

E1000760-v1

CABLE LENGTHS, CORNER STATION, H1 & H2

Cable lengths are based on D1002404-v3

[D1002704, Rack and Cable Tray Layout, LVEA, H1 H2](#)

Cable lengths to racks are the worksheets are to the bottom of the rack (coming in from above the rack).

Lengths are given from the 3 entry/exit points for cable trays into/out-of the LVEA (points A & B for H1 and point C for H2).

Lengths from racks in the LVEA to their associated chamber or equipment are not (yet) listed, but can be obtained from looking at Drawing D1002704

Cable lengths have an added margin of 10 feet, or 5%, whichever is largest.

The chamber designations for aLIGO are given in the files for LHO and LLO respectively:

[D0901477-v2 file, Vacuum Chamber Designations for LHO aLIGO](#)

[D0901490-v1 file, Vacuum Chamber Designations for LLO aLIGO](#)

The designations (naming conventions) for the feedthrough ports (optical and electrical) are given in these drawings:

[D980227-x0, Naming Conventions, BSC Ports](#)

[D980226-x0, Naming Conventions for Ports on HAM Chamber](#)

[D980228-x0, Naming Conventions for Ports on Adapter](#)

The orientation of the chambers (0 degree and support tubes for BSC chambers; orientation of the large bellows on the HAM chamber), is given in the following iLIGO drawings for LHO:

[D961165-v1, LIGO Vacuum Equipment Arrangement Plan, Corner Station, Washington Site](#)

[D961169-v1, LIGO Vacuum Equipment Arrangement Plan, X-End Station, Washington Site](#)

[D961171-v1, LIGO Vacuum Equipment Arrangement Plan, Y-End Station, Washington Site](#)

and for iLIGO LLO in these drawings:

[D970383-v1, LIGO Vacuum Equipment Arrangement Plan, Corner Station, Louisiana Site](#)

[D970384-v1, LIGO Vacuum Equipment Arrangement Plan, X-End Station, Louisiana Site](#)

[D970385-v1, LIGO Vacuum Equipment Arrangement Plan, Y-End Station, Louisiana Site](#)

In aLIGO, the BSC chambers in the corner stations and end stations of both observatories are not moved, so the orientation is the same as in iLIGO. However, at LHO the chambers from the mid-station are relocated to the end stations as H2 end test mass chambers. The orientation of these H2 end chambers will be the same as the H1 end chambers.

The HAM chambers are all oriented so that the large bellows is always toward the vertex.

See also

[D0901469-v5, aLIGO LHO X-End Layout](#)

[D0901467-v5, aLIGO LHO Y-End Layout](#)

POINT	RACK or PORT or SITE	LENGTH (ft)	
		BASIC	with margin
A	SUS-H1-R1	58	67
A	WMCA1 ports	69	79
A	WHAM2, port D1	68	77
A	WHAM2, port D2	70	80
A	WHAM2, port D3	73	83
A	WHAM2, port D4	81	90
A	WHAM2, port D5	83	92
A	WHAM2, port D6	86	96
A	WHAM1, port D1	76	85
A	WHAM1, port D2	78	87
A	WHAM1, port D3	81	91
A	WHAM1, port D4	89	98
A	WHAM1, port D5	91	100
A	WHAM1, port D6	94	104
A	ISC-H1-R2	101	110
A	ISC-H1-R1	106	116
A	PSL-H1-R2	111	121
A	PSL-H1-R1	116	126
A	SEI-H1-G1	122	132
A	PSL-H1-T1	107	116
A	SUS-H1-R2	42	52
A	WMCB1 ports	53	63
A	WHAM3, port D1	60	69
A	WHAM3, port D2	62	71
A	WHAM3, port D3	65	75
A	WHAM3, port D4	52	61
A	WHAM3, port D5	54	63
A	WHAM3, port D6	57	67
A	WBSC2, far side, E & F ports	69	79
A	WBSC2, far side, G ports	74	83
A	WBSC3, far side, E & F ports	90	100
A	WBSC3, far side, G ports	95	104
A	SUS-H1-R5	106	115
A	TCS-H1-R1	80	90
A	TCS-H1-R2	90	99
A	SUS-H1-R6	151	160
A	SEI-H1-G3	155	165
A	WBSC1, far side, E & F ports	157	167
A	WBSC1, far side, G ports	162	171
A	OPLEV-H1-Y1	194	203

POINT	RACK	LENGTH (ft)	
		BASIC	with margin
A	H1-PSL-C1	21	31
A	H1-UNK-C4	23	33
A	H1-UNK-C5	25	35
A	H1-AOS-C1	27	37
A	H1-SEI-C1	33	42
A	H1-SEI-C2	35	44
A	H1-SEI-C3	37	46
A	H1-SEI-C4	39	48
A	H1-SEI-C5	41	50
A	H1-SEI-C6	43	52
A	H1-SUS-C4	21	30
A	H1-SUS-C3	23	32
A	H1-SUS-C2	25	34
A	H1-SUS-C1	27	36
A	H1-SUS-C5	35	45
A	H1-SUS-C6	33	43
A	H1-SUS-C7	32	41
A	H1-SUS-C8	33	43
A	H1-PEM-C1	42	51
A	H1-UNK-C3	40	49
A	H1-UNK-C2	38	48
A	H1-UNK-C1	40	49
A	H1-ISC-C1	49	59
A	H1-ISC-C2	47	57
A	H1-ISC-C3	46	55
A	H2-LDR-C1	54	64
A	H1-LDR-C2	53	62
A	H1-LDR-C1	54	64
A	H1-VDC-C1	33	43
A	H1-VDC-C2	35	45
A	H1-VDC-C3	37	47
A	H1-VDC-C4	39	49

POINT	RACK or PORT or SITE	LENGTH (ft)	
		BASIC	with margin
B	SUS-H1-R3	35	45
B	WMCB2 ports	46	56
B	WHAM4, port D1	58	67
B	WHAM4, port D2	54	64
B	WHAM4, port D3	52	62
B	WHAM4, port D4	44	54
B	WHAM4, port D5	46	56
B	WHAM4, port D6	50	59
B	TCS-H1-R1	58	67
B	WBSC2, far side, E & F ports	61	70
B	WBSC2, far side, G ports	65	75
B	WBSC3, far side, E & F ports	73	83
B	WBSC3, far side, G ports	78	87
B	SUS-H1-R5	89	98
B	H1-TCS-CHILLER	95	104
B	WMCA2 ports	68	77
B	WHAM5, port D1	112	122
B	WHAM5, port D2	109	118
B	WHAM5, port D3	107	116
B	WHAM5, port D4	98	108
B	WHAM5, port D5	100	110
B	WHAM5, port D6	104	113
B	WHAM6, port D1	104	113
B	WHAM6, port D2	100	110
B	WHAM6, port D3	98	108
B	WHAM6, port D4	90	99
B	WHAM6, port D5	92	101
B	WHAM6, port D6	95	105
B	ISC-H1-R3	90	100
B	SUS-H1-R4	92	102
B	SEI-GND-H1-2	96	106
B	OPLEV-H1-X1	211	221

POINT	RACK	LENGTH (ft)	
		BASIC	with margin
B	H1-PSL-C1	25	34
B	H1-UNK-C4	23	32
B	H1-UNK-C5	21	30
B	H1-AOS-C1	19	29
B	H1-SEI-C1	24	34
B	H1-SEI-C2	26	36
B	H1-SEI-C3	28	38
B	H1-SEI-C4	30	40
B	H1-SEI-C5	32	42
B	H1-SEI-C6	34	44
B	H1-SUS-C4	32	41
B	H1-SUS-C3	34	43
B	H1-SUS-C2	35	44
B	H1-SUS-C1	37	46
B	H1-SUS-C5	26	36
B	H1-SUS-C6	28	38
B	H1-SUS-C7	30	40
B	H1-SUS-C8	32	42
B	H1-PEM-C1	33	42
B	H1-UNK-C3	35	44
B	H1-UNK-C2	37	46
B	H1-UNK-C1	39	48
B	H1-ISC-C1	40	50
B	H1-ISC-C2	42	52
B	H1-ISC-C3	44	54
B	H2-LDR-C1	46	56
B	H1-LDR-C2	45	54
B	H1-LDR-C1	46	56
A	H1-VDC-C1	37	46
A	H1-VDC-C2	35	44
A	H1-VDC-C3	33	42
A	H1-VDC-C4	31	41

POINT	RACK or PORT or SITE	LENGTH (ft)	
		BASIC	with margin
C	SUS-H2-R1	161	170
C	WMCA3 ports	172	182
C	WHAM8, port D1	171	180
C	WHAM8, port D2	173	182
C	WHAM8, port D3	176	186
C	WHAM8, port D4	185	194
C	WHAM8, port D5	181	191
C	WHAM8, port D6	179	189
C	WHAM7, port D1	179	189
C	WHAM7, port D2	181	191
C	WHAM7, port D3	185	194
C	WHAM7, port D4	193	203
C	WHAM7, port D5	190	199
C	WHAM7, port D6	188	197
C	ISC-H2-R2	204	214
C	ISC-H2-R1	209	219
C	PSL-H2-R2	214	225
C	PSL-H2-R1	220	230
C	SEI-H2-G3	225	236
C	PSL-H2-T1	210	220
C	SUS-H2-R2	129	138
C	WMCB3 ports	126	136
C	WHAM9, port D1	146	155
C	WHAM9, port D2	148	157
C	WHAM9, port D3	151	161
C	WHAM9, port D4	143	152
C	WHAM9, port D5	139	149
C	WHAM9, port D6	137	147
C	WBSC4, far side, E & F ports	104	114
C	WBSC4, far side, G ports	109	119
C	WBSC7, far side, E & F ports	124	134
C	WBSC7, far side, G ports	129	139
C	SUS-H2-R5	106	116
C	TCS-H2-R1	204	214
C	TCS-H2-R2	71	81
C	SUS-H2-R6	87	97
C	SEI-H2-G3	95	104
C	WBSC8, far side, E & F ports	72	81
C	WBSC8, far side, G ports	77	86
C	OPLEV-H2-Y1	94	104
C	SUS-H2-R3	79	88
C	WMCB4 ports	90	99
C	WHAM10, port D1	97	106
C	WHAM10, port D2	99	108

C	WHAM10, port D3	102	112
C	WHAM10, port D4	94	103
C	WHAM10, port D5	91	100
C	WHAM10, port D6	88	98
C	TCS-H2-R3	77	86
C	TCS-H2-XC	0	10
C	TCS-H2-YC	0	10
C	WMCA4 ports	88	97
C	WHAM11, port D1	129	139
C	WHAM11, port D2	131	141
C	WHAM11, port D3	135	144
C	WHAM11, port D4	126	136
C	WHAM11, port D5	123	132
C	WHAM11, port D6	121	130
C	WHAM12, port D1	121	130
C	WHAM12, port D2	123	132
C	WHAM12, port D3	126	136
C	WHAM12, port D4	118	128
C	WHAM12, port D5	115	124
C	WHAM12, port D6	113	122
C	ISC-H2-R3	111	120
C	SUS-H2-R4	108	118
C	SEI-GND-H2-2	115	124
C	OPLEV-H2-X1	227	238

POINT	RACK	LENGTH (ft)	
		BASIC	with margin
C	H2-PSL-C1	32	42
C	H2-UNK-C4	34	44
C	H2-UNK-C5	36	46
C	H2-AOS-C1	38	48
C	H2-SEI-C1	43	53
C	H2-SEI-C2	45	55
C	H2-SEI-C3	47	57
C	H2-SEI-C4	49	59
C	H2-SEI-C5	51	61
C	H2-SEI-C6	53	63
C	H2-SUS-C4	25	35
C	H2-SUS-C3	23	33
C	H2-SUS-C2	21	31
C	H2-SUS-C1	23	33
C	H2-SUS-C5	33	43
C	H2-SUS-C6	31	41
C	H2-SUS-C7	29	39
C	H2-SUS-C8	31	41
C	H2-PEM-C1	40	49
C	H2-UNK-C3	38	47
C	H2-UNK-C2	36	45
C	H2-UNK-C1	38	47
C	H2-ISC-C1	47	57
C	H2-ISC-C2	45	55
C	H2-ISC-C3	43	53
C	H2-VDC-C1	73	83
C	H2-VDC-C2	75	85
C	H2-VDC-C3	77	87
C	H2-VDC-C4	79	89