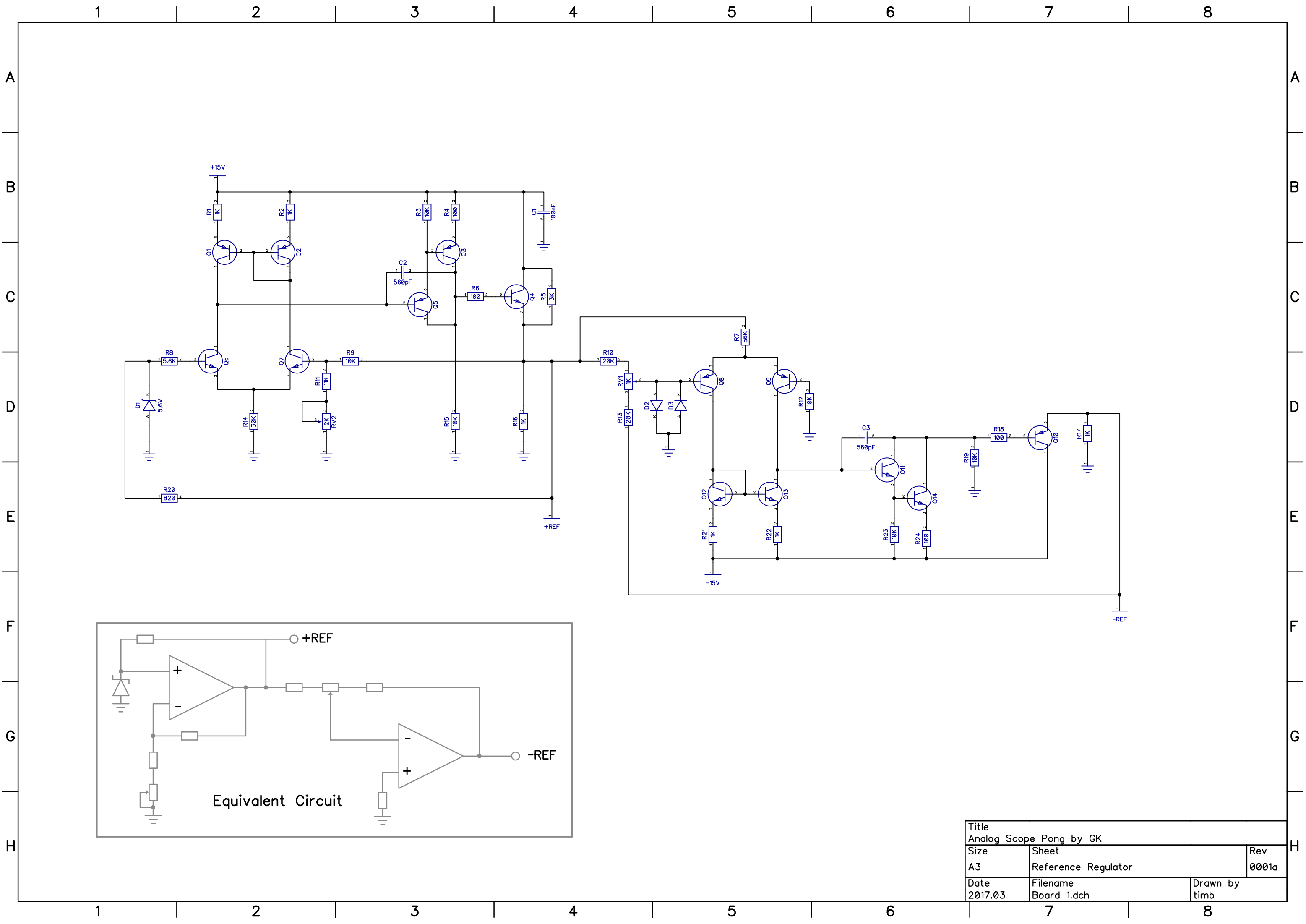
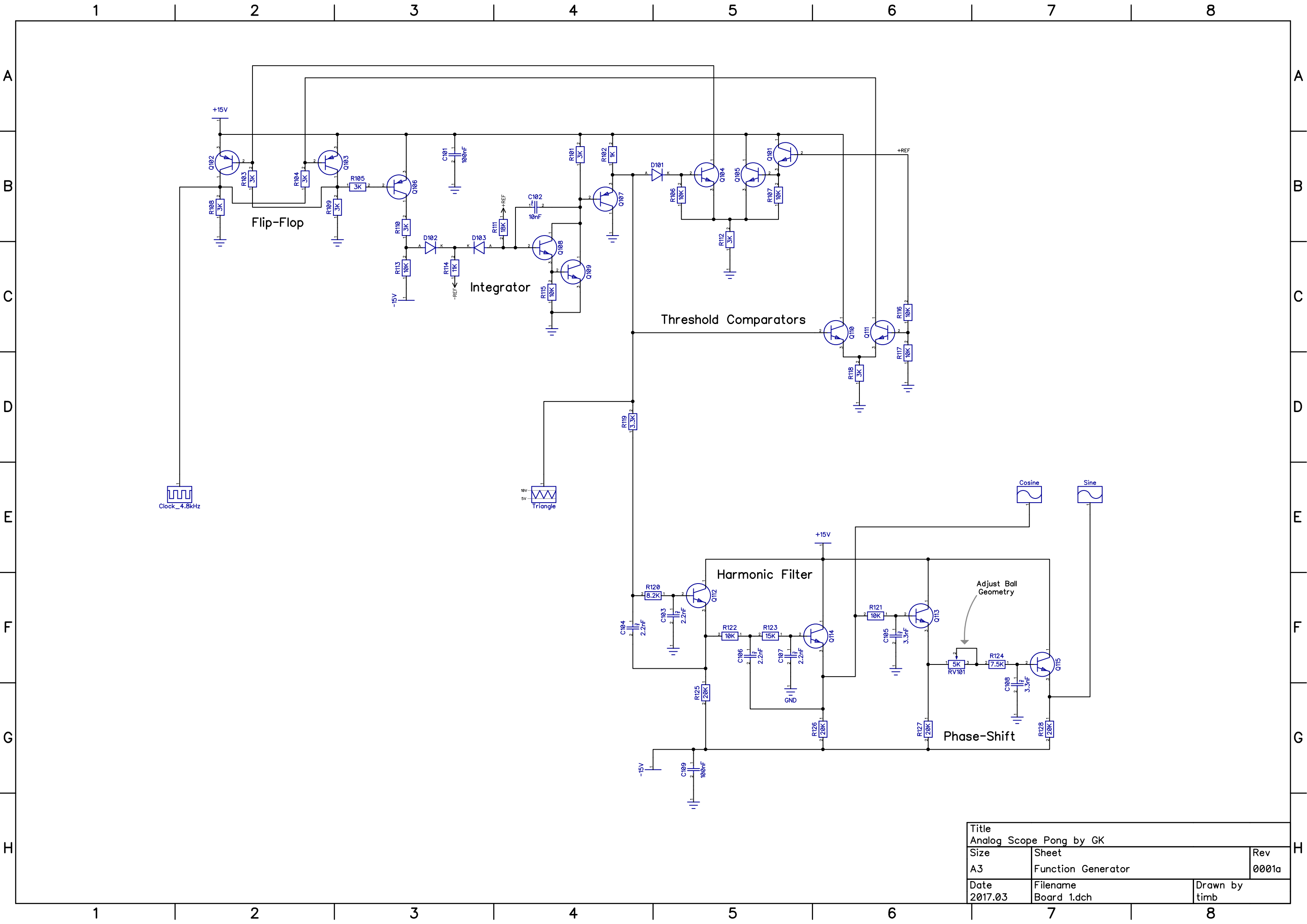
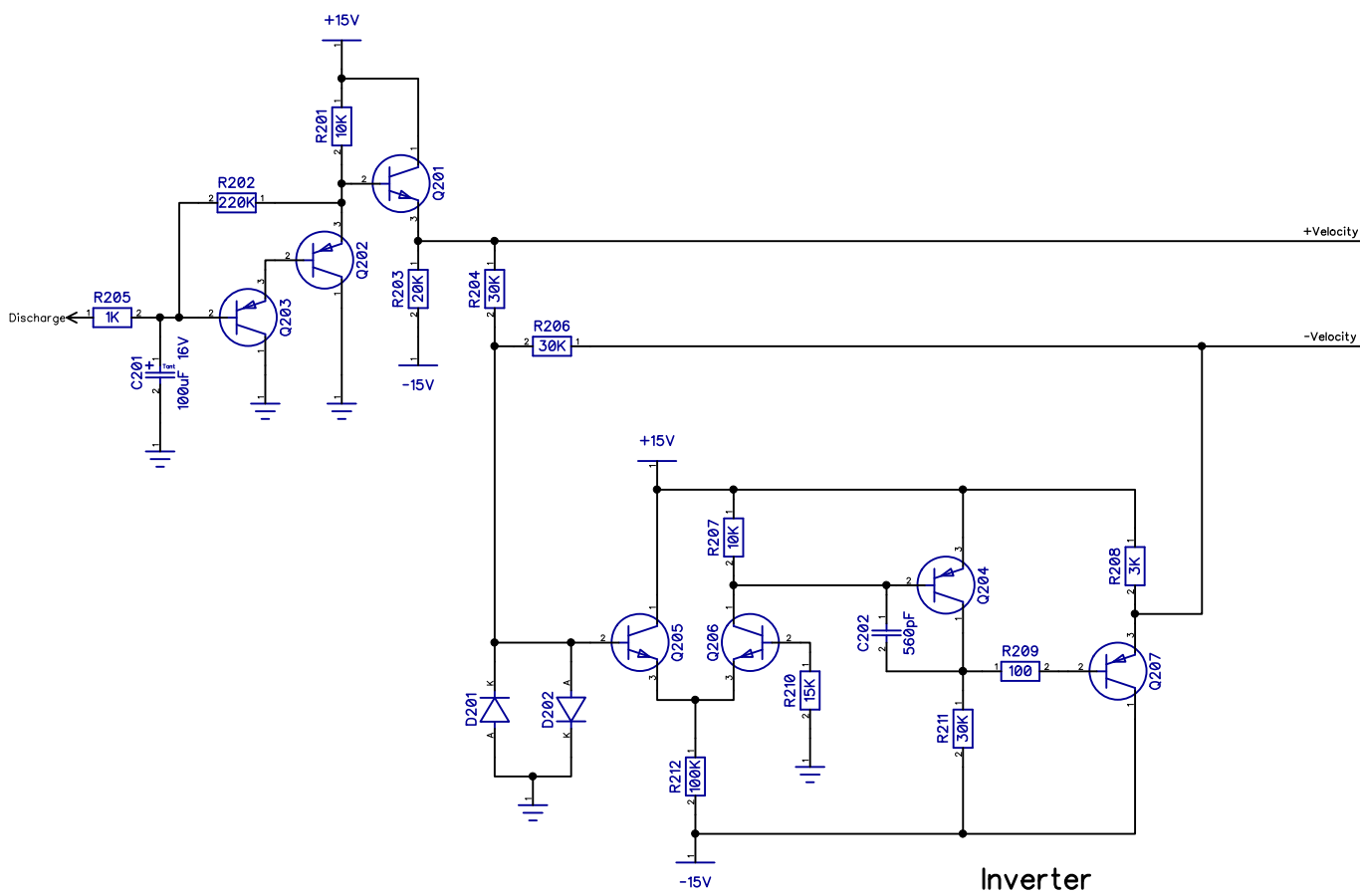


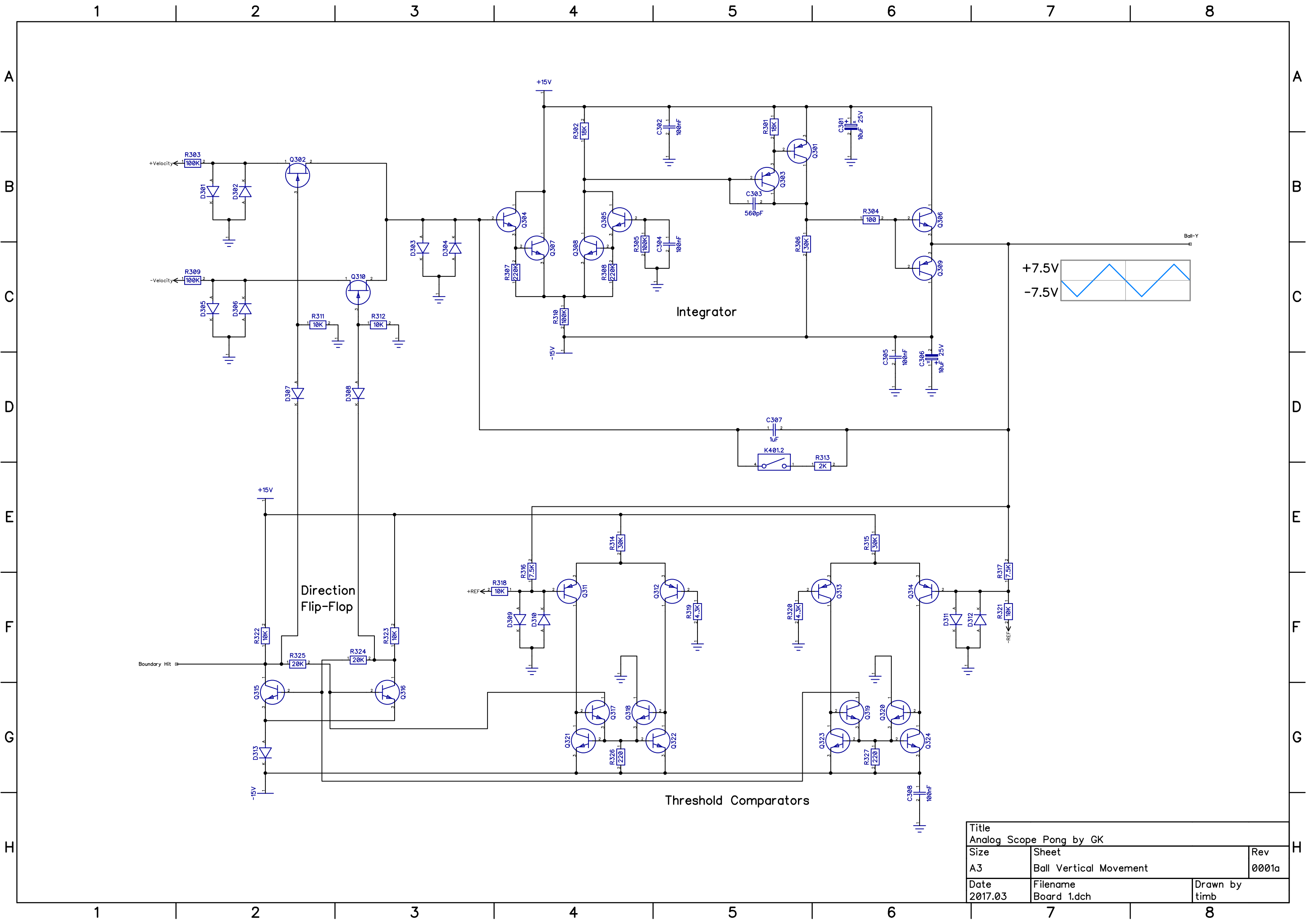


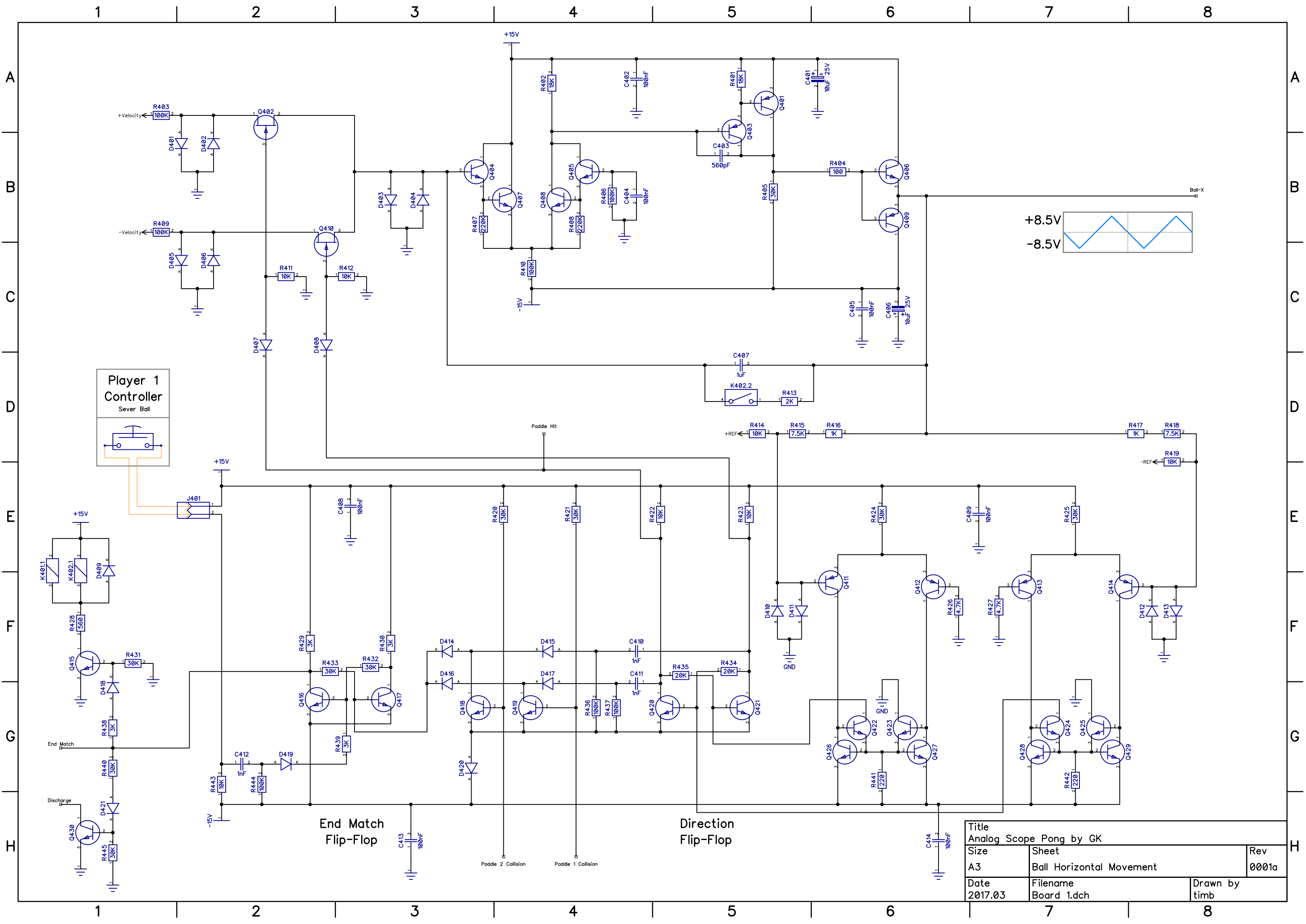


Title		
Analog Scope Pong by GK		
Size	Sheet	Rev
A3	Function Generator	0001a
Date	Filename	Drawn by
2017.03	Board 1.dch	timb

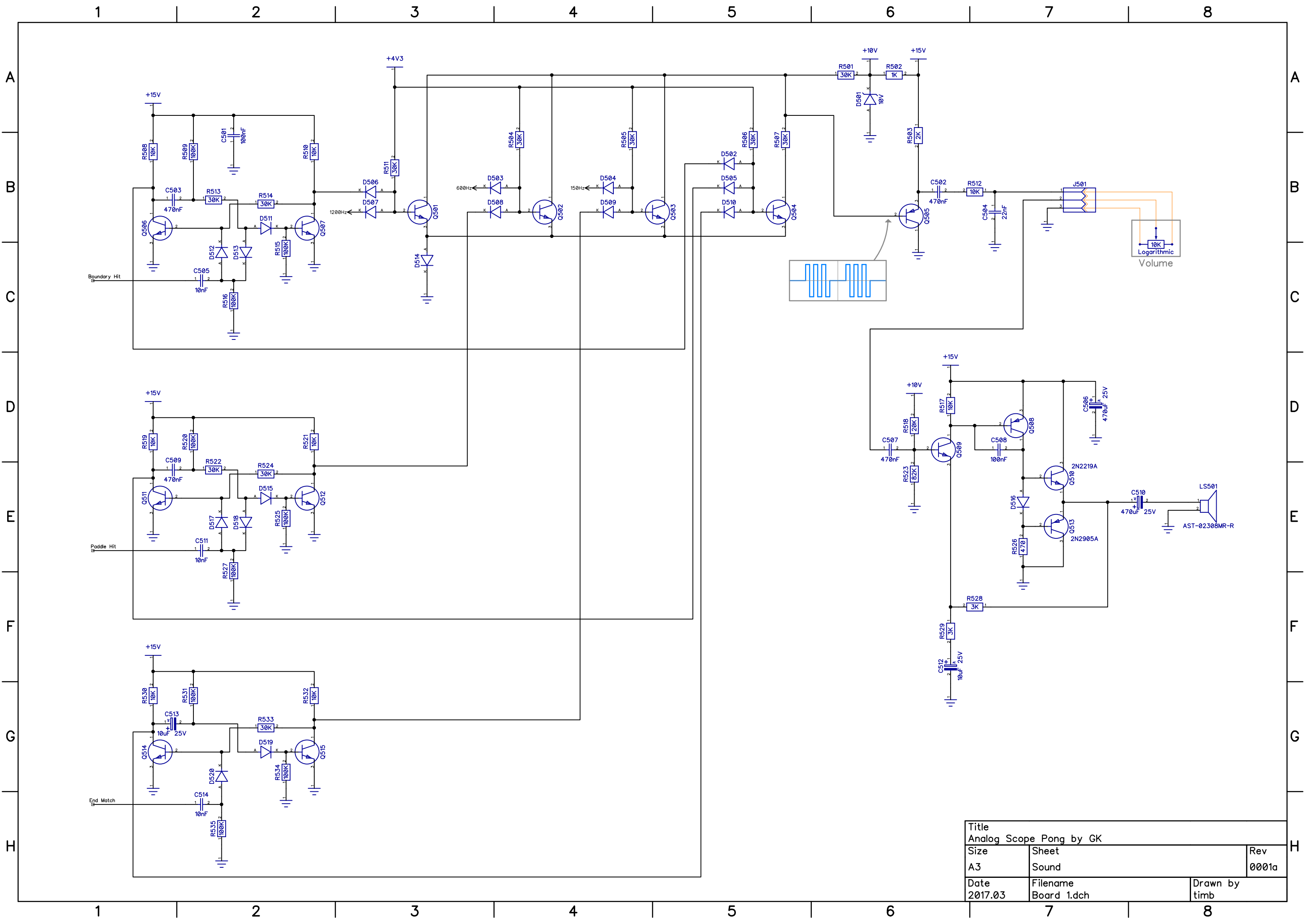


Title		
Analog Scope Pong by GK		
Size	Sheet	Rev
A3	Velocity Integrator	0001a
Date	Filename	Drawn by
2017.03	Board 1.dch	timb

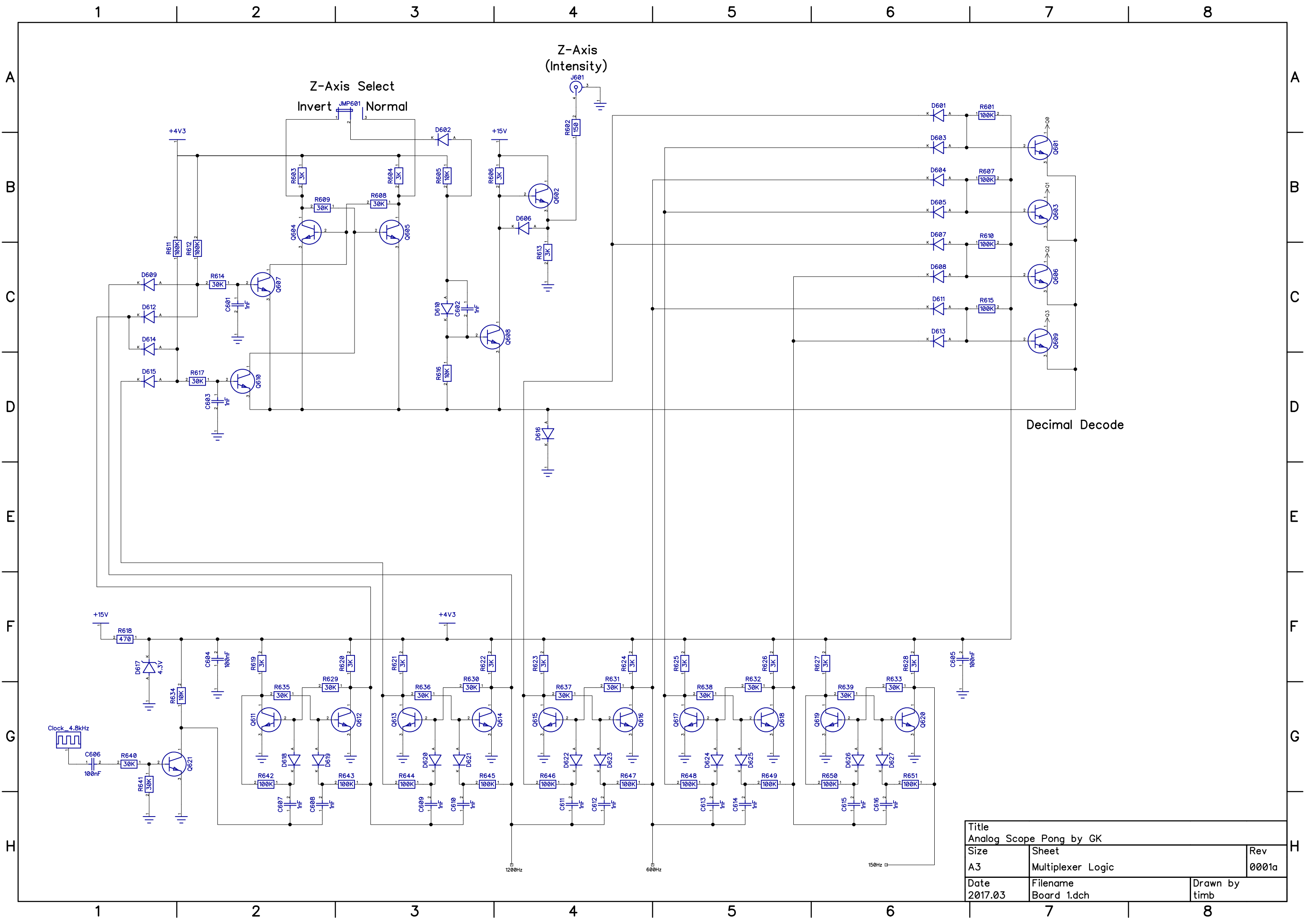




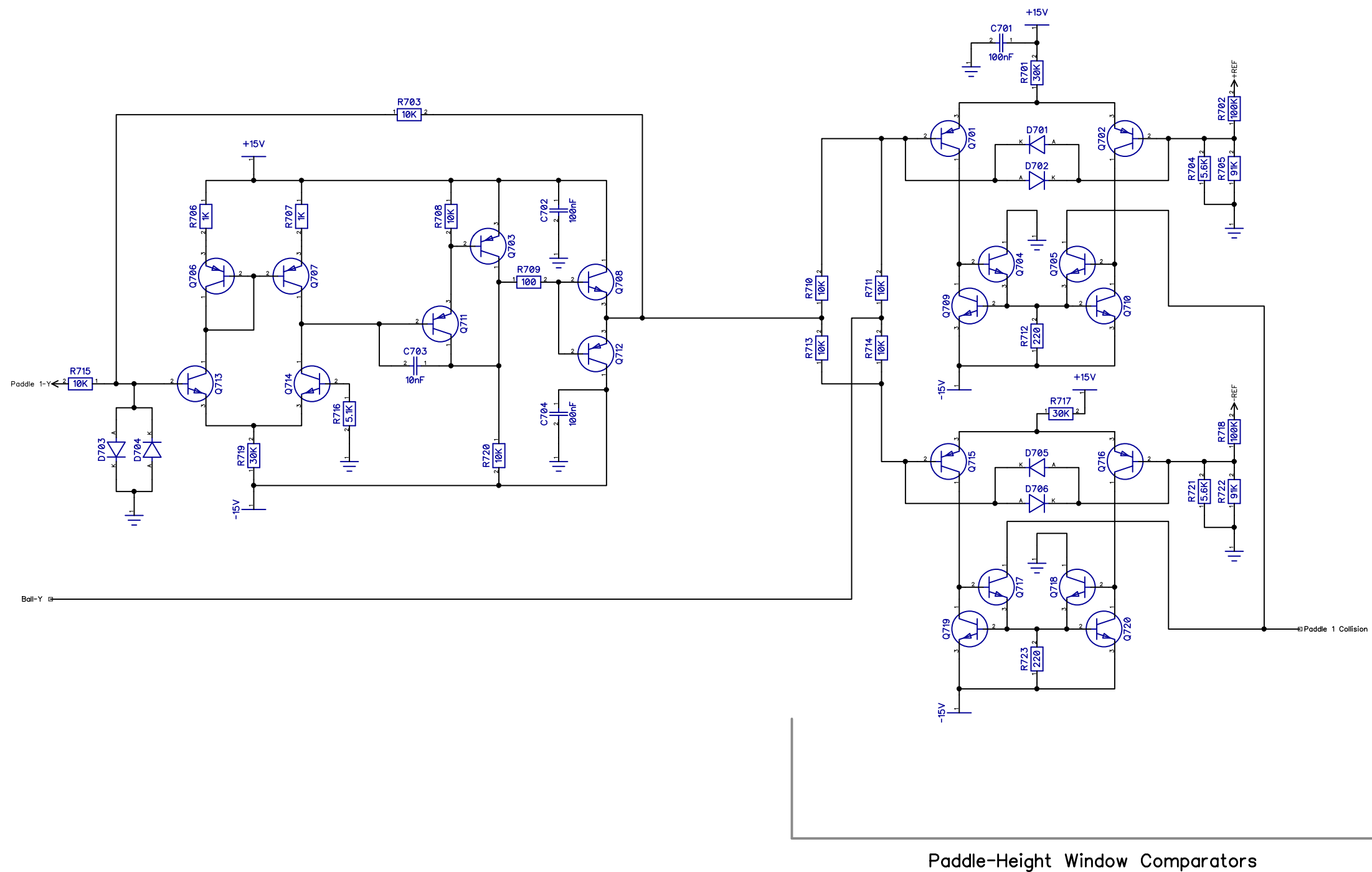
Title		
Analog Scope Pong by GK		
Size	Sheet	Rev
A3	Ball Horizontal Movement	0001a
Date	Filename	Drawn by
2017.03	Board 1.dch	timb



Title		
Analog Scope Pong by GK		
Size	Sheet	Rev
A3	Sound	0001a
Date	Filename	Drawn by
2017.03	Board 1.dch	timb



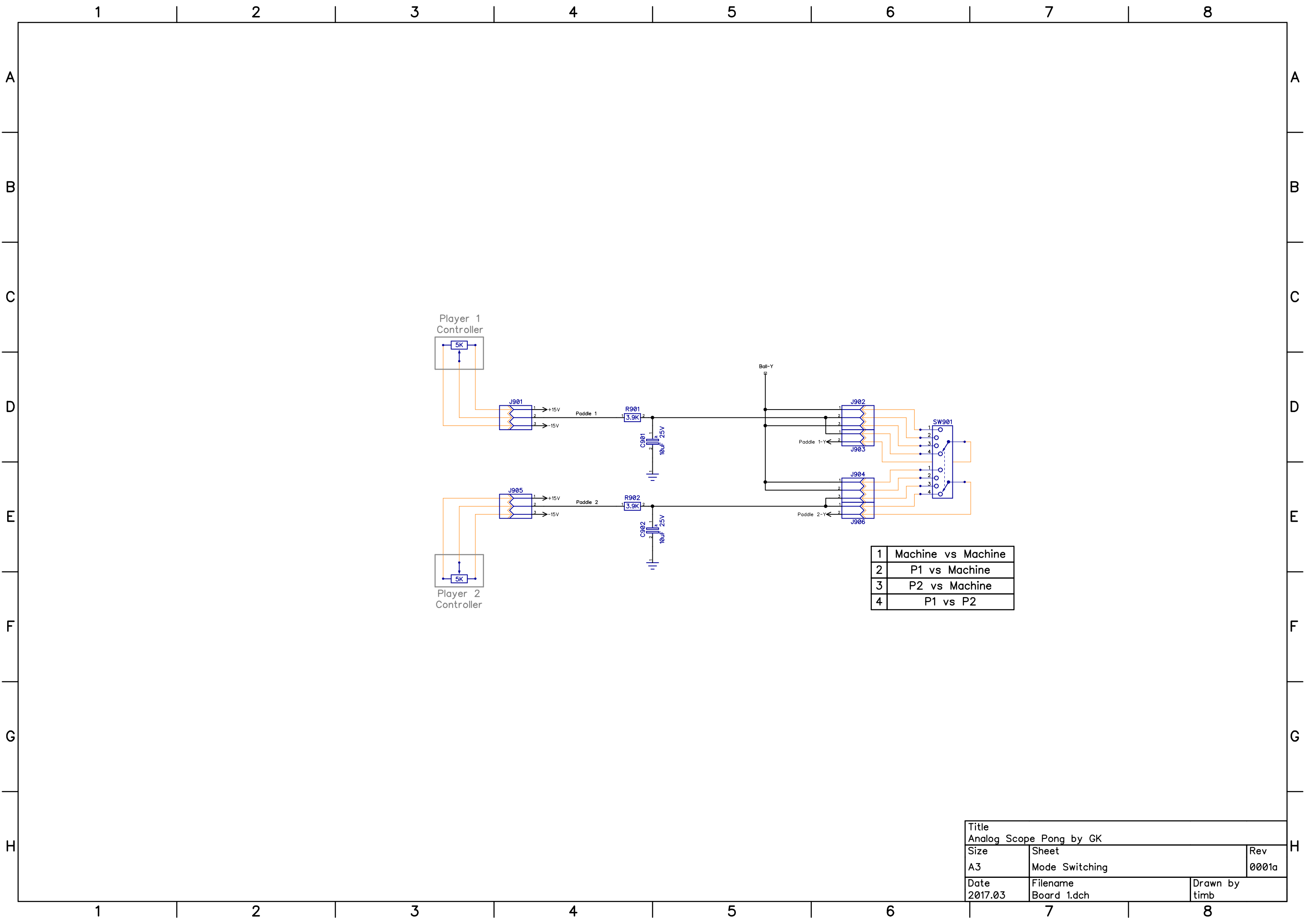
Title		
Analog Scope Pong by GK		
Size	Sheet	Rev
A3	Multiplexer Logic	0001a
Date	Filename	Drawn by
2017.03	Board 1.dch	timb



Title		
Analog Scope Pong by GK		
Size	Sheet	Rev
A3	Paddle 1 Ball Collision Detection	0001a
Date	Filename	Drawn by
2017.03	Board 1.dch	timb

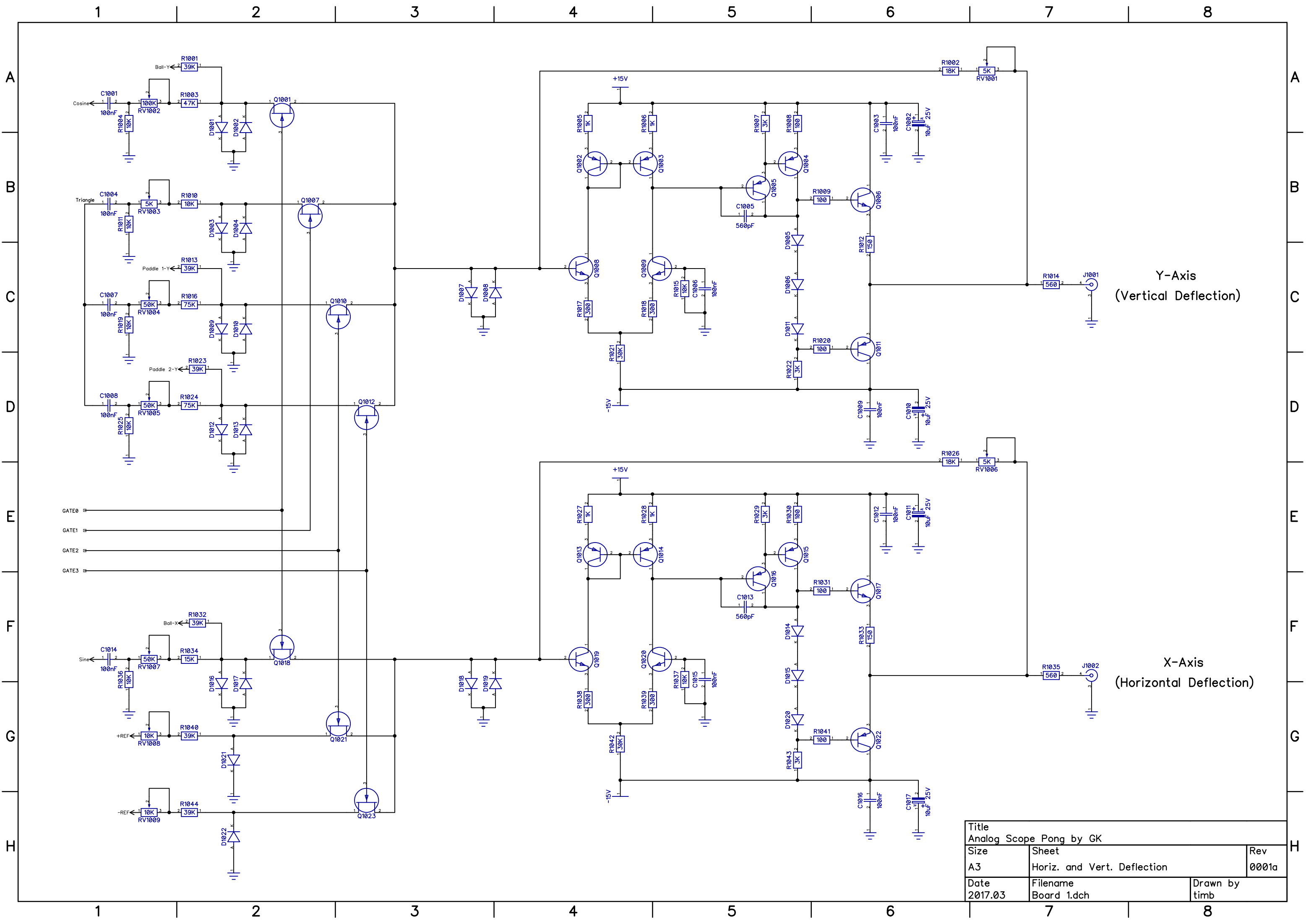


Title Analog Scope Pong by GK		
Size A3	Sheet Paddle 2 Ball Collision Detection	Rev 0001a
Date 2017.03	Filename Board 1.dch	Drawn by timb

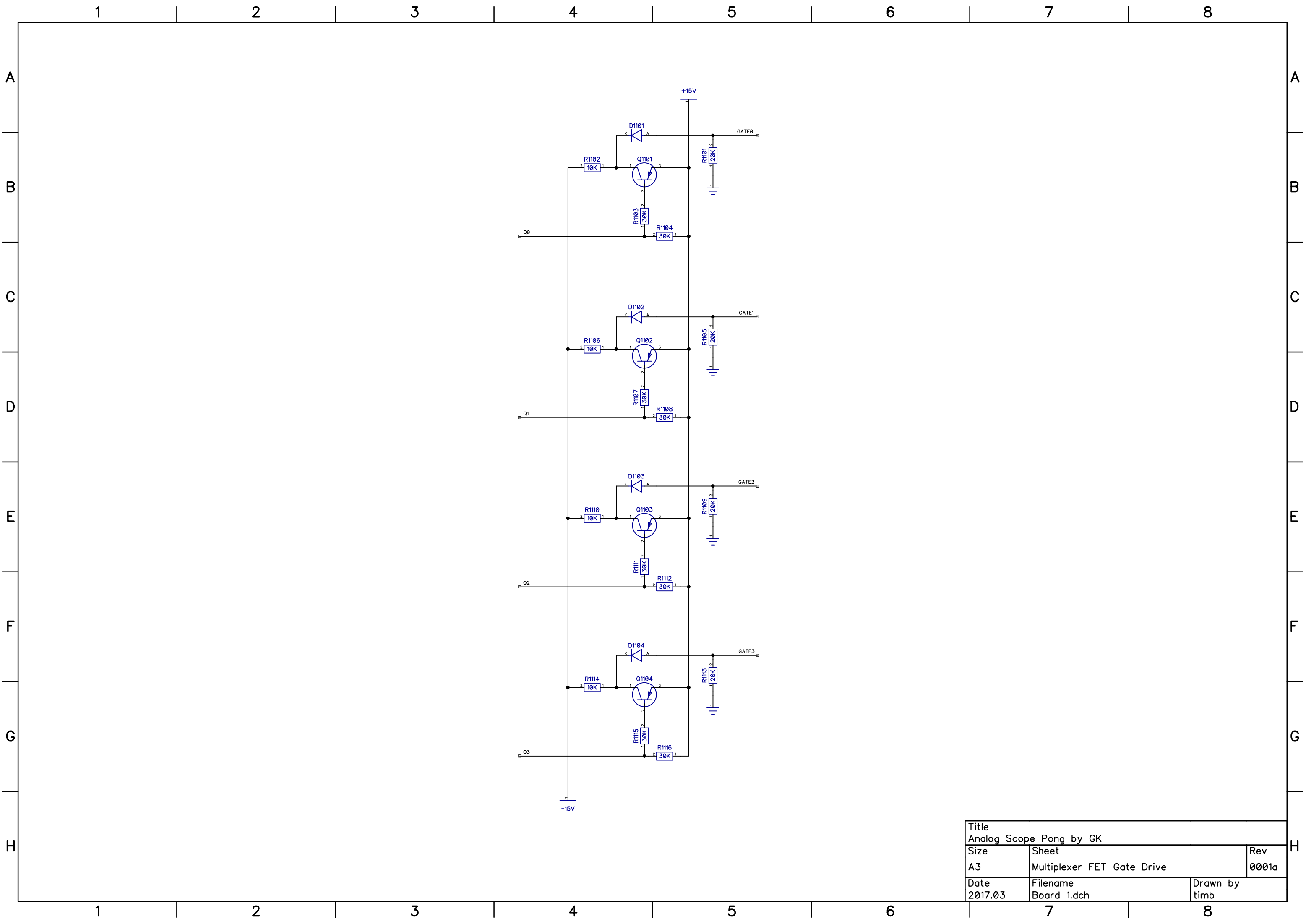


1	Machine vs Machine
2	P1 vs Machine
3	P2 vs Machine
4	P1 vs P2

Title Analog Scope Pong by GK		
Size A3	Sheet Mode Switching	Rev 0001a
Date 2017.03	Filename Board 1.dch	Drawn by timb



Title		
Analog Scope Pong by GK		
Size	Sheet	Rev
A3	Horiz. and Vert. Deflection	0001a
Date	Filename	Drawn by
2017.03	Board 1.dch	timb



Title		
Analog Scope Pong by GK		
Size	Sheet	Rev
A3	Multiplexer FET Gate Drive	0001a
Date	Filename	Drawn by
2017.03	Board 1.dch	timb

1		2		3		4	
RefDes		Value	Manufacturer	Name	Quantity		
A	C1, C101, C109, C302, C304, C305, C308, C402, C404, C405, C408, C409, C413, C414, C501, C508, C604, C605, C606, C701, C702, C704, C801, C803, C804, C1001, C1003, C1004, C1006, C1007, C1008, C1009, C1012, C1014, C1015, C1016	100nF		Ceramic (5/4x2.5)	36		
	C2, C3, C202, C303, C403, C1005, C1013	560pF		Ceramic (5/4x2.5)	7		
	C102	10nF	Kemet	R82EC2100AA50J	1		
	C103, C104, C106, C107	2.2nF	Kemet	R82EC1220AA50J	4		
	C105, C108	3.3nF	Kemet	R82EC1330AA50J	2		
	C201	100uF 16V	Kemet	T356L107K016AT	1		
	C301, C306, C401, C406, C512, C513, C1002, C1010, C1011, C1017	10uF 25V	Nichicon	UVZ1E100MDD	10		
	C307, C407	1uF		Ceramic (5/4x2.5)	2		
	C410, C411, C412, C601, C602, C603, C607, C608, C609, C610, C611, C612, C613, C614, C615, C616	1nF		Ceramic (5/4x2.5)	16		
	C502, C503, C507, C509	470nF		Ceramic (5/4x2.5)	4		
B	C504	22nF		Ceramic (5/4x2.5)	1		
	C505, C511, C514, C703, C802	10nF		Ceramic (5/4x2.5)	5		
	C506, C510	470uF 25V	Nichicon	UPW1E471MPD	2		
	C901, C902	10uF 25V	Panasonic	ECE-A1EN100U	2		
	D1	5.6V	ON Semiconductor	BZX79C5V6	1		
	D2, D3, D101, D102, D103, D201, D202, D301, D302, D303, D304, D305, D306, D307, D308, D309, D310, D311, D312, D313, D401, D402, D403, D404, D405, D406, D407, D408, D409, D410, D411, D412, D413, D414, D415, D416, D417, D418, D419, D420, D421, D502, D503, D504, D505, D506, D507, D508, D509, D510, D511, D512, D513, D514, D515, D516, D517, D518, D519, D520, D601, D602, D603, D604, D605, D606, D607, D608, D609, D610, D611, D612, D613, D614, D615, D616, D618, D619, D620, D621, D622, D623, D624, D625, D626, D627, D701, D702, D703, D704, D705, D706, D801, D802, D803, D804, D805, D806, D1001, D1002, D1003, D1004, D1005, D1006, D1007, D1008, D1009, D1010, D1011, D1012, D1013, D1014, D1015, D1016, D1017, D1018, D1019, D1020, D1021, D1022, D1101, D1102, D1103, D1104		ON Semiconductor	1N4148	124		
	D501	10V	ON Semiconductor	BZX79C10	1		
	D617	4.3V	ON Semiconductor	BZX79C4V3	1		
	J401, J903, J906		Phoenix Contact	1729128	3		
	J501, J901, J902, J904, J905		Phoenix Contact	1729131	5		
C	J601, J1001, J1002		TE	1-1634613-0	3		
	K401, K402		Coto	9007	2		
	LS501		Pui Audio	AST-02308MR-R	1		
	Q1, Q2, Q3, Q5, Q8, Q9, Q10, Q102, Q103, Q106, Q107, Q202, Q203, Q204, Q207, Q301, Q303, Q309, Q311, Q312, Q313, Q314, Q401, Q403, Q409, Q411, Q412, Q413, Q414, Q505, Q508, Q701, Q702, Q703, Q706, Q707, Q711, Q712, Q715, Q716, Q801, Q802, Q803, Q806, Q807, Q811, Q812, Q815, Q816, Q1002, Q1003, Q1004, Q1005, Q1011, Q1013, Q1014, Q1015, Q1016, Q1022, Q1101, Q1102, Q1103, Q1104		ON Semiconductor	BC560CTA	63		
D	Q4, Q6, Q7, Q11, Q12, Q13, Q14, Q101, Q104, Q105, Q108, Q109, Q110, Q111, Q112, Q113, Q114, Q115, Q201, Q205, Q206, Q304, Q305, Q306, Q307, Q308, Q315, Q316, Q317, Q318, Q319, Q320, Q321, Q322, Q323, Q324, Q404, Q405, Q406, Q407, Q408, Q415, Q416, Q417, Q418, Q419, Q420, Q421, Q422, Q423, Q424, Q425, Q426, Q427, Q428, Q429, Q430, Q501, Q502, Q503, Q504, Q506, Q507, Q509, Q511, Q512, Q514, Q515, Q601, Q602, Q603, Q604, Q605, Q606, Q607, Q608, Q609, Q610, Q611, Q612, Q613, Q614, Q615, Q616, Q617, Q618, Q619, Q620, Q621, Q704, Q705, Q708, Q709, Q710, Q713, Q714, Q717, Q718, Q719, Q720, Q804, Q805, Q808, Q809, Q810, Q813, Q814, Q817, Q818, Q819, Q820, Q1006, Q1008, Q1009, Q1017, Q1019, Q1020		ON Semiconductor	BC550CTA	117		
	Q302, Q310, Q402, Q410, Q1001, Q1007, Q1010, Q1012, Q1018, Q1021, Q1023		ON Semiconductor	MMBF5484	11		
	Q510		Central Semi	2N2219A	1		
	Q513		Central Semi	2N2905A	1		
	R1, R2, R16, R17, R21, R22, R102, R205, R416, R417, R502, R706, R707, R806, R807, R1005, R1006, R1027, R1028	1K		Resistor (7.62/6.5x2.5)	19		
E	R3, R9, R12, R15, R19, R23, R106, R107, R113, R115, R116, R117, R121, R122, R201, R207, R311, R312, R318, R321, R322, R323, R411, R412, R414, R419, R422, R423, R443, R508, R510, R512, R517, R519, R521, R530, R532, R605, R616, R634, R703, R708, R710, R711, R713, R714, R715, R720, R803, R808, R810, R811, R813, R814, R815, R820, R1004, R1010, R1011, R1015, R1019, R1025, R1036, R1037, R1102, R1106, R1110, R1114	10K		Resistor (7.62/6.5x2.5)	68		
	R4, R6, R18, R24, R209, R304, R404, R709, R809, R1008, R1009, R1020, R1030, R1031, R1041	100		Resistor (7.62/6.5x2.5)	15		
	R5, R101, R103, R104, R105, R108, R109, R110, R112, R118, R208, R429, R430, R438, R439, R528, R529, R603, R604, R606, R613, R619, R620, R621, R622, R623, R624, R625, R626, R627, R628, R1007, R1022, R1029, R1043	3K		Resistor (7.62/6.5x2.5)	35		
	R7	56K		Resistor (7.62/6.5x2.5)	1		
	R8, R704, R721, R804, R821	5.6K		Resistor (7.62/6.5x2.5)	5		
F	R10, R13, R125, R126, R127, R128, R203, R324, R325, R434, R435, R518, R1101, R1105, R1109, R1113	20K		Resistor (7.62/6.5x2.5)	16		
	R11, R114	11K		Resistor (7.62/6.5x2.5)	2		
	R14, R204, R206, R211, R306, R314, R315, R405, R420, R421, R424, R425, R431, R432, R433, R440, R445, R501, R504, R505, R506, R507, R511, R513, R514, R522, R524, R533, R608, R609, R614, R617, R629, R630, R631, R632, R633, R635, R636, R637, R638, R639, R640, R641, R701, R717, R719, R801, R817, R819, R1021, R1042, R1103, R1104, R1107, R1108, R1111, R1112, R1115, R1116	30K		Resistor (7.62/6.5x2.5)	60		
	R20	820		Resistor (7.62/6.5x2.5)	1		
	R111, R301, R302, R401, R402, R1002, R1026	18K		Resistor (7.62/6.5x2.5)	7		
	R119	3.3K		Resistor (7.62/6.5x2.5)	1		
	R120	8.2K		Resistor (7.62/6.5x2.5)	1		
	R123, R210, R1034	15K		Resistor (7.62/6.5x2.5)	3		
	R124, R316, R317, R415, R418	7.5K		Resistor (7.62/6.5x2.5)	5		

