cmon: Logging and Display of PMT's and BCT

The cmonJPK program is a version of cmon which logs automatically the PMT and BCT information at each super-cycle.

Location of Files
Program: /user/biswop/bin/hpux/cmonJPK
Data: /user/slops/data/bi_sps_colmon/JPKMD

Program Interface

file	SSC number	counter	
Global View	interval (turns)	start event (ms)	
Window selectors	status		
Detailed View	channel selection	Global summation	Partial summation

Program Parameters
"file" program
- ***BCT selection****:* 3 (BCT in BA3 well adapted to LHC type beams).
- ***Extraction Areas***: location of the instrumentation, select <u>BA5</u> for the BBLR/scrapers/collimators
- ***Load acquisition****:* reloads into cmon an already made acquisition for display
- ***Save acquisition****:* stores an acquisition (done automatically by cmonJPK)

Graphics interface
- ***Start event:*** There is one acquisition per SPS super-cycle. The acquisition starts at the event "Start SSC" (i.e. P1, first injection) + "Start Event" (in ms). A simplified selected of P2 may be done by specifying "Start Event" to be 0. The acquisition is then initiated about 100 ms before injection into P2 and stopped about 100 ms after the end of P2.
- ***Interval:*** The acquisition is carried out at each *"interval"* turns. The memory depth being 32K positions per supercycle, the choice of the interval defines the stop acquisition, i.e. … 44 turns is 1 ms.
- ***Window selectors:*** these two cursors allow setting the window that will be used to display the detailed view and compute the partial sums. It does not interfere with the acquisition window nor the logging. The window selectors are only read when acquiring the data, i.e. are not moved in real time.
- ***Channel selection:*** selection of the channel to be displayed. No interference with acquisition and logging.

Data display
- ***SSC number:*** The super-cycle number is stored and displayed. In OS9/TG3 (colmon OS), the SSC is truncated to 16 bits and may appear different as

compared to other later instrument programs where the SSC number is now encoded into 32 bits. To correlate measurements, it is necessary to mask the 16 MSB of the 32 bit counters.

- *Counter:* sample number in one acquisition.

Data Files
File Names
After each super-cycle, two data files are produced:
1. full record: the file name is "Acq_mmdd.hhmmss" (binary encoded)
2. summary/history: the file name is "LOG_mmdd.hhmmss" (ascii)

Conversion to ASCII
The binary file may be converted to ASCII using
"cmon_to_asc *file start stop*" with *start* and *stop* in ms (counted from the beginning of the SSC). This program generates two files, one for the PMT's and one for the BCT.

File Format of the full record

yymmdd	hhmmss					
Time (ms)	Ch. 1	2	3	4	5	8

yymmdd	hhmmss
Time (ms)	BCT

File Format of the Summary

date	time	SSC #	global summation (8 channels)	BCT global	counter?	counter?	partial summation (8 channels)	BCT partial