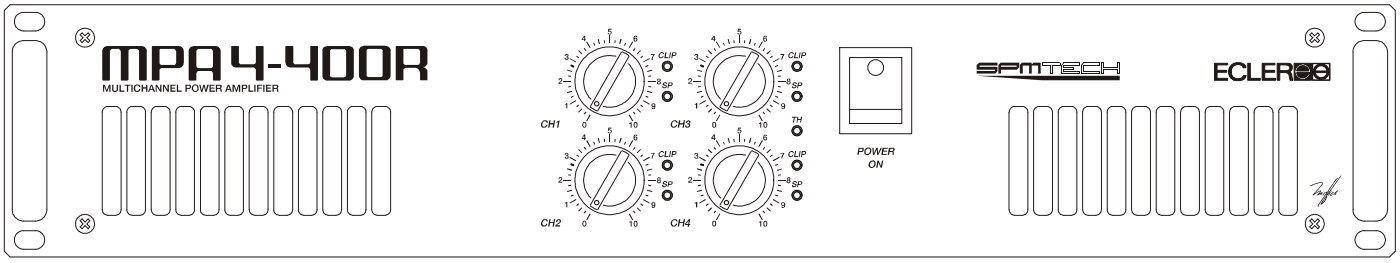
MPA4-400R

SERVICE MANUAL

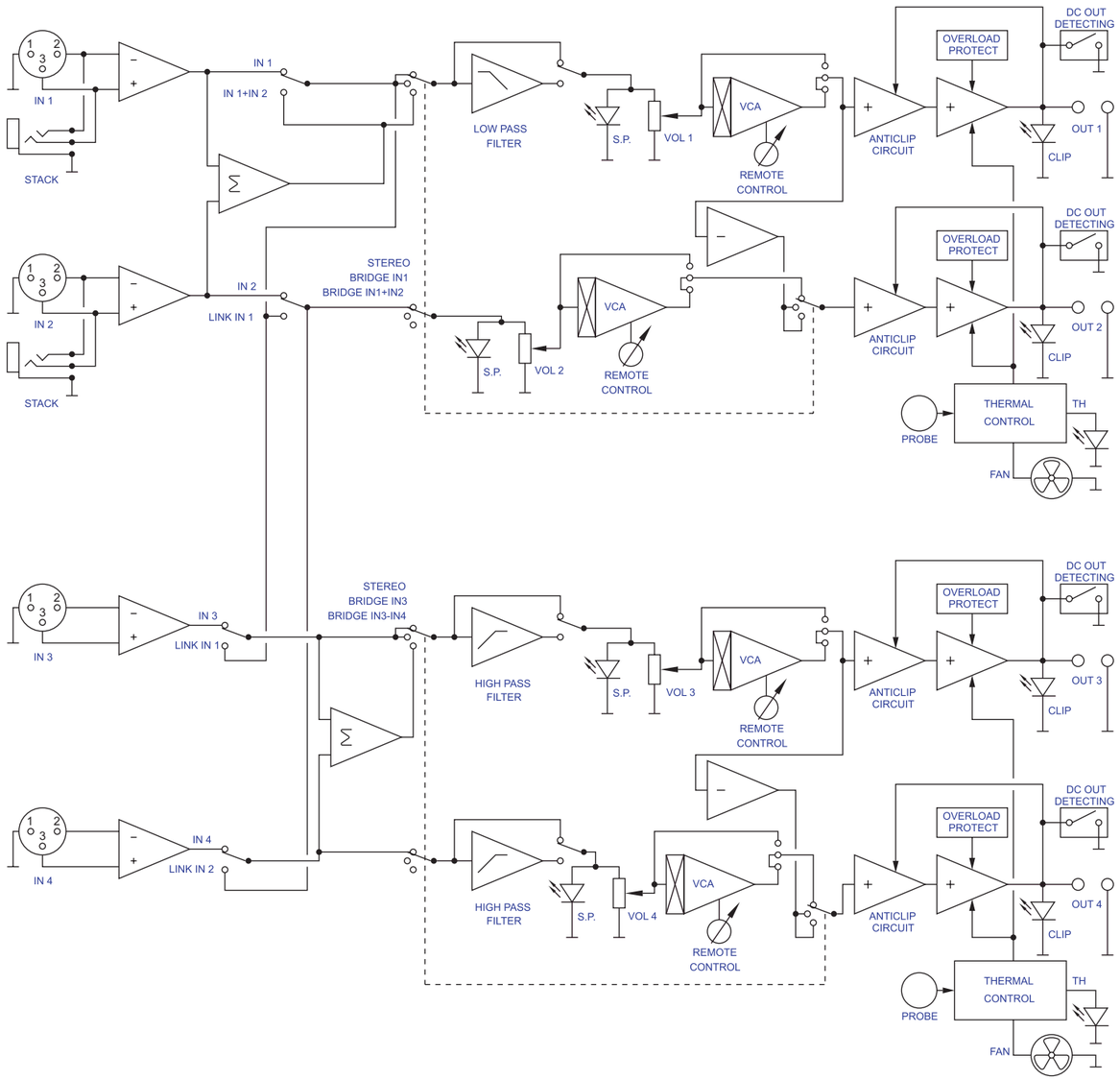


ECLER

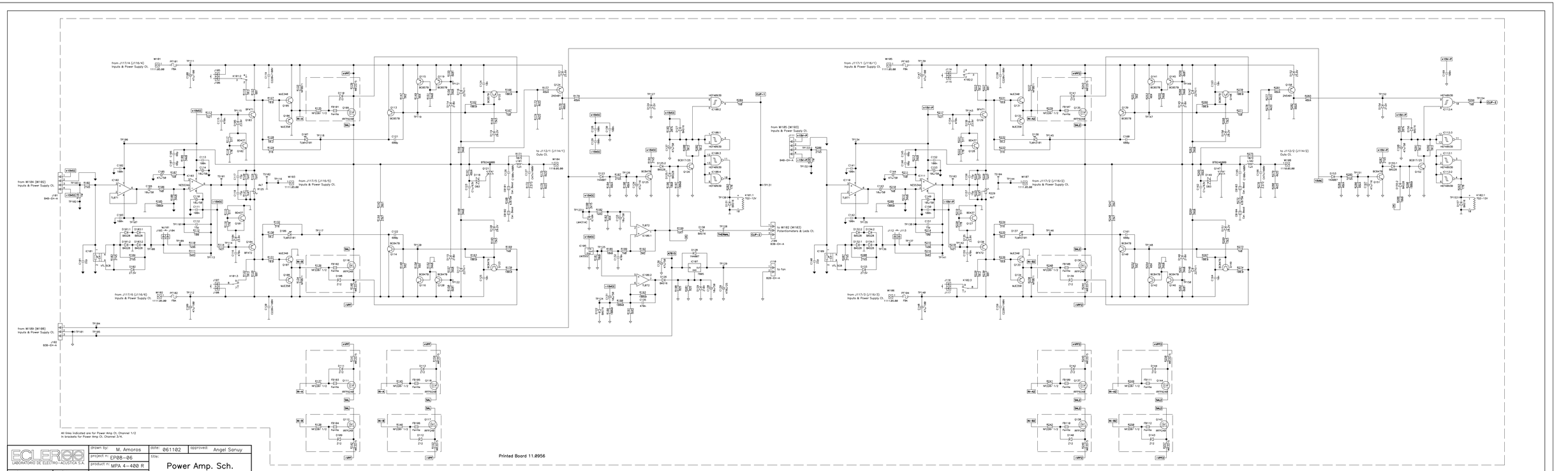
AUDIO CREATIVE POWER

SERVICE MANUAL MPA4-400R

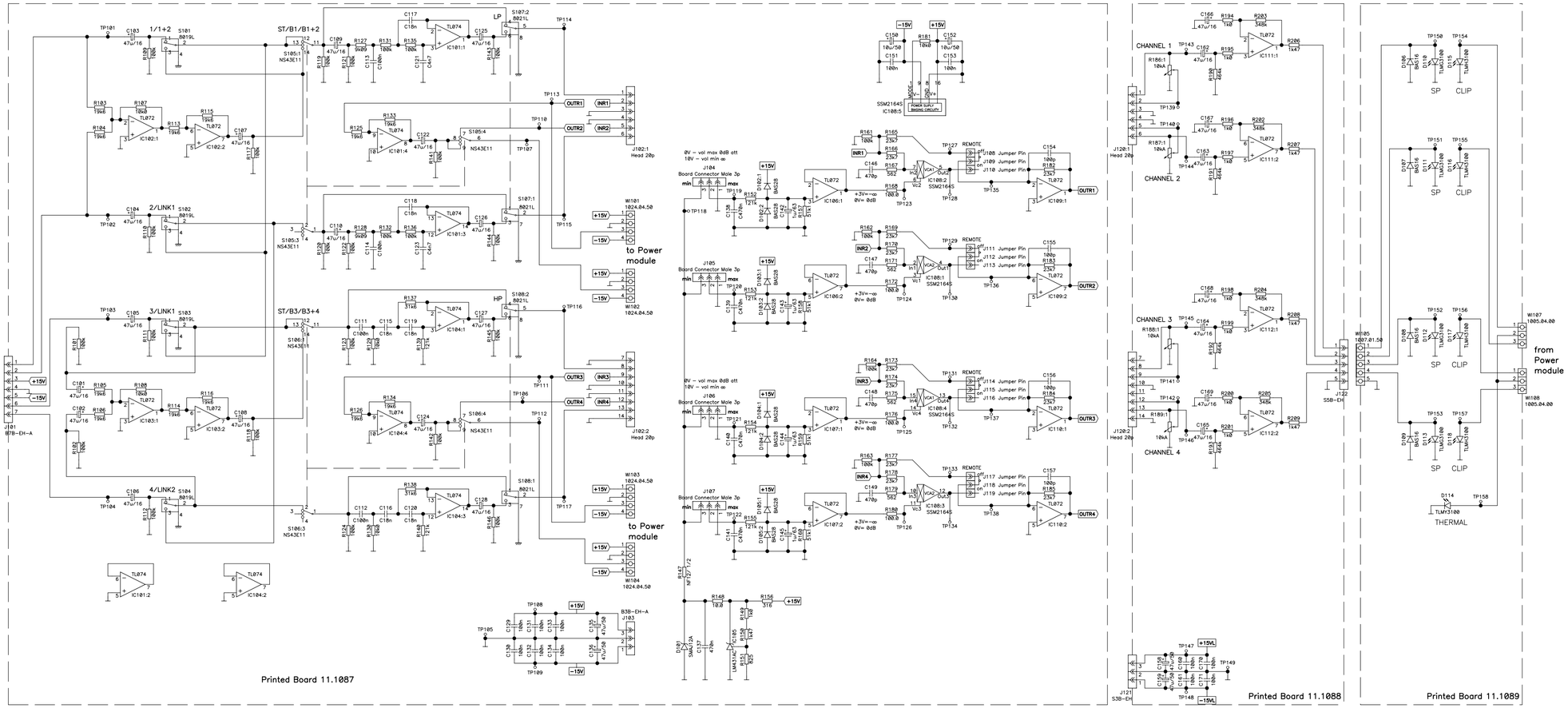
INDEX



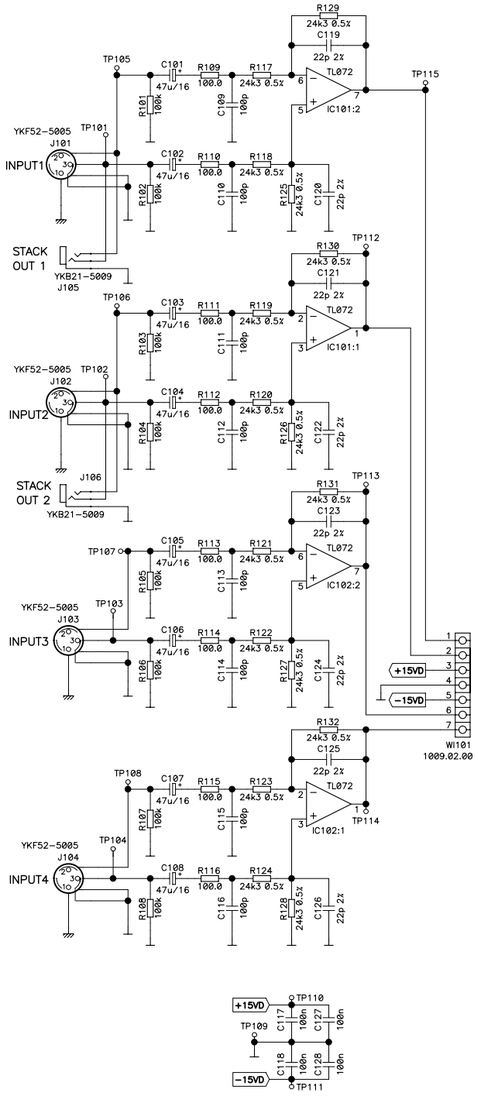
ECLER	drawn: J. Colomines	date: 060613	project: EP08-06	product: MPA4-400R
number: 10.0748 version: 01.00	approved: A.S.	title: BLOCK DIAGRAM		

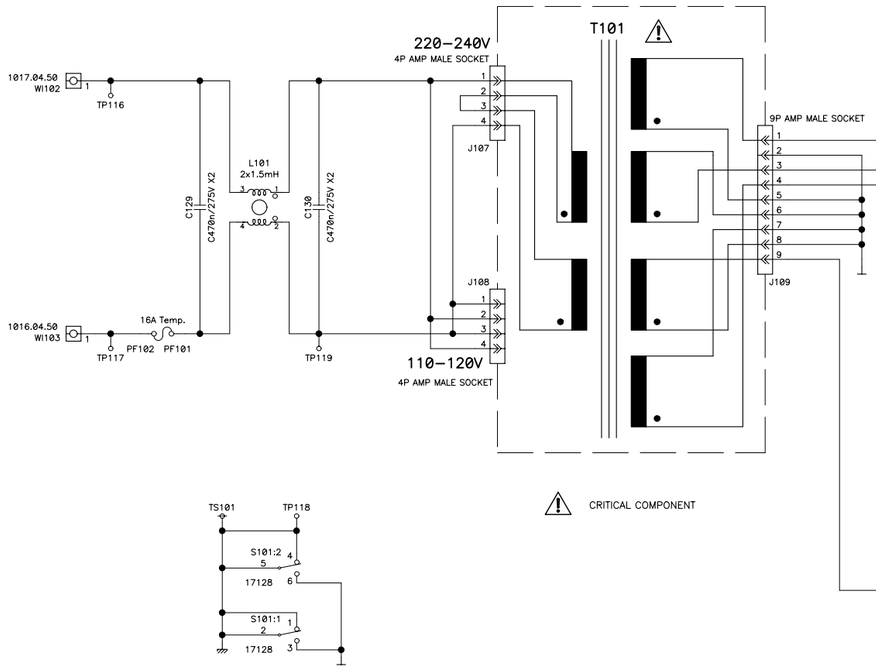


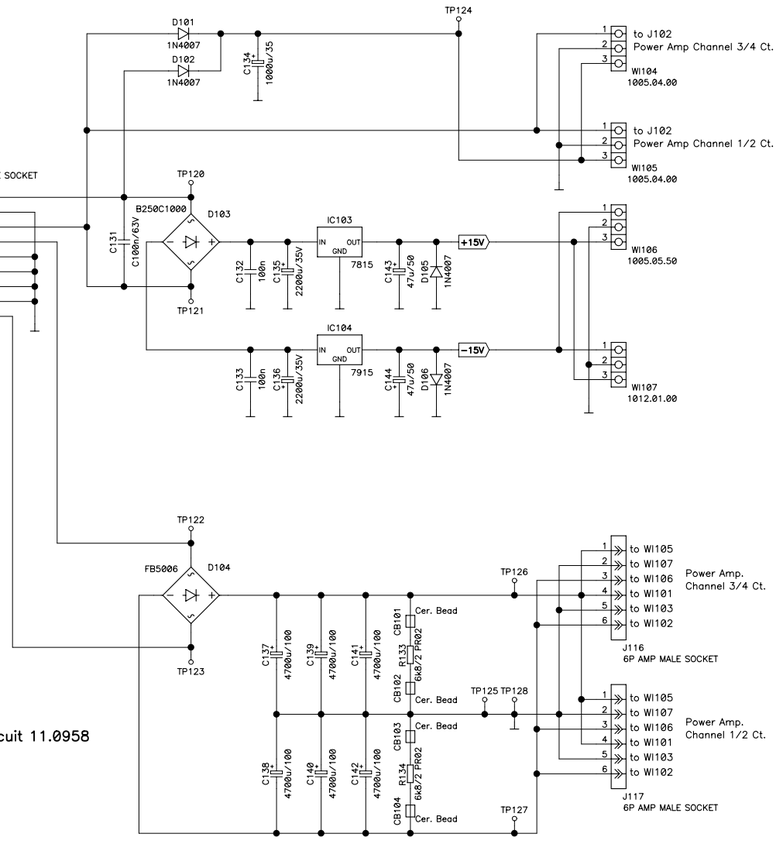
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 061102	approved: Angel Sanuy
	project n: EPQ8-86	title: Power Amp. Sch.	
	product n: MPA 4-400 R		
number: 10.0621	version: 01.02	page: 1 of 1	



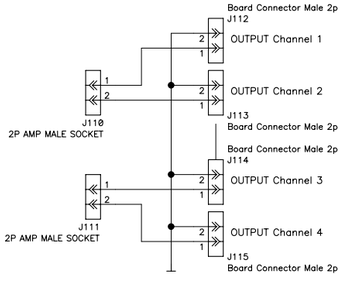
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 061102	approved: Angel Sanuy
	project n: EP08-06	title: Switch Ins&Pottmtr&Leds	
	product n: MPA4-400 R		
number: 10.0762	version: 01.02	page: 1 of 1	





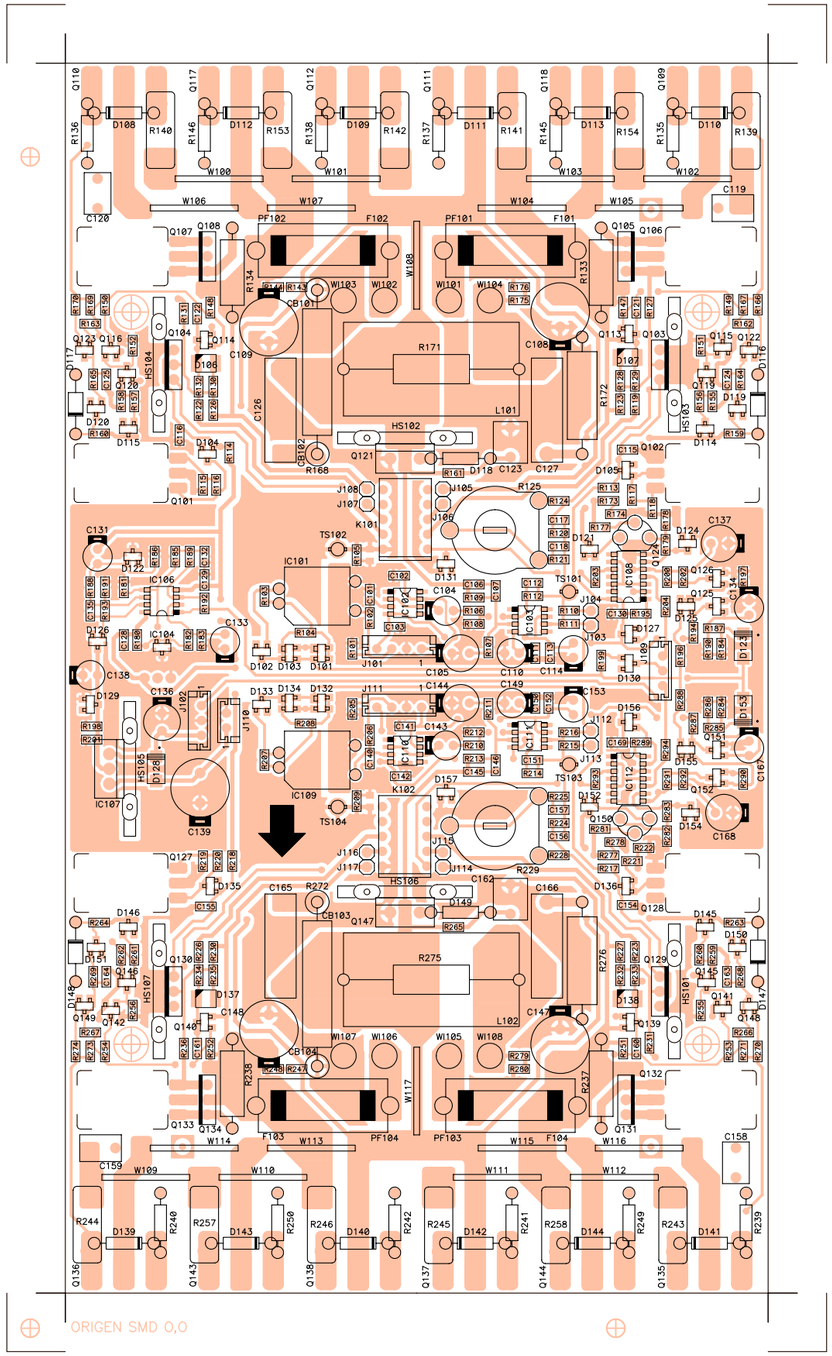


Printed Circuit 11.0958



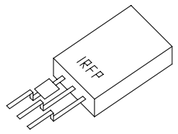
Printed Board 11.1091

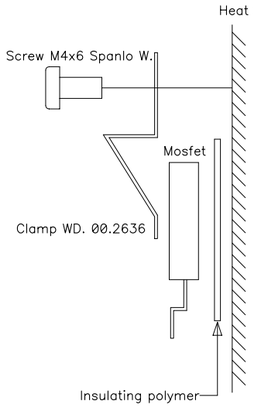
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 061102	approved: Angel Sanuy
	project n: EP08-06	title: Inputs&Supply&Outs	
	product n: MPA4-400R		
number: 10.0763	version: 01.01	page: 1 of 1	

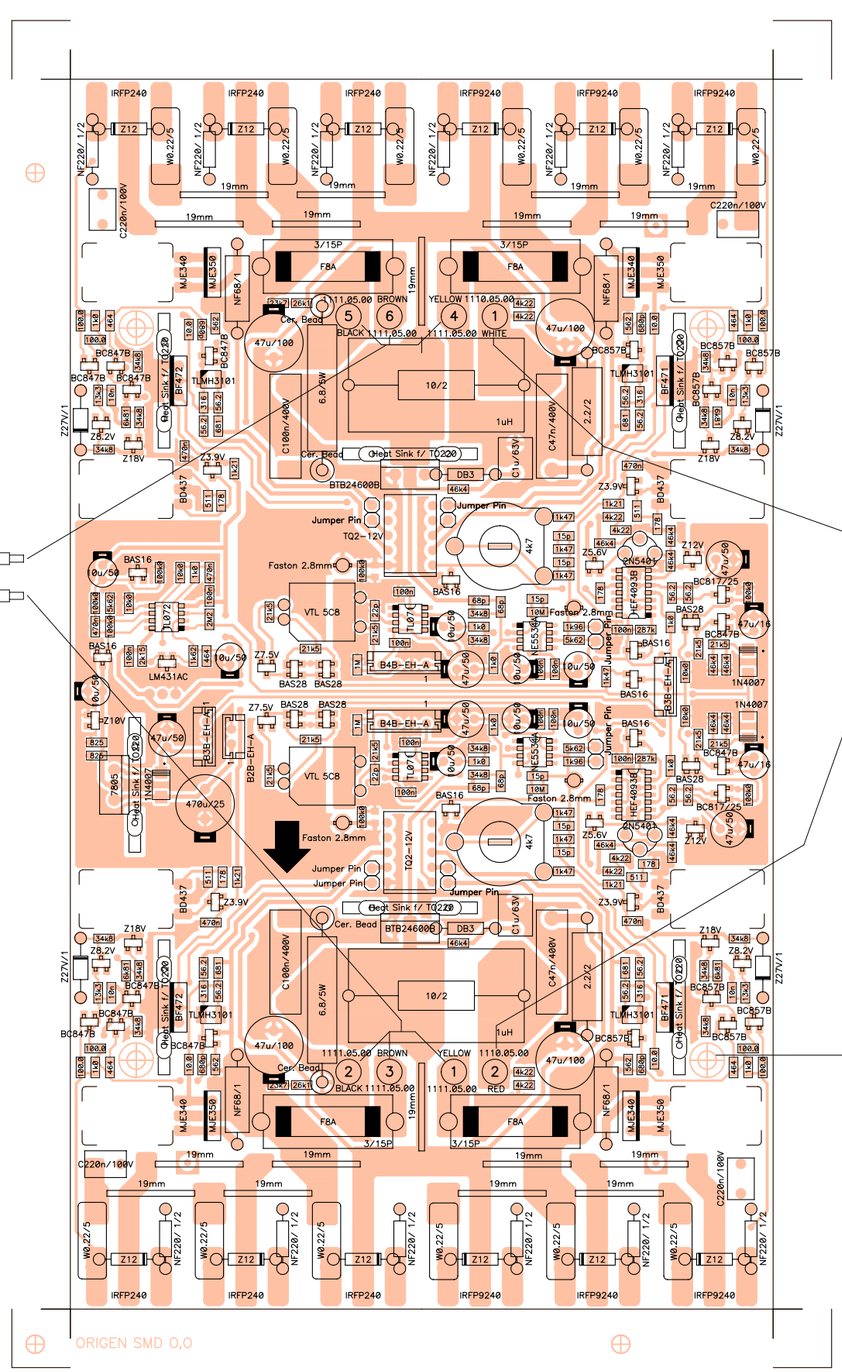


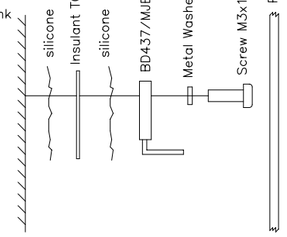
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0956-03.01 schema no: 10.0621-01.02 insertion file no: 81.0075-01.01	side: Component view: Reference	
number: 33.0806	version: 01.03	project n: EP08-06	title: Power Amp. Ct.
drawn by: M. Amoros	date: 061102	product n: MPA 4-400 R	
		approved: Angel Sanuy	

Detail of the ferrite position









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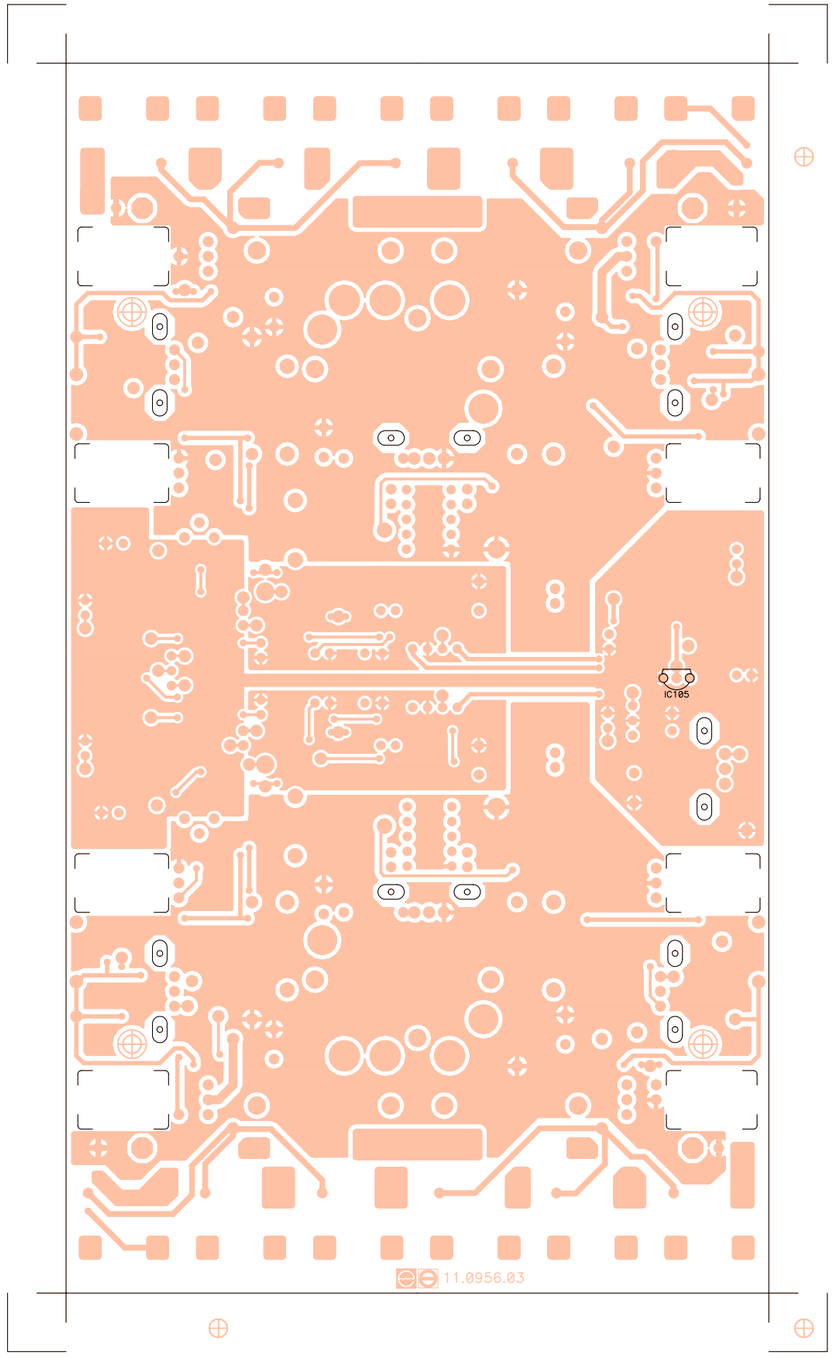
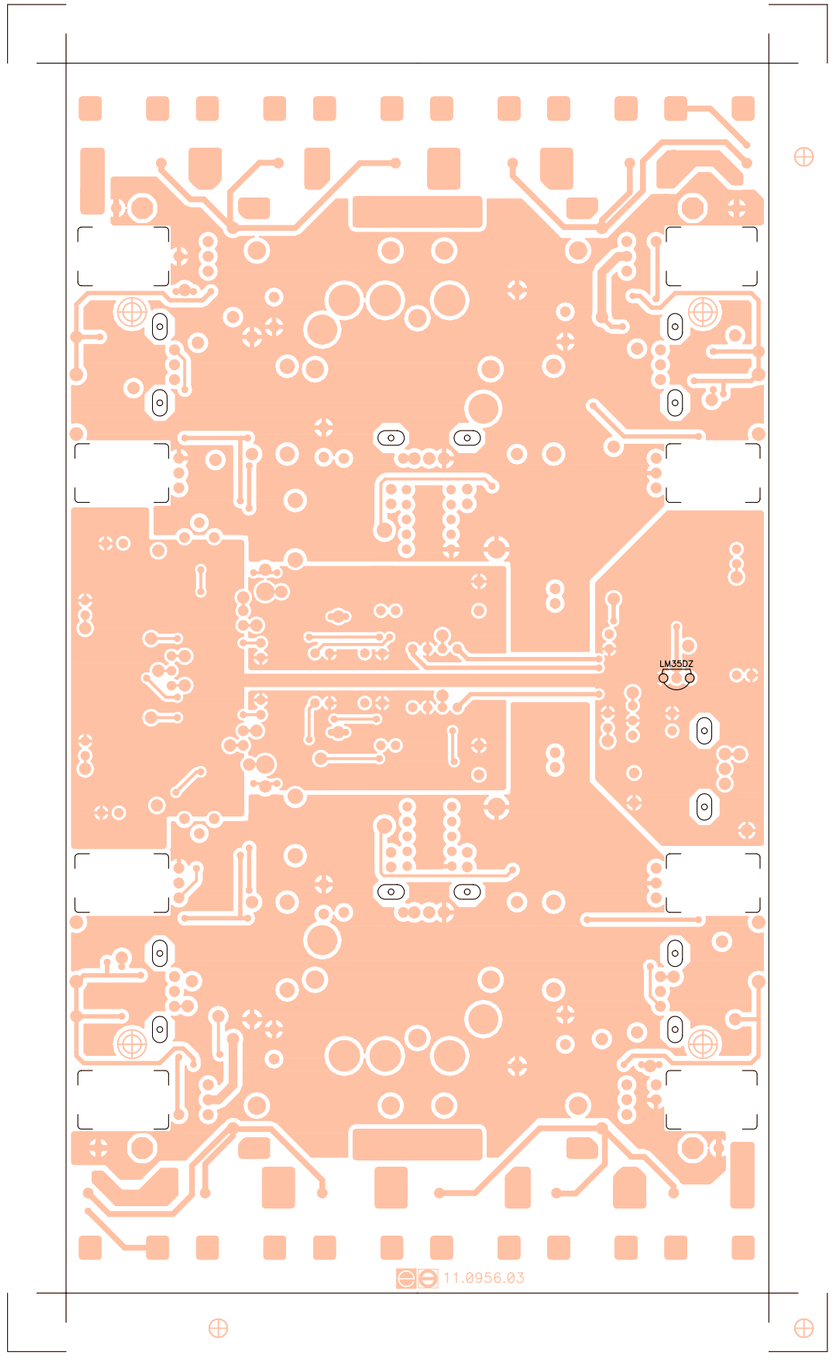
number: 33.0807	version: 01.04	project n: EP08-06	title: Power Amp. Ct.
drawn by: M. Amoros	date: 061102	product n: MPA 4-400 R	
		approved: Angel Sanuy	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0956-03.01 schema no: 10.0621-01.02 insertion file no:	side: Solder view: Reference	
number: 33.0808	version: 01.03	project n: EP08-06	title: Power Amp. Ct.
drawn by: M. Amoros	date: 061102	product n: MPA 4-400 R	
		approved: Angel Sanuy	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0956-03.01 schema no: 10.0621-01.02 insertion file no:	side: Solder view: Value	
number: 33.0809	version: 01.03	project n: EP08-06	title: Power Amp. Ct.
drawn by: M. Amoros	date: 061102	product n: MPA 4-400 R	
		approved: Angel Sanuy	

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

Code	Description	Reference
FCXCD1220000	22p	C101
FCXCD4100000	100n	C102
FCXCD4100000	100n	C103
FCCE25010000	10u/50	C104
FCCE25047000	47u/50	C105
FCXCD1680000	68p	C106
FCXCD1680000	68p	C107
FCCE35047000	47u/100	C108
FCCE35047000	47u/100	C109
FCCE25010000	10u/50	C110
FCXCD4100000	100n	C111
FCXCD1150000	15p	C112
FCXCD4100000	100n	C113
FCCE25010000	10u/50	C114
FCXCD4470000	470n	C115
FCXCD4470000	470n	C116
FCXCD1150000	15p	C117
FCXCD1150000	15p	C118
FCCDK5220000	C220n/100V	C119
FCCDK5220000	C220n/100V	C120
FCXCD2680000	680p	C121
FCXCD2680000	680p	C122
FCCDK2001000	C1u/63V	C123
FCXCD4010000	10n	C124
FCXCD4010000	10n	C125
FCCDH7110000	C100n/400V	C126
FCCDH7104700	C47n/400V	C127
FCXCD4100000	100n	C128
FCXCD4100000	100n	C129
FCXCD4100000	100n	C130
FCCE25010000	10u/50	C131
FCXCD4470000	470n	C132
FCCE25010000	10u/50	C133
FCCE10000000	47u/16	C134
FCXCD4470000	470n	C135
FCCE25047000	47u/50	C136
FCCE25047000	47u/50	C137
FCCE25010000	10u/50	C138
FCCE15470000	470u/25	C139
FCXCD1220000	22p	C140
FCXCD4100000	100n	C141
FCXCD4100000	100n	C142
FCCE25010000	10u/50	C143
FCCE25047000	47u/50	C144
FCXCD1680000	68p	C145
FCXCD1680000	68p	C146
FCCE35047000	47u/100	C147
FCCE35047000	47u/100	C148
FCCE25010000	10u/50	C149
FCXCD4100000	100n	C150
FCXCD1150000	15p	C151
FCXCD4100000	100n	C152
FCCE25010000	10u/50	C153
FCXCD4470000	470n	C154
FCXCD4470000	470n	C155
FCXCD1150000	15p	C156

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

Code	Description	Reference
FCXCD1150000	15p	C157
FCCDK5220000	C220n/100V	C158
FCCDK5220000	C220n/100V	C159
FCXCD2680000	680p	C160
FCXCD2680000	680p	C161
FCCDK2001000	C1u/63V	C162
FCXCD4010000	10n	C163
FCXCD4010000	10n	C164
FCCDH7110000	C100n/400V	C165
FCCDH7104700	C47n/400V	C166
FCCE10000000	47u/16	C167
FCCE25047000	47u/50	C168
FCXCD4100000	100n	C169
FCPERL255000	Cer. Bead	CB101
FCPERL255000	Cer. Bead	CB102
FCPERL255000	Cer. Bead	CB103
FCPERL255000	Cer. Bead	CB104
FCCI00956000	Printed Board 11.0956	CI101
FCXDDBAS2800	BAS28	D101
FCXZ00007500	Z7.5V	D102
FCXDDBAS2800	BAS28	D103
FCXZ00003900	Z3.9V	D104
FCXZ00003900	Z3.9V	D105
FCLEDSMD2000	TLMH3101	D106
FCLEDSMD2000	TLMH3101	D107
FCDD04120000	Z12	D108
FCDD04120000	Z12	D109
FCDD04120000	Z12	D110
FCDD04120000	Z12	D111
FCDD04120000	Z12	D112
FCDD04120000	Z12	D113
FCXZ00018000	Z18V	D114
FCXZ00018000	Z18V	D115
FCDD10270000	Z27V/1	D116
FCDD10270000	Z27V/1	D117
FCDIDB300000	DB3	D118
FCXZ00008200	Z8.2V	D119
FCXZ00008200	Z8.2V	D120
FCXZ00005600	Z5.6V	D121
FCXDDBAS1600	BAS16	D122
FCXDD4007000	1N4007	D123
FCXZ00012000	Z12V	D124
FCXDDBAS2800	BAS28	D125
FCXDDBAS1600	BAS16	D126
FCXDDBAS1600	BAS16	D127
FCXDD4007000	1N4007	D128
FCXZ00010000	Z10V	D129
FCXDDBAS1600	BAS16	D130
FCXDDBAS1600	BAS16	D131
FCXDDBAS2800	BAS28	D132
FCXZ00007500	Z7.5V	D133
FCXDDBAS2800	BAS28	D134
FCXZ00003900	Z3.9V	D135
FCXZ00003900	Z3.9V	D136
FCLEDSMD2000	TLMH3101	D137
FCLEDSMD2000	TLMH3101	D138

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

Code	Description	Reference
FCDD04120000	Z12	D139
FCDD04120000	Z12	D140
FCDD04120000	Z12	D141
FCDD04120000	Z12	D142
FCDD04120000	Z12	D143
FCDD04120000	Z12	D144
FCXZ00018000	Z18V	D145
FCXZ00018000	Z18V	D146
FCDD10270000	Z27V/1	D147
FCDD10270000	Z27V/1	D148
FCDIDB300000	DB3	D149
FCXZ00008200	Z8.2V	D150
FCXZ00008200	Z8.2V	D151
FCXZ00005600	Z5.6V	D152
FCXDD4007000	1N4007	D153
FCXZ00012000	Z12V	D154
FCXDDBAS2800	BAS28	D155
FCXDDBAS1600	BAS16	D156
FCXDDBAS1600	BAS16	D157
FCFUS5035000	F8A	F101
FCFUS5035000	F8A	F102
FCFUS5035000	F8A	F103
FCFUS5035000	F8A	F104
FCFER4322000	Ferrite	FB101
FCFER4322000	Ferrite	FB102
FCFER4322000	Ferrite	FB103
FCFER4322000	Ferrite	FB104
FCFER4322000	Ferrite	FB105
FCFER4322000	Ferrite	FB106
FCFER4322000	Ferrite	FB107
FCFER4322000	Ferrite	FB108
FCFER4322000	Ferrite	FB109
FCFER4322000	Ferrite	FB110
FCFER4322000	Ferrite	FB111
FCFER4322000	Ferrite	FB112
FCMECT022000	Heatsink f/ TO220	HS101
FCMECT022000	Heatsink f/ TO220	HS102
FCMECT022000	Heatsink f/ TO220	HS103
FCMECT022000	Heatsink f/ TO220	HS104
FCMECT022000	Heatsink f/ TO220	HS105
FCMECT022000	Heatsink f/ TO220	HS106
FCMECT022000	Heatsink f/ TO220	HS107
FCRAD1385000	Heatsink f/ Power Module	HS108
FCOPTVTL5000	VTL 5C8	IC101
FCIC07101000	TL071	IC102
FCIC55341000	NE5534A	IC103
FCIC43101000	LM431AC	IC104
FCIC35000000	LM35DZ	IC105
FCIC07201000	TL072	IC106
FCREG7805000	7805	IC107
FCIC40930100	HEF4093B	IC108
FCOPTVTL5000	VTL 5C8	IC109
FCIC07101000	TL071	IC110
FCIC55341000	NE5534A	IC111
FCIC40930100	HEF4093B	IC112
FCMICTO12600	Insulant TO126	IN101

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

Code	Description	Reference
FCMICTO12600	Insulant TO126	IN102
FCMICTO12600	Insulant TO126	IN103
FCMICTO12600	Insulant TO126	IN104
FCMICTO12600	Insulant TO126	IN105
FCMICTO12600	Insulant TO126	IN106
FCMICTO12600	Insulant TO126	IN107
FCTIRKON0000	Insulating polymer	IN108
FCTIRKON0000	Insulating polymer	IN109
FCMICTO12600	Insulant TO126	IN112
FCCTM0004000	B4B-EH-A	J101
FCCTM0003000	B3B-EH-A	J102
FCTERM010000	Jumper Pin	J103
FCTERM010000	Jumper Pin	J104
FCTERM010000	Jumper Pin	J105
FCTERM010000	Jumper Pin	J106
FCTERM010000	Jumper Pin	J107
FCTERM010000	Jumper Pin	J108
FCCTM0003000	B3B-EH-A	J109
FCCTM0002000	B2B-EH-A	J110
FCCTM0004000	B4B-EH-A	J111
FCTERM010000	Jumper Pin	J112
FCTERM010000	Jumper Pin	J113
FCTERM010000	Jumper Pin	J114
FCTERM010000	Jumper Pin	J115
FCTERM010000	Jumper Pin	J116
FCTERM010000	Jumper Pin	J117
FCREL0030000	TQ2-12V	K101
FCREL0030000	TQ2-12V	K102
FCIND0010000	1uH	L101
FCIND0010000	1uH	L102
FCMJ00010000	Jumper	MJ101
FCMJ00010000	Jumper	MJ102
FCMJ00010000	Jumper	MJ103
FCMJ00010000	Jumper	MJ104
FCMJ00010000	Jumper	MJ105
FCMJ00010000	Jumper	MJ106
FCPINZAM0000	Clamp WD. 00.2636	MP101
FCPINZAM0000	Clamp WD. 00.2636	MP102
FCTUE0030000	Nut M3	NV101
FCTUE0030000	Nut M3	NV102
FCTUE0030000	Nut M3	NV103
FCTUE0030000	Nut M3	NV104
FCTUE0030000	Nut M3	NV105
FCTUE0030000	Nut M3	NV106
FCPORF315000	3/15P	PF101
FCPORF315000	3/15P	PF102
FCPORF315000	3/15P	PF103
FCPORF315000	3/15P	PF104
FCTR43700000	BD437	Q101
FCTR43700000	BD437	Q102
FCTR47100000	BF471	Q103
FCTR47200000	BF472	Q104
FCTR34000000	MJE340	Q105
FCTR35000000	MJE350	Q106
FCTR34000000	MJE340	Q107
FCTR35000000	MJE350	Q108

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

Code	Description	Reference
FCTR24300000	IRFP9240	Q109
FCTR24000000	IRFP240	Q110
FCTR24300000	IRFP9240	Q111
FCTR24000000	IRFP240	Q112
FCXTT0857000	BC857B	Q113
FCXTT0847000	BC847B	Q114
FCXTT0857000	BC857B	Q115
FCXTT0847000	BC847B	Q116
FCTR24000000	IRFP240	Q117
FCTR24300000	IRFP9240	Q118
FCXTT0857000	BC857B	Q119
FCXTT0847000	BC847B	Q120
FCTI24600000	BTB24600B	Q121
FCXTT0857000	BC857B	Q122
FCXTT0847000	BC847B	Q123
FCTR25401000	2N5401	Q124
FCXTT0847000	BC847B	Q125
FCXTT0817000	BC817/25	Q126
FCTR43700000	BD437	Q127
FCTR43700000	BD437	Q128
FCTR47100000	BF471	Q129
FCTR47200000	BF472	Q130
FCTR34000000	MJE340	Q131
FCTR35000000	MJE350	Q132
FCTR34000000	MJE340	Q133
FCTR35000000	MJE350	Q134
FCTR24300000	IRFP9240	Q135
FCTR24000000	IRFP240	Q136
FCTR24300000	IRFP9240	Q137
FCTR24000000	IRFP240	Q138
FCXTT0857000	BC857B	Q139
FCXTT0847000	BC847B	Q140
FCXTT0857000	BC857B	Q141
FCXTT0847000	BC847B	Q142
FCTR24000000	IRFP240	Q143
FCTR24300000	IRFP9240	Q144
FCXTT0857000	BC857B	Q145
FCXTT0847000	BC847B	Q146
FCTI24600000	BTB24600B	Q147
FCXTT0857000	BC857B	Q148
FCXTT0847000	BC847B	Q149
FCTR25401000	2N5401	Q150
FCXTT0847000	BC847B	Q151
FCXTT0817000	BC817/25	Q152
FCXR56100000	1M	R101
FCXR54215000	21k5	R102
FCXR54215000	21k5	R103
FCXR54215000	21k5	R104
FCXR55100000	100k0	R105
FCXR53100000	1k0	R106
FCXR53100000	1k0	R107
FCXR54348000	34k8	R108
FCXR54348000	34k8	R109
FCXR53196000	1k96	R110
FCXR53562000	5k62	R111
FCXR57100000	10M	R112

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

Code	Description	Reference
FCXR53121000	1k21	R113
FCXR53121000	1k21	R114
FCXR52511000	511	R115
FCXR52178000	178	R116
FCXR52511000	511	R117
FCXR52178000	178	R118
FCXR51562000	56.2	R119
FCXR53147000	1k47	R120
FCXR53147000	1k47	R121
FCXR51562000	56.2	R122
FCXR52681000	681	R123
FCXR53147000	1k47	R124
FCRJG4470000	4k7	R125
FCXR52681000	681	R126
FCXR51100000	10.0	R127
FCXR51562000	56.2	R128
FCXR52316000	316	R129
FCXR51562000	56.2	R130
FCXR51100000	10.0	R131
FCXR52316000	316	R132
FCRF42680000	NF68/1	R133
FCRF42680000	NF68/1	R134
FCRF23220000	NF220/ 1/2	R135
FCRF23220000	NF220/ 1/2	R136
FCRF23220000	NF220/ 1/2	R137
FCRF23220000	NF220/ 1/2	R138
FCRY00010000	W0.22/5	R139
FCRY00010000	W0.22/5	R140
FCRY00010000	W0.22/5	R141
FCRY00010000	W0.22/5	R142
FCXR54261000	26k1	R143
FCXR54237000	23k7	R144
FCRF23220000	NF220/ 1/2	R145
FCRF23220000	NF220/ 1/2	R146
FCXR52562000	562	R147
FCXR52562000	562	R148
FCXR52464000	464	R149
FCXR52464000	464	R150
FCXR54348000	34k8	R151
FCXR54348000	34k8	R152
FCRY00010000	W0.22/5	R153
FCRY00010000	W0.22/5	R154
FCXR53681000	6k81	R155
FCXR54348000	34k8	R156
FCXR54348000	34k8	R157
FCXR53681000	6k81	R158
FCXR54348000	34k8	R159
FCXR54348000	34k8	R160
FCXR54464000	46k4	R161
FCXR52100000	100.0	R162
FCXR52100000	100.0	R163
FCXR54133000	13k3	R164
FCXR54133000	13k3	R165
FCXR52100000	100.0	R166
FCXR53100000	1k0	R167
FCRY00025000	6.8/5W	R168

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

Code	Description	Reference
FCXR53100000	1k0	R169
FCXR52100000	100.0	R170
FCRC52100000	10/2	R171
FCRC51220000	2.2/2	R172
FCXR53422000	4k22	R173
FCXR53422000	4k22	R174
FCXR53422000	4k22	R175
FCXR53422000	4k22	R176
FCXR54464000	46k4	R177
FCXR54464000	46k4	R178
FCXR54464000	46k4	R179
FCXR53215000	2k15	R180
FCXR54100000	10k0	R181
FCXR53162000	1k62	R182
FCXR52464000	464	R183
FCXR54464000	46k4	R184
FCXR54100000	10k0	R185
FCXR55100000	100k0	R186
FCXR54215000	21k5	R187
FCXR55100000	100k0	R188
FCXR53100000	1k0	R189
FCXR54464000	46k4	R190
FCXR53562000	5k62	R191
FCXR56220000	2M2	R192
FCXR55100000	100k0	R193
FCXR54215000	21k5	R194
FCXR55287000	287k	R195
FCXR54100000	10k0	R196
FCXR55100000	100k0	R197
FCXR52825000	825	R198
FCXR53147000	1k47	R199
FCXR51562000	56.2	R200
FCXR52825000	825	R201
FCXR51562000	56.2	R202
FCXR52178000	178	R203
FCXR53100000	1k0	R204
FCXR56100000	1M	R205
FCXR54215000	21k5	R206
FCXR54215000	21k5	R207
FCXR54215000	21k5	R208
FCXR55100000	100k0	R209
FCXR53100000	1k0	R210
FCXR53100000	1k0	R211
FCXR54348000	34k8	R212
FCXR54348000	34k8	R213
FCXR57100000	10M	R214
FCXR53196000	1k96	R215
FCXR53562000	5k62	R216
FCXR53121000	1k21	R217
FCXR53121000	1k21	R218
FCXR52511000	511	R219
FCXR52178000	178	R220
FCXR52511000	511	R221
FCXR52178000	178	R222
FCXR51562000	56.2	R223
FCXR53147000	1k47	R224

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

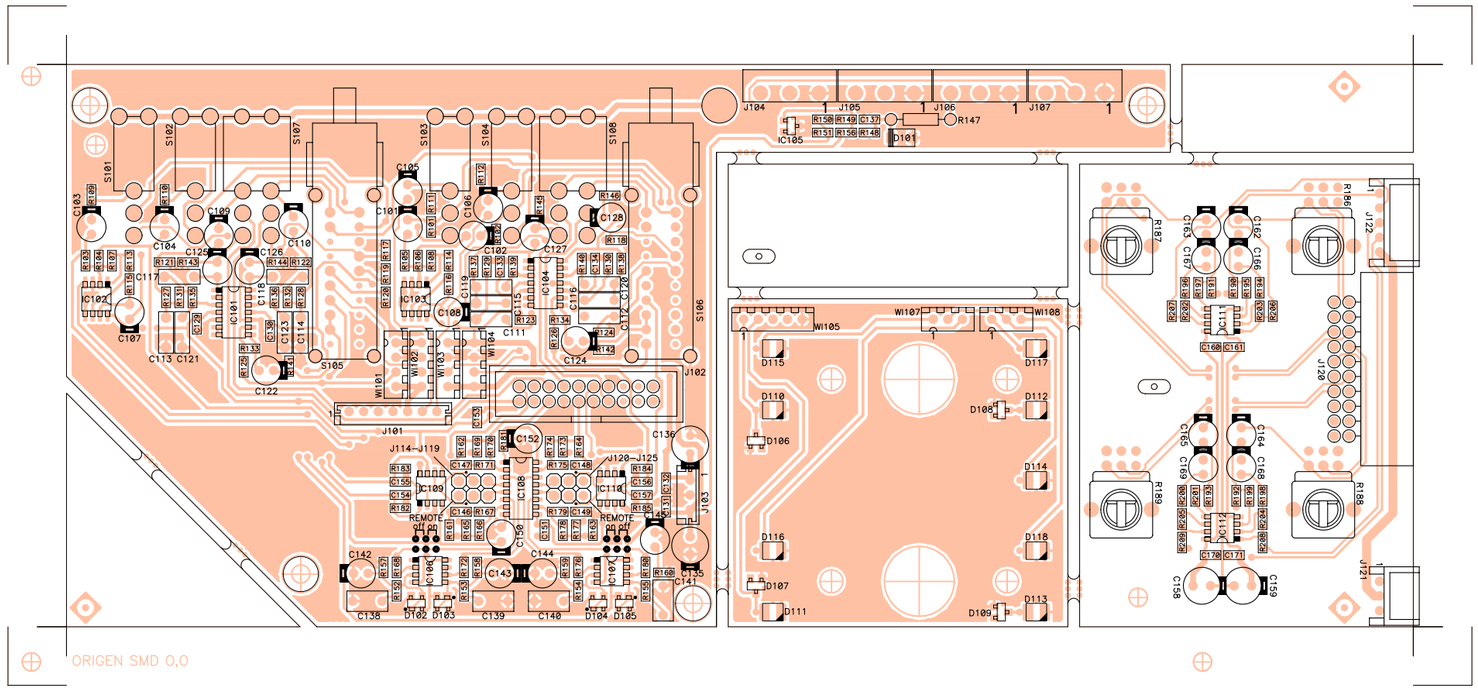
Code	Description	Reference
FCXR53147000	1k47	R225
FCXR51562000	56.2	R226
FCXR52681000	681	R227
FCXR53147000	1k47	R228
FCRJG4470000	4k7	R229
FCXR52681000	681	R230
FCXR51100000	10.0	R231
FCXR51562000	56.2	R232
FCXR52316000	316	R233
FCXR52316000	316	R234
FCXR51562000	56.2	R235
FCXR51100000	10.0	R236
FCRF42680000	NF68/1	R237
FCRF42680000	NF68/1	R238
FCRF23220000	NF220/ 1/2	R239
FCRF23220000	NF220/ 1/2	R240
FCRF23220000	NF220/ 1/2	R241
FCRF23220000	NF220/ 1/2	R242
FCRY00010000	W0.22/5	R243
FCRY00010000	W0.22/5	R244
FCRY00010000	W0.22/5	R245
FCRY00010000	W0.22/5	R246
FCXR54261000	26k1	R247
FCXR54237000	23k7	R248
FCRF23220000	NF220/ 1/2	R249
FCRF23220000	NF220/ 1/2	R250
FCXR52562000	562	R251
FCXR52562000	562	R252
FCXR52464000	464	R253
FCXR52464000	464	R254
FCXR54348000	34k8	R255
FCXR54348000	34k8	R256
FCRY00010000	W0.22/5	R257
FCRY00010000	W0.22/5	R258
FCXR53681000	6k81	R259
FCXR54348000	34k8	R260
FCXR54348000	34k8	R261
FCXR53681000	6k81	R262
FCXR54348000	34k8	R263
FCXR54348000	34k8	R264
FCXR54464000	46k4	R265
FCXR52100000	100.0	R266
FCXR52100000	100.0	R267
FCXR54133000	13k3	R268
FCXR54133000	13k3	R269
FCXR52100000	100.0	R270
FCXR53100000	1k0	R271
FCRY00025000	6.8/5W	R272
FCXR53100000	1k0	R273
FCXR52100000	100.0	R274
FCRC52100000	10/2	R275
FCRC51220000	2.2/2	R276
FCXR53422000	4k22	R277
FCXR53422000	4k22	R278
FCXR53422000	4k22	R279
FCXR53422000	4k22	R280

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

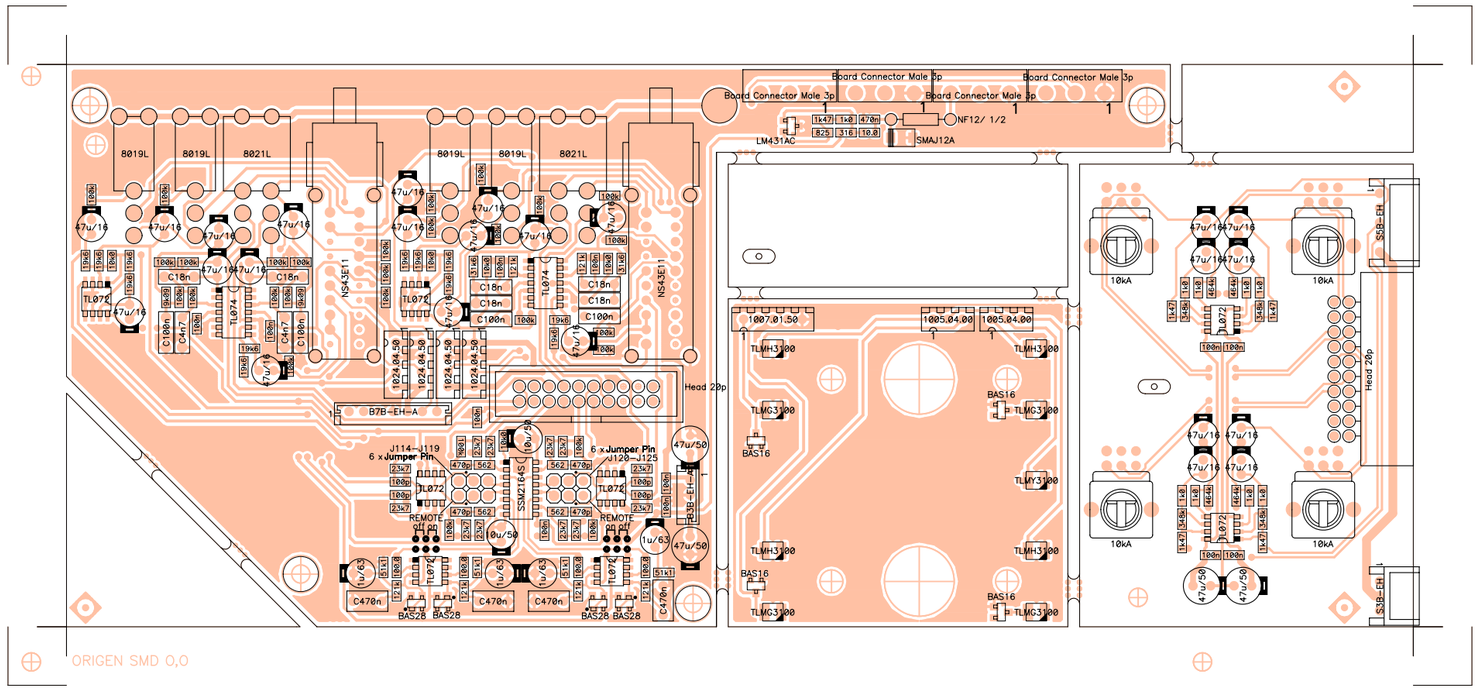
Code	Description	Reference
FCXR54464000	46k4	R281
FCXR54464000	46k4	R282
FCXR54464000	46k4	R283
FCXR54464000	46k4	R284
FCXR54215000	21k5	R285
FCXR54464000	46k4	R286
FCXR54215000	21k5	R287
FCXR54100000	10k0	R288
FCXR55287000	287k	R289
FCXR55100000	100k0	R290
FCXR51562000	56.2	R291
FCXR51562000	56.2	R292
FCXR52178000	178	R293
FCXR53100000	1k0	R294
FCT804006000	Screw M4x6 SPAN	SC101
FCT750300800	Screw M3x8	SC102
FCT750300800	Screw M3x8	SC103
FCT750300800	Screw M3x8	SC104
FCT750300800	Screw M3x8	SC105
FCT750300800	Screw M3x8	SC106
FCT750300800	Screw M3x8	SC107
FCSEPPM00000	Plastic Spacer f/board ct.	SC108
FCSEPPM00000	Plastic Spacer f/board ct.	SC109
FCT804006000	Screw M4x6 SPAN	SC110
FCT804006000	Screw M4x6 SPAN	SC111
FCT803010000	Screw M3x10 SPA	SC112
FCT803010000	Screw M3x10 SPA	SC113
FCT803010000	Screw M3x10 SPA	SC114
FCT803010000	Screw M3x10 SPA	SC115
FCT803010000	Screw M3x10 SPA	SC116
FCT803010000	Screw M3x10 SPA	SC117
FCT803010000	Screw M3x10 SPA	SC118
FCT803010000	Screw M3x10 SPA	SC119
FCT803010000	Screw M3x10 SPA	SC120
FCT803010000	Screw M3x10 SPA	SC121
FCSEPPM00000	Plastic Spacer f/board ct.	SC122
FCSEPPM00000	Plastic Spacer f/board ct.	SC123
FCT803010000	Screw M3x10 SPA	SC124
FCT803010000	Screw M3x10 SPA	SC125
FCT804006000	Screw M4x6 SPAN	SC126
FCTERMF28000	Faston 2.8mm	TS101
FCTERMF28000	Faston 2.8mm	TS102
FCTERMF28000	Faston 2.8mm	TS103
FCTERMF28000	Faston 2.8mm	TS104
FCMECPON1900	19mm	W100
FCMECPON1900	19mm	W101
FCMECPON1900	19mm	W102
FCMECPON1900	19mm	W103
FCMECPON1900	19mm	W104
FCMECPON1900	19mm	W105
FCMECPON1900	19mm	W106
FCMECPON1900	19mm	W107
FCMECPON1900	19mm	W108
FCMECPON1900	19mm	W109
FCMECPON1900	19mm	W110
FCMECPON1900	19mm	W111

PARTS LIST: PRINTED CIRCUIT 11.0956.03.01

Code	Description	Reference
FCMECPON1900	19mm	W112
FCMECPON1900	19mm	W113
FCMECPON1900	19mm	W114
FCMECPON1900	19mm	W115
FCMECPON1900	19mm	W116
FCMECPON1900	19mm	W117
FCARM3201000	Metal Washer 3.2x6x1	WA101
FCARM3201000	Metal Washer 3.2x6x1	WA102
FCARDE030000	Toothed Washer M3	WA103
FCARM3201000	Metal Washer 3.2x6x1	WA104
FCARM3201000	Metal Washer 3.2x6x1	WA105
FCARM3201000	Metal Washer 3.2x6x1	WA106
FCARM3201000	Metal Washer 3.2x6x1	WA107
FCARM3201000	Metal Washer 3.2x6x1	WA108
FCARM3201000	Metal Washer 3.2x6x1	WA109
FCARDE030000	Toothed Washer M3	WA114
FCARDE030000	Toothed Washer M3	WA115
FCARDE030000	Toothed Washer M3	WA116
FCARDE030000	Toothed Washer M3	WA117
FCARDE030000	Toothed Washer M3	WA118
FC0H11150000	1111.05.00	WI107
FC0H11050000	1110.05.00	WI108



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.1090-02.01 schema no: 10.0762-01.02 insertion file no: 81.0112-01.00	side: Component view: Reference	
number: 33.0989	version: 01.02	project n: EP08-06	title: Switchs&Leds&Potemtrs
drawn by: M. Amoros	date: 070212	product n: MPA4-400R	
		approved: Angel Sanuy	



IMPORTANT NOTE: Apply Clear Silicone Sealant in all header conectors

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.1090-02.01 schema no: 10.0762-01.02 insertion file no: 81.0112-01.00		side: Component view: Value
number: 33.0990	version: 01.02	project n: EP08-06 product n: MPA4-400R	title: Switchs&Leds&Potemtrs
drawn by: M. Amoros	date: 070212	approved: Angel Sanuy	

PARTS LIST: PRINTED CIRCUIT 11.1090.02.01

Code	Description	Reference
FCCE10000000	47u/16	C101
FCCE10000000	47u/16	C102
FCCE10000000	47u/16	C103
FCCE10000000	47u/16	C104
FCCE10000000	47u/16	C105
FCCE10000000	47u/16	C106
FCCE10000000	47u/16	C107
FCCE10000000	47u/16	C108
FCCE10000000	47u/16	C109
FCCE10000000	47u/16	C110
FCCDK1100000	C100n	C111
FCCDK1100000	C100n	C112
FCCDK1100000	C100n	C113
FCCDK1100000	C100n	C114
FCCDK5018000	C18n	C115
FCCDK5018000	C18n	C116
FCCDK5018000	C18n	C117
FCCDK5018000	C18n	C118
FCCDK5018000	C18n	C119
FCCDK5018000	C18n	C120
FCCDK1004700	C4n7	C121
FCCE10000000	47u/16	C122
FCCDK1004700	C4n7	C123
FCCE10000000	47u/16	C124
FCCE10000000	47u/16	C125
FCCE10000000	47u/16	C126
FCCE10000000	47u/16	C127
FCCE10000000	47u/16	C128
FCXCD4100000	100n	C129
FCXCD4100000	100n	C130
FCXCD4100000	100n	C131
FCXCD4100000	100n	C132
FCXCD4100000	100n	C133
FCXCD4100000	100n	C134
FCCE25047000	47u/50	C135
FCCE25047000	47u/50	C136
FCXCD4470000	470n	C137
FCCDK1470000	C470n	C138
FCCDK1470000	C470n	C139
FCCDK1470000	C470n	C140
FCCDK1470000	C470n	C141
FCCE30001000	1u/63	C142
FCCE30001000	1u/63	C143
FCCE30001000	1u/63	C144
FCCE30001000	1u/63	C145
FCXCD2470000	470p	C146
FCXCD2470000	470p	C147
FCXCD2470000	470p	C148
FCXCD2470000	470p	C149
FCCE25010000	10u/50	C150
FCXCD4100000	100n	C151
FCCE25010000	10u/50	C152
FCXCD4100000	100n	C153
FCXCD2100000	100p	C154
FCXCD2100000	100p	C155
FCXCD2100000	100p	C156

PARTS LIST: PRINTED CIRCUIT 11.1090.02.01

Code	Description	Reference
FCXCD2100000	100p	C157
FCCE25047000	47u/50	C158
FCCE25047000	47u/50	C159
FCXCD4100000	100n	C160
FCXCD4100000	100n	C161
FCCE10000000	47u/16	C162
FCCE10000000	47u/16	C163
FCCE10000000	47u/16	C164
FCCE10000000	47u/16	C165
FCCE10000000	47u/16	C166
FCCE10000000	47u/16	C167
FCCE10000000	47u/16	C168
FCCE10000000	47u/16	C169
FCXCD4100000	100n	C170
FCXCD4100000	100n	C171
FCCI01090000	Printed Board 11.1090	CI101
FCDDKE120000	SMAJ12A	D101
FCXDDBAS2800	BAS28	D102
FCXDDBAS2800	BAS28	D103
FCXDDBAS2800	BAS28	D104
FCXDDBAS2800	BAS28	D105
FCXDDBAS1600	BAS16	D106
FCXDDBAS1600	BAS16	D107
FCXDDBAS1600	BAS16	D108
FCXDDBAS1600	BAS16	D109
FCLEDSMD3000	TLMG3100	D110
FCLEDSMD3000	TLMG3100	D111
FCLEDSMD3000	TLMG3100	D112
FCLEDSMD3000	TLMG3100	D113
FCLEDSMD2500	TLMY3100	D114
FCLEDSMD2000	TLMH3100	D115
FCLEDSMD2000	TLMH3100	D116
FCLEDSMD2000	TLMH3100	D117
FCLEDSMD2000	TLMH3100	D118
FCIC07401000	TL074	IC101
FCIC07201000	TL072	IC102
FCIC07201000	TL072	IC103
FCIC07401000	TL074	IC104
FCIC43101000	LM431AC	IC105
FCIC07201000	TL072	IC106
FCIC07201000	TL072	IC107
FCIC21641000	SSM2164S	IC108
FCIC07201000	TL072	IC109
FCIC07201000	TL072	IC110
FCIC07201000	TL072	IC111
FCIC07201000	TL072	IC112
FCCTM0007000	B7B-EH-A	J101
FCHEA1002000	Head 20p	J102
FCCTM0003000	B3B-EH-A	J103
FCREG1017000	Board Connector Male 3p	J104
FCREG1017000	Board Connector Male 3p	J105
FCREG1017000	Board Connector Male 3p	J106
FCREG1017000	Board Connector Male 3p	J107
FCTERM010000	Jumper Pin	J108
FCTERM010000	Jumper Pin	J109
FCTERM010000	Jumper Pin	J110

PARTS LIST: PRINTED CIRCUIT 11.1090.02.01

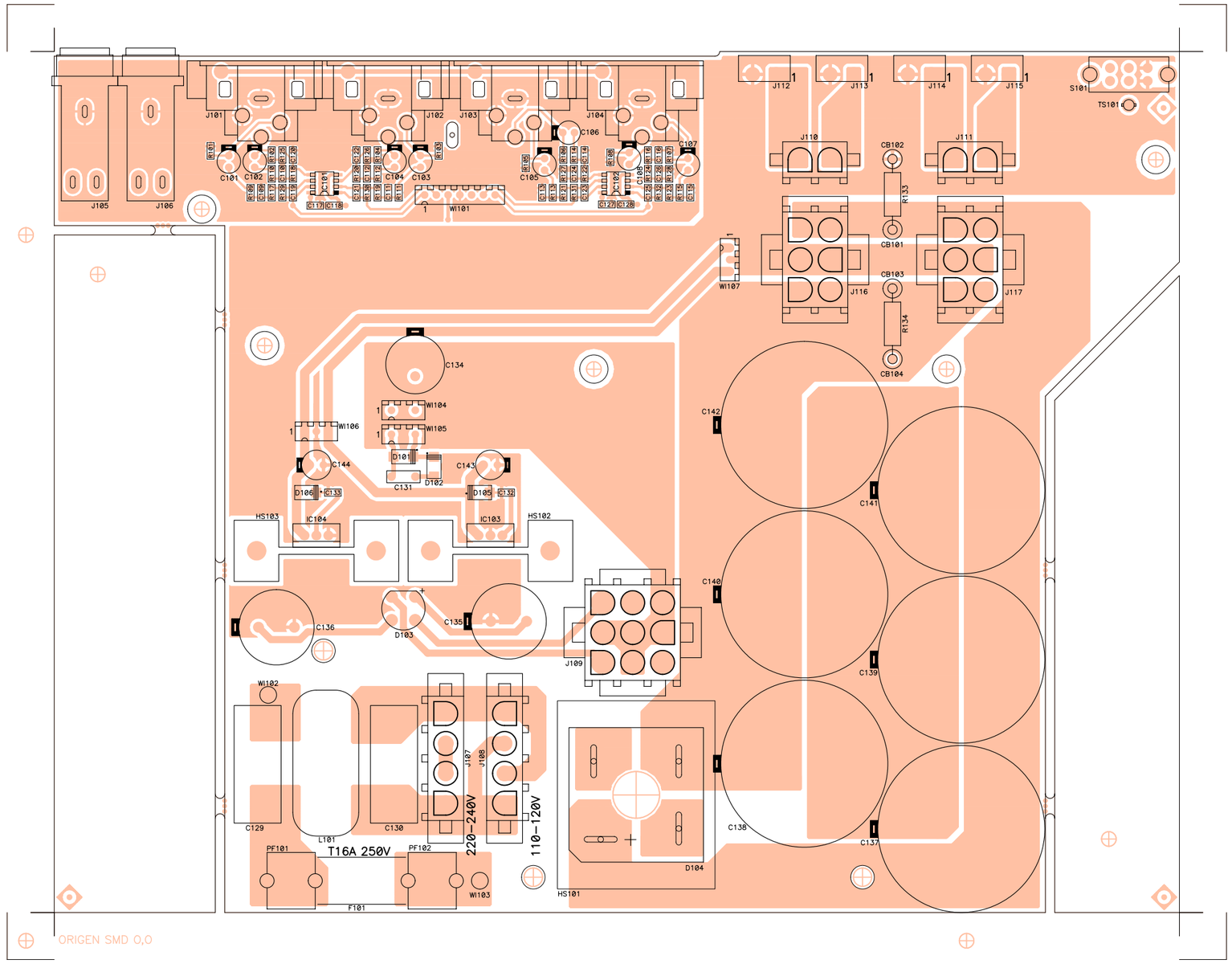
Code	Description	Reference
FCTERM010000	Jumper Pin	J111
FCTERM010000	Jumper Pin	J112
FCTERM010000	Jumper Pin	J113
FCTERM010000	Jumper Pin	J114
FCTERM010000	Jumper Pin	J115
FCTERM010000	Jumper Pin	J116
FCTERM010000	Jumper Pin	J117
FCTERM010000	Jumper Pin	J118
FCTERM010000	Jumper Pin	J119
FCHEA0020000	Head 20p	J120
FCCTM1003000	S3B-EH	J121
FCCTM1005000	S5B-EH	J122
FCMJ00010000	Jumper	MJ101
FCMJ00010000	Jumper	MJ102
FCMJ00010000	Jumper	MJ103
FCMJ00010000	Jumper	MJ104
FCXR55100000	100k	R101
FCXR55100000	100k	R102
FCXR54196000	19k6	R103
FCXR54196000	19k6	R104
FCXR54196000	19k6	R105
FCXR54196000	19k6	R106
FCXR54100000	10k0	R107
FCXR54100000	10k0	R108
FCXR55100000	100k	R109
FCXR55100000	100k	R110
FCXR55100000	100k	R111
FCXR55100000	100k	R112
FCXR54196000	19k6	R113
FCXR54196000	19k6	R114
FCXR54196000	19k6	R115
FCXR54196000	19k6	R116
FCXR55100000	100k	R117
FCXR55100000	100k	R118
FCXR55100000	100k	R119
FCXR55100000	100k	R120
FCXR55100000	100k	R121
FCXR55100000	100k	R122
FCXR55100000	100k	R123
FCXR55100000	100k	R124
FCXR54196000	19k6	R125
FCXR54196000	19k6	R126
FCXR53909000	9k09	R127
FCXR53909000	9k09	R128
FCXR54100000	10k0	R129
FCXR54100000	10k0	R130
FCXR55100000	100k	R131
FCXR55100000	100k	R132
FCXR54196000	19k6	R133
FCXR54196000	19k6	R134
FCXR55100000	100k	R135
FCXR55100000	100k	R136
FCXR54316000	31k6	R137
FCXR54316000	31k6	R138
FCXR55121000	121k	R139
FCXR55121000	121k	R140

PARTS LIST: PRINTED CIRCUIT 11.1090.02.01

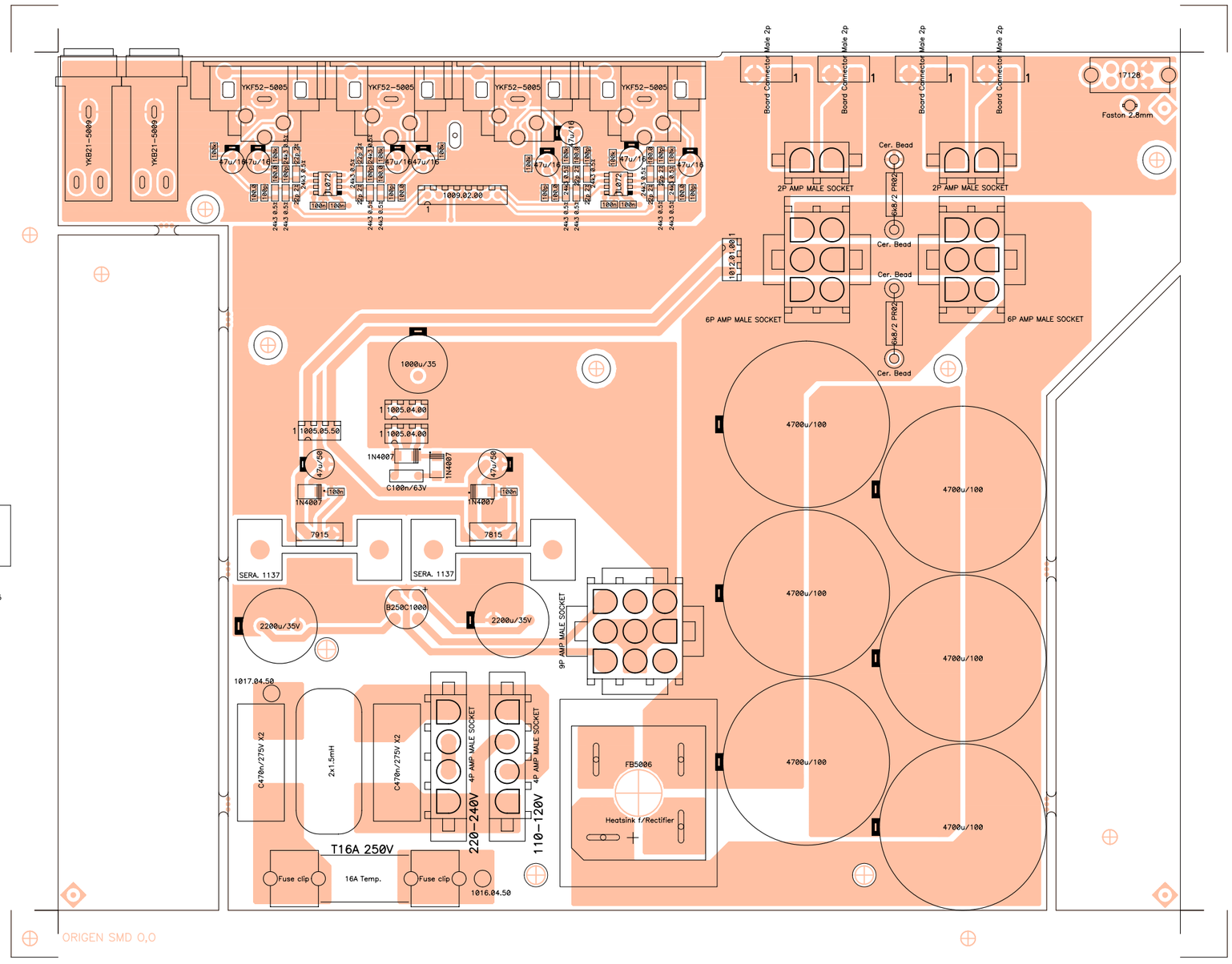
Code	Description	Reference
FCXR55100000	100k	R141
FCXR55100000	100k	R142
FCXR55100000	100k	R143
FCXR55100000	100k	R144
FCXR55100000	100k	R145
FCXR55100000	100k	R146
FCRF22120000	NF12/ 1/2	R147
FCXR51100000	10.0	R148
FCXR53100000	1k0	R149
FCXR53147000	1k47	R150
FCXR52825000	825	R151
FCXR55121000	121k	R152
FCXR55121000	121k	R153
FCXR55121000	121k	R154
FCXR55121000	121k	R155
FCXR52316000	316	R156
FCXR54511000	51k1	R157
FCXR54511000	51k1	R158
FCXR54511000	51k1	R159
FCXR54511000	51k1	R160
FCXR55100000	100k	R161
FCXR55100000	100k	R162
FCXR55100000	100k	R163
FCXR55100000	100k	R164
FCXR54237000	23k7	R165
FCXR54237000	23k7	R166
FCXR52562000	562	R167
FCXR52100000	100.0	R168
FCXR54237000	23k7	R169
FCXR54237000	23k7	R170
FCXR52562000	562	R171
FCXR52100000	100.0	R172
FCXR54237000	23k7	R173
FCXR54237000	23k7	R174
FCXR52562000	562	R175
FCXR52100000	100.0	R176
FCXR54237000	23k7	R177
FCXR54237000	23k7	R178
FCXR52562000	562	R179
FCXR52100000	100.0	R180
FCXR54100000	10k0	R181
FCXR54237000	23k7	R182
FCXR54237000	23k7	R183
FCXR54237000	23k7	R184
FCXR54237000	23k7	R185
FCPR21006000	10kA	R186
FCPR21006000	10kA	R187
FCPR21006000	10kA	R188
FCPR21006000	10kA	R189
FCXR55464000	464k	R190
FCXR55464000	464k	R191
FCXR55464000	464k	R192
FCXR55464000	464k	R193
FCXR53100000	1k0	R194
FCXR53100000	1k0	R195
FCXR53100000	1k0	R196

PARTS LIST: PRINTED CIRCUIT 11.1090.02.01

Code	Description	Reference
FCXR53100000	1k0	R197
FCXR53100000	1k0	R198
FCXR53100000	1k0	R199
FCXR53100000	1k0	R200
FCXR53100000	1k0	R201
FCXR55348000	348k	R202
FCXR55348000	348k	R203
FCXR55348000	348k	R204
FCXR55348000	348k	R205
FCXR53147000	1k47	R206
FCXR53147000	1k47	R207
FCXR53147000	1k47	R208
FCXR53147000	1k47	R209
FCINTAP13000	8019L	S101
FCINTAP13000	8019L	S102
FCINTAP13000	8019L	S103
FCINTAP13000	8019L	S104
FCINTAP09000	NS43E11	S105
FCINTAP09000	NS43E11	S106
FCINTAP14000	8021L	S107
FCINTAP14000	8021L	S108
FC6J02445000	1024.04.50	WI101
FC6J02445000	1024.04.50	WI102
FC6J02445000	1024.04.50	WI103
FC6J02445000	1024.04.50	WI104
FC4K00715000	1007.01.50	WI105
FC4I00540000	1005.04.00	WI107
FC4I00540000	1005.04.00	WI108



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.1091-02.00 schema no: 10.0763-01.01 insertion file no: 81.0113-01.00	side: Component view: Reference	
number: 33.0991	version: 01.01	project n: EP08-06 product n: MPA 4-400R	title: Supply + Inputs + Outs
drawn by: M. Amoros	date: 061103	approved: Angel Sanuy	



ECLEREE LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.1091-02.00 schema no: 10.0763-01.01 insertion file no: 81.0113-01.00	side: Component view: Value	
number: 33.0992	version: 01.01	project n: EP08-06	title: Supply + Inputs + Outs
drawn by: M. Amoros	date: 061103	product n: MPA 4-400R	
		approved: Angel Sanuy	

IMPORTANT NOTE: Apply Clear Silicone Sealant among the 4700u/100V electrolitic capacitors

PARTS LIST: PRINTED CIRCUIT 11.1091.02.00

Code	Description	Reference
FCCE10000000	47u/16	C101
FCCE10000000	47u/16	C102
FCCE10000000	47u/16	C103
FCCE10000000	47u/16	C104
FCCE10000000	47u/16	C105
FCCE10000000	47u/16	C106
FCCE10000000	47u/16	C107
FCCE10000000	47u/16	C108
FCXCD2100000	100p	C109
FCXCD2100000	100p	C110
FCXCD2100000	100p	C111
FCXCD2100000	100p	C112
FCXCD2100000	100p	C113
FCXCD2100000	100p	C114
FCXCD2100000	100p	C115
FCXCD2100000	100p	C116
FCXCD4100000	100n	C117
FCXCD4100000	100n	C118
FCXCN1220100	22p 2%	C119
FCXCN1220100	22p 2%	C120
FCXCN1220100	22p 2%	C121
FCXCN1220100	22p 2%	C122
FCXCN1220100	22p 2%	C123
FCXCN1220100	22p 2%	C124
FCXCN1220100	22p 2%	C125
FCXCN1220100	22p 2%	C126
FCXCD4100000	100n	C127
FCXCD4100000	100n	C128
FCCDH7147000	C470n/275V X2	C129
FCCDH7147000	C470n/275V X2	C130
FCCDK1100000	C100n/63V	C131
FCXCD4100000	100n	C132
FCXCD4100000	100n	C133
FCCE21100000	1000u/35	C134
FCCE21220000	2200u/35V	C135
FCCE21220000	2200u/35V	C136
FCCE33152500	4700u/100	C137
FCCE33152500	4700u/100	C138
FCCE33152500	4700u/100	C139
FCCE33152500	4700u/100	C140
FCCE33152500	4700u/100	C141
FCCE33152500	4700u/100	C142
FCCE25047000	47u/50	C143
FCCE25047000	47u/50	C144
FCPERL255000	Cer. Bead	CB101
FCPERL255000	Cer. Bead	CB102
FCPERL255000	Cer. Bead	CB103
FCPERL255000	Cer. Bead	CB104
FCCI01091000	Printed Board 11.1091	CI101
FCXDD4007000	1N4007	D101
FCXDD4007000	1N4007	D102
FCREC2510000	B250C1000	D103
FCREC5006000	FB5006	D104
FCXDD4007000	1N4007	D105
FCXDD4007000	1N4007	D106
FCFUS8040000	16A Temp.	F101

PARTS LIST: PRINTED CIRCUIT 11.1091.02.00

Code	Description	Reference
FCRAD1151500	Heatsink f/Rectifier	HS101
FCRAD1263600	SERA. 1137	HS102
FCRAD1263600	SERA. 1137	HS103
FCIC07201000	TL072	IC101
FCIC07201000	TL072	IC102
FCREG7815000	7815	IC103
FCREG7915000	7915	IC104
FCBASX090000	YKF52-5005	J101
FCBASX090000	YKF52-5005	J102
FCBASX090000	YKF52-5005	J103
FCBASX090000	YKF52-5005	J104
FCBASJ020000	YKB21-5009	J105
FCBASJ020000	YKB21-5009	J106
FCCTAMP04000	4P AMP MALE SOCKET	J107
FCCTAMP04000	4P AMP MALE SOCKET	J108
FCCTAMP09000	9P AMP MALE SOCKET	J109
FCCTAMP02000	2P AMP MALE SOCKET	J110
FCCTAMP02000	2P AMP MALE SOCKET	J111
FCREG1016000	Board Connector Male 2p	J112
FCREG1016000	Board Connector Male 2p	J113
FCREG1016000	Board Connector Male 2p	J114
FCREG1016000	Board Connector Male 2p	J115
FCCTAMP06000	6P AMP MALE SOCKET	J116
FCCTAMP06000	6P AMP MALE SOCKET	J117
FCBB2X350000	2x1.5mH	L101
FCTUE0030000	Nut M3	NV101
FCTUE0030000	Nut M3	NV102
FCPORF020000	Fuse clip	PF101
FCPORF020000	Fuse clip	PF102
FCXR55100000	100k	R101
FCXR55100000	100k	R102
FCXR55100000	100k	R103
FCXR55100000	100k	R104
FCXR55100000	100k	R105
FCXR55100000	100k	R106
FCXR55100000	100k	R107
FCXR55100000	100k	R108
FCXR52100000	100.0	R109
FCXR52100000	100.0	R110
FCXR52100000	100.0	R111
FCXR52100000	100.0	R112
FCXR52100000	100.0	R113
FCXR52100000	100.0	R114
FCXR52100000	100.0	R115
FCXR52100000	100.0	R116
FCXR64243000	24k3 0.5%	R117
FCXR64243000	24k3 0.5%	R118
FCXR64243000	24k3 0.5%	R119
FCXR64243000	24k3 0.5%	R120
FCXR64243000	24k3 0.5%	R121
FCXR64243000	24k3 0.5%	R122
FCXR64243000	24k3 0.5%	R123
FCXR64243000	24k3 0.5%	R124
FCXR64243000	24k3 0.5%	R125
FCXR64243000	24k3 0.5%	R126
FCXR64243000	24k3 0.5%	R127

PARTS LIST: PRINTED CIRCUIT 11.1091.02.00

Code	Description	Reference
FCXR64243000	24k3 0.5%	R128
FCXR64243000	24k3 0.5%	R129
FCXR64243000	24k3 0.5%	R130
FCXR64243000	24k3 0.5%	R131
FCXR64243000	24k3 0.5%	R132
FCRP54680000	6k8/2 PR02	R133
FCRP54680000	6k8/2 PR02	R134
FCINTD400000	17128	S101
FCT380401200	Screw M4x12 TR	SC100
FCT750300800	Screw M3x8	SC101
FCT750300800	Screw M3x8	SC102
FCTERMF28000	Faston 2.8mm	TS101
FCARDE030000	Toothed Washer f/M3	WA101
FCARDE030000	Toothed Washer f/M3	WA102
FCARS4000000	Security washer M4	WA103
FC4M00920000	1009.02.00	WI101
FC2F01745000	1017.04.50	WI102
FC2F01645000	1016.04.50	WI103
FC4I00540000	1005.04.00	WI104
FC4I00540000	1005.04.00	WI105
FC4I00555000	1005.05.50	WI106
FC0C01210000	1012.01.00	WI107

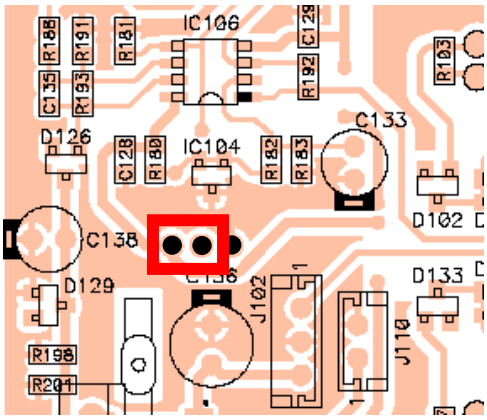
PRELIMINARY:

- Check the GROUND LINK switch.
- Be sure that the correct cable types are used.
- Main POWER switch OFF.
- Select a 1KHz 0dB output signal on the generator, but keep it turned off.
- Place four 4Ω load impedances into outputs 1, 2, 3 and 4. If it's not possible, just place one 4Ω load into the tested channel output.
- Connect the millivoltmeter and the oscilloscope to channel one.
- Turn down all potentiometers to their minimum position.
- Configure Mini-jumpers to set REMOTE CONTROL to ON. See configuration scheme for details.
- Connect the power amplifier's mains plug to a 230Vac variac output.

VERIFICATION:

- Retire fuse F101 (or its matching fuse on any other tested channel), placed at channel one's +Vcc. In its place, insert a 10A ranged DC ammeter.
- Connect the power amplifier mains plug to the variac output, turned down to deliver 0V. Switch over the unit's main POWER switch to ON. Slowly increase the variac's output until it reaches 230V output voltage, and verify that the current consumption adjustments remain correct: 150mA. If this value has changed, rectify it. Once adjusted, seal the potentiometer with fixing lacquer.
- Retire the ammeter and replace instead the F101 fuse. **Caution! The unit's power supply will be charged!** Previously the power supply should be properly discharged, or disconnect the module's power supply wires (yellow-, black- and brown-colored wires) to avoid electrical shocks. Repeat this procedure on all other channels.
- Once the current consumption is checked, switch off and again on the unit with its main power switch, verify that the neon lights up, that the unit first remains for 10 seconds in STANDBY mode and that the cooling fans run up to maximum speed.
- Apply a 0dB 1KHz signal to XLR-type input 1, by turning on the signal generator.
- Connect a 4Ω load to this channel's output.
- Verify the unit's output power when working at nominal mains voltage (230Vac). Vo=41V_{rms} (millivoltmeter)
- To verify the ANTICLIP function, increase the input signal level above 0dB and check that the clipping output signal is smoothened. Place a mini-jumper into the test point terminal near the VTL5C8 device, verify that the anticlip function now is triggered earlier and rounds the clipping signal even more.
- Check the CLIP indicator LED's are lit, and, when reducing the output signal level in 0.5 or 1dB, the CLIP LEDs turn off. Leave the mini-jumper inserted.
- Verify the unit's bandwidth curve, which, with a 2KHz 0.5V input signal, should be linear between 20Hz and 20KHz without inducing any distortion to the output signal. Also check that when applying an input signal up to 50kHz, the unit's output level only decreases in 1 or 2 dB, and no visible distortion is observed.

- Connect a load impedance formed by a 4Ω resistor shunted to a 1µ5F capacitor, and apply a 1KHz square waveform input signal. Using an oscilloscope, observe the output signal, at the flat level areas of the squared waveform, only two or three ringing should be detected both at positive and negative slope flanges. Increase the input signal level until the displayed signal starts clipping. Check that, even when clipping, the ringing does not grow, and no more ringing than before appear either.
- Verify the THERMAL protection circuitry. Short the unit's thermal probe pins Vs and Vout, and verify that the relay releases, while the *THERMAL* indicator light up, as the output signal is cutted off and the cooling fan increases its speed until it reaches maximum airflow.



REMOTE CONTROL VERIFICATION

1- Release all of the input circuit selection switches. ↑.
2- Attenuation potentiometers should all be turned up to their maximum level (right).
3- Apply a 0dB 1kHz signal on channel 1 input.
4- Check the output signal on channel 1's output. Vo=41 Vrms.
5- Connect the tool equipped with a potentiometer to REMOTE CONTROL CH1.
6- Check the potentiometer sweep, its response curve and attenuation.
7- Repeat this procedure on the rest of inputs and outputs, and on remote controls.
8- When done, leave the REMOTE CONTROL configuration again OFF.

PROTECTIONS

- Signal generator OFF, 1V scale, select a 1kHz output signal and keep the level potentiometer down to its minimum.
- Connect a 0.5Ω load impedance.
- Connect the oscilloscope to the module's output.
- Switch on the generator and turn up slowly the output level potentiometer, while checking that the output voltage keeps below these limits, as listed below:

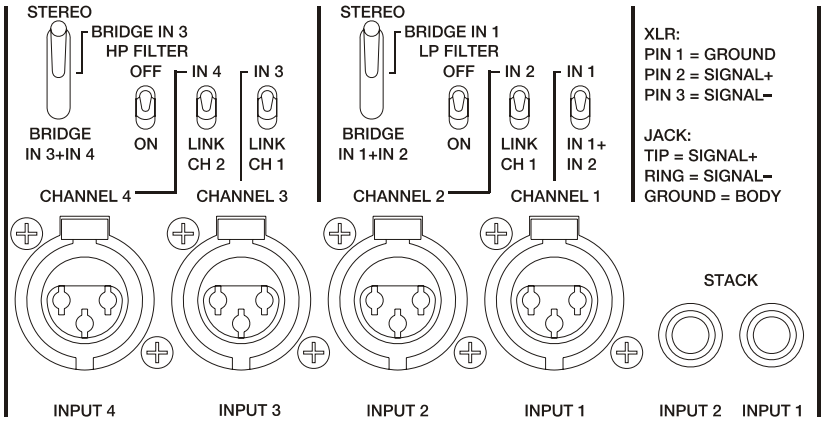
FIRST EVALUATION POINT: 15Vpp (240V)
SECOND EVALUATION POINT: 18Vpp (210V)

Note: the signal clipping should appear without any distortion or ringing. Both evaluation points are obtained by adjusting the variac's output voltage.

- Repeat this process on all the other channels.

CHECKING INPUT SELECTION SWITCHES.

SWITCH	POSITION
IN1/IN1+IN2	IN1
IN2/LINK CH1	LINK CH1
LP FILTER ON/OFF	OFF
STEREO / BRIDGE IN1 / BRIDGE IN1+IN2	STEREO
IN3/LINK CH1	LINK CH1
IN4/LINK CH2	LINK CH2
HP FILTER ON/OFF	OFF
STEREO / BRIDGE IN3 / BRIDGE IN3+IN4	STEREO



0dBV 1KHz input signal to IN1
Millivoltmeter/oscilloscope connected to channel 1 and 2.

- Channel 1's Signal Present indicating LED lights up. Turn up channel one's potentiometer. Verify its sweep. Vo=41V_{rms} . Check that the output corresponds to the used channel.
- Channel 2's Signal Present indicating LED lights up. Turn up channel two's potentiometer. Verify its sweep. Vo=41V_{rms} . Check that the output corresponds to the used channel.
- Both outputs are in phase.
- On the channel's STEREO/BRIDGE IN1/BRIDGE IN1+IN2 switch, select BRIDGE IN1+IN2. By now both outputs should be push-pull configured. The SP 2 indicating LED turns off. Verify that now only channel one's input potentiometer is active, and leave it up to its maximum position.
- On the IN1/IN1+IN2 switch, select IN1+IN2. Check that the output level has dropped 6dB.
- Leave the switch again to IN1.
- Change the millivoltmeter/oscilloscope test probes from the actual outputs to outputs 3-4.
- Verify that channel 3's Signal Present indicating LED is lit. Turn up channel 3's input potentiometer. Verify it's sweep. Vo=41V_{rms} . Check that the output corresponds to the used channel.
- Verify that channel 4's signal present indicating LED is lit. Turn up channel 4's input potentiometer. Verify it's sweep. Vo=41V_{rms} . Check that the output corresponds to the used channel.
- Both outputs are in phase.

- On the unit's STEREO/BRIDGE IN3/B IN3+IN4 switch, select IN3+IN4. By now both outputs should be push-pull configured. The SP 4 indicating LED turns off. Verify that now only channel three's input potentiometer is active, and leave it up to its maximum position.
- Verify that all CLIP-indicating LED's are lit. If necessary, add 1 or 2 dB to the input signal level.
- On the IN3/IN3+IN4 switch, select IN3+IN4. Check that the output level has dropped 6dB.
- Leave the switch again to IN3.

BURNING TEST.

Leave the tested unit connected to its correspondent mains voltage, applying input signal and connecting load impedances, and running at its burn test level for at least 24 hours.

SAFETY VERIFICATION TESTS.

Preliminary:

Unplug the unit to be tested from the mains outlet.

Short all ground terminals from signal inputs, outputs and other external connectors, except the mains plug's ground.

Turn on the unit's main power switch.

Ground continuity test:

Connect the tester's probes between the mains ground contact and the unit's backside main ground test point. When applying a 10A current, verify that the ground impedance is lower than 0.1Ω.

Electrical insulation test:

Connect the electrical insulation tester probes between the mains outlet ground contact and both shorted mains input poles. Adjust the tester's current limit down to 10mA. Apply 1500Vac during 5 seconds.

The unit's insulation should be able to resist this voltage, without generating spurious sparks or a sparkover effect, and the tester may not detect any disfunction.

CAUTION: Do not disconnect nor touch the test probes until the test has finished completely!

VERIFICATION USING MUSIC

Note: As this is a four-channel amplifier, with a versatile input signal selection system which enhances its connectivity options, the previous procedures have checked that the input circuitry selection options are functioning correctly when running with input signals.

1. Release all of the input circuitry selector switches. ↑
2. Verify the outputs 1 and 2's STACK function by testing their jack-type output connections.
3. Verify individually each of the inputs and their outputs.
4. Turn the amplifier off and on again with the main power switch.
5. Even when signal is applied onto the tested channel's input, while the unit is passing its STANDBY run-up time, the speaker should remain quiet.
6. Verify the sweep of all potentiometers, which should turn easily and smoothly, without producing noise or scratches.
7. Verify the sound quality (do not allow any kind of scratch or distortion)
8. Check the unit's low pass filters on channels 1 and 2. f_c=160Hz.
9. Check the unit's high pass filters on channels 3 and 4. f_c=160Hz.
10. To ensure that all electrical junctions are well-fixed, hit the tested unit softly against your working table.
11. Short the output terminals while carrying amplified signal, and verify that once the short-circuit is removed, the unit recovers normal functioning.
12. Without input signal, and with the potentiometers turned all down first, and also turning them up to maximum level, verify that the unit's output signal is free of hum and noise when listening the output signal through loudspeakers.

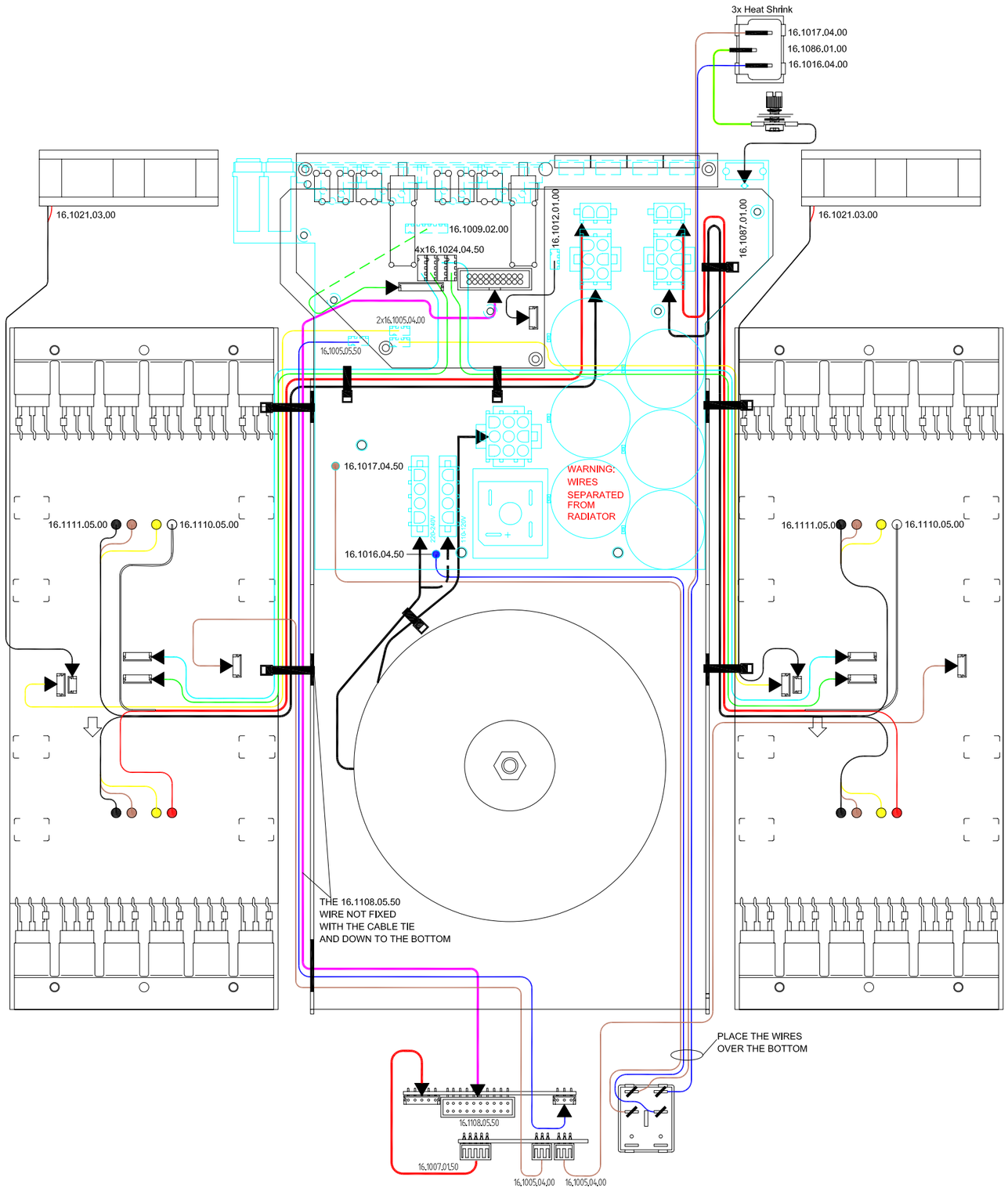
QUALITY CONTROL

All mechanical parts should be visually revised, in order to detect scratches on the unit's painting; all screws should be on their place, correctly tight and unmarked. Check out the unit's general presentation.

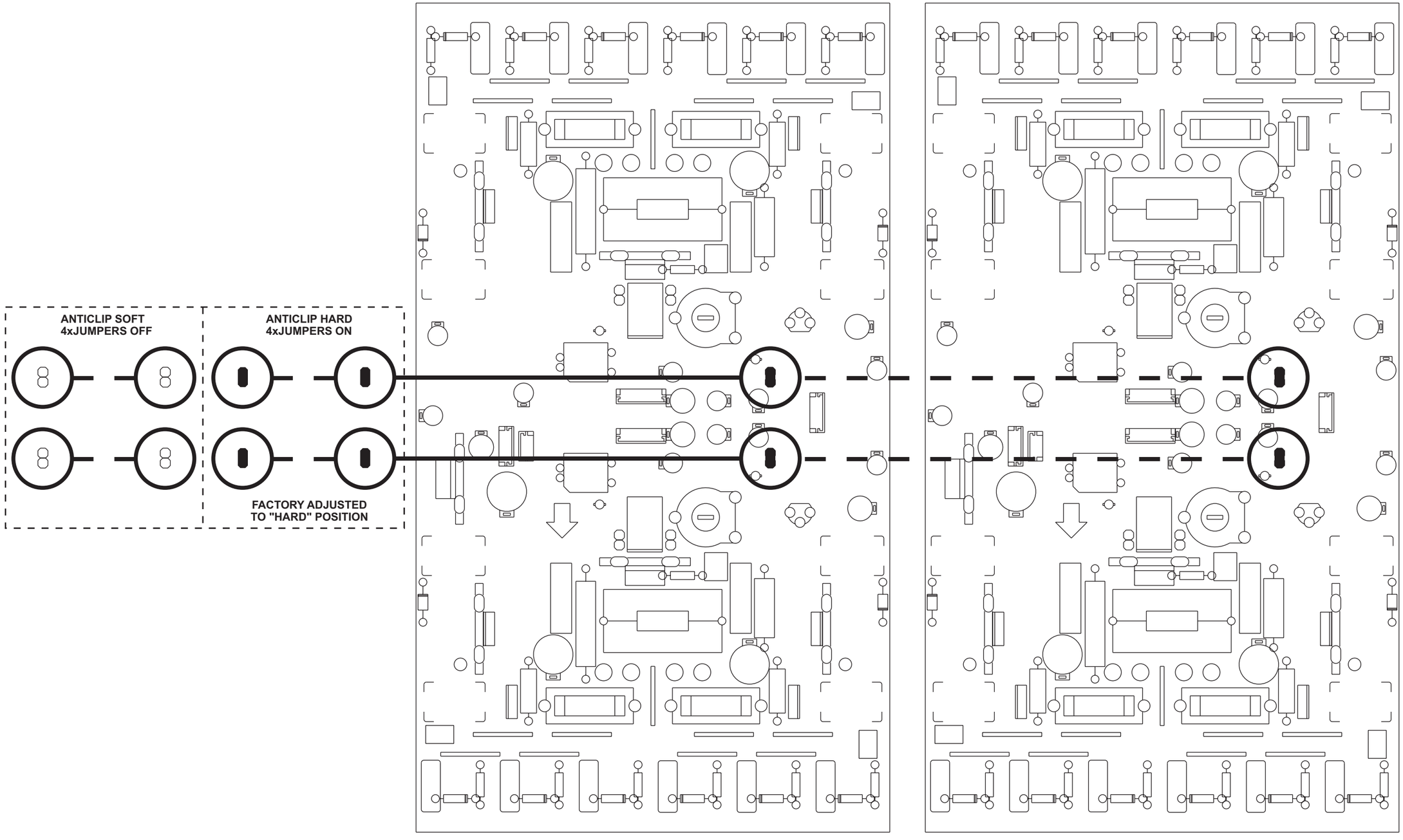
POWER 20-20kHz 1% THD

1 Channel @ 4Ω	410 WRMS
1 Channel @ 8Ω	230 WRMS
All Channels @ 4Ω	305 WRMS
All Channels @ 8Ω	200 WRMS
1 Bridged channel @ 8Ω (all channels driven)	610 WRMS
Frequency response (-1dB)	7Hz - 50kHz
Filter (Hi-Lo) 3rd order Butterworth	160Hz
* THD+Noise @ 1kHz Full Pwr.	<0.05%
* Intermodulation distortion 50Hz & 7kHz, 4:1	<0.08%
* TIM 100	<0.03%
* S+N/N 20Hz -20kHz @ 1W/4Ω	>85dB
Damping factor 1kHz @ 8Ω	>300
Slew Rate	±50V/µs
* Channel crosstalk @ 1kHz	>70dB
Input Sensitivity / Impedance	0dBV/>20kΩ
Anticlip	1 & 5% THD
Mains Voltage	See characteristics in the back of the unit.
Power consumption (max. Out)	2500VA
Dimensions	482.6x88x426mm
Weight	20.5kg

* VCA OFF



ECLEREE	drawn: J. Colomines	date: 070323	project: EP08-06	product: MPA4-400R
number: 31.0224 version 01.01	approved:	title: WIRING DIAGRAM		



ECLEREE

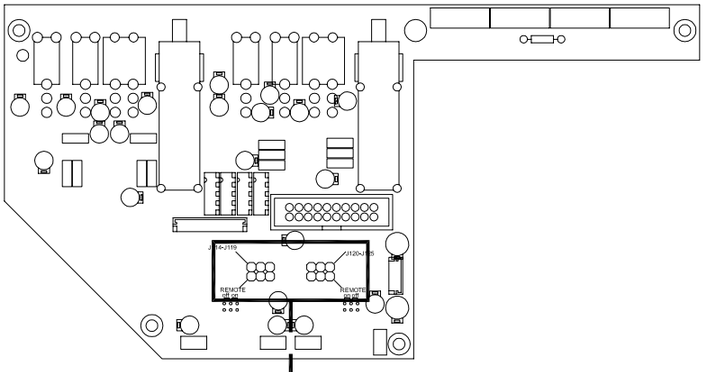
drawn: J. Colomines | date: 060918 | project: EP08-06 | product: MPA4-400R

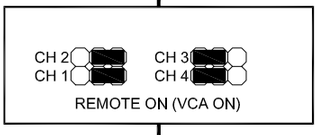
approved:

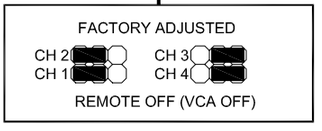
title: ANTICLIP CONFIGURATION DIAGRAM

number: 31.0225 | version: 01.00

REMOTE CONTROL

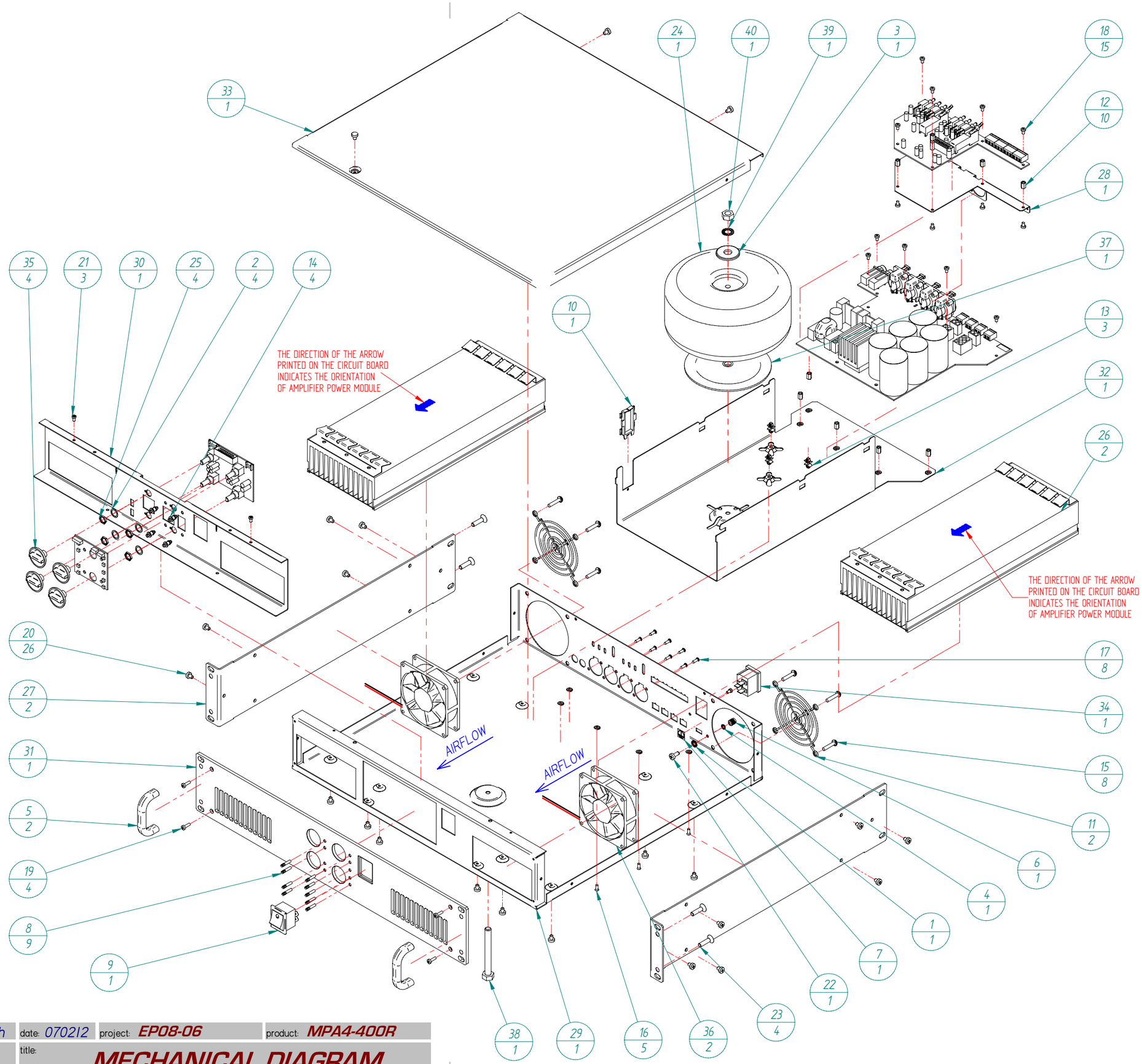






ECLER	drawn: J. Colomines	date: 060927	project: EP08-06	product: MPA4-400R
number: 31.0226 version 01.00	approved:	title: CONFIGURATION DIAGRAM		

N°	Qty.	Code	Description
1	1	FCARDE040000	TOOTHED WASHER M4
2	4	FCARDEPOTE00	ROTARY POT. WASHER M9
3	1	FCARM1050000	WASHER 10,5X30X2,5M
4	1	FCARS4000000	SEGMENTED WASHER M4
5	2	FCASAPWM1000	FRONTAL HANDLE
6	1	FCBOR0030000	GROUND TERMINAL
7	1	FCETIZTT0000	EARTH TAG
8	9	FCGUIAL10000	LIGHT PIPE GUIDE VERTICAL
9	1	FCINTRED3000	MAINS SWITCH W/LIGHT
10	1	FCPASC010000	LONG EDGE WIRE SADDLE
11	2	FCREJ0800000	FAN GRILLE 80x80
12	10	FCSEP3080000	SPACER M3x8
13	3	FCSEPWLS0600	PLASTIC SPACER 6MM
14	4	FCSOPMSP4000	PLASTIC SPACER MSP-4N
15	8	FCT060512000	SCREW 5,1x20
16	5	FCT200300800	SCREW DIN965 M3x8 BLACK
17	8	FCT400290900	SCREW 2,9x9,5 D7981F BLACK
18	15	FCT803005000	SCREW DIN 7985 M3x5 COMBI
19	4	FCT803010000	SCREW DIN7985 M3x10 SPANLO
20	26	FCT804006000	SCREW M4x6 SPANLO BLACK
21	3	FCT850300500	SCREW M3x5 REDUCED HEAD
22	1	FCT850411000	SCREW M4x10 TRILOB. WHITE
23	4	FCTALL516000	SCREW DIN7991 M5x16 ALLEN
24	1	FCTFTMPA8500	TOROIDAL TRANSFORMER
25	4	FCTUPOT00000	ROTARY POT. NUT M9
26	2	FMMOMPA4400	POWER AMP MODULE
27	2	FP0282500000	LEFT/RIGHT SIDE
28	1	FP0295900000	INPUT BOARD MEC. SUPPORT ANGLE
29	1	FP0296500000	BASE CHASSIS
30	1	FP0296600000	FRONTAL MECHANICAL SUPPORT
31	1	FP0296700000	FRONT PANEL
32	1	FP0296800000	TRANSFORMER MECHANICAL SUPPORT
33	1	FP0298600000	TOP COVER
34	1	FRBASRE10100	MAINS SOCKET CABLE=400
35	4	FRBOTRD24100	ROTARY KNOB D24 ROTATED INDEX
36	2	FRVEN080B000	FAN 80x80 12VDC CABLE=300
37	1	GENERIC	TRANSFORMER RUBBER DISC
38	1	GENERIC	SCREW M8 TRANSFORMER
39	1	GENERIC	TOOTHED WASHER M8
40	1	GENERIC	TRANSFORMER NUT M8



ECLER

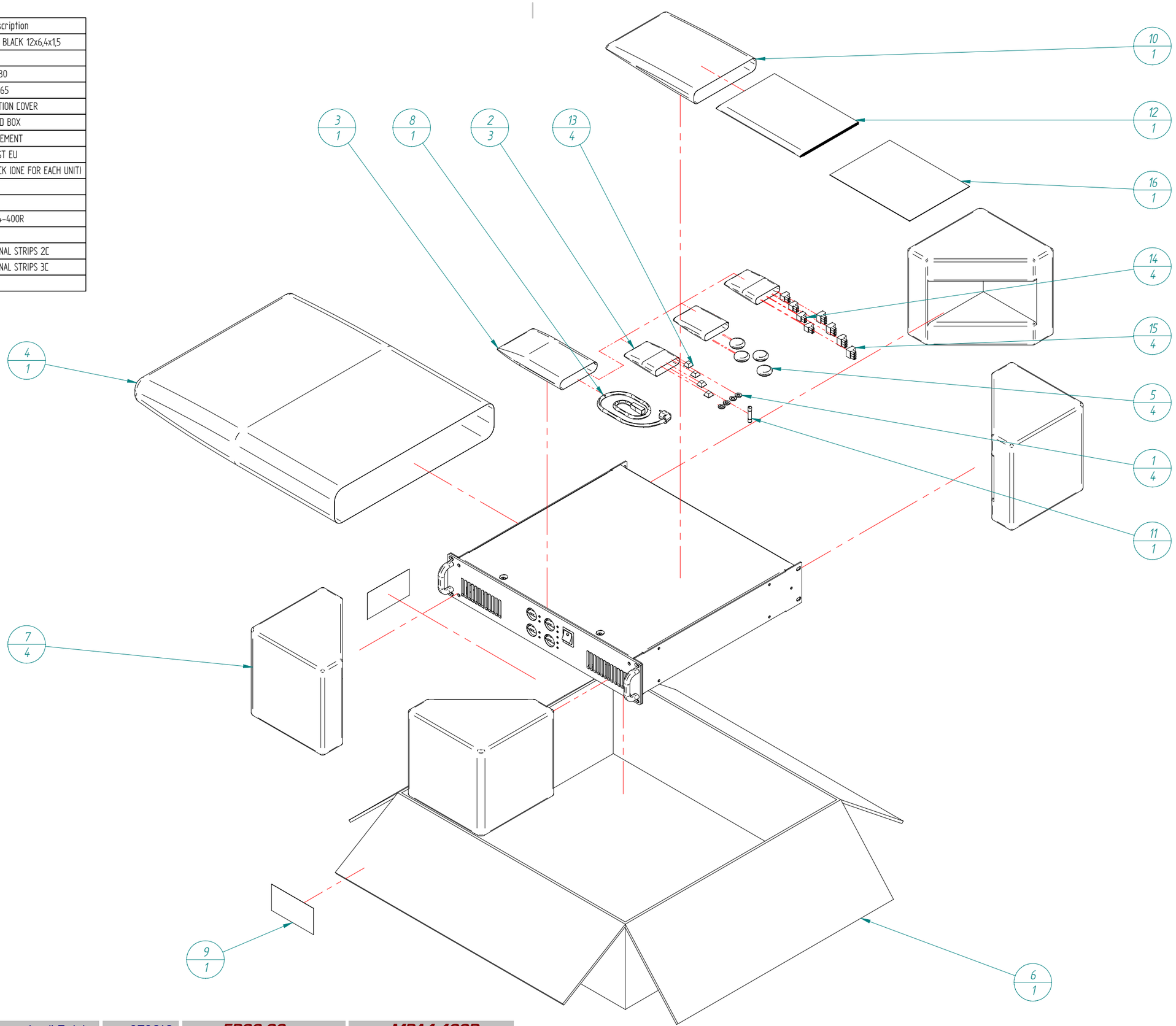
drawn: Jordi Folch | date: 070212 | project: EP08-06 | product: MPA4-400R

approved:

title: **MECHANICAL DIAGRAM**

number: 30.0229 | version 01.01

N°	Qty.	Code	Description
1	4	FCARANY06000	WASHER M6 NYLON BLACK 12x6,4x1,5
2	3	FCBOL0010000	BAG 60x80
3	1	FCBOL0020000	PLASTIC BAG 120x180
4	1	FCBOLS020000	STANDARD BAG 75x65
5	4	FCBOTD240100	ROT. KNOB PROTECTION COVER
6	1	FCCAJSTA1900	PACKING CARDBOARD BOX
7	4	FCCANT116000	INTERIOR REINFORCEMENT
8	1	FCCONX017600	MAINS CORD 3x1,5 ST EU
9	1	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
10	1	FCFUNMAN0000	USER MANUAL BAG
11	1	FCFUS8040000	FUSE 16A 10x38
12	1	FCMANMPA440R	USER MANUAL MPA4-400R
13	4	FCPIE1125500	RUBBER FOOT
14	4	FCREG1006000	CONNECTING TERMINAL STRIPS 2C
15	4	FCREG1007000	CONNECTING TERMINAL STRIPS 3C
16	1	FCTARJG00000	WARRANTY CARD



ECLER

drawn: Jordi Folch | date: 070212 | project: EP08-06 | product: MPA4-400R

approved: | title: **PACKING DIAGRAM**

number: 32.0147 | version 01.01