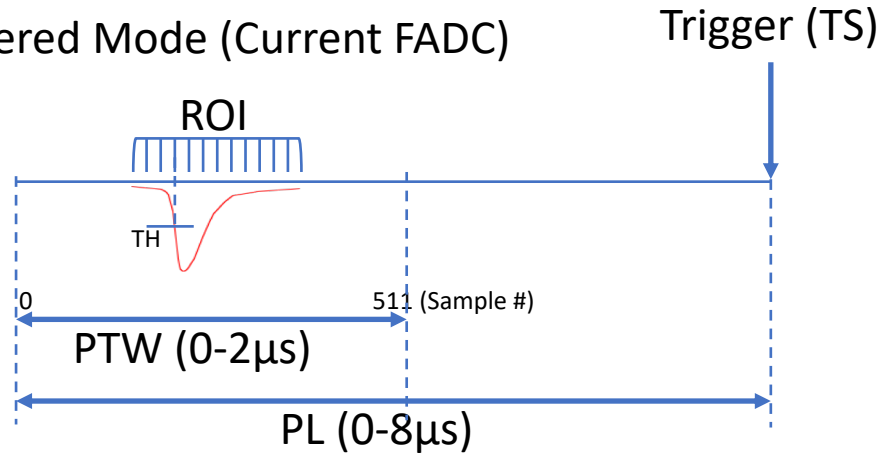


Triggered Mode (Current FADC)



Data we get on a trigger:

ADC Value, TH Sample #, Trigger Time Stamp

Other Info we potentially need:

Latency (PL), Threshold (TH), ROI total # samples

For a given Block of Triggers we create a bank of data:

ROC Header

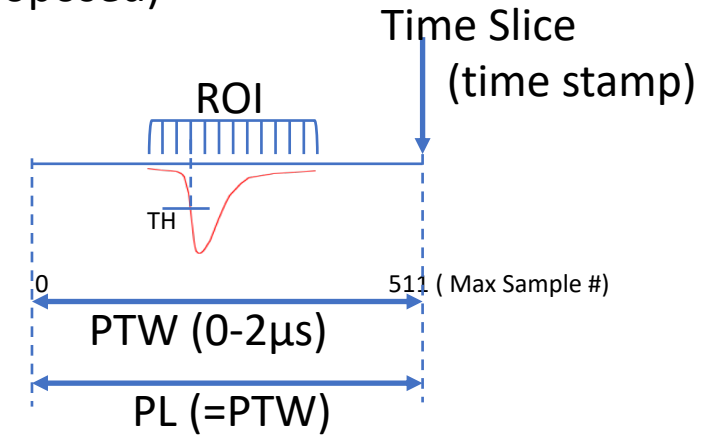
Length (words)		
Tag	DT	M
Trigger Bank		
Data Banks		

Tag includes: ROC ID/Status
DT: Bank of Banks
M: # of Events in the Block

Trigger Bank includes:
(For M Events)
Trigger Time stamps
Event #s

Data Banks include:
(For M Events)
ADC Values/integrals
Sample #s/Time calc

Streaming Mode (Proposed)



1 Time Slice = 1 PTW = 1 PL = N Clocks

(Each FADC could self trigger at the appropriate frequency)

For a given Block of Time Slices we create a new bank of data:

ROC Header

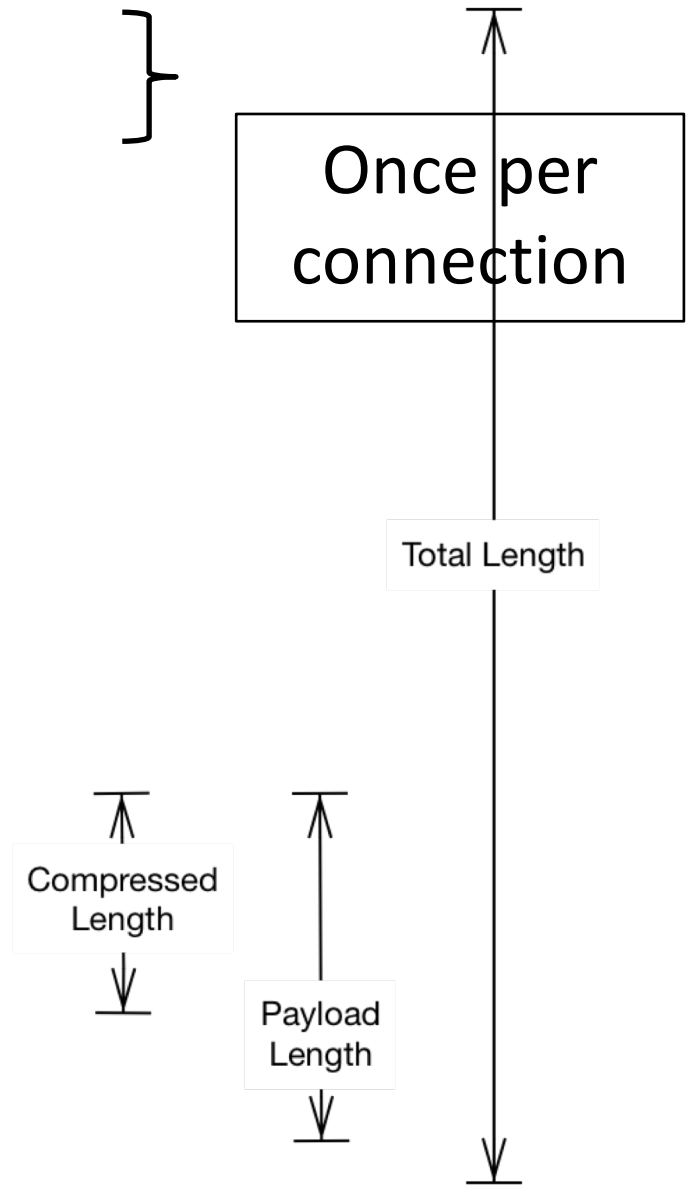
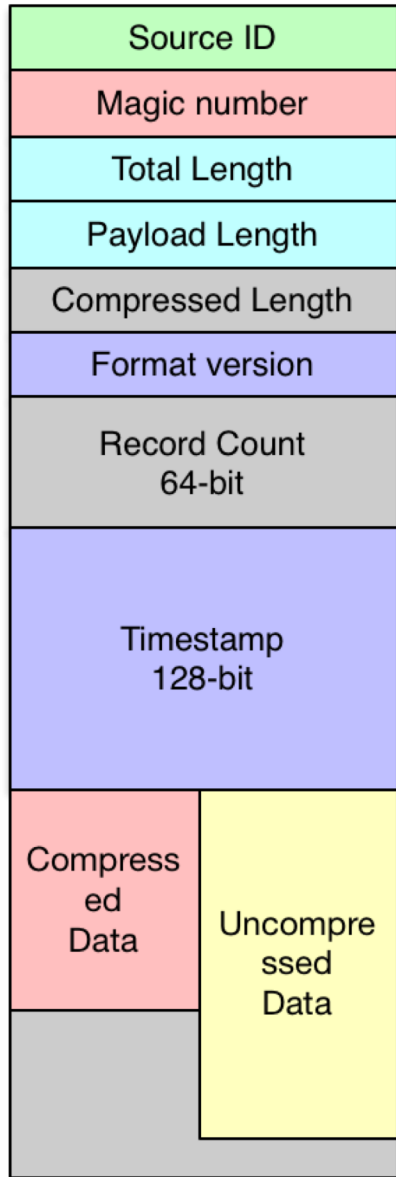
Length (words)		
Tag	DT	M
Timing Bank		
Data Banks		

Tag includes: ROC ID/Status
DT: Bank of Banks
M: # of Time slices in the Block

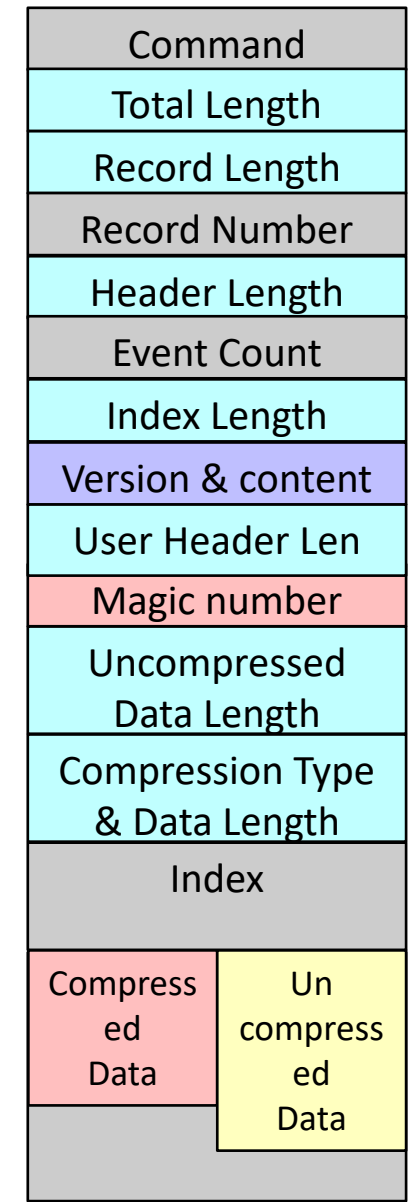
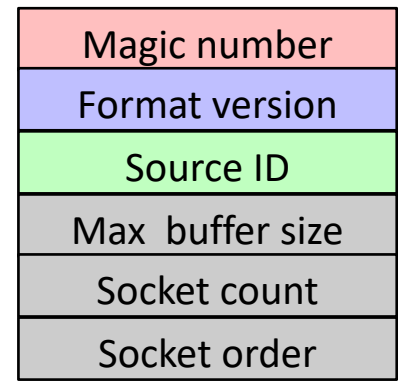
Timing Bank includes:
Time Slice Value (in # clocks)
(For M Slices)
Time stamps for each Slice
Time Slice #s

Data Banks include:
(For M Time Slices)
ADC Values/integrals
Sample #s/Time calc

Possible SRO format



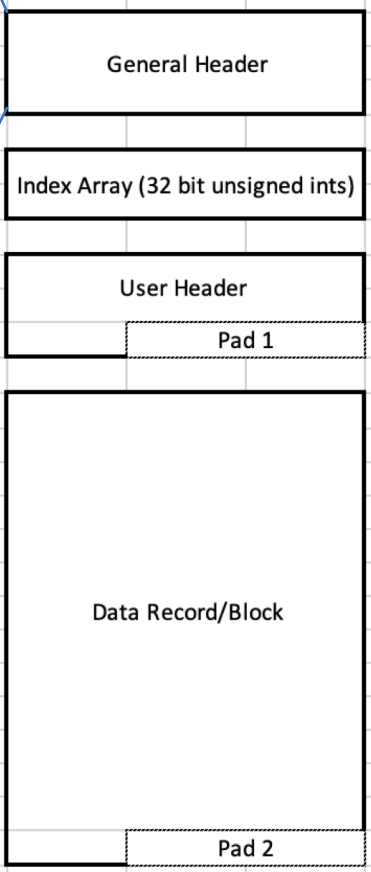
Current CODA format



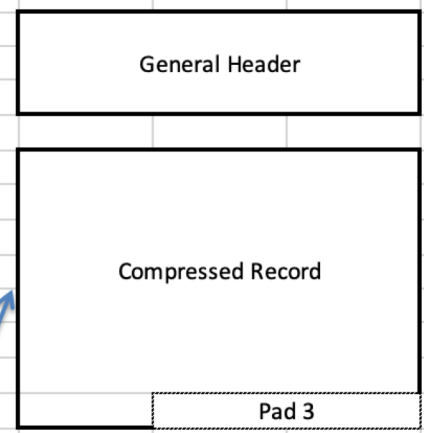
EVIO/HIPO General Header Format

1	ID Word / Block Length (Words)	
2	File # / Record #	
3	Header Length (Words) >=8	
4	Record / Block Index Count	
5	Index Array Length (Bytes)	
6	Bit Info/Status	Version
7	User Header Length (Bytes)	
8	Magic Number (0xc0da0100)	
9	Data Record/Block Length (Bytes)	
10	Type(4bits)	Compressed Length (Words)
11	General Register 1	
12	General Register 1	
13	General Register 2	
14	General Register 2	

Uncompressed Format



Compressed



Command
Total Length
Record Length
Record Number
Header Length
Event Count
Index Length
Version & content
User Header Len
Magic number
Uncompressed Data Length
Compression Type & Data Length
Index
Compressed Data
Uncompressed Data

EVIO/HIPO General Header Format

1	ID Word / Block Length (Words)	File Headers display ID Word. Rec/Blk headers show Length.
2	File # / Record #	File Headers specify File # and Rec/Blk headers show Record #
3	Header Length (Words) >=8	
4	Record / Block Index Count	
5	Index Array Length (Bytes)	=0 if the Index array does not exist.
6	Bit Info/Status	Version
7	User Header Length (Bytes)	=0 if the User Header does not exist.
8	Magic Number (0xc0da0100)	Defines the Endianess of the File/Record creating process
9	Data Record/Block Length (Bytes)	=0 if the Data Record does not exist
10	Type(4bits)	Compressed Length (Words)
11	General Register 1	
12	64 bit User register to be optionally filled at the File/Record close	
13	General Register 2	
14	64 bit User register to be optionally filled at the File/Record close	

Bit Info/Status Register

Bits 0-7	8	EVIO/HIPO Version number
Bits 8-19	12	EVIO/HIPO Data Info bits (depends on header type)
Bits 20-21	2	Pad 1 Info (0,1,2 or 3 bytes)
Bits 22-23	2	Pad 2 Info
Bits 24-25	2	Pad 3 Info
Bit 26-27	2	Reserved
Bit 28-31	4	General Header Type

Screenshot

