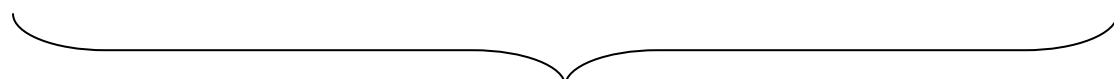


GBT Spectrometer: Modified guppi_daq Software

Format of the Buffer Block at Input to GPU Processing Thread

FITS Header (23 040 bytes) Stores telescope position, frequency, bandwidth, etc	
Number of actual heaps (1 to N)	Size of single heap (4 bytes)
Heap counter for 1 st heap (4 bytes)	1 st heap valid? (4 bytes)
Heap counter for 2 nd heap (4 bytes)	2 nd heap valid? (4 bytes)
...	
Heap counter for 4096 th heap (4 bytes)	4096 th heap valid? (4 bytes)
First heap (SPEAD heap for low-bandwidth modes: 8224 bytes)	
Second heap (SPEAD heap for low-bandwidth modes: 8224 bytes)	
...	
N th heap (SPEAD heap for low-bandwidth modes: 8224 bytes)	
Unused space (< 1 heap)	


 8 bytes

Notes:

- Size of the block is variable. Typically 32MB.
- Unless specified, all fields are 64 bits
- In low-bandwidth modes, each heap is a single SPEAD packet with the following fields removed: 8-byte header, *heap counter*, *heap size*, *heap offset* and *payload length*.
- The *heap valid* field is 4 bytes wide, but only has two valid values: 0 or 1.