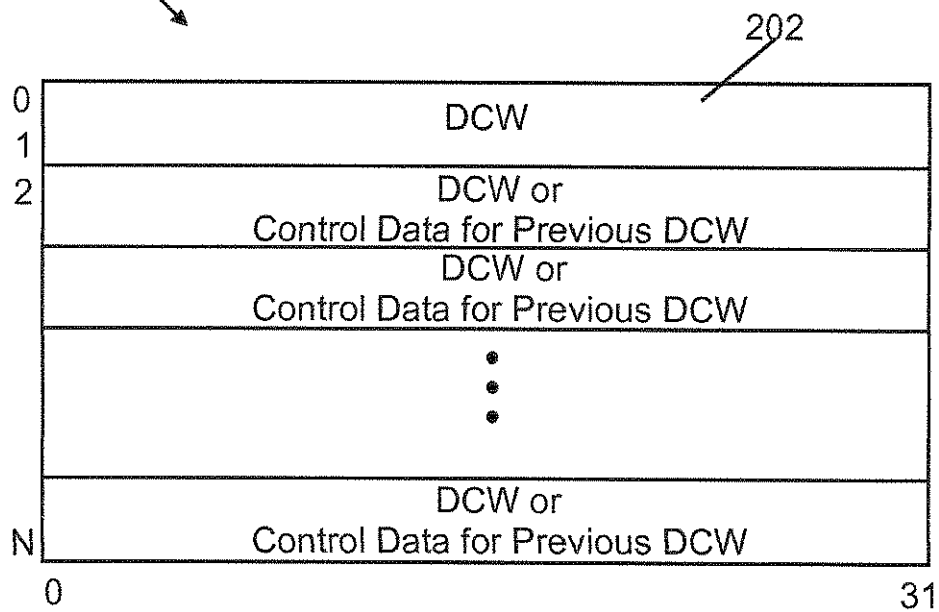


FIG. 8

Operation	TCW Input Count	TCW Output Count	TCAT Transport Count
Input operation (TCW R-bit is 1)	Sum of DCW count values in the TCA.	n/a	Sum of DCW count values in TCA, rounded to four, ² plus four ²
Output operation (TCW W-bit is 1), TIDAWS not used (TCW output-TIDA flag is 0)	n/a	Sum of DCW count values in TCA	Sum of DCW count values in TCA, rounded to four, ² plus four ²
Output operation (TCW W-bit is 1), TIDAWS used (TCW output-TIDA flag is 1)	n/a	Sum of DCW count values in TCA [AR ONLY: and TCAX] plus the size of the reserved areas in any specified TCMI's ³ , plus total of TIDAW-specified CBC and padding bytes ¹	Sum of DCW count values in TCA [AR ONLY: and TCAX], plus the size of the reserved areas in any specified TCMI's ³ , plus total of TIDAW-specified CBC and padding bytes, ¹ rounded to four, ² plus four ²
Explanation: 1 See the description at the insert-CBC control in "Flags" on page 15-1 14. 2 The channel subsystem adds a CBC word to the end of the last data transported. Up to 3 padding bytes are added after the last data transported to ensure the added CBC word is on a word boundary. 3 Because of alignment requirements, the size of the reserved area in a TCMI is either 0 or 4.			

FIG. 9

Operation	TCW Input Count	TCW Output Count	TCAT Read Count	TCAT Write Count
Input operation (TCW R-bit is 1) and output operation (TCW W-bit is 1), TIDAWS not used (TCW output-TIDA flag is 0)	Sum of read DCW count values in the TCA and TCAX.	Sum of write DCW count values in the TCA, plus count values in DCWs that specify the transfer of TCMI	Sum of read DCW count values in the TCA and TCAX, rounded to four, 2 plus four 2	Sum of write DCW count values in the TCA, plus count values in DCWs that specify the transfer of TCMI rounded to four, 2 plus four 2
Input operation (TCWR-bit is 1) and output operation (TCW W-bit is 1), TIDAWS used (TCW output-TIDA flag is 1)	Sum of read DCW count values in the TCA and TCAX.	Sum of write DCW count values in the TCA and TCAX, plus count values in DCWs that specify the transfer of TCMI, plus the size of the reserved areas in any specified TCMI 3, plus total of TIDAW-specified CBC and padding bytes. 1	Sum of read DCW count values in the TCA and TCAX, rounded to four, 2 plus four 2	Sum of write DCW count values in the TCA and TCAX, plus count values in DCWs that specify the transfer of TCMI, plus the size of the reserved areas in any specified TCMI 3, plus total of TIDAW-specified CBC and padding bytes, 1 rounded to four, 2 plus four 2
Explanation: 1 See the description of the insert-CBC control in "Flags" on page 15-1 14. 2 The channel subsystem adds a CBC word to the end of the last data transported. Up to 3 padding bytes are added after the last data transported to ensure the added CBC word is on a word boundary. 3 Because of alignment requirements, the size of the reserved area in a TCMI is either 0 or 4.				

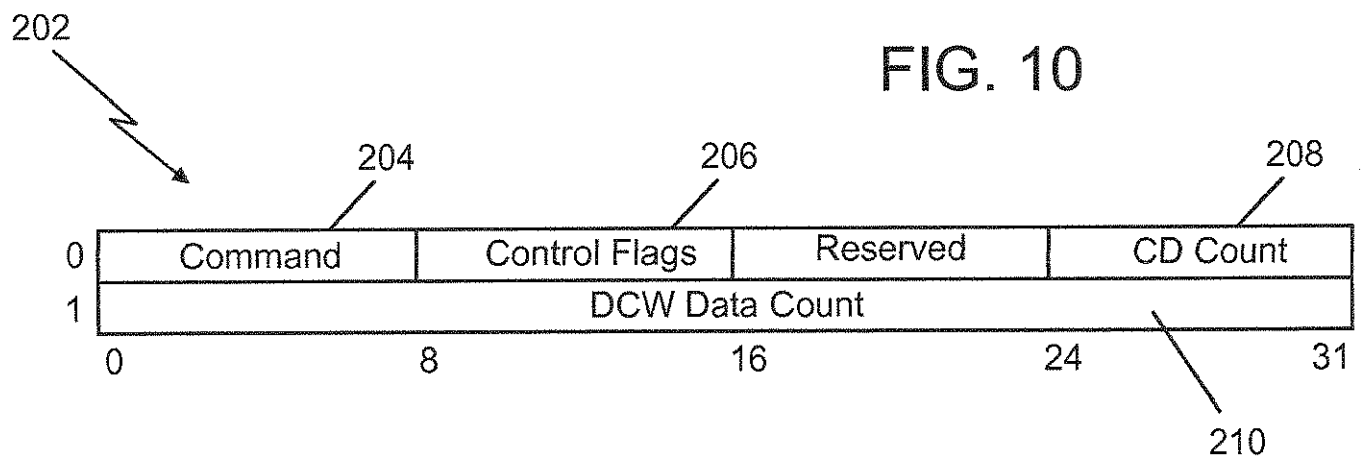
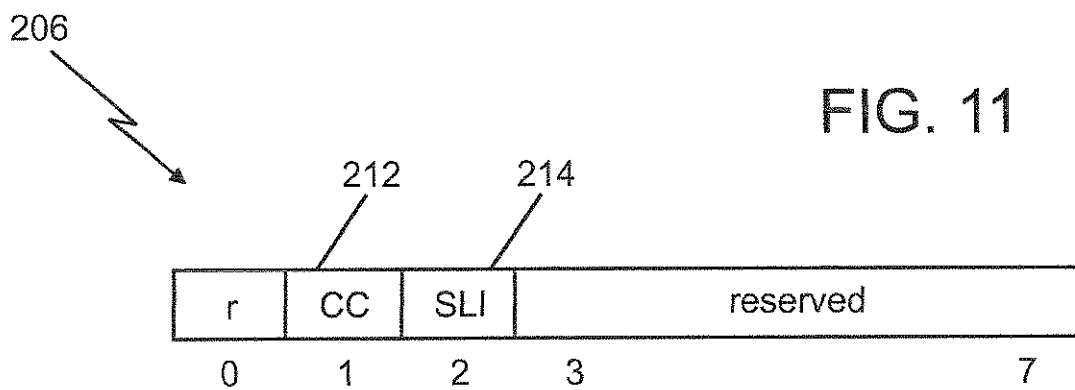


FIG. 13

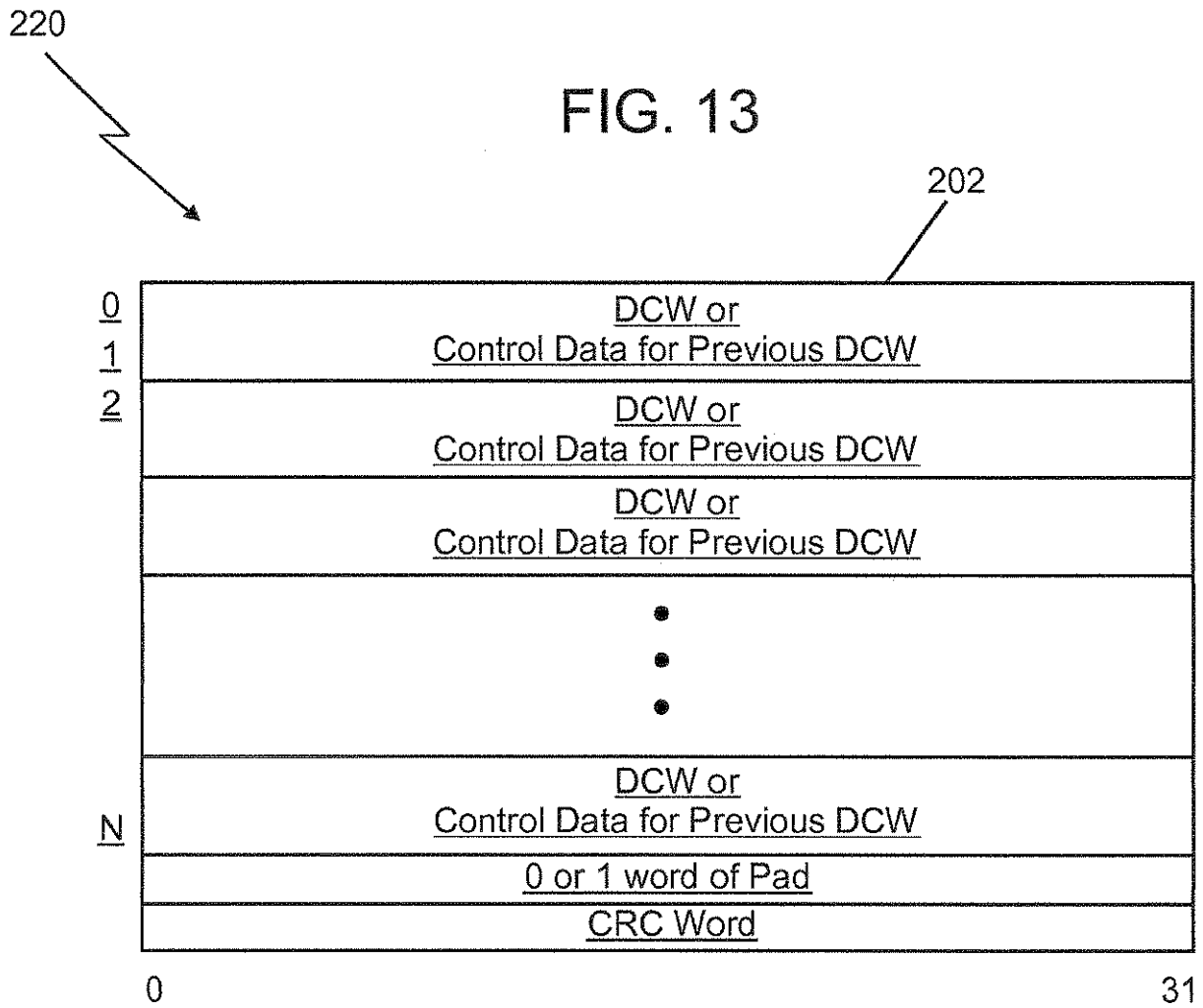
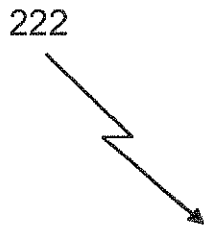


FIG. 14



The COB has the following format:

4-Byte Entry

0	CRC Offset 0	224
1	CRC Offset 1	
2	•	
	•	
	•	
N	CRC Offset N	
Y	Reserved (When the COB is in output data)	
0		31

Explanation:

- The size of the COB is $4(N+1)$ when the COB is specified in the TCA. (There is no reserved field for this case.)
- The size of the COB is $4(Y+1)$ when the COB is specified in the output data, where Y is an even number that is equal to either N or N+1.

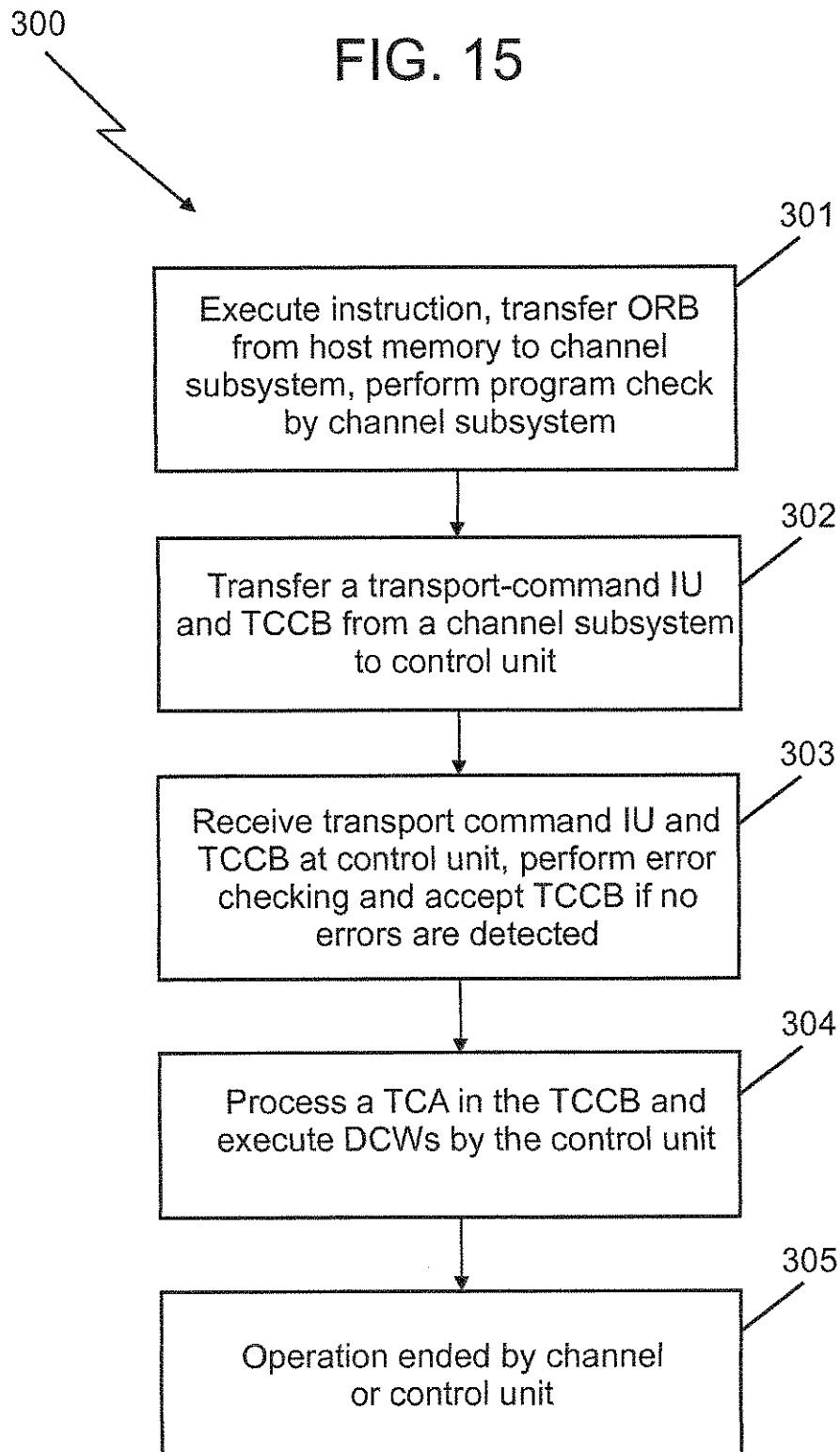


FIG. 16

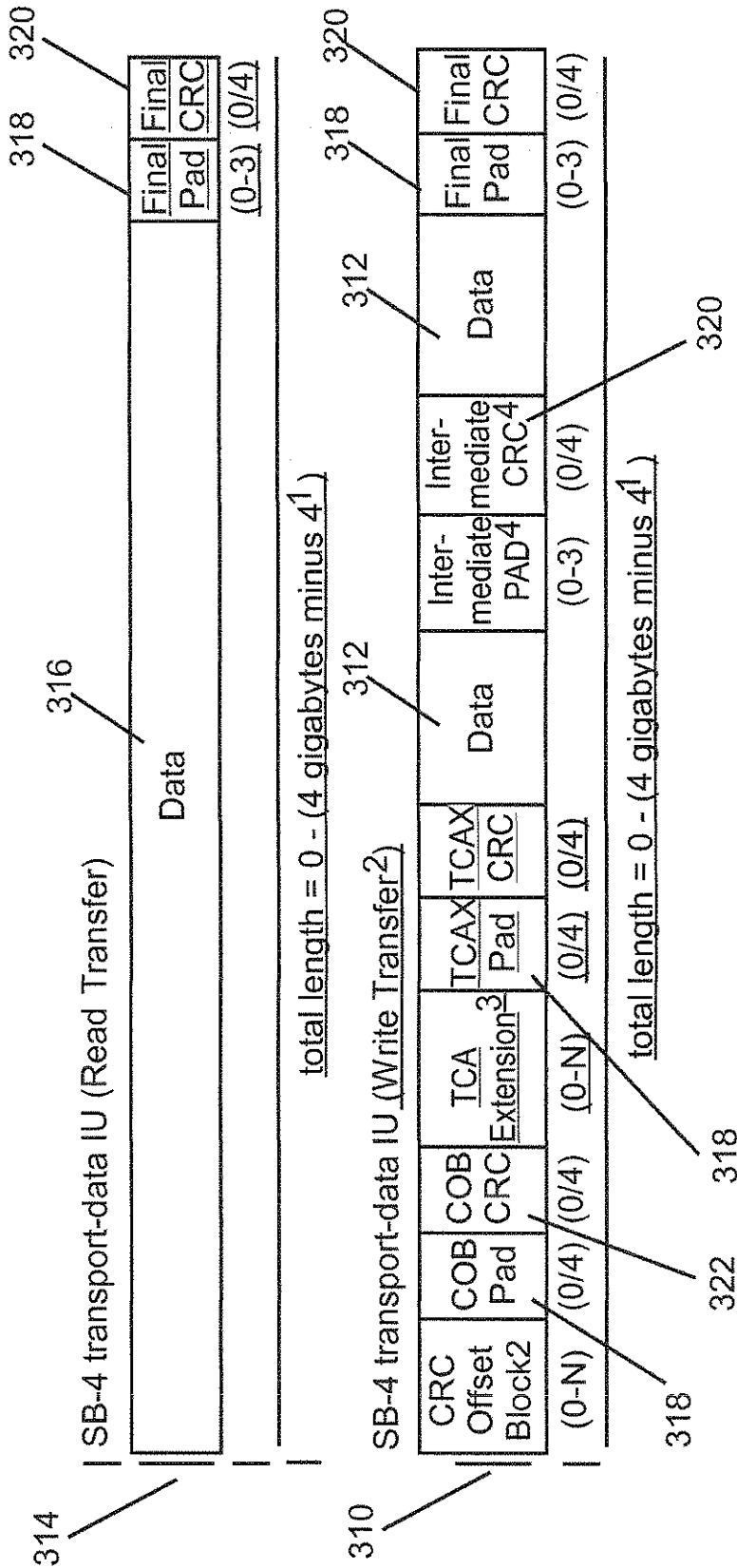


FIG. 17

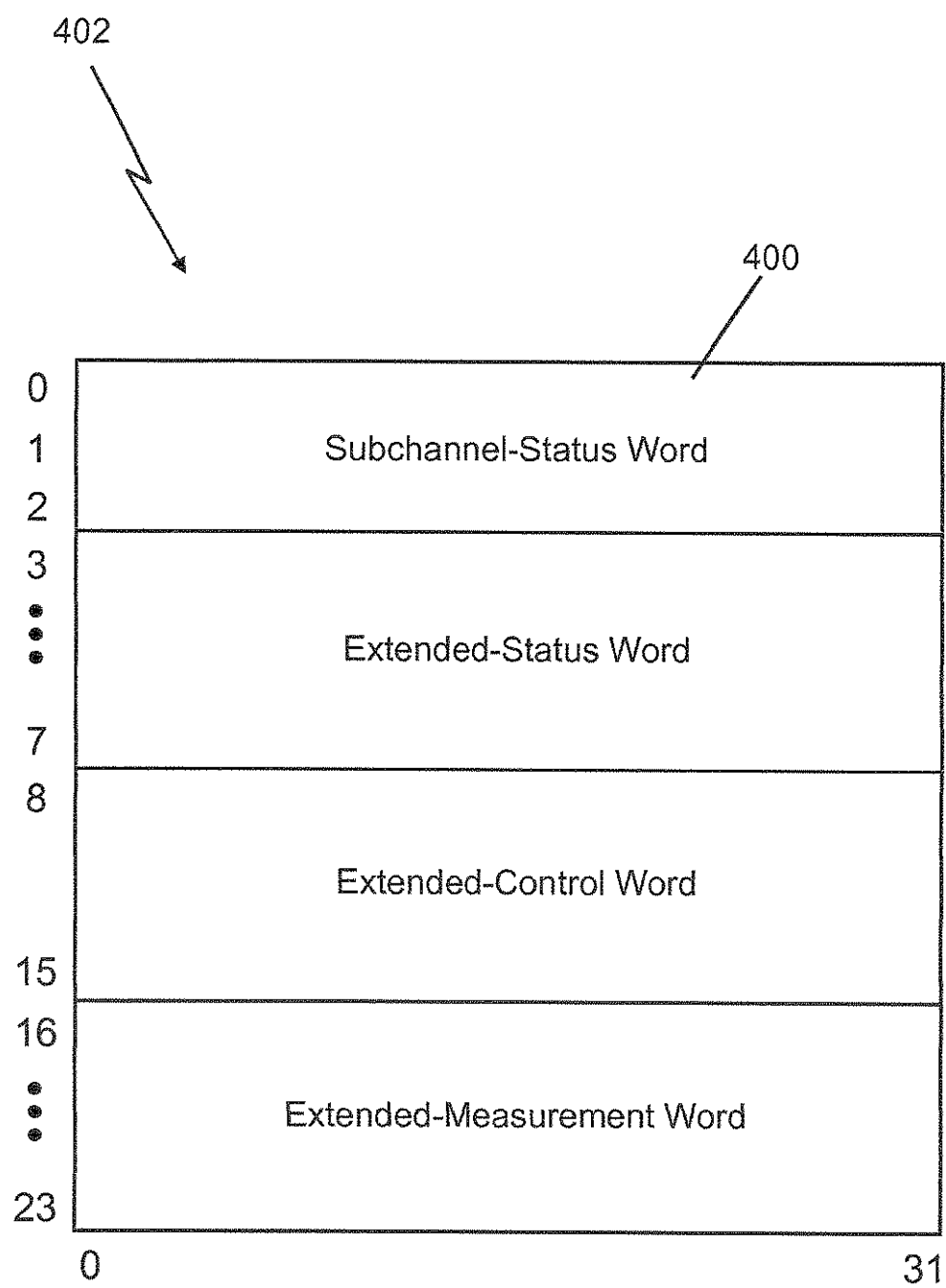


FIG. 18A

Value	Description	IFCC	CCC	CDC	PGC	PIC	CSRF
0	No status available for the exception condition indicated.	X	X	X	X	X	•
1	Storage-request limit exceeded, a model-dependent number of storage requests has been exceeded for the requested block of data.	•	•	•	X	•	•
2	Program check when all of the following conditions are met: <u>(1) The TCW read or write data count did not go to zero and either the incorrect-length indication facility is not installed or incorrect-length indication is not supported by the device.</u> (2) CE only or CE and DE only status was received. (3) The operation is not an interrogate, transfer-COB, or transfer-TCAX operation.	•	•	•	X	•	•
3	Transport mode not supported by the I/O device.	•	•	•	X	•	•
4	Transport mode not supported on the selected channel path.	•	•	•	X	•	•
5	Reserved						•
6	Program check on the TCW: An invalid TCW was detected.	•	•	•	X	•	•
7	A device-detected program check condition exists due to indeterminate cause.	•	•	•	X	•	•
8	A device-detected program check condition exists.	•	•	•	X	•	•
9 ⁵	Program check on a TIDAW: An invalid TIDAW was detected	•	•	•	X	•	•
10-31	Reserved.	•	•	•	•	•	•

FIG. 18B-1

Value	Description	IFCC	CCC	CDC	PGC	PIC	CSRF
32 ^b	TCW access exception: An exception was detected on while fetching a TCW.	•	X	•	X	X	•
33 ^c	TSB access exception: An exception was detected out while storing a TSB.	•	X	•	X	•	•
34 ^d	TCCS access exception: An exception was detected while fetching a TCCS.	•	X	•	X	X	•
35 ^e	TIDAW access exception: An exception was detected while fetching a TIDAW.	•	X	•	X	X	•
36 ^f	Data access exception: An exception was detected while storing or fetching data.	•	•	X	X	X	•
37-63	Reserved	•	•	•	•	•	•
64	An invalid CBC error on read data	X	•	•	•	•	•
65	Reserved	•	•	•	•	•	•
66	A link protocol error condition has occurred	X	•	•	•	•	•
67	A failed device-level recovery operation. [AR ONLY: IFCC occurred because a Purge Path function did not successfully complete]	X	•	•	•	•	•
68	IFCC occurred because a device-level recovery operation failed. A program, protection or data check may also be set to one in the Subchannel status. [AR ONLY: This value is set if an IFCC occurred on a Purge Path because an abort operation did not complete successfully. (See Ar10161 and Ar10168 for the description of the abort sequence function for transport-mode operation.)]	X	•	•	•	•	•

69	The residual count between the TCW and the response from the device are not the same.	X	.	.	.	.	.	.	.
70	An invalid CBC was detected on the status portion of the transport response from the device.	X	.	.	.	.	.	.	.
71	An invalid CBC was detected on the TSB transported from the device.	X	.	.	.	.	.	.	.
72-127	Reserved	.	.	.	.	.	.	.	.
AR ONLY									
72-95	Reserved	.	.	.	.	.	.	.	.
95	The host-bus adapter requested the same data more than once. No exchange was open or aborted.	.	.	.	.	.	.	.	A
97	The host-bus adapter requested the same data more than once. The open exchange for the I/O operation was aborted.	.	.	.	.	.	.	.	A
98-127	Reserved	.	.	.	.	.	.	.	.

FIG. 18B-1
FIG. 18B-2
FIG. 18B-3

FIG. 18B-2

FIG. 18B

FIG. 19

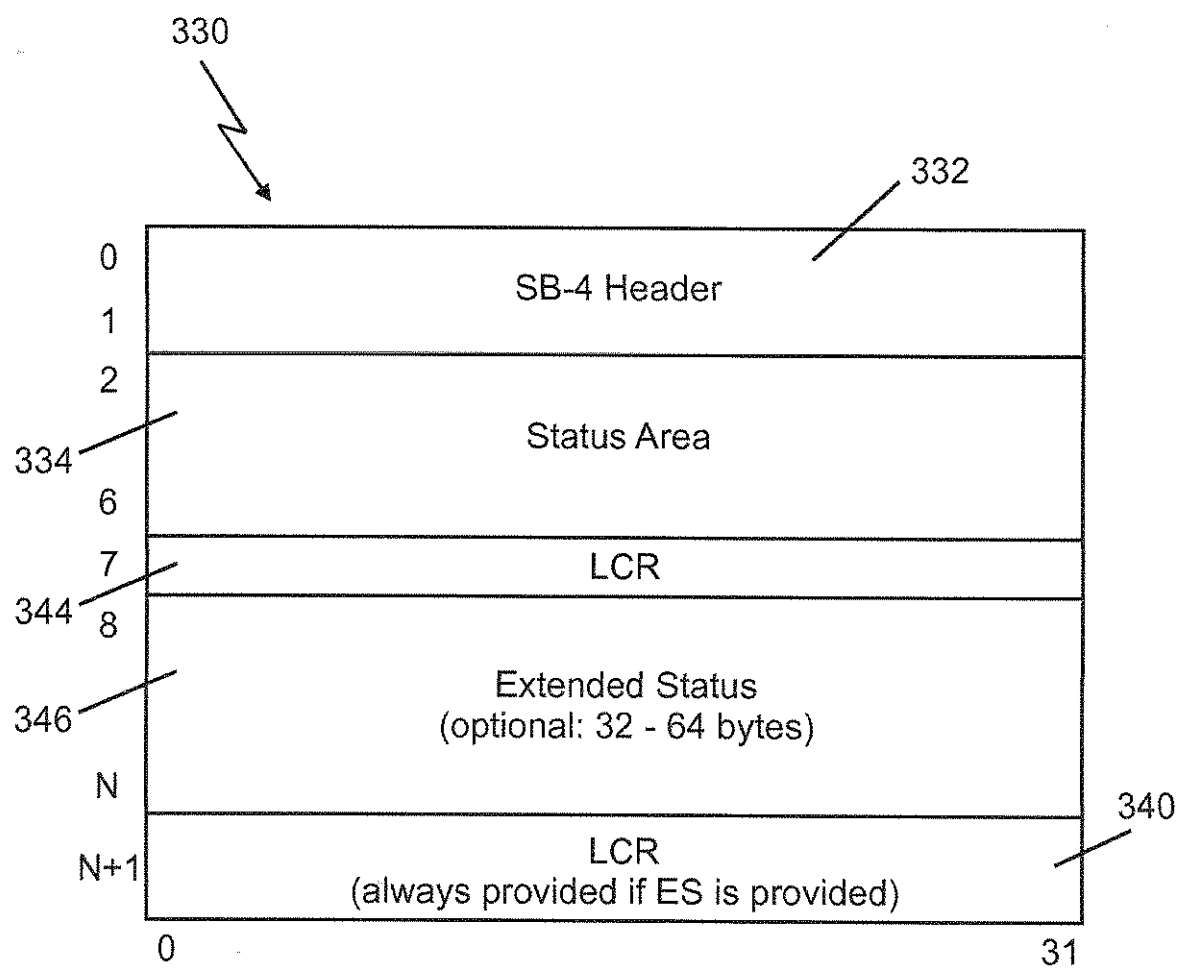


FIG. 20

