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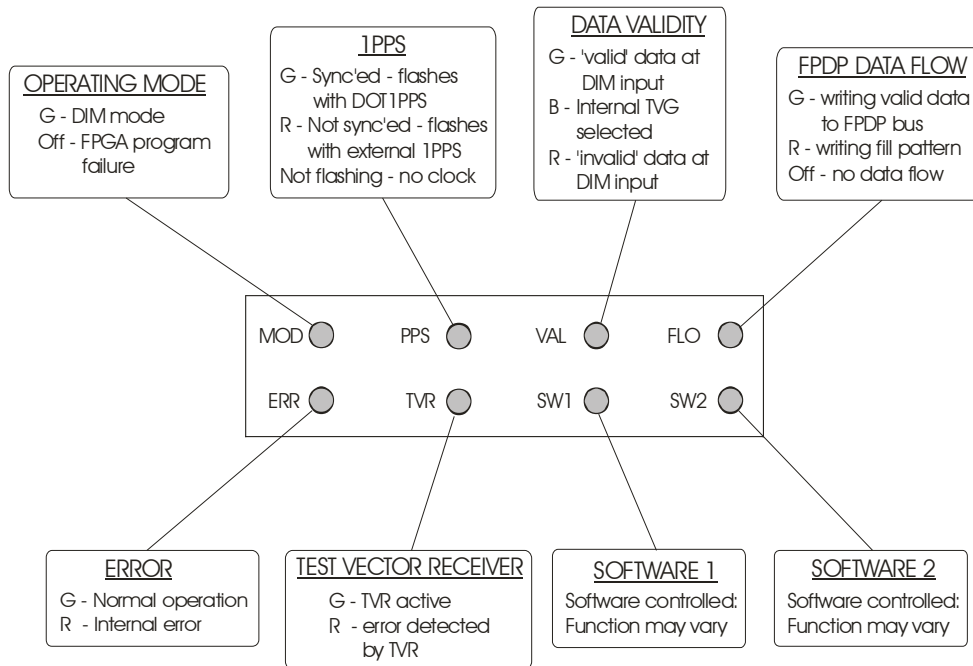|	
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14 April 2006

TO: Mark 5B design group

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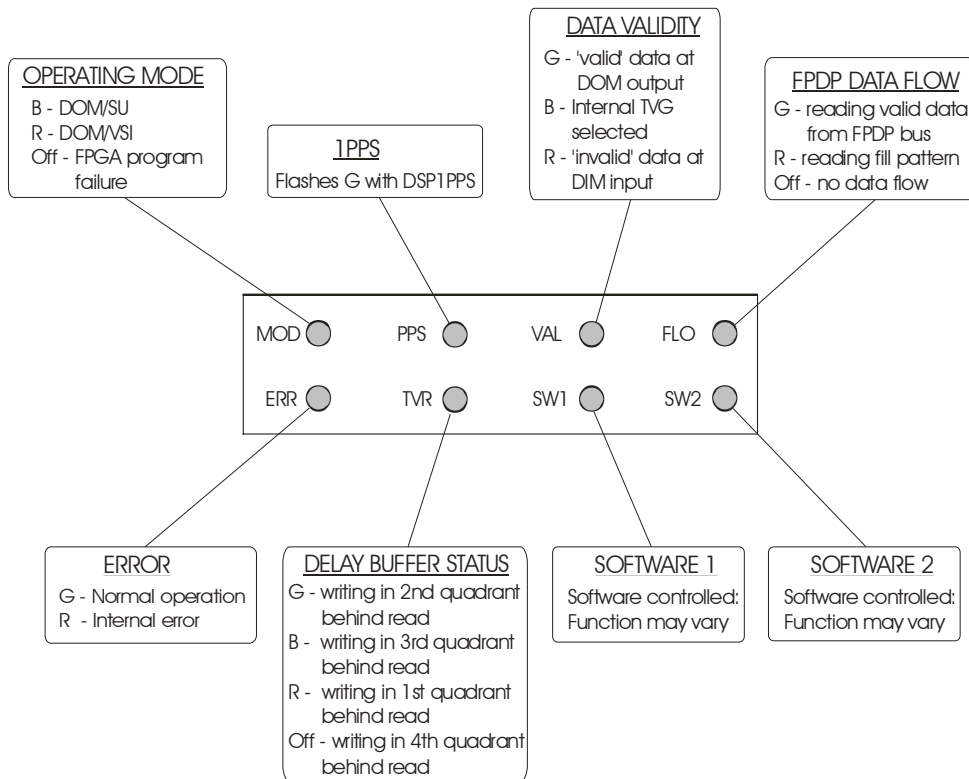
SUBJECT: Mark 5B status LED's – functions and layout

8 tri-colored LED's are suggested, with the following functions:

Label	Meaning	DIM mode	DOM mode
MOD	Operating mode	G – DIM B – DOM/SU R – DOM/VSI Off – FPGA programming failure	
PPS	1PPS	Flash at 1PPS rate: R - Not sync'ed; flashes with selected external 1PPS G - Sync'ed: flash with DOT1PPS Not flashing – no clock	Flash G with DSP1PPS
VAL	Data validity	G – 'valid' data at DIM input B – TVG selected and active R – 'invalid' data at DIM input	G – 'valid' data at DOM output B – TVR active; TVG data recognized R – 'invalid' data at DOM output
FLO	FPDP data flow	G – writing valid data to FPDP R – writing fill pattern Off – no data flow	G – reading valid data from FPDP R – reading fill pattern Off – no data flow
ERR	Error	G – normal operation R - Internal error detected	
TVR	Delay buffer state	G – TVR active R – TVR error detected	G – write in 2nd quadrant behind read B – write in 3rd quadrant behind read R – write in 1st quadrant behind read Off – write in 4th quadrant behind read
SW1	Software controlled	-	-
SW2	Software controlled	-	-

Key: G – green   R – red   B – blue

OPERATING MODE

G - DIM mode
Off - FPGA program
  failure

1PPS

G - Sync'ed - flashes
  with DOT1PPS
R - Not sync'ed - flashes
  with external 1PPS
Not flashing - no clock

DATA VALIDITY

G - 'valid' data at
  DIM input
B - Internal TVG
  selected
R - 'invalid' data at
  DIM input

FPDP DATA FLOW

G - writing valid data
  to FPDP bus
R - writing fill pattern
Off - no data flow

MOD ○ PPS ○ VAL ○ FLO ○

ERR ○ TVR ○ SW1 ○ SW2 ○

ERROR

G - Normal operation
R - Internal error

TEST VECTOR RECEIVER

G - TVR active
R - error detected
  by TVR

SOFTWARE 1

Software controlled:
Function may vary

SOFTWARE 2

Software controlled:
Function may vary

Mark 5B DIM Status LEDs

OPERATING MODE

B - DOM/SU
R - DOM/VSI
Off - FPGA program
  failure

1PPS

Flashes G with DSP1PPS

DATA VALIDITY

G - 'valid' data at
  DOM output
B - Internal TVG
  selected
R - 'invalid' data at
  DIM input

FPDP DATA FLOW

G - reading valid data
  from FPDP bus
R - reading fill pattern
Off - no data flow

MOD ○ PPS ○ VAL ○ FLO ○

ERR ○ TVR ○ SW1 ○ SW2 ○

ERROR

G - Normal operation
R - Internal error

DELAY BUFFER STATUS

G - writing in 2nd quadrant
  behind read
B - writing in 3rd quadrant
  behind read
R - writing in 1st quadrant
  behind read
Off - writing in 4th quadrant
  behind read

SOFTWARE 1

Software controlled:
Function may vary

SOFTWARE 2

Software controlled:
Function may vary

Mark 5B DOM Status LEDs