


Chordata K-Ceptor R2.2 BOM								
Item #	Ref Des	Qty	Manufacturer	Manufacturer Part #	Description / Value	Package	Type	Notes
1	U1	1	ST microelectronics	LSM9DS1TR	TFLGA 3.5X3X1 24LINEMO inertial module, 3D magnetometer, 3D accelerometer, 3D gyroscope, I2C,	TFLGA 3.5X3X1 24L	SMD	Critical to pcb design, Cannot be substituted without changes on the PCB.
2	U2	1	Linear Technology	LTC4316CMS#PBF	Single I2C/SMBus Address Translator	10-Lead Plastic MSOP	SMD	Critical to pcb design, Cannot be substituted without changes on the PCB. Other accepted part # are: LTC4316CMS#TRPBF, LTC4316IMS#PBF and LTC4316IMS#TRPBF
3	C1, C2, C3	3	MULTICOMP	MC1206B104K201CT	SMD Multilayer Ceramic Capacitor, 0.1 µF, 200 V, 1206 [3216 Metric], ± 10%, X7R, MC Series	1206 [3216 Metric]	SMD	Non critical component. Vendor and P/N can be determined by cost and local availability. Minimal Voltage is 16V. Minimal tolerance is 10%
4	C4	1	VISHAY	VJ1206Y106KXXTW1BC	SMD Multilayer Ceramic Capacitor, 10 µF, 25 V, 1206 [3216 Metric], ± 10%, X7R, VJ...W1BC Series	1206 [3216 Metric]	SMD	Non critical component. Vendor and P/N can be determined by cost and local availability. Minimal Voltage is 16V. Minimal tolerance is 10%
5	C5	1	MULTICOMP	MCU1206R103KCT	SMD Multilayer Ceramic Capacitor, 10000 pF, 50 V, 1206 [3216 Metric], ± 10%, X7R, MCU Series	1206 [3216 Metric]	SMD	Non critical component. Vendor and P/N can be determined by cost and local availability. Minimal Voltage is 16V. Minimal tolerance is 10%
6	U3	1	ST microelectronics	M24C02-WMN6P	EEPROM, Serial I2C (2-Wire), 2 Kbit, 256 x 8bit, 400 kHz, SOIC, 8 Pin	8pin SOIC	SMD	Non critical component. Vendor and P/N can be determined by cost and local availability.
7	R1, R2, R3	3	MULTICOMP	MF25 10K	Through Hole Resistor, 10 kohm, MF25 Series, 250 mW, ± 1%, Axial Leaded, 250 V	Axial leaded	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
8	R4	1	MULTICOMP	MF25 1K	Through Hole Resistor, 1 kohm, MF25 Series, 250 mW, ± 1%, Axial Leaded, 250 V	Axial leaded	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
9	J1, J2	2	MOLEX	95501-2661	Modular Connector, RJ12, Jack, 6 Contacts, 6 Ways, 95501 Series, Cat3	(see Attachment C)	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
40	J5	4	MULTICOMP	2214S-06SG-85	<del>Board-To-Board Connector, 2.54 mm, 6 Contacts, Receptacle, 2214S Series, Through Hole, 2 Rows</del>	—	THT	<del>Non critical component. Vendor and P/N can be determined by cost and local availability.</del>
11	D1	1	KINGBRIGHT	L-964QBDL-D	KINGBRIGHT LED, Blu, Foro Passante, T-1 (3mm), 20 mA, 3.3 V, 465 nm	T-1 (3mm)	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
12	R6 (RLB) *	5			SMD Chip Resistor 102K ohms SMD 1206		SMD	The quantity included on this BOM is orientative and should be enough to build 15 K-Ceptors with values 0, 1 & 2. Non critical component. Vendor and P/N can be determined by cost and local availability.
13	R6 (RLB) *	5			SMD Chip Resistor 182K ohms SMD 1206		SMD	
14	R5 (RLT) *	10			SMD Chip Resistor 976K ohms SMD 1206		SMD	
(*) Reference designator for every board would be determined by the value of the K-Ceptor. See the table here: <a href="https://wiki.chordata.cc/wiki/ID_Module#Soldering_the_translation_value_resistors">https://wiki.chordata.cc/wiki/ID_Module#Soldering_the_translation_value_resistors</a>								
			<p>The motion capture system that you can build yourself.</p>			<p>More info at <a href="http://chordata.cc">http://chordata.cc</a></p>		

## Chordata Hub R1 BOM

Item #	Ref Des	Qty	Manufacturer	Manufacturer Part #	Description / Value	Package	Type	Notes
1	U1	1	NXP	PCA9548AD,112	Translating Switch, Bidirectional, 8 Inputs, 2.3V to 5.5V Supply, 25mA Out, 0.3ns Delay	SOIC-24	SMD	Critical to pcb design. Cannot be substituted without changes on the PCB.
2	U2	1	MCP1603T-330I/OS	MICROCHIP	Synchronous Buck Step Down, Switching Regulator, Fixed, 2.7V-5.5V In, 3.30V/0.5A Out, 2.8 MHz	TSOT-5	SMD	Non critical component. Vendor and P/N can be determined by cost and local availability.
3	L1	1	WURTH ELEKTRONIK	744031004	744031004 - Power Inductor (SMD), 4.7 µH, 1.2 A, Shielded, 900 mA, WE-TPC Series, 3.8mm x 3.8 mm x 1.65mm	3.8mm x 3.8mm x 1.65mm	SMD	Non critical component. Vendor and P/N can be determined by cost and local availability.
4	J12	1	----		USB Connector, Micro USB Type B, USB 2.0, Receptacle, 5 Ways	Surface Mount, Right Angle (see Attachment B)	SMD	Non critical component. Vendor and P/N can be determined by cost and local availability.
5	U4	1	WORLDSEMI	WS2812B	LED; SMD; 5050, PLCC4; RGB; 5x5x1.6mm; 3-3.4V	5050, PLCC4	SMD	<b>The controller for this component is still not implemented on software, so it won't work with the current release (0.1.1b of May 2019)</b>
6	J11	1	CONNFY	DS1095-WNR0	Socket; USB A; THT; angled 90°	angled 90° (See Attachment A)	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
7	D1	1	KINGBRIGHT	L-964QBDL-D	KINGBRIGHT LED, Blu, Foro Passante, T-1 (3mm), 20 mA, 3.3 V, 465 nm	Radial Leaded	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
8	R6	1	----	--	SMD resistor 1Kohm	1206	SMD	Non critical component. Vendor and P/N can be determined by cost and local availability.
9	J9 JP1	1	CONNFY	DS1021-1*40SF11	Pin header; pin strips; male; PIN:40; straight; 2.54 mm; THT; 1x40	--	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
10	R1-R3 R5-R16	15	TT ELECTRONICS / WELWYN	WCR1206-10KFI	SMD Chip Resistor, Thick Film, AEC-Q200 WCR Series, 10 kohm, 200 V, 1206 [3216 Metric], 250 mW	1206	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
11	C1, C2	2	MULTICOMP	MC1206B475K250CT	SMD Multilayer Ceramic Capacitor, 4.7 µF, 25 V, 1206 [3216 Metric], ± 10%, X7R, MC Series	1206	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
12	J1 - J6	6	MOLEX	95501-2661	Modular Connector, RJ12, Jack, 6 Contacts, 6 Ways, 95501 Series, Cat3	(See attachment C)	THT	Non critical component. Vendor and P/N can be determined by cost and local availability.
13	JP1	1			Shunt Connector, 2 position, 2.54 mm pitch		--	Non critical component.



The motion capture system that  
you can build yourself.

More info at <http://chordata.cc>

## Chordata Extras BOM

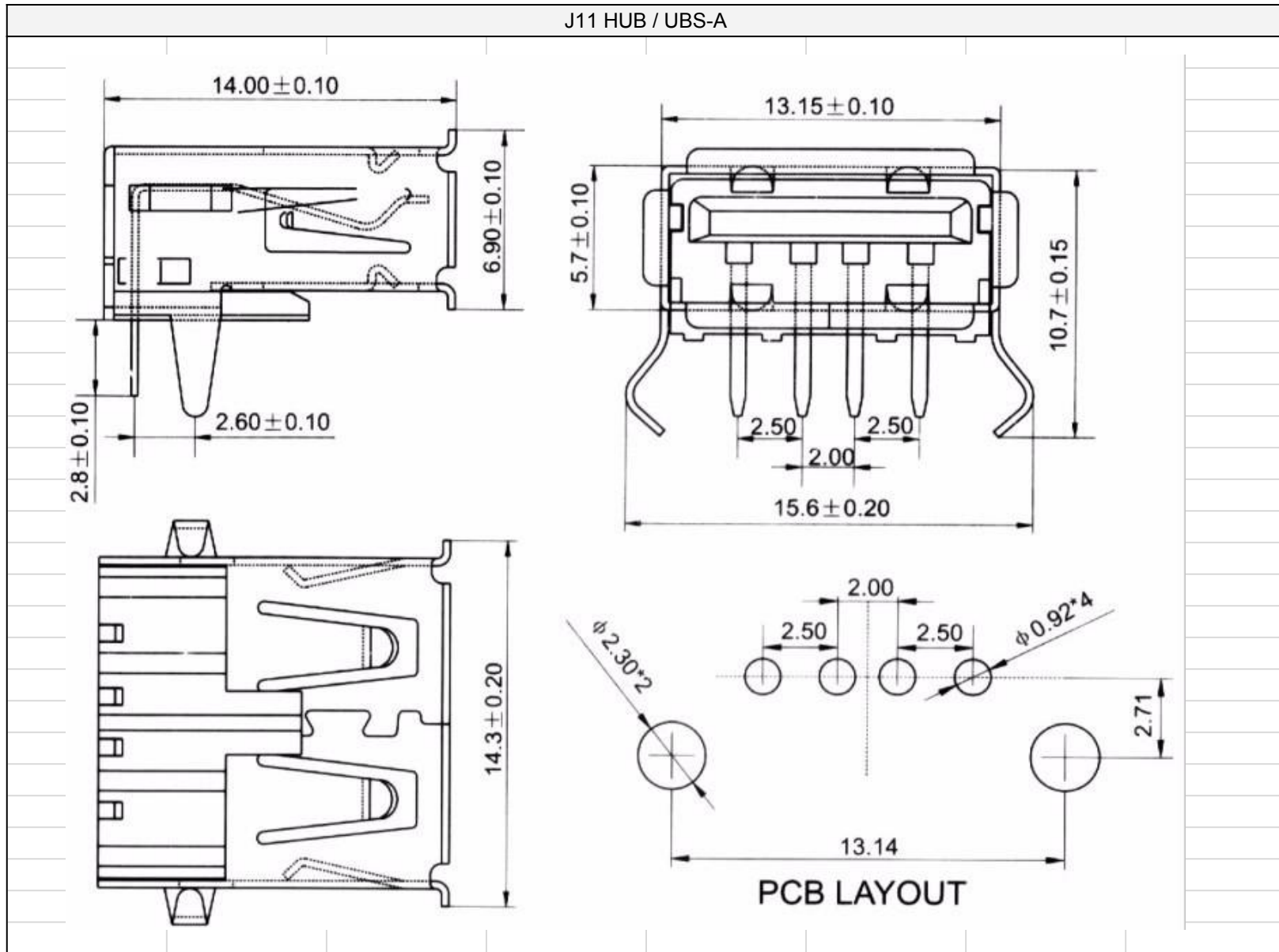
Item #	Ref Des	Qty	Manufacturer	Manufacturer Part #	Description / Value	Notes		
1	N/N	30	LUMBERG	P 128	Modular Connector, RJ12 Plug, 1 x 1 Port, 6P6C, Cable Mount	Non critical component. Vendor and P/N can be determined by cost and local availability. <b>Indicated quantity is orientative. It can be used to make 15 cables.</b>		
2	N/N	10m	--	--	Multi-Paired Cables 24AWG. <b>Stranded cores</b>	3 twisted pair are needed to make Chordata compatible cables. It is normally cheaper and easier to buy 4 pairs Network cable and strip the jacket. It is important to get Stranded cores, since the solid ones are too rigid. <b>Indicated quantity is orientative. It can be used to make 15 cables.</b> Non critical component. Vendor and P/N can be determined by cost and local availability		
3	N/N	1	Raspberry pi	3B +	Single Board Computer	Non critical component. Vendor and P/N can be changed, but minimal refactoring of the code base should be made to adapt it to a different SBC.		
4	N/N	1	--	--	Micro SD card	Non critical component. Vendor and P/N can be determined by cost and local availability. Minimal capacity is 2Gb, recommended >=8Gb.		
5	N/N	1	--	--	Powebank. Output: DC 5V, >=2A Capacity: >= 10000 mA/h	Non critical component. Vendor and P/N can be determined by cost and local availability. A lower capacity might work but it is not tested.		
6	N/N	2	--	--	USB-A to micro USB-B cable	Non critical component. Vendor and P/N can be determined by cost and local availability.		
The following parts are THT alternatives to designate the value of the K-Ceptors on R5(RLT) and R6(RLB). See the table on the link to choose the amount and value of resistors to get [ <a href="https://wiki.chordata.cc/wiki/ID_Module#Soldering_the_translation_value_resistors">https://wiki.chordata.cc/wiki/ID_Module#Soldering_the_translation_value_resistors</a> ]						<b>Package</b>	<b>Type</b>	<b>Notes</b>
1	(*)	~20	VISHAY	MRS25000C1023FCT00	Through Hole Resistor, 102 kohm, MRS25 Series, 600 mW, ± 1%	Axial leaded	THT	Optional and Non critical component. Vendor and P/N can be determined by cost and local availability
2	(*)	~20	VISHAY	MRS25000C1823FCT00	Through Hole Resistor, 182 kohm, MRS25 Series, 600 mW, ± 1%	Axial leaded	THT	Optional and Non critical component. Vendor and P/N can be determined by cost and local availability
3	(*)	~20	VISHAY	MRS25000C2803FCT00	Through Hole Resistor, 280 kohm, MRS25 Series, 600 mW, ± 1%	Axial leaded	THT	Optional and Non critical component. Vendor and P/N can be determined by cost and local availability
4	(*)	~20	VISHAY	MRS25000C3923FCT00	Through Hole Resistor, 392 kohm, MRS25 Series, 600 mW, ± 1%	Axial leaded	THT	Optional and Non critical component. Vendor and P/N can be determined by cost and local availability
5	(*)	~20	VISHAY	MRS25000C6813FCT00	Through Hole Resistor, 681 kohm, MRS25 Series, 600 mW, ± 1%	Axial leaded	THT	Optional and Non critical component. Vendor and P/N can be determined by cost and local availability
6	(*)	~20	VISHAY	MRS25000C8873FCT00	Through Hole Resistor, 887 kohm, MRS25 Series, 600 mW, ± 1%	Axial leaded	THT	Optional and Non critical component. Vendor and P/N can be determined by cost and local availability
7	(*)	~20	VISHAY	MRS25000C9763FCT00	Through Hole Resistor, 976 kohm, MRS25 Series, 600 mW, ± 1%	Axial leaded	THT	Optional and Non critical component. Vendor and P/N can be determined by cost and local availability

(\*) Reference designator for every board would be determined by the value of the K-Ceptor. The quantity included on this BOM is orientative and should be enough to build several K-Ceptors.

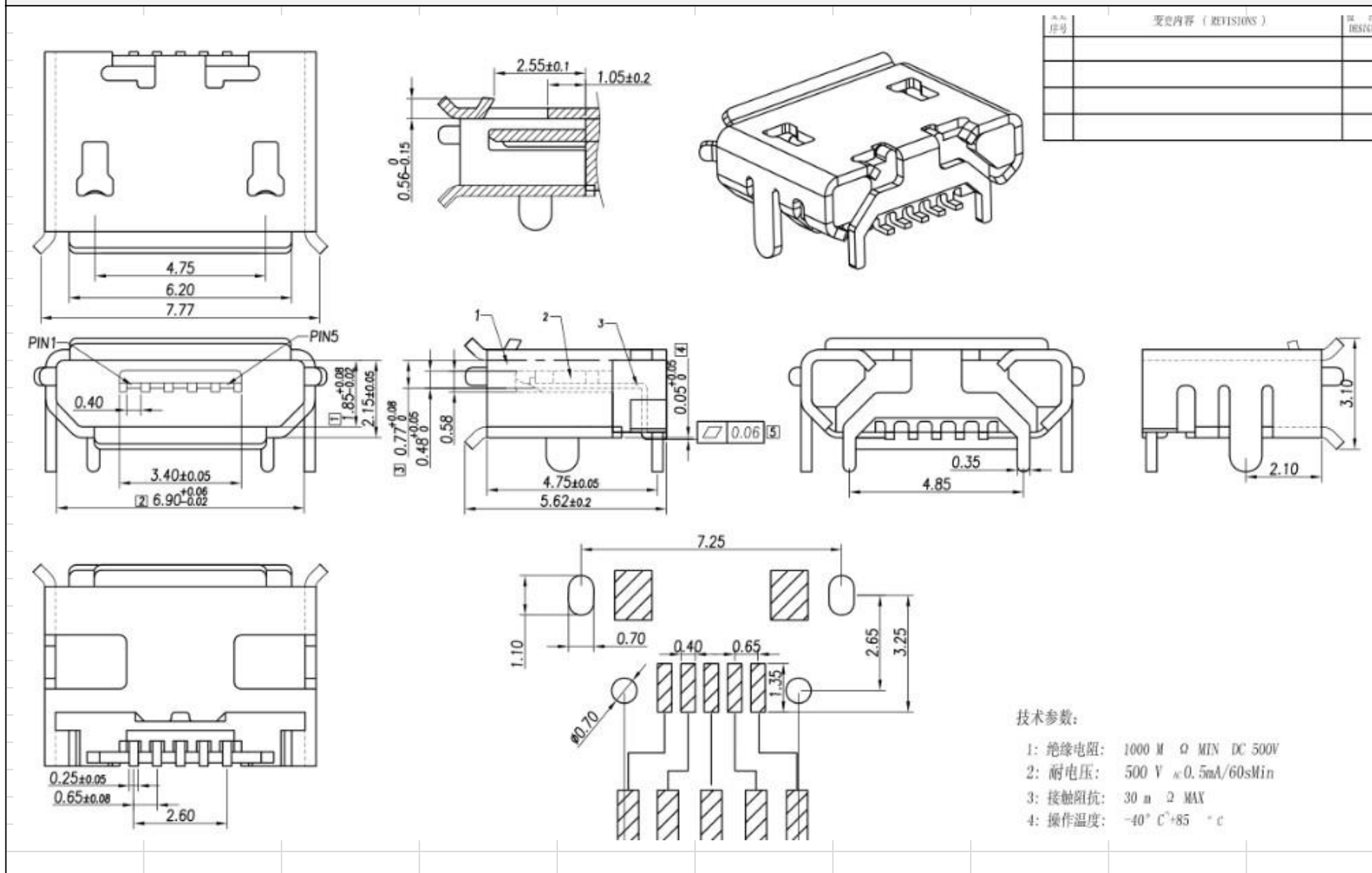


The motion capture system that  
you can build yourself.

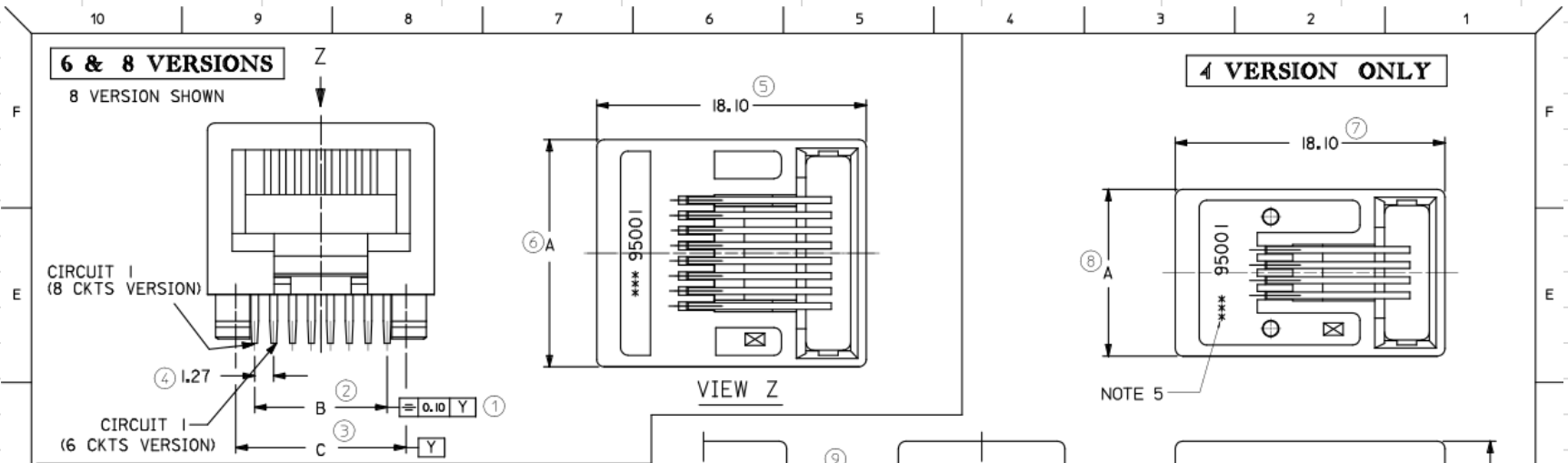
More info at <http://chordata.cc>



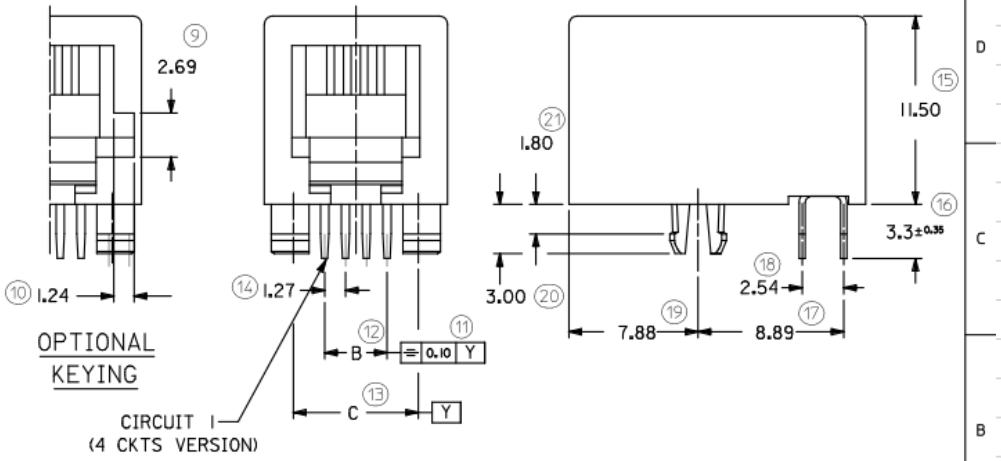
J12 HUB / micro UBS-B



J1, J2 K-Ceptor / J1 -J6 Hub / RJ12



- NOTES :**
- 1- MATERIAL:
    - HOUSING: LCP GLASS FILLED UL 94V-0, COLOUR BLACK.
    - TERMINAL: COPPER ALLOY
    - BASE FINISH: NICKEL
    - CONTACT SURFACE FINISH: GOLD OR GOLD FLASH OVER PALLADIUM NICKEL. EXCEEDS PRODUCT REQUIREMENTS BASED ON PS-95501
  - 2- JACK FOR MATING WITH F.C.C. 68 PLUGS 90075 MOLEX SERIES.
  - 3- PRODUCT SPECIFICATION PS-95501.
  - 4- PACKAGING SPECIFICATION PK-95001; STANDARD PACKAGING SHEET 1. SPECIAL PACKAGING SHEET 2. TUBE PACKAGING SHEET 3.
  - 5- MANUFACTURING I.D. CAN BE EITHER MXF, MG OR MXI.
  - 6- RECOMMENDED PCB THICKNESS: 1.57mm  
INSPECTION NUMBERS USED: 1 - 50  
LAST INSPECTION NUMBER: 21



DIM.	TYPE	POS. 4	POS. 6	POS. 8	
		4 CKTS.	4 CKTS.	6 CKTS.	8 CKTS.
A		11.18	13.21	13.21	15.24
C		7.62	10.16	10.16	11.43
B		3.81	3.81	6.35	8.89

<b>MODIFIED NOTES.</b> EC NO: IPG2012-0602 DRAWN BY: DBYRNES 2012/03/30 CHECKED BY: CHKDRSHAMHAN 2012/03/30 APPR: EFDLAN 2012/06/26	QUALITY SYMBOLS ▽ = 0 ▽ = 0	GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.15 ± --- 1 PLACE ± 0.25 ± --- ANGULAR ± --- °	DIMENSION STYLE MM ONLY	SCALE 4:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
	DRAWN BY: DBYRNES 2006/08/02 CHECKED BY: EOMAHONY 2006/08/12 APPROVED BY: EOMAHONY 2006/08/12	TITLE R/A LOW PROFILE PC JACK 4,6,8 CKTS SIZE THROUGH HOLE VERSION		MOLEX INCORPORATED		SHEET NO. 1 OF 5
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE CHART, SHEETS 4 & 5		DOCUMENT NO. SD-95501-001	
	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					

1b\_frame\_A3\_P\_ME\_1  
Rev. D 2004/04/02