Table 3–11 Definition of XAUI Ordered Sets

Code	Ordered Set	Number of Code Groups	Encoding
‖I‖	**Idle**		**Substitute for XGMII Idles**
‖K‖	Sync Column	4	/K28.5/K28.5/K28.5/K28.5/
‖R‖	Skip Column	4	/K28.0/K28.0/K28.0/K28.0/
‖A‖	Align Column	4	/K28.3/K28.3/K28.3/K28.3/
	Encapsulation		
‖S‖	Start Column	4	/K27.7/Dx.y/Dx.y/Dx.y/ [a]
‖T‖	Terminate Column	4	Terminate code-group in any lane
‖T0‖	Terminate in Lane 0	4	/K29.7/K28.5/K28.5/K28.5/
‖T1‖	Terminate in Lane 1	4	/Dx.y/K29.7/K28.5/K28.5/ [a]
‖T2‖	Terminate in Lane 2	4	/Dx.y/Dx.y/K29.7/K28.5/ [a]
‖T3‖	Terminate in Lane 3	4	/Dx.y/Dx.y/Dx.y/K29.7/ [a]
	Control		
/E/	Error Code-Group	1	/K30.7/
	Link Status		
‖Q‖	Sequence Ordered_Set	4	/K28.4/Dx.y/Dx.y/Dx.y/ [a]
‖LF‖	Local Fault Signal	4	/K28.4/D0.0/D0.0/D1.0/
‖RF‖	Remote Fault Signal	4	/K28.4/D0.0/D0.0/D2.0/
‖Qrsvd‖	Reserved	4	!‖LF‖ and !‖RF‖
	Reserved		
‖Fsig‖	Signal Ordered_Set	4	/K28.2/Dx.y/Dx.y/Dx.y/ [a,b]

a. /Dx.y/ indicates any code group.
b. Reserved for INCTTS T11
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ences between the lengths of the four XAUI transmission lines. New ‖R‖ (K28.0) control words are also merged in between the ‖K‖ (K28.5 comma characters) words that have historically been used to synchronize the receiving end of legacy communications links. The new ‖R‖ control words are ordered sets of four K28.0 skip commands that are striped across the four lanes at the XAUI transmitter. The ‖R‖ control characters can subsequently be taken out by the receiver, or the receiver can add more ‖R‖ ordered sets to implement the rate adaptive feature. The rate adaptive feature allows the XGXS chip set to use a transmitter reference clock that is as much as ±100 ppm different than the receiver's recovered clock, which is locked to a different reference oscillator located at the far end of the communications link [26, 27, 28]. More details about the 8B10B