'Beginning Of Fragment' marker	'0xB0F0'+S-LINK flags
start of ROD header	'0xEE1234EE'
header size	'0x9'
format version number	'0x03010000'
source identifier	0xrrssuvww
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	001PtlbxxMMMMMMMSSSSLLLLBBBBBBB
[Module hit]	100xFFFFTTTTTTTxxxCCCCCRRRRRRR
[...]	100xFFFFTTTTTTTxxxCCCCCRRRRRRR
[Module errors]	...
Module trailer	010ZHVxxxxxxxxxxxxxxxxxxxxxxxx
[...]	001PtlbxxMMMMMMMLLLLLLLBBBBBBB
[...]	100xFFFFTTTTTTTxxxCCCCCRRRRRRR
[...]	...
[...]	010ZHVxxxxxxxxxxxxxxxxxxxxxxxx

[flag type 1 error]	0000FFFFxxxxxxxxxx11110FFFFEEEE
[...]	0000FFFFxxxxxxxxxx11110FFFFEEEE
[flag type 2 error]	0001FFFFxxx11111000cdefgqqqqponm
[...]	0001FFFFxxx11111000cdefgqqqqponm
[raw data]	011DDDDDDDDDDDDDDDDDDDDDDDDDDD
[...]	011DDDDDDDDDDDDDDDDDDDDDDDDDDD
[time out data]	00100000000000000100000000000000
[...]	00100000000000000100000000000000

ATLAS Pixel Bytestream Format

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

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 = pramble 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