

'Beginning Of Fragment' marker	'0xB0F0'+S-LINK flags
start of ROD header	'0xEE1234EE'
header size	'0x9'
format version number	'0x03010000'
source identifier	0xrtsuvww
run number	'0'+31-bit run number
extended Level1 ID	24-bit TTCrx L1ID + 8-bit ROD ECRID
bunch crossing ID	12-bit TTCrx BCID
ATLAS Level1 trigger type	8-bit CTP(LTP) L1TT
detector event type: ROD / TIM	DET
Module data	...
status 1: bit errors	error flags
status 2: count of words with errors	error count, ROL status
number of status words	'0x2'
number of data words	nData
status block pos.: '0' before/'1' after data	'0x1'
'End Of Fragment' marker	'0xE0F0'+S-LINK flags
[...]	'0xB0F0'+S-LINK flags
[...]	...
[...]	'0xE0F0'+S-LINK flags

Module header	001PtlbxxMMMMMMMMSSSSLLLLBBBBBBBB
[Module hit]	100xFFFFTTTTTTTTTxxxCCCCRRRRRRRR
[...]	100xFFFFTTTTTTTTTxxxCCCCRRRRRRRR
[Module errors]	...
Module trailer	010ZHVxxxxxxxxxxxxxxxxxxxxxxxxxxxx
[...]	001PtlbxxMMMMMMMMLLLLLLLLBBBBBBBB
[...]	100xFFFFTTTTTTTTTxxxCCCCRRRRRRRR
[...]	...
[...]	010ZHVxxxxxxxxxxxxxxxxxxxxxxxxxxxx

[flag type 1 error]	0000FFFFxxxxxxxxxxxx11110FFFFEEEE
[...]	0000FFFFxxxxxxxxxxxx11110FFFFEEEE
[flag type 2 error]	0001FFFFxxx11111000cdefgqqqqponm
[...]	0001FFFFxxx11111000cdefgqqqqponm
[raw data]	011DDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
[...]	011DDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
[time out data]	00100000000000000010000000000000
[...]	00100000000000000001000000000000

ATLAS Pixel Bytestream Format

ROD header	Module hit
ROD trailer	Module errors
Module header	
Module trailer	

ROD:

r = reserved
s = sub-detector ID (0x11 - Layer-1 & 2,
0x12 - endcap A, 0x13 - endcap C,
0x14 - B-layer)
u = Pixel layer/disk (0x1, 0x2, 0x3)

v = readout crate (0x0...0x9)
w = ROD VME slot
(0x05...0x15)
P = preamble error
t = time out error
l = LVL1 error
b = bunch crossing ID error
M = link number
D = raw data
Z = trailer bit error
H = header trailer limit error
V = data overflow error
x = filled by ROD with '0's

MCC:

S = LVL1 skips
L = LVL1 ID
B = bunch crossing ID
c = LVL1ID EoE check
failed
d = BCID EoE check
failed
e = LVL1ID check failed
f = EoE overflow
g = Hit overflow

FE:

F = FE number
T = time over threshold value
C = Pixel column
R = Pixel row
m = EOC overflow
n = 'Hamming Code' error
o = com./glob. reg. parity
p = hit parity error
q = FE error flag ('1111' = no
error/ '1110' = error)
E = FE error code

Figure A-41 Structural view of the ATLAS Pixel bytestream format