



# SODA system

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- Provision of Global Clock 155.52 MHz
- Synchronous packets
  - Control packet – 32 bit long
  - Time tag packet – 64 bit long
- Asynchronous packets – not defined yet
  - Enable/Disable Data Concentrators
  - Requests for status information and buffer fill level

- Synchronous, 32 bit long, Hamming error correction code
  - Control signals
    - bit 0 - parity 1
    - bit 1 - parity 2
    - bit 2 - Global RESET
      - resets all counters, Data buffers, sets module to IDLE mode
    - bit 3 - parity 4
    - bit 4 - Data Buffer RESET
      - Resets data buffers, does not affect counters and state machines
    - bit 5 – Start of Burst
    - bit 6 – End Of Burst(?)
    - bit 7 – parity 8
    - bits 8-11 – Time Offset for Start/End of Burst

- bit 12 – Start SuperBurst
- bit 13 - NU
- bit 14 - Trigger
  - gated readout, test beam support
- bit 15 - parity 16
- bit 16 - Start Run
  - Resets all time counters, defines time zero
- bit 17 - Stop Run
- bit 18 - Enable Data Taking
- bit 19 - Disable Data Taking
- bits 20-27 – reserved for future
- bits 28-30 – JTAG signals : TDI, TCK, TMS
- bit 31 - parity 32

64 bit packet

- Time within burst – 8 bits (2.4us)
- Burst number – 8 bits ( $\sim 500$  us)
- SuperBurst number – 24 bits

