ADDRESSES OF ETHERCAT CHASSIS

Daniel Sigg, May 9, 2013

Each standard chassis contains three DIN rails that can be equipped with EtherCAT terminals and couplers. Typically, there will be one coupler for each DIN rail. The first coupler (left rail) usually has an ID number associated with it: EK1110 for CAT5, EK1501 for multi-mode fiber and EK1501-0010 for single-mode fiber. The second and third coupler will be EK1100s without ID switch. The ID is set with 3 hexadecimal rotary switches enabling 4096 addresses. We are using the 2 most significant bits to select the detector. Furthermore, we are using the next 2 bits to select the building and network.

Address (Bit 11 is MSB)				Offset		Usage
Bit 11	**Bit 10**	**Bit 9**	**Bit 8**	**Hex**	**Decimal**	
0	0	0	X	0x000	0	LHO test systems
0	0	1	X	0x200	512	LLO test systems
0	1	0	0	0x400	1024	H1 interferometer, corner
0	1	1	0	0x600	1536	H1 interferometer, EX
0	1	1	1	0x700	1792	H1 interferometer, EY
1	0	0	0	0x800	2048	H2 interferometer, corner
1	0	1	0	0xA00	2560	H2 interferometer, EX
1	0	1	1	0XB00	2816	H2 interferometer, EY
1	1	0	0	0xC00	3072	L1 interferometer, corner
1	1	1	0	0xE00	3584	L1 interferometer, EX
1	1	1	1	0xF00	3840	L1 interferometer, EY

For test systems at LHO and LLO bit 8 indicates whether a system is part of a permanent or temporary setup. Addresses with bit 8 set are assigned permanently to setups, whereas the lower addresses can be used on an as needed basis.

The 4km remote access chassis in the corner station implements a single-mode fiber link to the end stations. The 4km remote access chassis in the end stations implements both the corner and the end station network as well as a link between them. These chassis use an address in the corner station range for the remote extensions.

A list of addresses is presented below.

Address bits 7..0	Chassis	Location	Type	Rail/ Slot	Full address	
					decimal	hex
0x00	4km Remote Access (Corner)	H1 corner	CAT5	L0	1024	0x400
		H2 corner			2048	0x800
		L1 corner			3072	0xC00
0x00	4km Remote Access (End)	H1 EX	CAT5	L0	1536	0x600
		H2 EX			2560	0xA00
		L1 EX			3584	0xE00
0x01		H1 EX	SM	R0	1025	0x401
		H2 EX			2049	0x801
		L1 EX			3073	0xC01
0x00		H1 EY	CAT5	L0	1792	0x700
		H2 EY			2816	0xB00
		L1 EY			3840	0xF00
0x02		H1 EY	SM	R0	1026	0x402
		H2 EY			2050	0x802
		L1 EY			3074	0xC02
0x03	ISC Common Mode	H1 corner	MM	L0	1027	0x403
		H2 corner			2051	0x803
		L1 corner			3075	0xC03
0x03		H1 EX	MM	L0	1539	0x603
		H2 EX			2563	0xA03
		L1 EX			3587	0xE03
0x03		H1 EY	MM	L0	1795	0x703
		H2 EY			2819	0xB03
		L1 EY			3843	0xF03
0x04	Corner 2	H1 corner	CAT5	L0	1028	0x404
		H2 corner			2052	0x804
		L1 corner			3076	0xC04
0x05	Corner 3	H1 corner	CAT5	L0	1029	0x405
		H2 corner			2053	0x805
		L1 corner			3077	0xC05
0x06	Corner 4	H1 corner	CAT5	L0	1030	0x406
		H2 corner			2054	0x806
		L1 corner			3078	0xC06
0x07	Corner 5	H1 corner	CAT5	L0	1031	0x407
		H2 corner			2055	0x807
		L1 corner			3079	0xC07
0x08	PSL/IO/TCS	H1 corner	CAT5	L0	1032	0x408
		H2 corner			2056	0x808
		L1 corner			3080	0xC08
0x09		H1 corner	CAT5	R0	1033	0x409
		H2 corner			2057	0x809
		L1 corner			3081	0xC09

Address bits 7..0	Chassis	Location	Type	Rail/ Slot	Full address	
					decimal	hex
0x0A	Corner 6	H1 corner	CAT5	L0	1034	0x40A
		H2 corner			2058	0x80A
		L1 corner			3082	0xC0A
0x0B	TCS corner	H1 corner	CAT5	L0	1035	0x40B
		H2 corner			2059	0x80B
		L1 corner			3083	0xC0B
0x04	End 2	H1 EX	CAT5	L0	1540	0x604
		H2 EX			2564	0xA04
		L1 EX			3588	0xE04
		H1 EY	CAT5	L0	1796	0x704
		H2 EY			2820	0xB04
		L1 EY			3844	0xF04
0x05	End 3	H1 EX	CAT5	L0	1541	0x605
		H2 EX			2565	0xA05
		L1 EX			3589	0xE05
		H1 EY	CAT5	L0	1797	0x705
		H2 EY			2821	0xB05
		L1 EY			3845	0xF05
0x01	EtherCAT Communications Tester	LHO	CAT5	11	257	0x101
		LLO			769	0x301
0x02		LHO	MM	16	258	0x102
		LLO			770	0x302
0x03		LHO	SM	21	259	0x103
		LLO			771	0x303