MP7 Readout & DAQ

Version 1.0
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Raw data format

The packet sent by an MP7 to the AMC13 (aka "MP7 readout packet") is shown in Table 1. The AMC header follows the format specified by the AMC13 group : https://twiki.cern.ch/twiki/pub/CMS/CMSUKL1TriggerUpgrade/UpdatedDAQPath_2014-07-10.pdf

The "user bits" in the AMC header are used to transmit a firmware version and event type.

The AMC payload consists of N "blocks", where is the total number of derandomiser buffers in the device and is fixed for a given firmware version. Each block comprises a 32 bit header, as shown in Table 1, which includes the block ID, and block length (in 32 bit words). A block may be of zero length, in which case it comprises of the block header only.

	31:24	**23:16**	**15:8**	**7:0**
AMC header	*BX_id(12)*		*Data_lgth(20)*	
	AMC *0000*	*LV1_id(24)*		
	OrN(16)		*BoardID(16)*	
	reserved		FW ver(8)	Evt type(8)
AMC payload	Block ID(8)	Block size(8)	reserved	
	Block data			
	..			
	..			
	Block ID(8)	Block size(8)	reserved	
	Block data			
AMC trailer	*LV1_id[7:0](8)*	*0000*	*Data_lgth(20)*	
	CRC-32			

Table 1 – layout of an MP7 readout packet, as sent to AMC13. Data fixed by the AMC standard are shown in italics.