

Pre-2018 SVT Frame Formats

The following describes the pre-2018 data format as it is handed off to the CODA ROC.

Each DMA transaction in the RCE contains n Event Banks as they are output from the Data Bank Builder firmware block (see below). The ROL pre-pends this data with a 64-bit EVIO header of type "Bank of banks" 0x0E.

Data Bank Builder Firmware Output

The following data is output from the Data Bank Builder for each trigger received. N of these "Event Banks" are concatenated into a DMA transfer based upon the number of triggers per block.

- Event Bank (variable size)
 - EVIO Header Word 0 (32-bits)
 - 31:00 = Event bank size, excluding word 0
 - EVIO Header Word 1 (32-bits)
 - 31:25 = 0x00
 - 24 = Sync FLAG from trigger event field
 - 23:16 = Event type from trigger event field
 - 15:08 = Time stamp from trigger event field
 - 07:00 = Event number from trigger event field
 - Trigger Bank (6 x 32-bits)
 - EVIO Header Word 0 (32-bits)
 - 31:00 = 0x05 (trigger bank size minus word 0)
 - EVIO Header Word 1 (32-bits)
 - 31:16 = 0xE10A
 - 15:14 = 0x0
 - 13:08 = 0x01
 - 07:00 = ROC ID
 - [Trigger Event Word 0](#) (32-bits)
 - [Trigger Event Word 1](#) (32-bits)
 - [Trigger Event Word 2](#) (32-bits)
 - [Trigger Event Word 3](#) (32-bits)
 - Data Bank (variable size)
 - EVIO Header Word 0 (32-bits)
 - 31:00 = Data bank size minus word 0
 - EVIO Header Word 1 (32-bits)
 - 31:16 = 0x0003
 - 15:14 = 0x0
 - 13:08 = 0x01
 - 07:00 = ROC ID
 - [Event data from Event Builder](#) (n x 32 bits) See note below:

Note: The second 32-bit header word from the Event Builder is dropped. If the total size of the event data is not an event number of 32-bit words, an empty 32-bit word is added at the end of the data bank.