



LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY

LIGO Laboratory / LIGO Scientific Collaboration

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Advanced LIGO

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Monitor Photodiodes for SQZ

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List of RF Photodiodes

Name	Location	Type	RF Chain	Comment
Newport 1611FS-AC:		Commercial		
FIBR_MIXER	ISCT6/FSS1	1611	TTFSS	Laser/fiber locking PD
Broadband Photodetectors:		E1200428		
SHG_TRANS_RF35	ISCT6/SHG	BBPD	2ch demod	SHG locking (IR)
LSC RF Photodetectors:		E1400099		
CLF_REFL_RF6	SQZT6/CLF	ALIGO	2ch demod	CLF phase. locking
OPO_REFL_RF80	SQZT6/OPO	ALIGO	2ch demod	OPO locking
Existing OMC DCPD:		E1300521		
OMC_TRANS_RF3	In-vac	ALIGO	2ch demod	Squeeze angle locking
Homodyne Photodetector:		E1700135		
HD_DIFF_RF3	SQZT6/HD	ALIGO	2ch demod	LO locking/diagnostics

List of DC monitor photodiodes

Name	Location	Type	S	F	Comment
4-chn Generic PD interface (ISCT6):					
FIBR_PD_DC/LF	ISCT6/FSS1	1611	×	×	DC of laser/fiber locking PD
SHG_TRANS_DC/LF	ISCT6/SHG	BBPD	×	×	DC of SHG locking (IR)
LASER_IR_DC/LF	ISCT6/PD1	PDA100A	×	×	Power of SQZ laser
SHG_GR_DC/LF	ISCT6/PD2	PDA100A	×	×	SHG green power
4-chn Generic PD interface (SQZT6):					
CLF_TRIG_DC	SQZT6/PD3	PDA100A	×	×	Trigger PD CLF path
SPARE_C_DC/LF	TBD	TBD	×	×	Spare
CLF_REFL_DC	SQZT6/CLF	ALIGO	×		DC of CLF refl. locking
OPO_REFL_DC	SQZT6/OPO	ALIGO	×		DC of OPO refl. locking
DC Outputs of LSC RF PD interface:					
CLF_REFL_LF	SQZT6/CLF	ALIGO		×	DC of CLF refl. locking
OPO_REFL_LF	SQZT6/OPO	ALIGO		×	DC of OPO refl. locking
HD_A_LF	SQZT6/HD	ALIGO		×	PD A of homodyne
HD_B_LF	SQZT6/HD	ALIGO		×	PD B of homodyne
Unamplified DC Monitors:					
SHG_FIBR_REJECTED_DC	In-vac	PD	×		Rejected pump power
CLF_FIBR_REJECTED_DC	In-vac	PD	×		Rejected CLF power
FIBR_TRANS_DC/LF	ISCT6/DC1	SM1PD1A	×	×	Transmitted by laser fiber
FIBR_REJECTED_DC	ISCT6/DC2	SM1PD1A	×		Rejected after laser fiber
CLF_LAUNCH_DC	ISCT6/DC4	SM1PD1A	×		Injected into CLF fiber
CLF_REJECTED_DC	ISCT6/DC3	SM1PD1A	×		Rejected before injection
SHG_LAUNCH_DC	ISCT6/DC7	SM1PD1A	×		Injected into pump fiber
SHG_REJECTED_DC	ISCT6/DC6	SM1PD1A	×		Rejected before injection
SEED_LAUNCH_DC	ISCT6/DC5	SM1PD1A	×		Seed beam injection
LO_LAUNCH_DC	ISCT6/DC8	SM1PD1A	×		LO beam injection
OPO_REFL_REJECTED_DC	SQZT6/DC9	SM1PD1A	×	×	Rejected OPO refl. power
OPO_TRANS_DC/LF	SQZT6/DC10	SM1PD1A	×	×	Trans. green OPO power

SPARE_A_DC	TBD	TBD	×		Spare
SPARE_B_DC/LF	TBD	TBD	×	×	Spare
Trigger PD:					
SYS-MOTION_C_SHUTTER_H_TRIGGER	SQZT6/PD3	PDA100A	×		Trigger PD CLF path

S: Slow controls readback; F: Fast DAQ readback