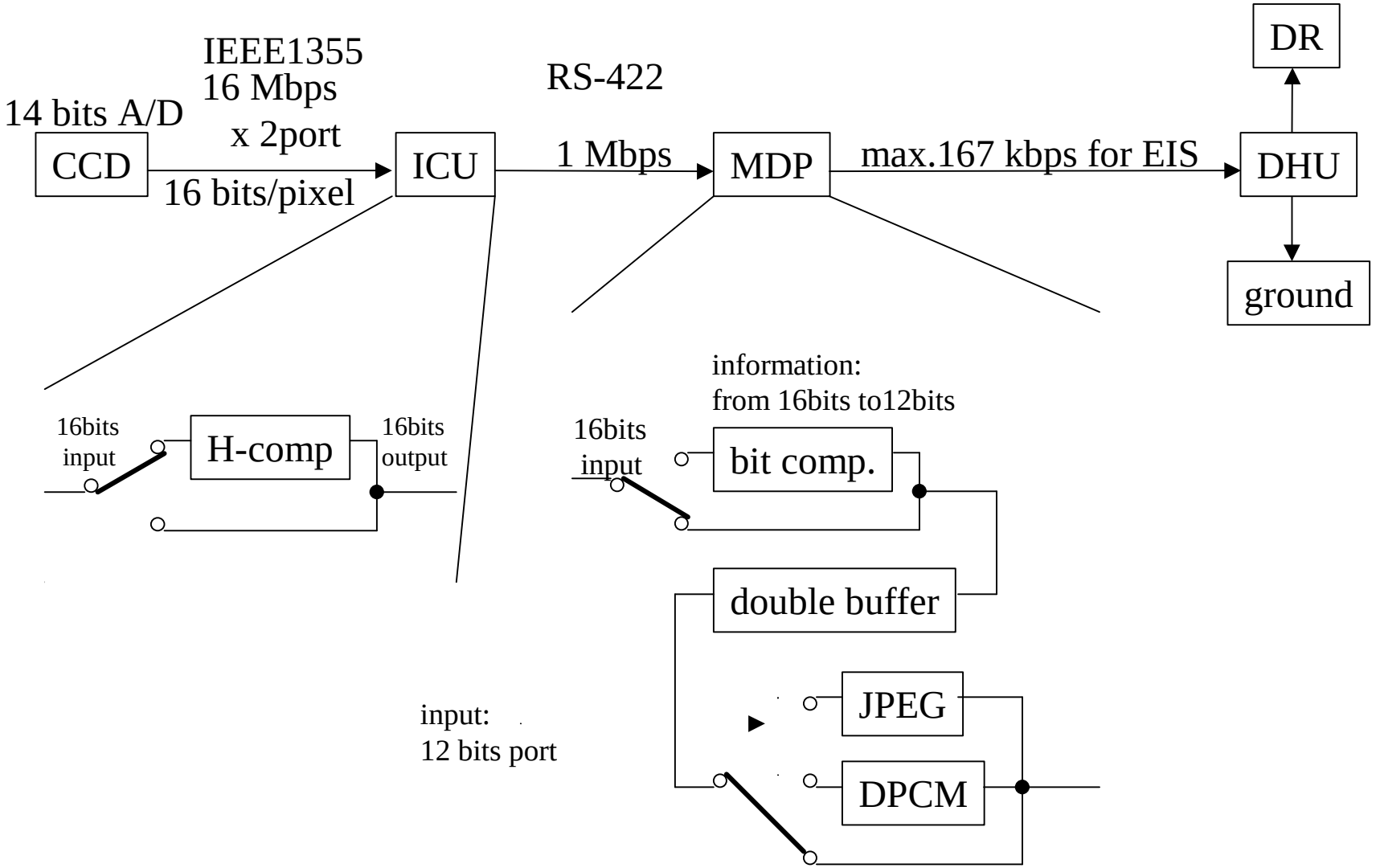
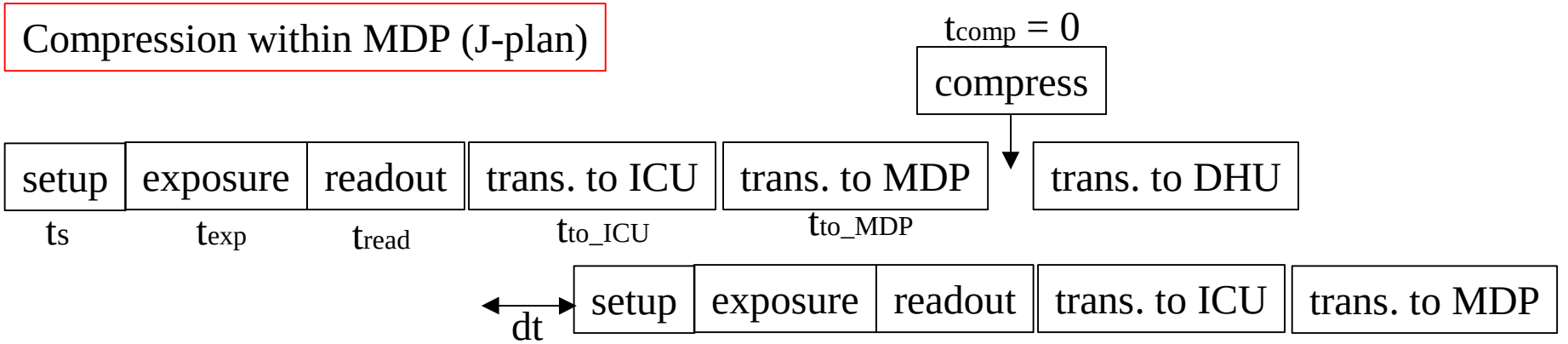
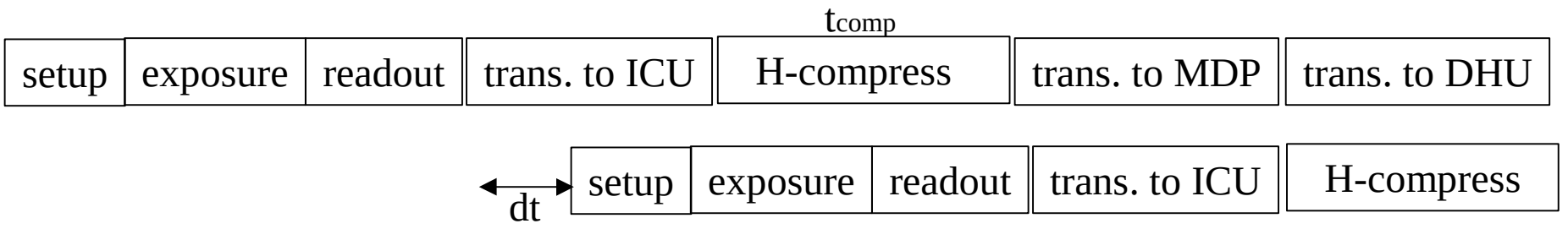
Data Flow


IEEE1355
16 Mbps
x 2port
14 bits A/D
CCD
16 bits/pixel
ICU
RS-422
1 Mbps
MDP
max.167 kbps for EIS
DHU
DR
ground
16bits
input
H-comp
16bits
output
information:
from 16bits to12bits
16bits
input
bit comp.
double buffer
JPEG
DPCM
input:
12 bits port

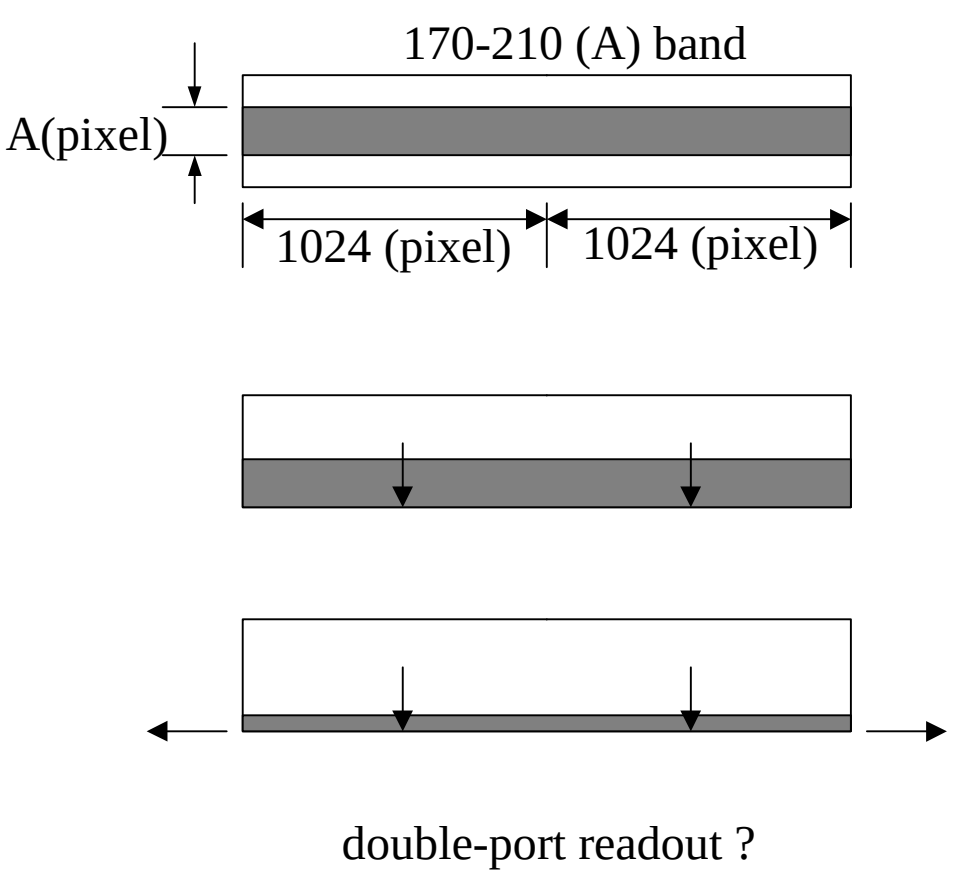
Compression within MDP (J-plan)

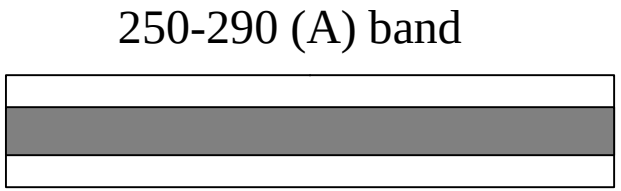


Compression within EIS (U-plan)



Data Flow: CCD Readout





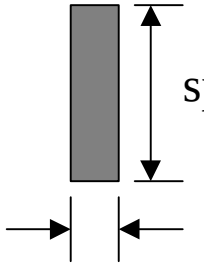
readout speed: 512 kpixel/s
readout noise: 5 electrons ?

readout time: t_{read}
1x1 binning:
t_{read} = 1024 •A/512,000 ?
A=128; t_{read} = 0.256 sec
A=256; t_{read} = 0.512 sec
2x2 binning:
?

This time is a little bit longer.

Data Flow (16 bit transfer)

window size:



spectral: x = 24 (AR) or 64 (FL)

count rate:

AR: 1-2 sec exposure (<200 count/s/pixel)

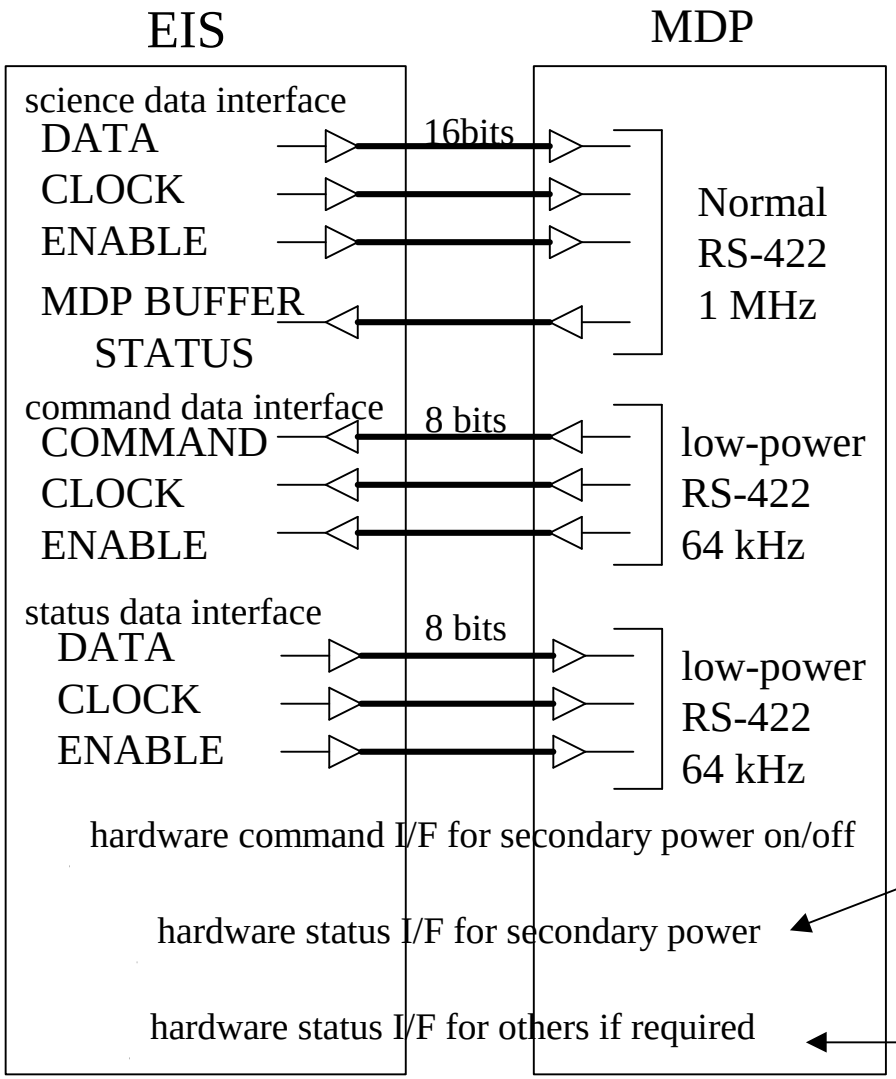
FL: < 0.1 sec exposure

This time is a little bit longer.

J-plan

	x	y	lines	data size	t_s	t_{exp}	t_{read}	t_{to_ICU}	t_{to_MDP}
AR:	24p	128p	12	0.59 Mbits	0.5s	1.0s	0.256s		0.59s
	24p	256p	12	1.18 Mbits	0.5s	1.0s	0.512s		1.18s
FL:	64p	128p	8	1.05 Mbits	0.5s	0.1s	0.256s		1.05s

Interface lines



All electrical interface lines between EIS and MDP are digital interface lines.

differential RS-422 line interface

HS-26C31 HS-26C32

'MDP Buffer Status line is used
1: for safe exchange of 'input buffer' in MDP.
2: when post compression buffers become almost full.

EIS side will not use this line.

This is an issue of consideration.
due date: end of August.