CABLE LENGTHS, END STATIONS, H1 & H2

Cable lengths are based on D1100024-v2

D1100024, Rack and Cable Tray Layout, Y-End, H1 H2

Cable lengths to racks in the worksheets are to the bottom of the rack (coming in from above the rack).
Lengths are given from the 1 entry/exit point for each interferometer (H1 or H2) for cable trays into/out-of the VEA (points A for H1 and point B 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

H1 - POINT A TO VEA LOCATIONS

		LENGTH (ft)	
POINT	**RACK or PORT or SITE**	**BASIC**	**with margin**
A	SUS-H1-R1	26	36
A	ISC-H1-R1	35	45
A	ISCBT10R	32	41
A	H1 OpLevs (near)	33	43
A	H1 OpLevs (far)	40	49
A	WBSC10, far side, E & F ports	49	58
A	WBSC10, far side, G ports	54	63
A	WBSC10, near side, E & F ports	39	49
A	WBSC10, near side, G ports	44	53

H1 - POINT A TO RACK ROOM

		LENGTH (ft)	
POINT	**RACK**	**BASIC**	**with margin**
A	H1-SUS-C1	27	37
A	H1-SUS-C2	29	39
A	H1-ISC-C1	31	41
A	H1-TCS-C1	34	43
A	H1-SEI-C1	36	45
A	H1-VDC-C1	38	47

H1 - VEA RACK TO CHAMBER/TABLE

		LENGTH (ft)	
RACK	**CHAMBER/TABLE**	**BASIC**	**with margin**
SUS-H1-R1	WBSC10, far side, E & F ports	47	57
	WBSC10, far side, G ports	52	61
	WBSC10, near side, E & F ports	39	48
	WBSC10, near side, G ports	44	53
ISC-H1-R1	ISCBT10R	18	27
	WBSC10, far side, E & F ports	34	44
	WBSC10, far side, G ports	39	48
	WBSC10, near side, E & F ports	26	35
	WBSC10, near side, G ports	31	40
ISCBT10R	WBSC10, far side, E & F ports	27	37
	WBSC10, far side, G ports	32	42
	WBSC10, near side, E & F ports	19	29
	WBSC10, near side, G ports	24	33

H2 - POINT B TO VEA LOCATIONS

		LENGTH (ft)	
POINT	**RACK or PORT or SITE**	**BASIC**	**with margin**
B	SUS-H2-R1	38	47
B	ISC-H2-R1	36	46
B	ISCBT6R	33	43
B	H2 OpLevs (near)	70	80
B	H2 OpLevs (far)	68	77
B	WBSC6, far side, E & F ports	50	59
B	WBSC6, far side, G ports	55	64
B	WBSC6, near side, E & F ports	41	51
B	WBSC6, near side, G ports	46	56

H2 - POINT B TO RACK ROOM

		LENGTH (ft)	
POINT	**RACK**	**BASIC**	**with margin**
B	H2-SUS-C1	77	86
B	H2-SUS-C2	75	85
B	H2-ISC-C1	77	86
B	H2-TCS-C1	79	88
B	H2-SEI-C1	81	90
B	H2-VDC-C1	83	92

H2 - VEA RACK TO CHAMBER/TABLE

		LENGTH (ft)	
RACK	**CHAMBER/TABLE**	**BASIC**	**with margin**
SUS-H2-R1	WBSC6, far side, E & F ports	33	42
	WBSC6, far side, G ports	38	47
	WBSC6, near side, E & F ports	25	34
	WBSC6, near side, G ports	30	39
ISC-H2-R1	ISCBT6R	18	27
	WBSC6, far side, E & F ports	34	44
	WBSC6, far side, G ports	39	49
	WBSC6, near side, E & F ports	26	36
	WBSC6, near side, G ports	31	41
ISCBT6R	WBSC6, far side, E & F ports	28	37
	WBSC6, far side, G ports	32	42
	WBSC6, near side, E & F ports	19	29
	WBSC6, near side, G ports	24	34