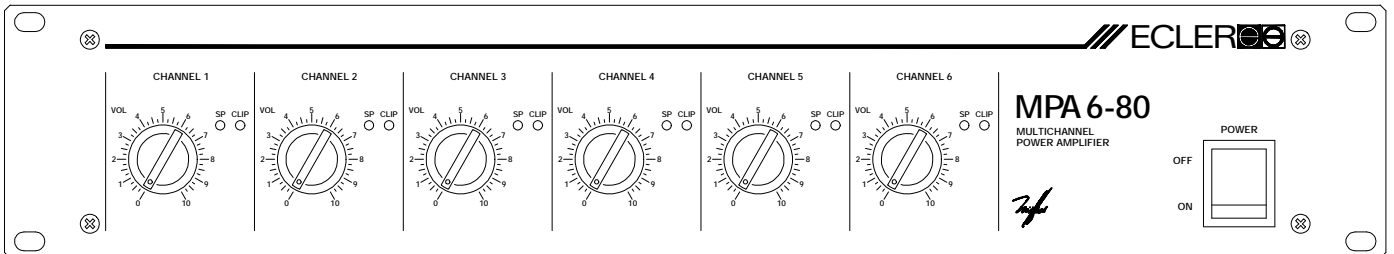
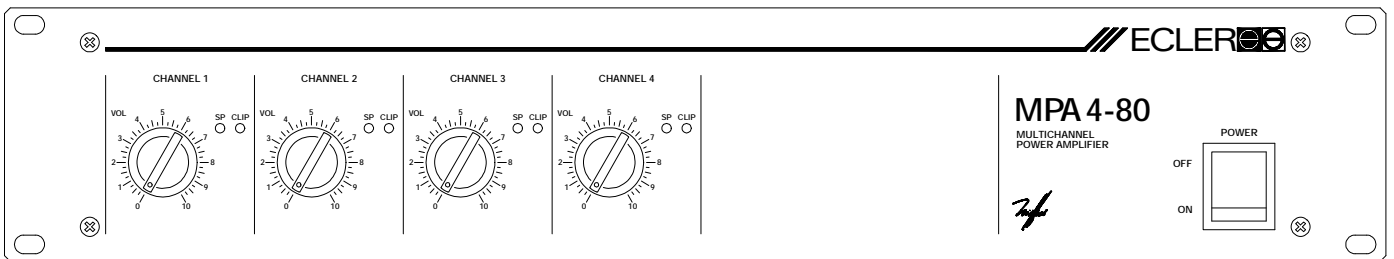


MPA4-80 MPA6-80

SERVICE MANUAL



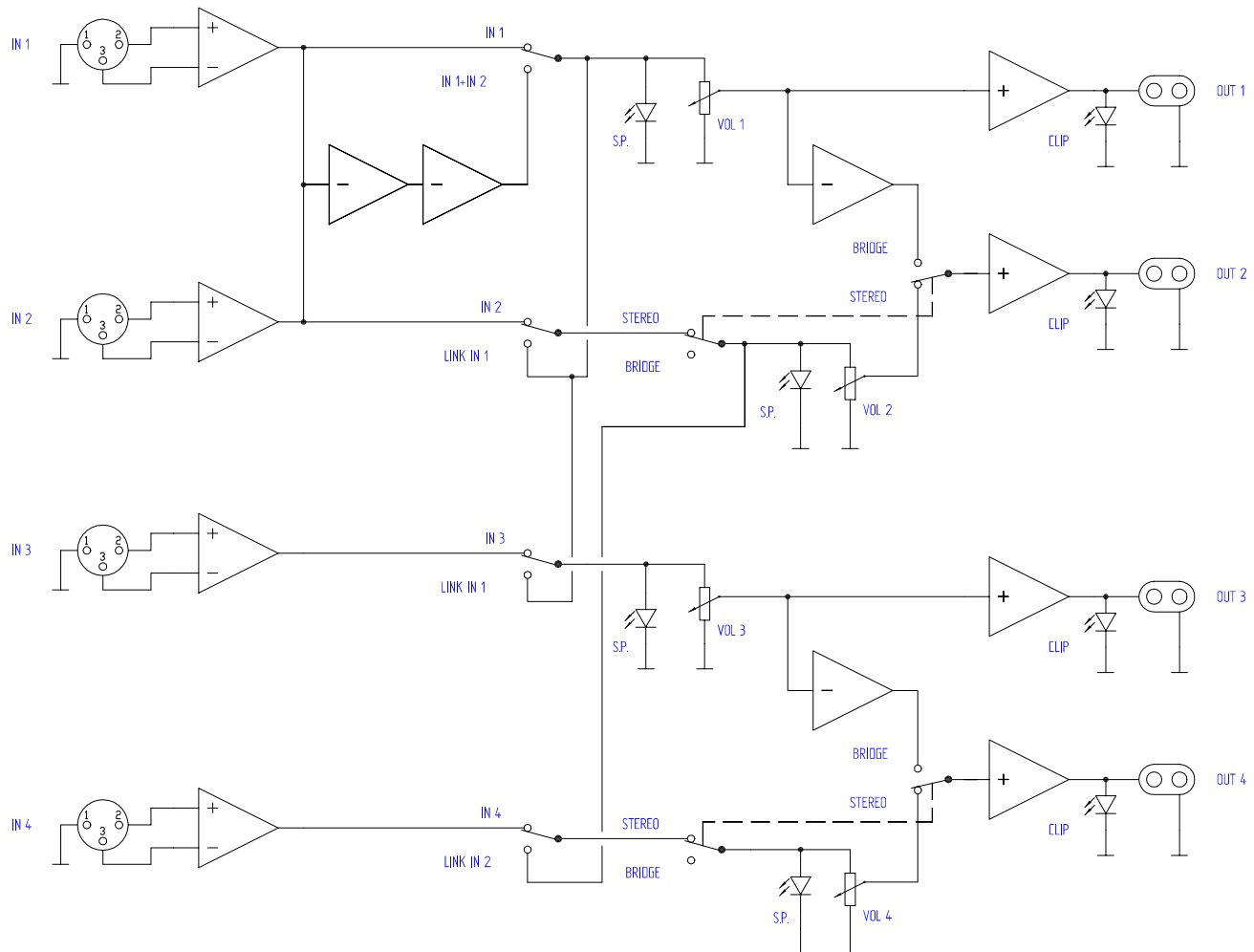
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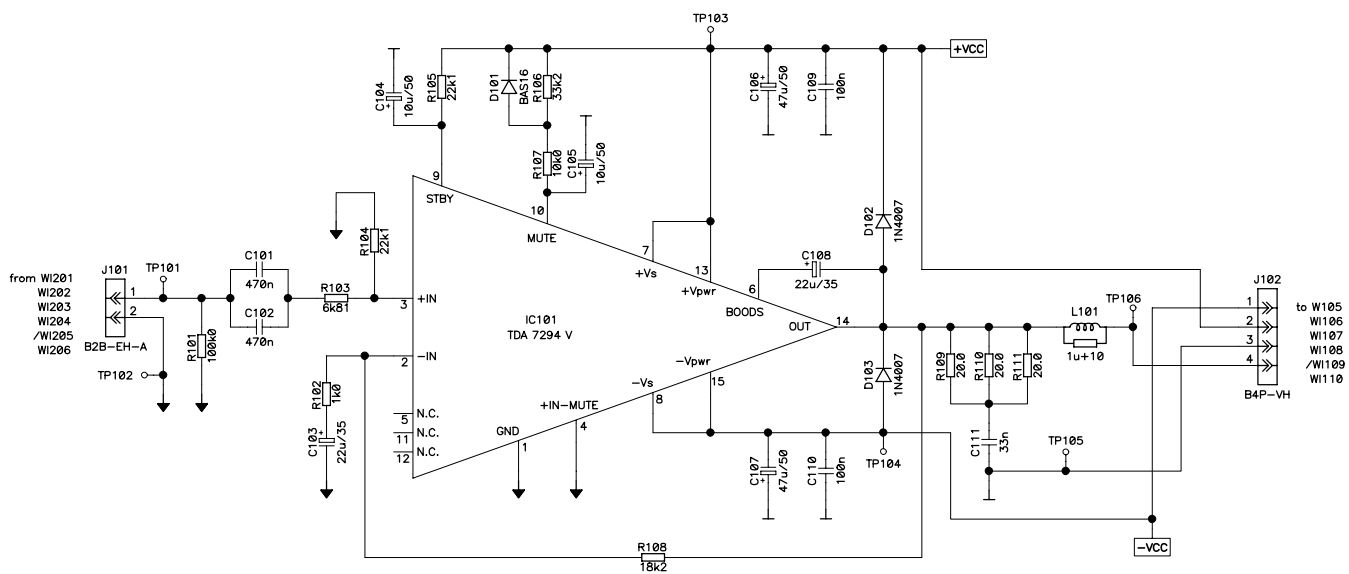
AUDIO CREATIVE POWER

SERVICE MANUAL MPA4-80 / MPA6-80

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- PACKING DIAGRAM





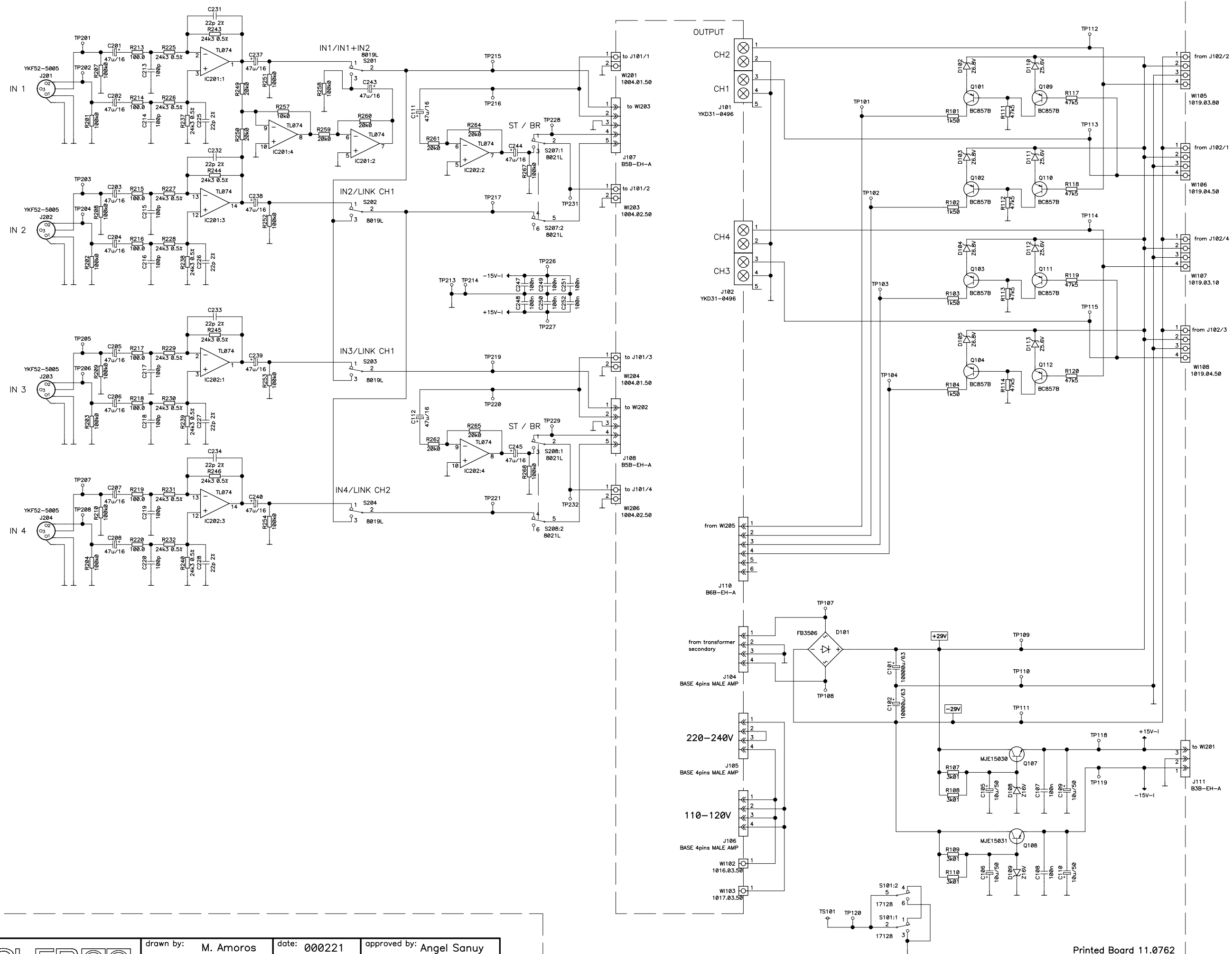
11.0761-01.02

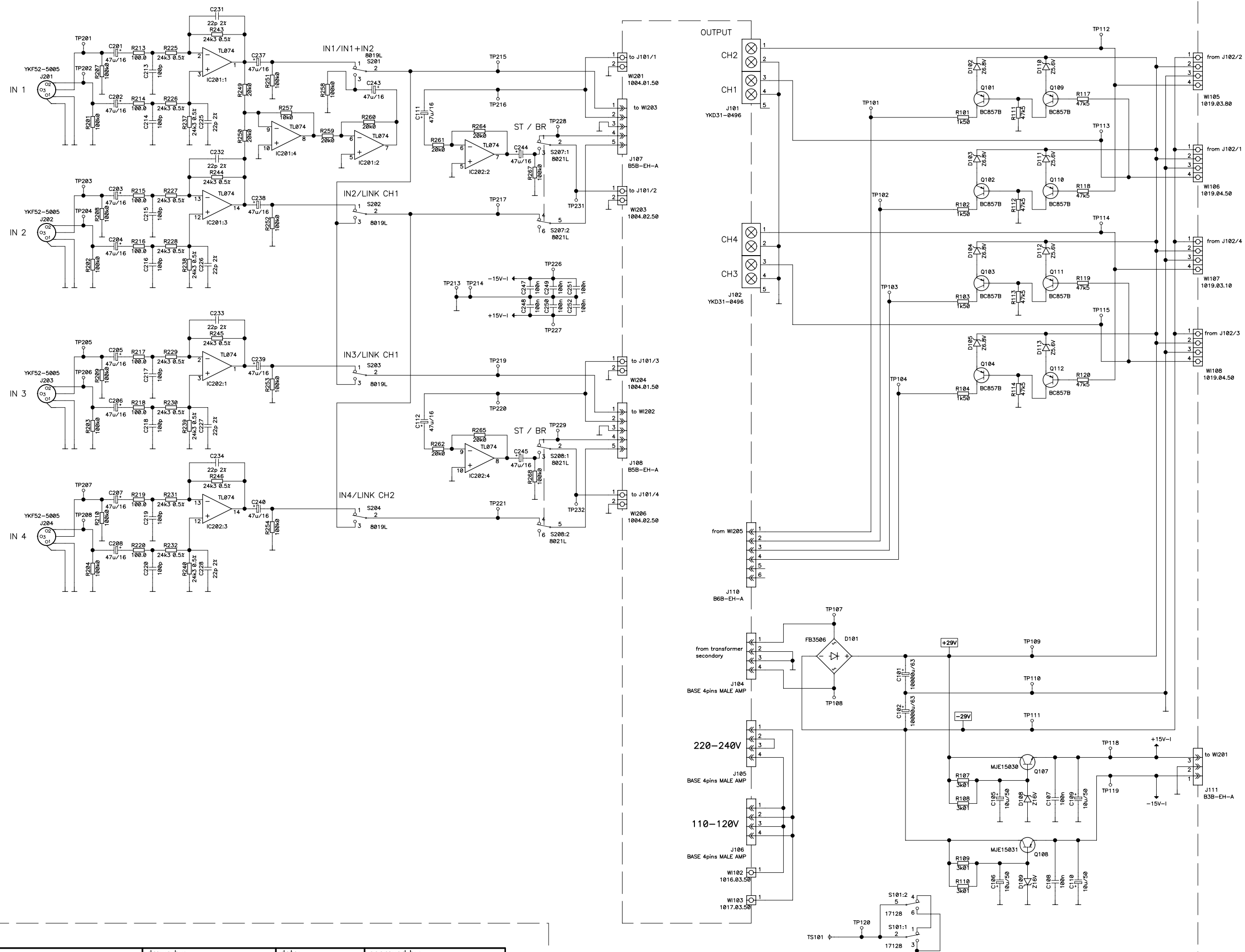


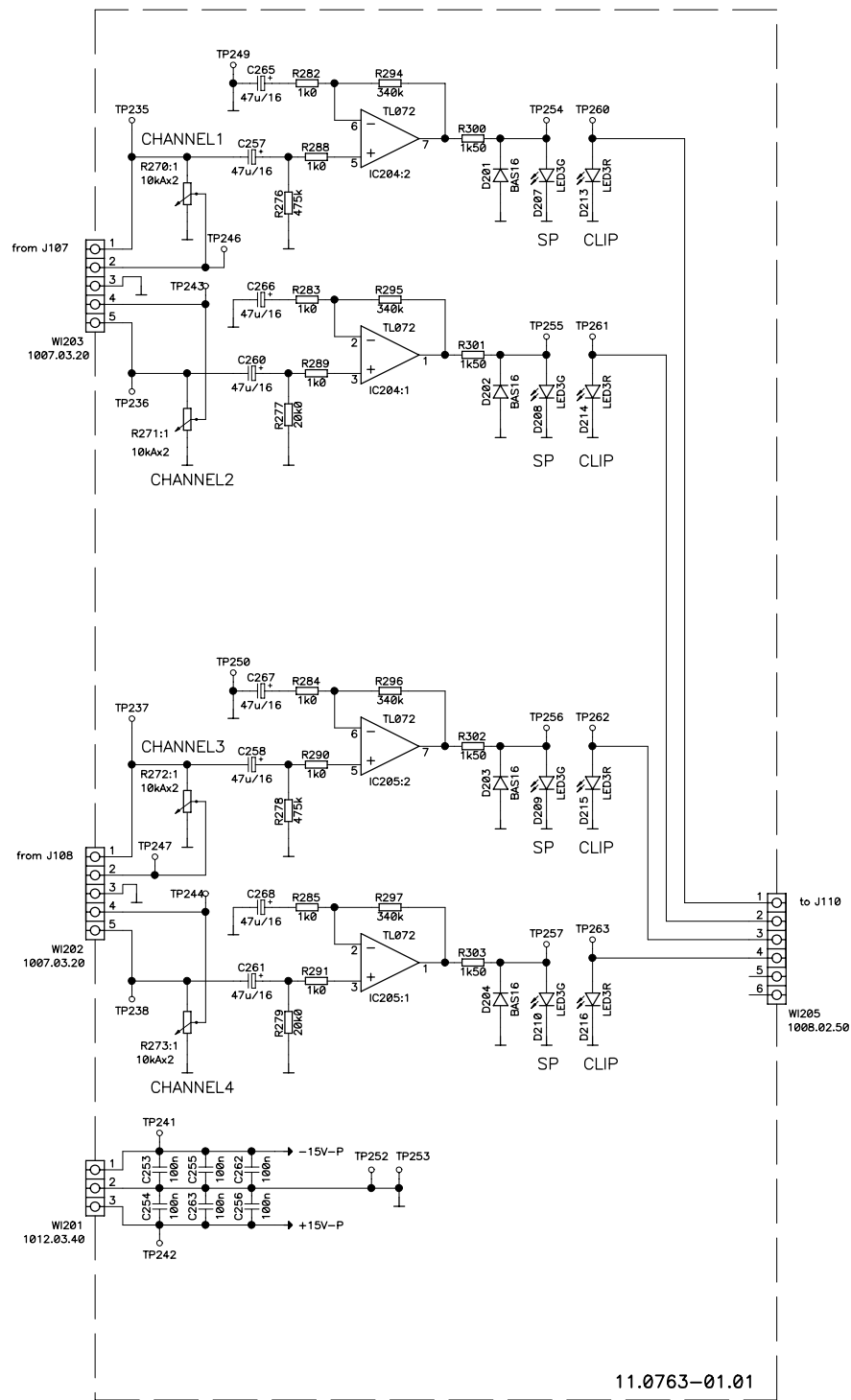
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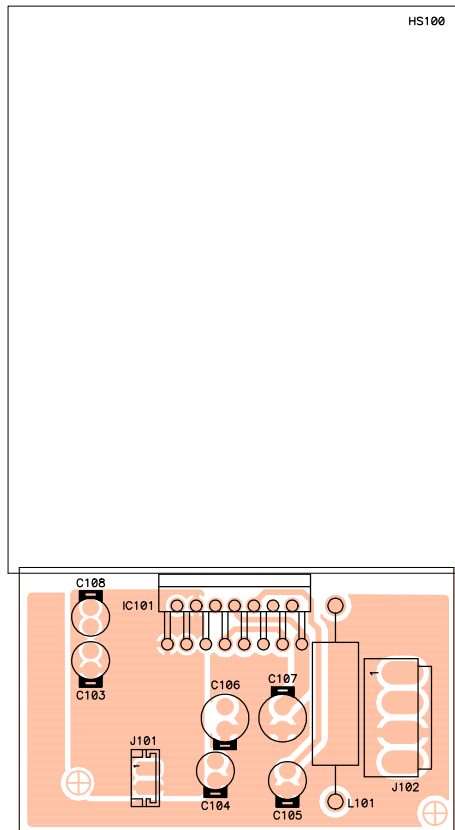
drawn by: M. Amoros date: 000221 approved by: Angel Sanuy


title: EP01-99 Power Amp.

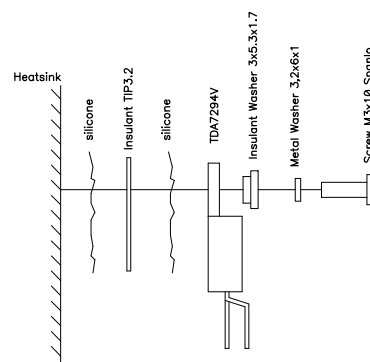
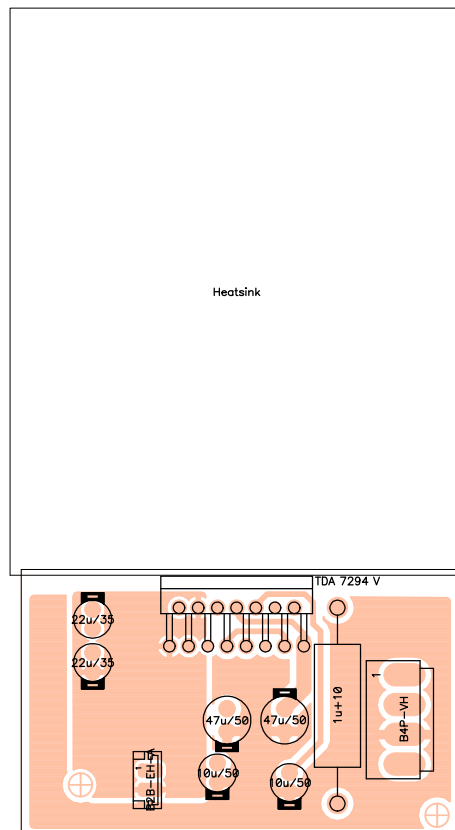







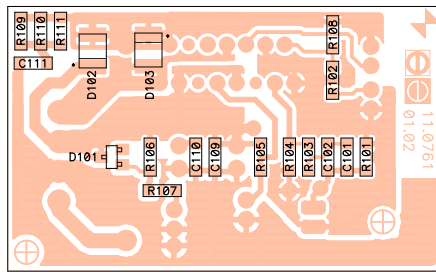



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	drawn by: M. Amoros	date: 000209	view: Reference
number: 33.0377	version: 01.02	approved by: Angel Sanuy	
		title: EP01-99 Power Amp.	

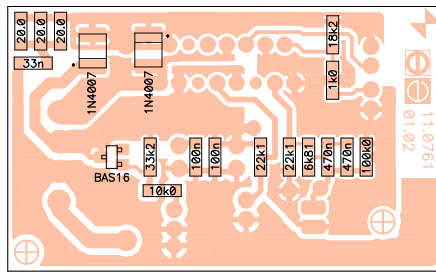



NOTE: Insert TDA7294V completely and perpendicular to print board

 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0761-01.02 schema no: 10.0482-01.02 insertion file no: 81.0006-01.01	side: Component
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number: 33.0378	version: 01.02	approved by: Angel Sanuy	
		title: EP01-99 Power Amp.	



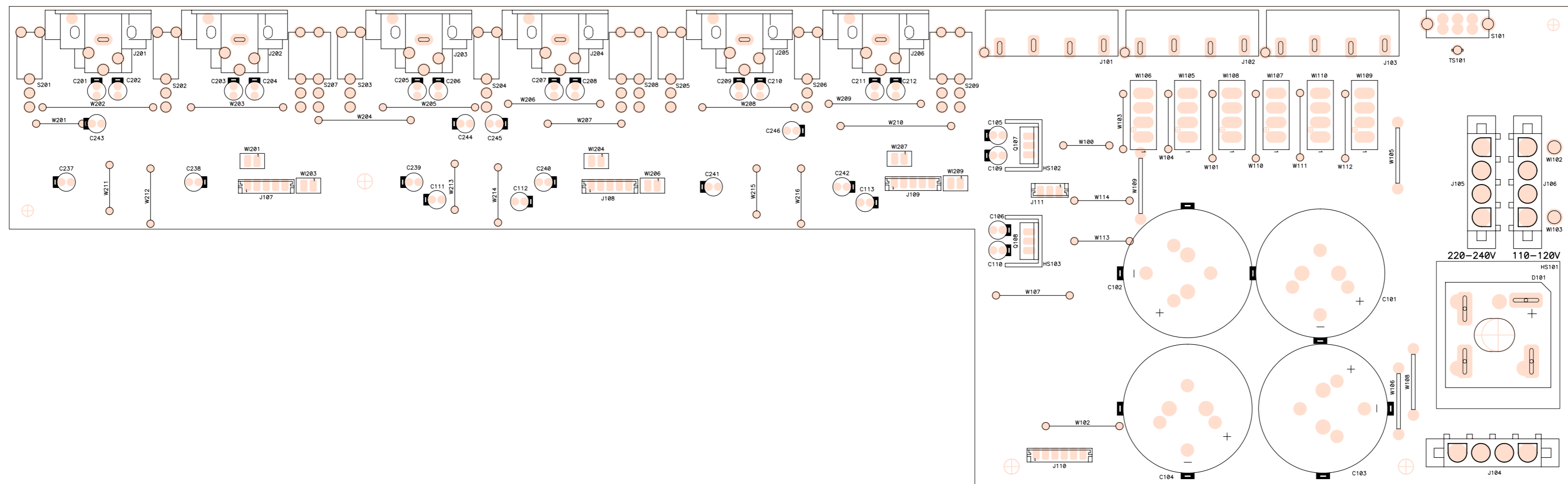
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	drawn by: M. Amoros	date: 000209	view: Reference
number: 33.0379	version: 01.02	approved by: Angel Sanuy	
		title: EP01-99 Power Amp.	



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0761-01.02 schema no: 10.0482-01.02 insertion file no: 81.0006-01.01	side: Solder
	drawn by: M. Amoros	date: 000209	view: Value
number: 33.0380	version: 01.02	approved by: Angel Sanuy	
		title: EP01-99 Power Amp.	

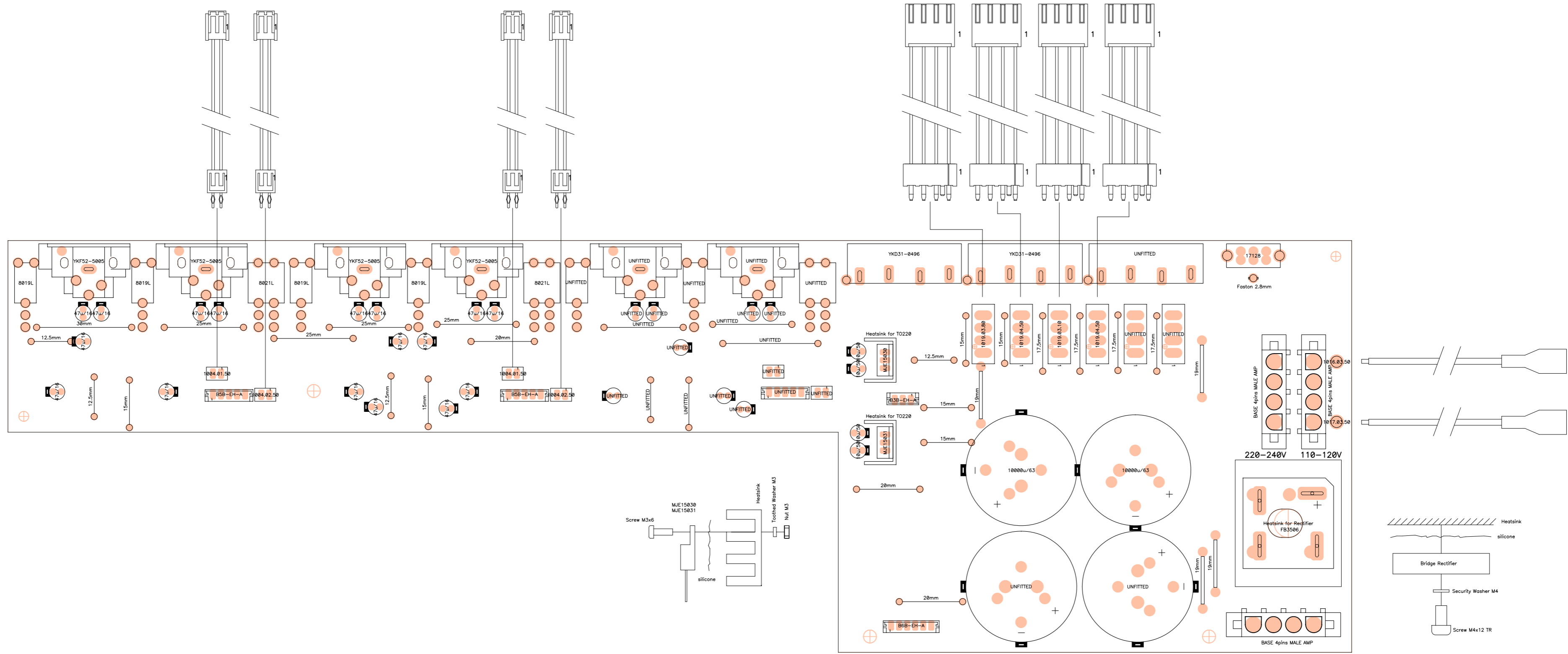
PRINTED CIRCUIT 11.0761-01.02

REFERENCE	VALUE	CODE
C101	470n	FCXCN44700
C102	470n	FCXCN44700
C103	22u/35	FCCE200220
C104	10u/50	FCCE250100
C105	10u/50	FCCE250100
C106	47u/50	FCCE250470
C107	47u/50	FCCE250470
C108	22u/35	FCCE200220
C109	100n	FCXCN41000
C110	100n	FCXCN41000
C111	33n	FCXCN40330
CI101	11.0761-01.02	FCCIMPA761
D101	BAS16	FCXDDBAS16
D102	1N4007	FCXDD40070
D103	1N4007	FCXDD40070
HS100	Heatsink	FCRAD01000
IC101	TDA 7294 V	FCIC729400
IN100	Insulant TIP3.2	FCMICTIP32
J101	B2B-EH-A	FCCTM00020
J102	B4P-VH	FCCTJ10040
L101	1u+10	FCIND00200
R101	100k0	FCXR151000
R102	1k0	FCXR131000
R103	6k81	FCXR136810
R104	22k1	FCXR142210
R105	22k1	FCXR142210
R106	33k2	FCXR143320
R107	10k0	FCXR141000
R108	18k2	FCXR141820
R109	20.0	FCXR112000
R110	20.0	FCXR112000
R111	20.0	FCXR112000
SC100	Screw M3x10 SPA	FCT8030100
WA100	Metal Washer 3.	FCARM32010
WA101	Washer insulant	FCARAT0000



number: 33.0369 version: 01.03

related to:	circuit no: 11.0762-03.00 schema no: 10.0483-01.02 insertion file no:	side: Component view: Reference
drawn by:	M. Amoros date: 040311	approved by: Angel Sanuy
title: EP01-99A Inputs & Power Supply		

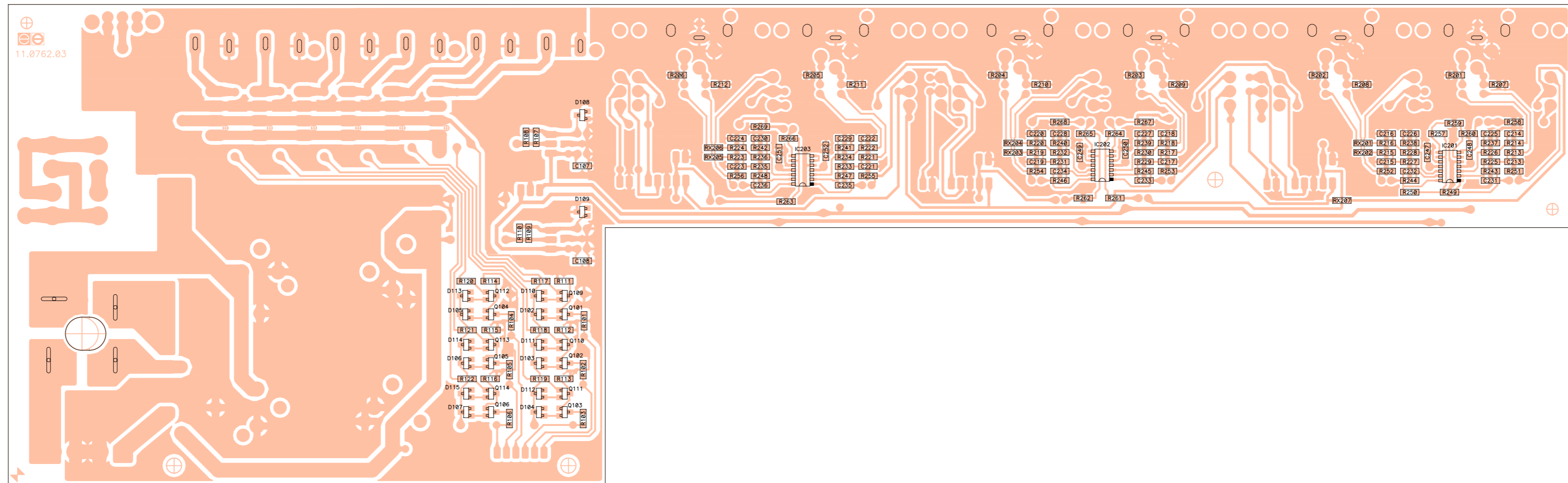


related to: circuit no: 11.0762-03.00
 schema no: 10.0483-01.02
 insertion file no:
 drawn by: M. Amoros date: 040311
 approved by: Angel Sanuy

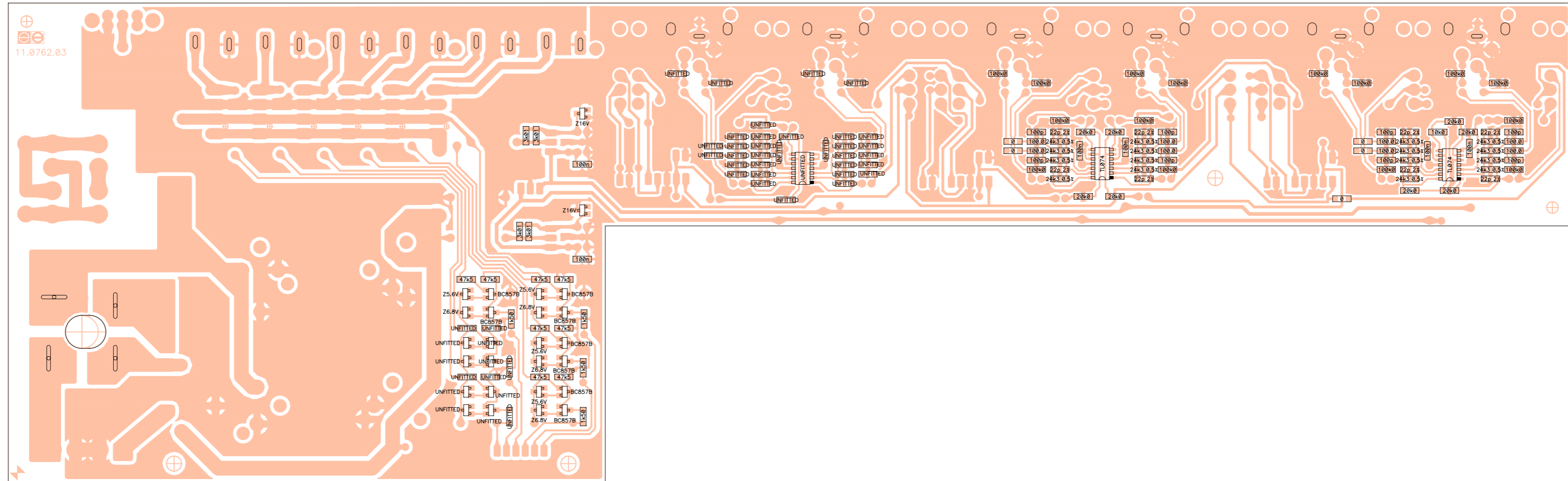
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 view: Value

number: 33.0370 version: 01.04

title: EP01-99A Inputs & Power Supply



related to:	circuit no: 11.0762-03.00 schema no: 10.0483-01.02 insertion file no: 81.0007-01.02	side: Solder view: Reference
drawn by:	M. Amoros	date: 040311
approved by:	Angel Sanuy	
number: 33.0371	version: 01.03	title: EP01-99A Inputs & Power Supply



related to:	circuit no: 11.0762-03.00 schema no: 10.0483-01.02 insertion file no: 81.0007-01.02	side: Solder view: Value
drawn by:	M. Amoros	date: 040311
approved by:	Angel Sanuy	
number: 33.0372	version: 01.03	title: EP01-99A Inputs & Power Supply

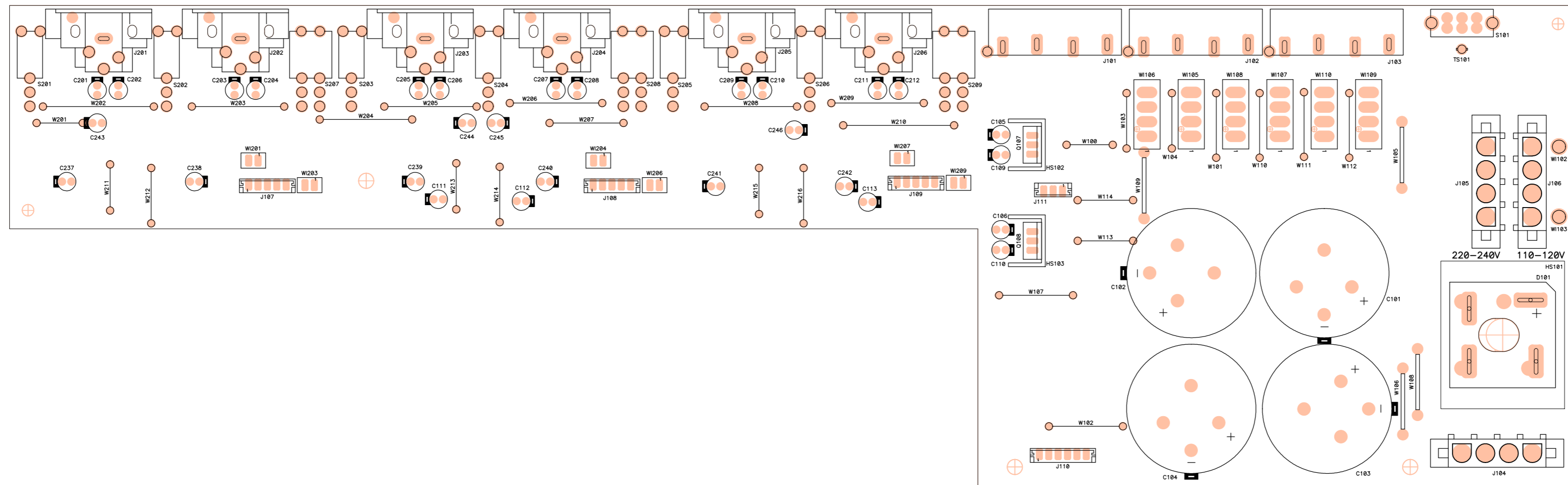
PRINTED CIRCUIT 11.0762.03.00


REFERENCE	VALUE	CODE
C101	10000u/63	FCCE321000
C102	10000u/63	FCCE321000
C105	10u/50	FCCE250100
C106	10u/50	FCCE250100
C107	100n	FCXCN41000
C108	100n	FCXCN41000
C109	10u/50	FCCE250100
C110	10u/50	FCCE250100
C111	47u/16	FCCE100000
C112	47u/16	FCCE100000
C201	47u/16	FCCE100000
C202	47u/16	FCCE100000
C203	47u/16	FCCE100000
C204	47u/16	FCCE100000
C205	47u/16	FCCE100000
C206	47u/16	FCCE100000
C207	47u/16	FCCE100000
C208	47u/16	FCCE100000
C213	100p	FCXCN21000
C214	100p	FCXCN21000
C215	100p	FCXCN21000
C216	100p	FCXCN21000
C217	100p	FCXCN21000
C218	100p	FCXCN21000
C219	100p	FCXCN21000
C220	100p	FCXCN21000
C225	22p 2%	FCXCN12201
C226	22p 2%	FCXCN12201
C227	22p 2%	FCXCN12201
C228	22p 2%	FCXCN12201
C231	22p 2%	FCXCN12201
C232	22p 2%	FCXCN12201
C233	22p 2%	FCXCN12201
C234	22p 2%	FCXCN12201
C237	47u/16	FCCE100000
C238	47u/16	FCCE100000
C239	47u/16	FCCE100000
C240	47u/16	FCCE100000
C243	47u/16	FCCE100000
C244	47u/16	FCCE100000
C245	47u/16	FCCE100000
C247	100n	FCXCN41000
C248	100n	FCXCN41000
C249	100n	FCXCN41000
C250	100n	FCXCN41000
CI101	11.0762-01.01	FCCIMPA762
D101	FB3506	FCREC3506
D102	Z6.8V	FCXZ000068
D103	Z6.8V	FCXZ000068
D104	Z6.8V	FCXZ000068
D105	Z6.8V	FCXZ000068

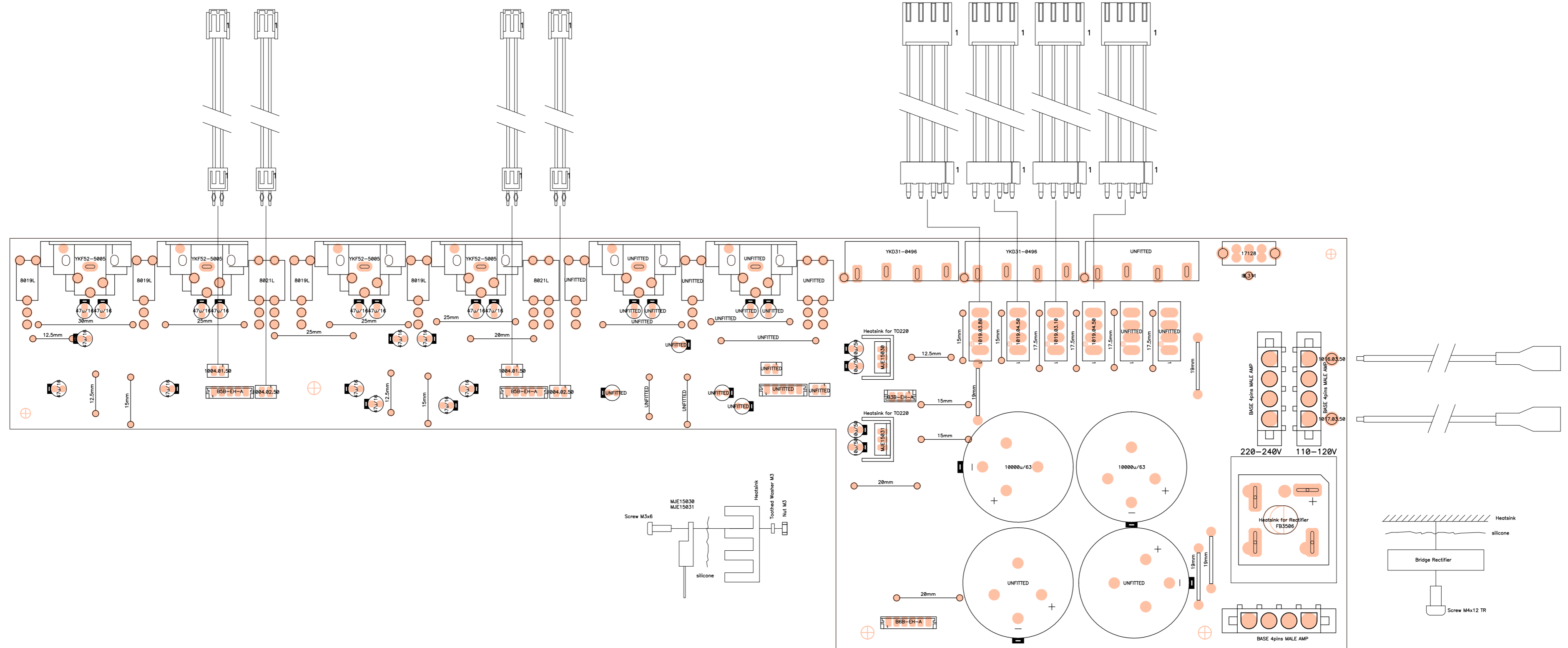
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D108	Z16V	FCXZ000160
D109	Z16V	FCXZ000160
D110	Z5.6V	FCXZ000056
D111	Z5.6V	FCXZ000056
D112	Z5.6V	FCXZ000056
D113	Z5.6V	FCXZ000056
HS101	Heatsink for Re	FCRAD11515
HS102	Heatsink for TO	FCRAD29060
HS103	Heatsink for TO	FCRAD29060
IC201	TL074	FCIC074010
IC202	TL074	FCIC074010
J101	YKD31-0496	FCCTJAL100
J102	YKD31-0496	FCCTJAL100
J104	BASE 4pins MALE	FCCTAMP040
J105	BASE 4pins MALE	FCCTAMP040
J106	BASE 4pins MALE	FCCTAMP040
J107	B5B-EH-A	FCCTM00050
J108	B5B-EH-A	FCCTM00050
J110	B6B-EH-A	FCCTM00060
J111	B3B-EH-A	FCCTM00030
J201	YKF52-5005	FCBASX0900
J202	YKF52-5005	FCBASX0900
J203	YKF52-5005	FCBASX0900
J204	YKF52-5005	FCBASX0900
NV100	M3	FCTUE00300
NV101	M3	FCTUE00300
Q101	BC857B	FCXTT08570
Q102	BC857B	FCXTT08570
Q103	BC857B	FCXTT08570
Q104	BC857B	FCXTT08570
Q107	MJE15030	FCTR150300
Q108	MJE15031	FCTR150310
Q109	BC857B	FCXTT08570
Q110	BC857B	FCXTT08570
Q111	BC857B	FCXTT08570
Q112	BC857B	FCXTT08570
R101	1k50	FCXR131500
R102	1k50	FCXR131500
R103	1k50	FCXR131500
R104	1k50	FCXR131500
R107	3k01	FCXR133010
R108	3k01	FCXR133010
R109	3k01	FCXR133010
R110	3k01	FCXR133010
R111	47k5	FCXR144750
R112	47k5	FCXR144750
R113	47k5	FCXR144750
R114	47k5	FCXR144750
R117	47k5	FCXR144750
R118	47k5	FCXR144750
R119	47k5	FCXR144750
R120	47k5	FCXR144750
R201	100k0	FCXR151000
R202	100k0	FCXR151000
R203	100k0	FCXR151000
R204	100k0	FCXR151000
R207	100k0	FCXR151000


REFERENCE	VALUE	CODE
R208	100k0	FCXR151000
R209	100k0	FCXR151000
R210	100k0	FCXR151000
R213	100.0Ω	FCXR121000
R214	100.0Ω	FCXR121000
R215	100.0Ω	FCXR121000
R216	100.0Ω	FCXR121000
R217	100.0Ω	FCXR121000
R218	100.0Ω	FCXR121000
R219	100.0Ω	FCXR121000
R220	100.0Ω	FCXR121000
R225	24k3 0.5%	FCXR242430
R226	24k3 0.5%	FCXR242430
R227	24k3 0.5%	FCXR242430
R228	24k3 0.5%	FCXR242430
R229	24k3 0.5%	FCXR242430
R230	24k3 0.5%	FCXR242430
R231	24k3 0.5%	FCXR242430
R232	24k3 0.5%	FCXR242430
R237	24k3 0.5%	FCXR242430
R238	24k3 0.5%	FCXR242430
R239	24k3 0.5%	FCXR242430
R240	24k3 0.5%	FCXR242430
R243	24k3 0.5%	FCXR242430
R244	24k3 0.5%	FCXR242430
R245	24k3 0.5%	FCXR242430
R246	24k3 0.5%	FCXR242430
R249	20k0	FCXR142000
R250	20k0	FCXR142000
R251	100k0	FCXR151000
R252	100k0	FCXR151000
R253	100k0	FCXR151000
R254	100k0	FCXR151000
R257	10k0	FCXR141000
R258	100k0	FCXR151000
R259	20k0	FCXR142000
R260	20k0	FCXR142000
R261	20k0	FCXR142000
R262	20k0	FCXR142000
R264	20k0	FCXR142000
R265	20k0	FCXR142000
R267	100k0	FCXR151000
R268	100k0	FCXR151000
RX201	0Ω	FCXR000000
RX202	0Ω	FCXR000000
RX203	0Ω	FCXR000000
RX204	0Ω	FCXR000000
RX207	0Ω	FCXR000000
S101	17128	FCINTD4000
S201	8019L	FCINTAP130
S202	8019L	FCINTAP130
S203	8019L	FCINTAP130
S204	8019L	FCINTAP130
S207	8021L	FCINTAP140
S208	8021L	FCINTAP140
SC100	M3x6	FCT7503006
SC101	M3x6	FCT7503006

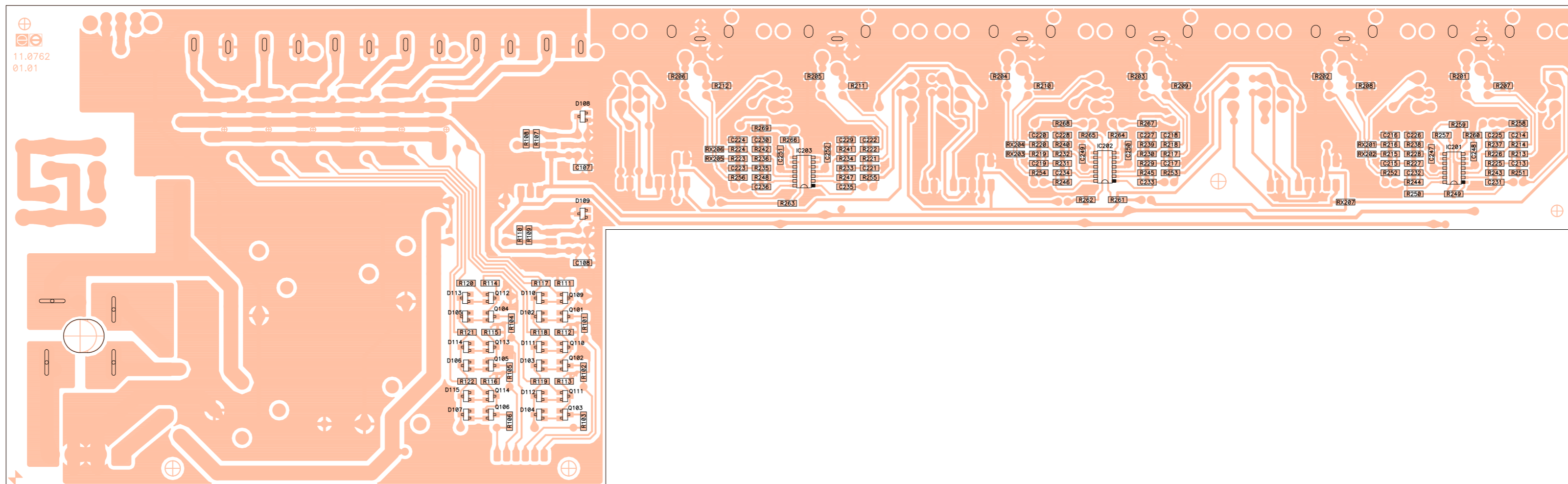
REFERENCE	VALUE	CODE
SC102	M4x15	FCT7004015
SP100	ADE p/M3	FCARDE0300
SP101	ADE p/M3	FCARDE0300
TS101	T-120	FCTERMF280
W100	12.5mm	FCPONT0125
W101	17.5mm	FCPONT0175
W102	20mm	FCPONT0200
W103	15mm	FCPONT0150
W104	15mm	FCPONT0150
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	20mm	FCPONT0200
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	17.5mm	FCPONT0175
W111	17.5mm	FCPONT0175
W112	17.5mm	FCPONT0175
W113	15mm	FCPONT0150
W114	15mm	FCPONT0150
W201	12.5mm	FCPONT0125
W202	30mm	FCPONT0300
W203	25mm	FCPONT0250
W204	25mm	FCPONT0250
W205	25mm	FCPONT0250
W206	25mm	FCPONT0250
W207	20mm	FCPONT0200
W211	12.5mm	FCPONT0125
W212	15mm	FCPONT0150
W213	12.5mm	FCPONT0125
W214	15mm	FCPONT0150
WI102	1016.03.50	FC2F016350
WI103	1017.03.50	FC2F017350
WI105	1019.04.50	FC0E019450
WI106	1019.03.80	FC0E019380
WI107	1019.04.50	FC0E019450
WI108	1019.03.10	FC0E019310
WI201	1004.01.50	FC4G004150
WI203	1004.02.50	FC4G004250
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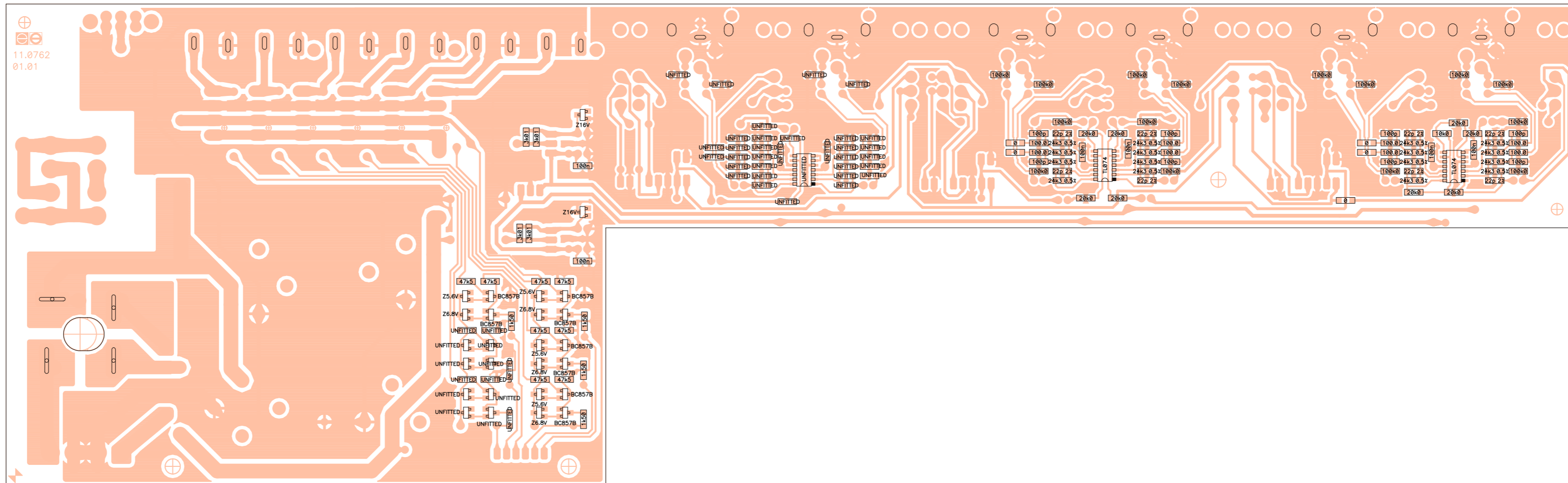
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	drawn by: M. Amoros	date: 000208	approved by: Angel Sanuy
number: 33.0369	version: 01.02	title: EP01-99A Inputs & Power Supply	



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0762-01.01	side: Component
	insertion file no: 10.0483-01.02	view: Value
number: 33.0370	version: 01.03	approved by: Angel Sanuy
title: EP01-99A Inputs & Power Supply		



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0762-01.01 schema no: 10.0483-01.02 insertion file no: 81.0007-01.02	side: Solder
	drawn by: M. Amoros	date: 000208	view: Reference
number: 33.0371	version: 01.02	title: EP01-99A Inputs & Power Supply	
approved by: Angel Sanuy			



related to:	circuit no: 11.0762-01.01 schema no: 10.0483-01.02 insertion file no: 81.0007-01.02	side: Solder
drawn by:	M. Amoros	view: Value
date:	000208	approved by: Angel Sanuy

number: 33.0372	version: 01.02
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title:	EP01-99A Inputs & Power Supply
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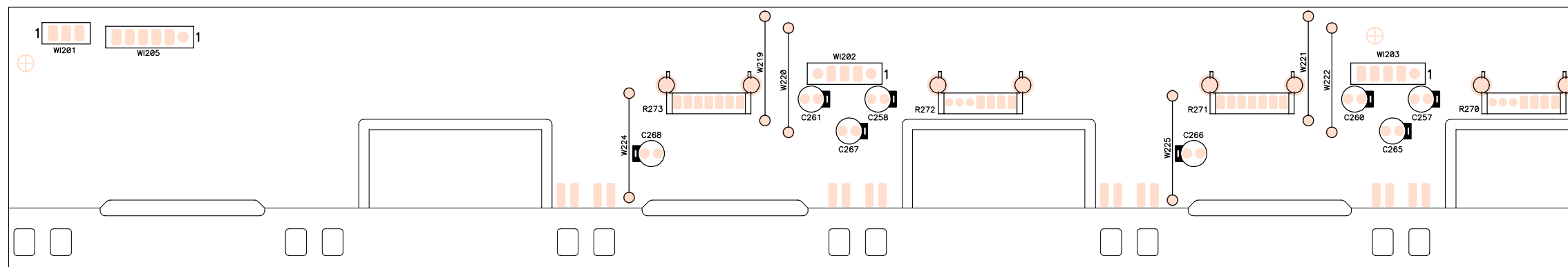
PRINTED CIRCUIT 11.0762-01.01


REFERENCE	VALUE	CODE
C101	10000u/63	FCCE321000
C102	10000u/63	FCCE321000
C105	10u/50	FCCE250100
C106	10u/50	FCCE250100
C107	100n	FCXCN41000
C108	100n	FCXCN41000
C109	10u/50	FCCE250100
C110	10u/50	FCCE250100
C111	47u/16	FCCE100000
C112	47u/16	FCCE100000
C201	47u/16	FCCE100000
C202	47u/16	FCCE100000
C203	47u/16	FCCE100000
C204	47u/16	FCCE100000
C205	47u/16	FCCE100000
C206	47u/16	FCCE100000
C207	47u/16	FCCE100000
C208	47u/16	FCCE100000
C213	100p	FCXCN21000
C214	100p	FCXCN21000
C215	100p	FCXCN21000
C216	100p	FCXCN21000
C217	100p	FCXCN21000
C218	100p	FCXCN21000
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C220	100p	FCXCN21000
C225	22p 2%	FCXCN12201
C226	22p 2%	FCXCN12201
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C228	22p 2%	FCXCN12201
C231	22p 2%	FCXCN12201
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C233	22p 2%	FCXCN12201
C234	22p 2%	FCXCN12201
C237	47u/16	FCCE100000
C238	47u/16	FCCE100000
C239	47u/16	FCCE100000
C240	47u/16	FCCE100000
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C247	100n	FCXCN41000
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C250	100n	FCXCN41000
CI101	11.0762-01.01	FCCIMPA762
D101	FB3506	FCREC3506
D102	Z6.8V	FCXZ000068
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D104	Z6.8V	FCXZ000068
D105	Z6.8V	FCXZ000068
D108	Z16V	FCXZ000160

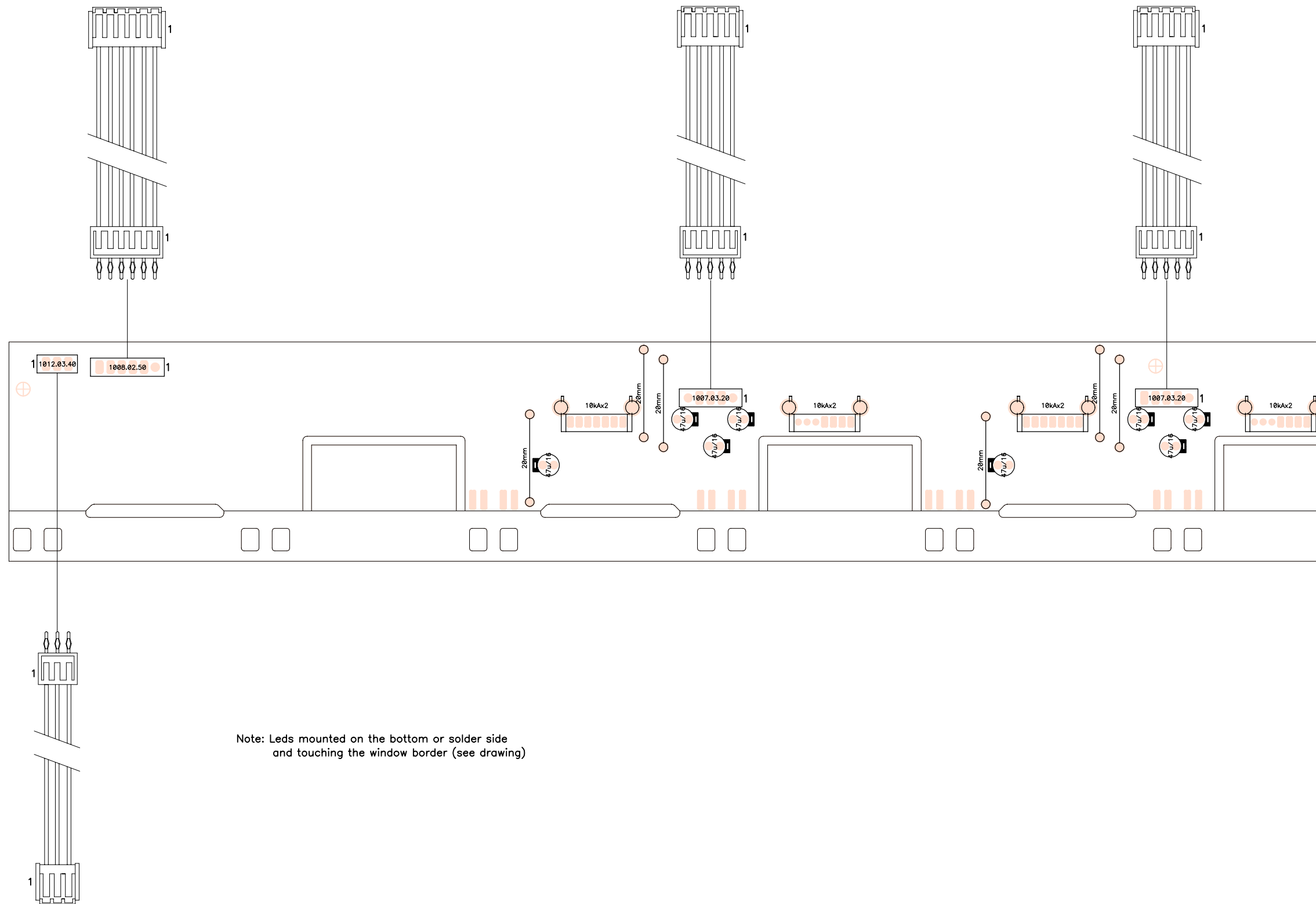
REFERENCE	VALUE	CODE
D109	Z16V	FCXZ000160
D110	Z5.6V	FCXZ000056
D111	Z5.6V	FCXZ000056
D112	Z5.6V	FCXZ000056
D113	Z5.6V	FCXZ000056
HS101	Heatsink for Re	FCRAD11515
HS102	Heatsink for TO	FCRAD29060
HS103	Heatsink for TO	FCRAD29060
IC201	TL074	FCIC074010
IC202	TL074	FCIC074010
J101	YKD31-0496	FCCTJAL100
J102	YKD31-0496	FCCTJAL100
J104	BASE 4pins MALE	FCCTAMP040
J105	BASE 4pins MALE	FCCTAMP040
J106	BASE 4pins MALE	FCCTAMP040
J107	B5B-EH-A	FCCTM00050
J108	B5B-EH-A	FCCTM00050
J110	B6B-EH-A	FCCTM00060
J111	B3B-EH-A	FCCTM00030
J201	YKF52-5005	FCBASX0900
J202	YKF52-5005	FCBASX0900
J203	YKF52-5005	FCBASX0900
J204	YKF52-5005	FCBASX0900
NV100	M3	FCTUE00300
NV101	M3	FCTUE00300
Q101	BC857B	FCXTT08570
Q102	BC857B	FCXTT08570
Q103	BC857B	FCXTT08570
Q104	BC857B	FCXTT08570
Q107	MJE15030	FCTR150300
Q108	MJE15031	FCTR150310
Q109	BC857B	FCXTT08570
Q110	BC857B	FCXTT08570
Q111	BC857B	FCXTT08570
Q112	BC857B	FCXTT08570
R101	1k50	FCXR131500
R102	1k50	FCXR131500
R103	1k50	FCXR131500
R104	1k50	FCXR131500
R107	3k01	FCXR133010
R108	3k01	FCXR133010
R109	3k01	FCXR133010
R110	3k01	FCXR133010
R111	47k5	FCXR144750
R112	47k5	FCXR144750
R113	47k5	FCXR144750
R114	47k5	FCXR144750
R117	47k5	FCXR144750
R118	47k5	FCXR144750
R119	47k5	FCXR144750
R120	47k5	FCXR144750
R201	100k0	FCXR151000
R202	100k0	FCXR151000
R203	100k0	FCXR151000
R204	100k0	FCXR151000
R207	100k0	FCXR151000
R208	100k0	FCXR151000
R209	100k0	FCXR151000


REFERENCE	VALUE	CODE
R210	100k0	FCXR151000
R213	100.0Ω	FCXR121000
R214	100.0Ω	FCXR121000
R215	100.0Ω	FCXR121000
R216	100.0Ω	FCXR121000
R217	100.0Ω	FCXR121000
R218	100.0Ω	FCXR121000
R219	100.0Ω	FCXR121000
R220	100.0Ω	FCXR121000
R225	24k3 0.5%	FCXR242430
R226	24k3 0.5%	FCXR242430
R227	24k3 0.5%	FCXR242430
R228	24k3 0.5%	FCXR242430
R229	24k3 0.5%	FCXR242430
R230	24k3 0.5%	FCXR242430
R231	24k3 0.5%	FCXR242430
R232	24k3 0.5%	FCXR242430
R237	24k3 0.5%	FCXR242430
R238	24k3 0.5%	FCXR242430
R239	24k3 0.5%	FCXR242430
R240	24k3 0.5%	FCXR242430
R243	24k3 0.5%	FCXR242430
R244	24k3 0.5%	FCXR242430
R245	24k3 0.5%	FCXR242430
R246	24k3 0.5%	FCXR242430
R249	20k0	FCXR142000
R250	20k0	FCXR142000
R251	100k0	FCXR151000
R252	100k0	FCXR151000
R253	100k0	FCXR151000
R254	100k0	FCXR151000
R257	10k0	FCXR141000
R258	100k0	FCXR151000
R259	20k0	FCXR142000
R260	20k0	FCXR142000
R261	20k0	FCXR142000
R262	20k0	FCXR142000
R264	20k0	FCXR142000
R265	20k0	FCXR142000
R267	100k0	FCXR151000
R268	100k0	FCXR151000
RX201	0Ω	FCXR000000
RX202	0Ω	FCXR000000
RX203	0Ω	FCXR000000
RX204	0Ω	FCXR000000
RX207	0Ω	FCXR000000
S101	17128	FCINTD4000
S201	8019L	FCINTAP130
S202	8019L	FCINTAP130
S203	8019L	FCINTAP130
S204	8019L	FCINTAP130
S207	8021L	FCINTAP140
S208	8021L	FCINTAP140
SC100	M3x6	FCT7503006
SC101	M3x6	FCT7503006
SC102	M4x15	FCT7004015
SP100	ADE p/M3	FCARDE0300
SP101	ADE p/M3	FCARDE0300

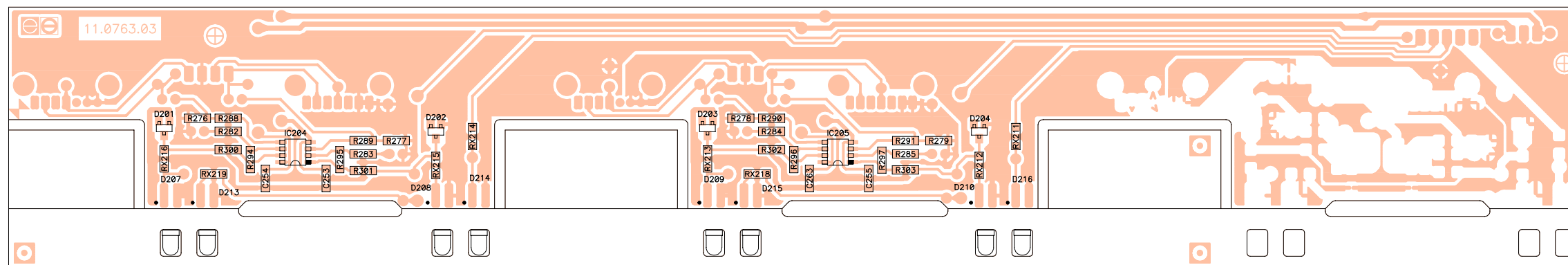
REFERENCE	VALUE	CODE
TS101	IB.311	FCTERMSOLO
W100	12.5mm	FCPONT0125
W101	17.5mm	FCPONT0175
W102	20mm	FCPONT0200
W103	15mm	FCPONT0150
W104	15mm	FCPONT0150
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	20mm	FCPONT0200
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	17.5mm	FCPONT0175
W111	17.5mm	FCPONT0175
W112	17.5mm	FCPONT0175
W113	15mm	FCPONT0150
W114	15mm	FCPONT0150
W201	12.5mm	FCPONT0125
W202	30mm	FCPONT0300
W203	25mm	FCPONT0250
W204	25mm	FCPONT0250
W205	25mm	FCPONT0250
W206	25mm	FCPONT0250
W207	20mm	FCPONT0200
W211	12.5mm	FCPONT0125
W212	15mm	FCPONT0150
W213	12.5mm	FCPONT0125
W214	15mm	FCPONT0150
WI102	1016.03.50	FC2F016350
WI103	1017.03.50	FC2F017350
WI105	1019.04.50	FC0E019450
WI106	1019.03.80	FC0E019380
WI107	1019.04.50	FC0E019450
WI108	1019.03.10	FC0E019310
WI201	1004.01.50	FC4G004150
WI203	1004.02.50	FC4G004250
WI204	1004.01.50	FC4G004150
WI206	1004.02.50	FC4G004250




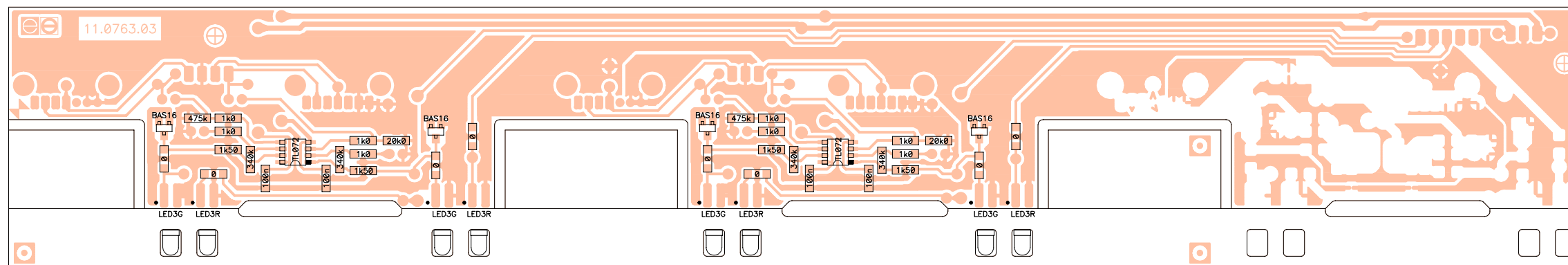
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			view: Reference
number: 33.0381	version: 01.04	project n: EP01-99A	title: Pttmtr & Leds Ct.
drawn by: M. Amoros	date: 030509	product n: MPA4-80	
		approved: Angel Sanuy	




 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-03.00 schema no: 10.0484-01.02 insertion file no:	side: Component
	project n: EP01-99A	title:	
number: 33.0382	version: 01.04	product n: MPA4-80	Pttmtr & Leds Ct.
drawn by: M. Amoros	date: 030509	approved: Angel Sanuy	



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0763-03.00 schema no: 10.0484-01.02 insertion file no: 81.0008-01.01	side: Solder view: Reference
	project n: EP01-99A product n: MPA4-80	title: Pttmtr & Leds Ct.
number: 33.0383 drawn by: M. Amoros	version: 01.04 date: 030509	approved: Angel Sanuy



Note: Leds mounted on the bottom or solder side and touching the window border (see drawing)

 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-03.00 schema no: 10.0484-01.02 insertion file no: 81.0008-01.01	side: Solder
			view: Value
number: 33.0384	version: 01.04	project n: EP01-99A	title: Pttmtr & Leds Ct.
drawn by: M. Amoros	date: 030509	product n: MPA4-80	
		approved: Angel Sanuy	

PRINTED CIRCUIT 11.0763-03.00

REFERENCE	VALUE	CODE
C253	100n	FCXCN41000
C254	100n	FCXCN41000
C255	100n	FCXCN41000
C257	47u/16	FCCE100000
C258	47u/16	FCCE100000
C260	47u/16	FCCE100000
C261	47u/16	FCCE100000
C263	100n	FCXCN41000
C265	47u/16	FCCE100000
C266	47u/16	FCCE100000
C267	47u/16	FCCE100000
C268	47u/16	FCCE100000
CI101	11.0763-03.00	FCCIMPA763
D201	BAS16	FCXDDBAS16
D202	BAS16	FCXDDBAS16
D203	BAS16	FCXDDBAS16
D204	BAS16	FCXDDBAS16
D207	LED3G	FCLED300VE
D208	LED3G	FCLED300VE
D209	LED3G	FCLED300VE
D210	LED3G	FCLED300VE
D213	LED3R	FCLED300RO
D214	LED3R	FCLED300RO
D215	LED3R	FCLED300RO
D216	LED3R	FCLED300RO
IC204	TL072	FCIC072010
IC205	TL072	FCIC072010
R270	10kAx2	FCPR210040
R271	10kAx2	FCPR210040
R272	10kAx2	FCPR210040
R273	10kAx2	FCPR210040
R276	475k	FCXR154750
R277	20k0	FCXR142000
R278	475k	FCXR154750
R279	20k0	FCXR142000
R282	1k0	FCXR131000
R283	1k0	FCXR131000
R284	1k0	FCXR131000
R285	1k0	FCXR131000
R288	1k0	FCXR131000
R289	1k0	FCXR131000
R290	1k0	FCXR131000
R291	1k0	FCXR131000
R294	340k	FCXR153400
R295	340k	FCXR153400
R296	340k	FCXR153400
R297	340k	FCXR153400
R300	1k50	FCXR131500
R301	1k50	FCXR131500
R302	1k50	FCXR131500
R303	1k50	FCXR131500
RX211	0Ω	FCXR000000

REFERENCE	VALUE	CODE
RX212	0Ω	FCXR000000
RX213	0Ω	FCXR000000
RX214	0Ω	FCXR000000
RX215	0Ω	FCXR000000
RX216	0Ω	FCXR000000
RX218	0Ω	FCXR000000
RX219	0Ω	FCXR000000
W219	20mm	FCPONT0200
W220	20mm	FCPONT0200
W221	20mm	FCPONT0200
W222	20mm	FCPONT0200
W224	20mm	FCPONT0200
W225	20mm	FCPONT0200
WI201	1012.03.40	FC0C012340
WI202	1007.03.20	FC4K007320
WI203	1007.03.20	FC4K007320
WI205	1008.02.50	FC4L008250

Announcement addressed to Technical Support Services

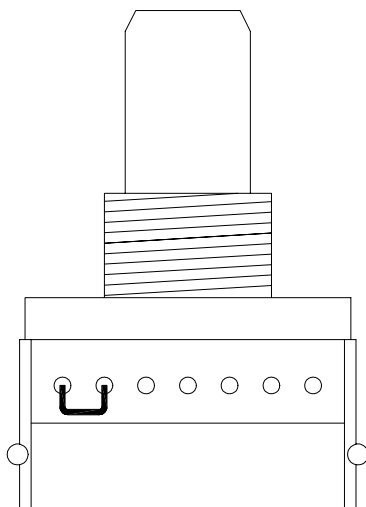
Involved series:

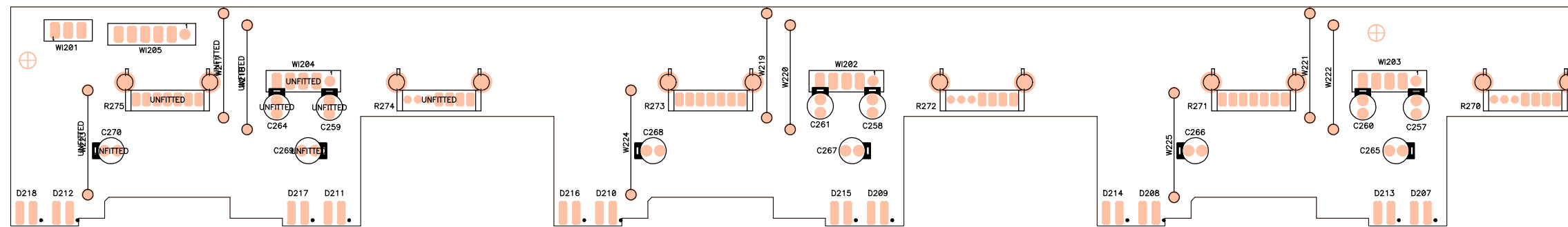
APA1400 / APA1000 / APA600
PAM1100 / PAM2100
MPA4-80 / MPA6-80 / MPA4-150


VOLUME potentiometer replacement.

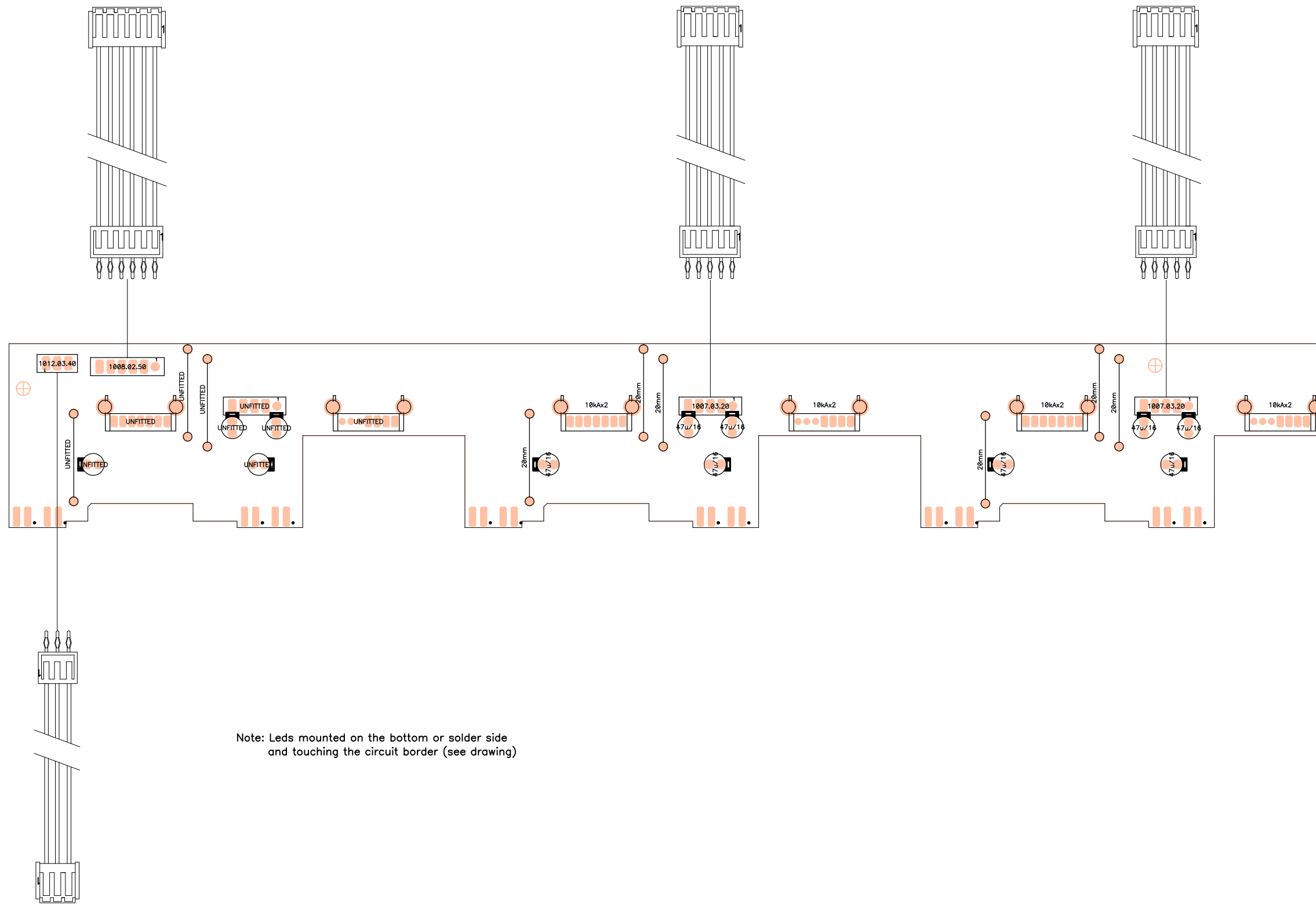
Replaced service part code: FCPR210040

When this potentiometer is being replaced, after soldering it on the printed circuit board, the two leads should be shorted as shown in the picture, in order to ensure a correct performance depending on the available service part.




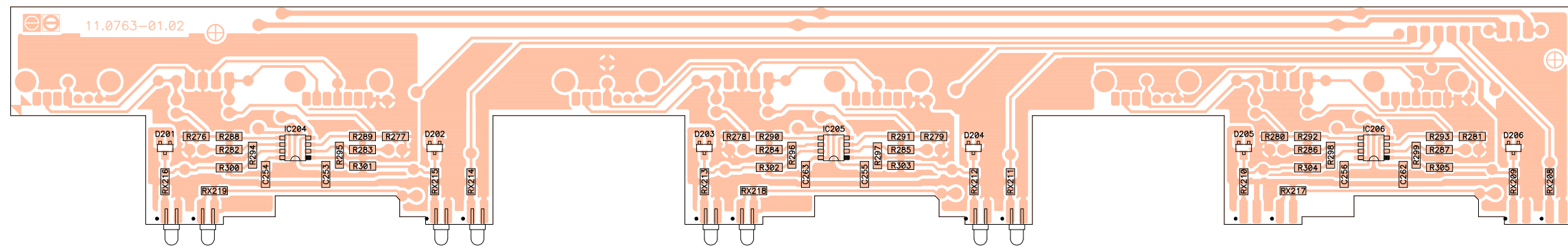



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-01.02 schema no: 10.0484-01.01 insertion file no: 81.0008-01.00	side: Component
	drawn by: M. Amoros	date: 000209	view: Reference
number: 33.0381	version: 01.02	approved by: Angel Sanuy	
title: EP01-99A Pttmtr & Leds Ct.			

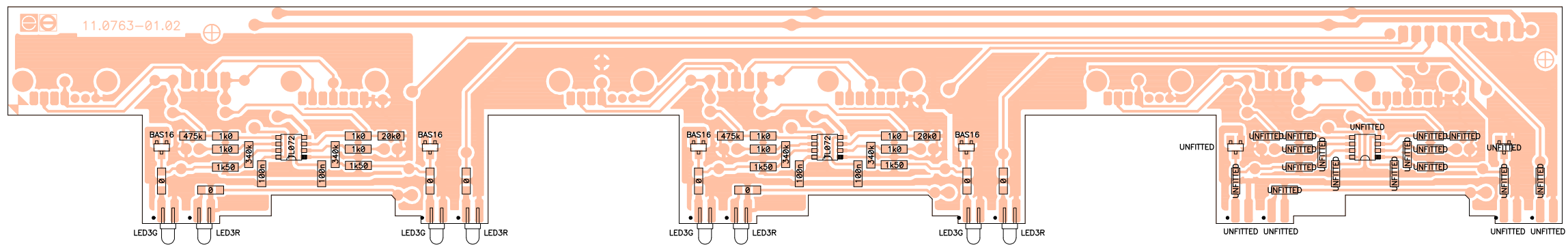


Note: Leds mounted on the bottom or solder side
and touching the circuit border (see drawing)


 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-01.02 schema no: 10.0484-01.01 insertion file no: 81.0008-01.00	side: Component
	drawn by: M. Amoros	date: 000209	view: Value
number: 33.0382	version: 01.02	approved by: Angel Sanuy	
title: EP01-99A Pttmtr & Leds Ct.			



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-01.02 schema no: 10.0484-01.01 insertion file no: 81.0008-01.00	side: Solder
	drawn by: M. Amoros	date: 000209	view: Reference
number: 33.0383	version: 01.02	title: EP01-99A Pttmtr & Leds Ct.	



Note: Leds mounted on the bottom or solder side and touching the circuit border (see drawing)

 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-01.02	side: Solder
		schema no: 10.0484-01.01	view: Value
		insertion file no: 81.0008-01.00	
number: 33.0384	version: 01.02	drawn by: M. Amoros	date: 000209
		approved by: Angel Sanuy	
		title: EP01-99A Pttmtr & Leds Ct.	

PRINTED CIRCUIT 11.0763-01.02

REFERENCE	VALUE	CODE
C253	100n	FCXCN41000
C254	100n	FCXCN41000
C255	100n	FCXCN41000
C257	47u/16	FCCE100000
C258	47u/16	FCCE100000
C260	47u/16	FCCE100000
C261	47u/16	FCCE100000
C263	100n	FCXCN41000
C265	47u/16	FCCE100000
C266	47u/16	FCCE100000
C267	47u/16	FCCE100000
C268	47u/16	FCCE100000
CI101	11.0763-01.02	FCCIMPA763
D201	BAS16	FCXDDBAS16
D202	BAS16	FCXDDBAS16
D203	BAS16	FCXDDBAS16
D204	BAS16	FCXDDBAS16
D207	LED3G	FCLED300VE
D208	LED3G	FCLED300VE
D209	LED3G	FCLED300VE
D210	LED3G	FCLED300VE
D213	LED3R	FCLED300RO
D214	LED3R	FCLED300RO
D215	LED3R	FCLED300RO
D216	LED3R	FCLED300RO
IC204	TL072	FCIC072010
IC205	TL072	FCIC072010
R270	10kAx2	FCPR210040
R271	10kAx2	FCPR210040
R272	10kAx2	FCPR210040
R273	10kAx2	FCPR210040
R276	475k	FCXR154750
R277	20k0	FCXR142000
R278	475k	FCXR154750
R279	20k0	FCXR142000
R282	1k0	FCXR131000
R283	1k0	FCXR131000
R284	1k0	FCXR131000
R285	1k0	FCXR131000
R288	1k0	FCXR131000
R289	1k0	FCXR131000
R290	1k0	FCXR131000
R291	1k0	FCXR131000
R294	340k	FCXR153400
R295	340k	FCXR153400
R296	340k	FCXR153400
R297	340k	FCXR153400
R300	1k50	FCXR131500
R301	1k50	FCXR131500
R302	1k50	FCXR131500
R303	1k50	FCXR131500
RX211	0Ω	FCXR000000

REFERENCE	VALUE	CODE
RX212	0Ω	FCXR000000
RX213	0Ω	FCXR000000
RX214	0Ω	FCXR000000
RX215	0Ω	FCXR000000
RX216	0Ω	FCXR000000
RX218	0Ω	FCXR000000
RX219	0Ω	FCXR000000
W219	20mm	FCPONT0200
W220	20mm	FCPONT0200
W221	20mm	FCPONT0200
W222	20mm	FCPONT0200
W224	20mm	FCPONT0200
W225	20mm	FCPONT0200
WI201	1012.03.40	FC0C012340
WI202	1007.03.20	FC4K007320
WI203	1007.03.20	FC4K007320
WI205	1008.02.50	FC4L008250

PRELIMINARY

- Check the Ground Link.
- Check out that there is no shorting between the unit's mounting frame and the metallic part of the IC package.
- Set tested unit's power main switch to Off position.
- While the signal generator is still turned off, adjust the generator's output in order to obtain a 1KHz 0dB output signal.
- Connect two bridged 8Ω load impedances between outputs 1-2 and 3-4.
- Using a set formed by a mVoltmeter and a dual-channel oscilloscope, connect oscilloscope's channel one test probe between Output1 and signal ground, and connect channel two's test probe between Output2 and signal ground.
- Turn down both input trimming potentiometers to their minimum position.

- Set the following front-end selector switches to the positions as listed bellow:
 - IN1/IN1 + IN2 to IN1
 - IN2/LINK CH1 to LINK CH1
 - ST/BRIDGE to ST
 - IN3/LINK CH1 to LINK CH1
 - IN4/LINK CH2 to LINK CH2
 - ST/BRIDGE to ST

- Connect the signal generator's output to the unit's IN1 input.
- Connect the unit to 230Vac mains socket

VERIFICATION

- Switch the tested unit's Power main switch to ON. Verify that the power on LED is lit.
- Set the signal generator to ON. At this point, all Signal Present LED's should light on.
- Turn up channel one's input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT1 is only dependent from the INPUT1 signal.
- Turn up channel two's input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT2 is only dependent from the INPUT2 signal.
- Both output signals should have no phase differs.
- Now change the ST/BRIDGE selector to the BRIDGE position, and verify that OUTPUT1 and OUTPUT2 phase differ has turned to push-pull. However, V_o remains unchanged, 14V. S.P. CHII's LED has turned off, and the unit's channels 1&2 section is now controlled only by channel one's input trimming potentiometer. Turn it up and leave it at its maximum position.

- Disconnect the oscilloscope's both channels test probes, and connect them to outputs 3-4.
- Turn up channel three's input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT3 is only dependent from the INPUT3 signal.
- Turn up channel four's input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT4 is only dependent from the INPUT4 signal.
- Both output signals should have no phase differs.
- Now change the ST/BRIDGE selector to the BRIDGE position, and verify that OUTPUT3 and OUTPUT4 phase differ has turned to push-pull. However, V_o remains unchanged, 14V. S.P. CHIV's LED has turned off, and the unit's channels 3&4 section is now controlled only by channel three's input trimming potentiometer. Turn it up and leave it at its maximum position.

- At this point, all clip indicators should be lighting. If necessary, add a little bit of level to the input signal.
- Set the IN1/IN1 + IN2 selector to IN1, and verify that the output level as decreased 6dB.

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.

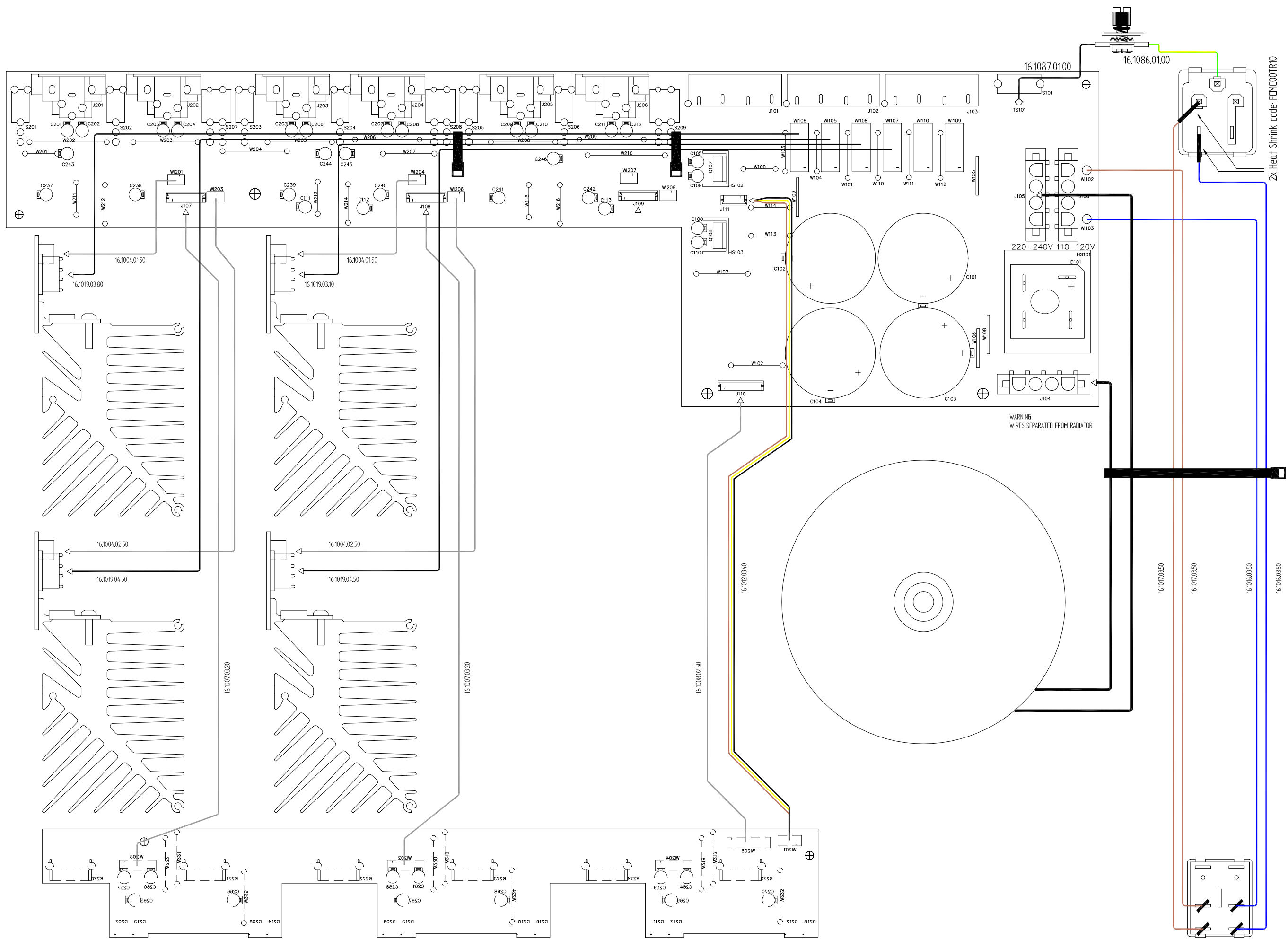
BURNING (BURN-IN) TEST

Leave the tested unit connected to its correspondent voltage mains socket, applying input signal and connecting load impedances, and working at 3dB under its maximum output power level for at least 24 hours.

VERIFICATION USING MUSIC

Verify the unit's sound quality, which should be distortion- and noise-free. Also check that all potentiometers can run smoothly their whole sweep, without annoying noises and crisperings. At their minimum position, check that output signal is completely cutted off. To ensure that all electrical junctions are well-fixed, hit the tested unit against your working table, obviously without damaging its outer presentation. Verify also all inputs and outputs. At last, short-circuit the output terminals while carrying amplified signal, and verify that once short-circuit is removed, the amplifying stages still

	EP01-99A	EP01-99B
POWER 20-20kHz 1% THD		
1 Channel @ 4Ω	77 WRMS	75 WRMS
1 Channel @ 8Ω	48 WRMS	48 WRMS
All Channels @ 4Ω	52 WRMS	56 WRMS
All Channels @ 8Ω	39 WRMS	40 WRMS
1 Bridged channel @ 8Ω (all channels driven)	104 WRMS	112 WRMS
Frequency response (-1dB)	20Hz - 90kHz	20Hz - 90kHz
THD + Noise @ 1kHz Full Pwr.	< 0.01%	< 0.01%
Intermodulation distortion 50Hz & 7kHz, 4:1	< 0.02%	< 0.02%
TIM 100	< 0.05%	< 0.05%
S + N/N 20Hz -20kHz @ 1W/4Ω	> 90dB	> 90dB
Damping factor 1kHz @ 8Ω	> 160	> 160
Slew Rate	± 10V/μs	± 10V/μs
Channel crosstalk @ 1kHz	> 60dB	> 60dB
Input Sensitivity / Impedance	0dB / > 20kΩ	0dB / > 20kΩ
Power consumption (max. Out)	370VA	520VA
Dimensions	Panel Depth	482.6x88 mm 342.5 mm
Weight	9.3kg	11.2kg
Mains Depending on your country	See characteristics in the back of the unit.	

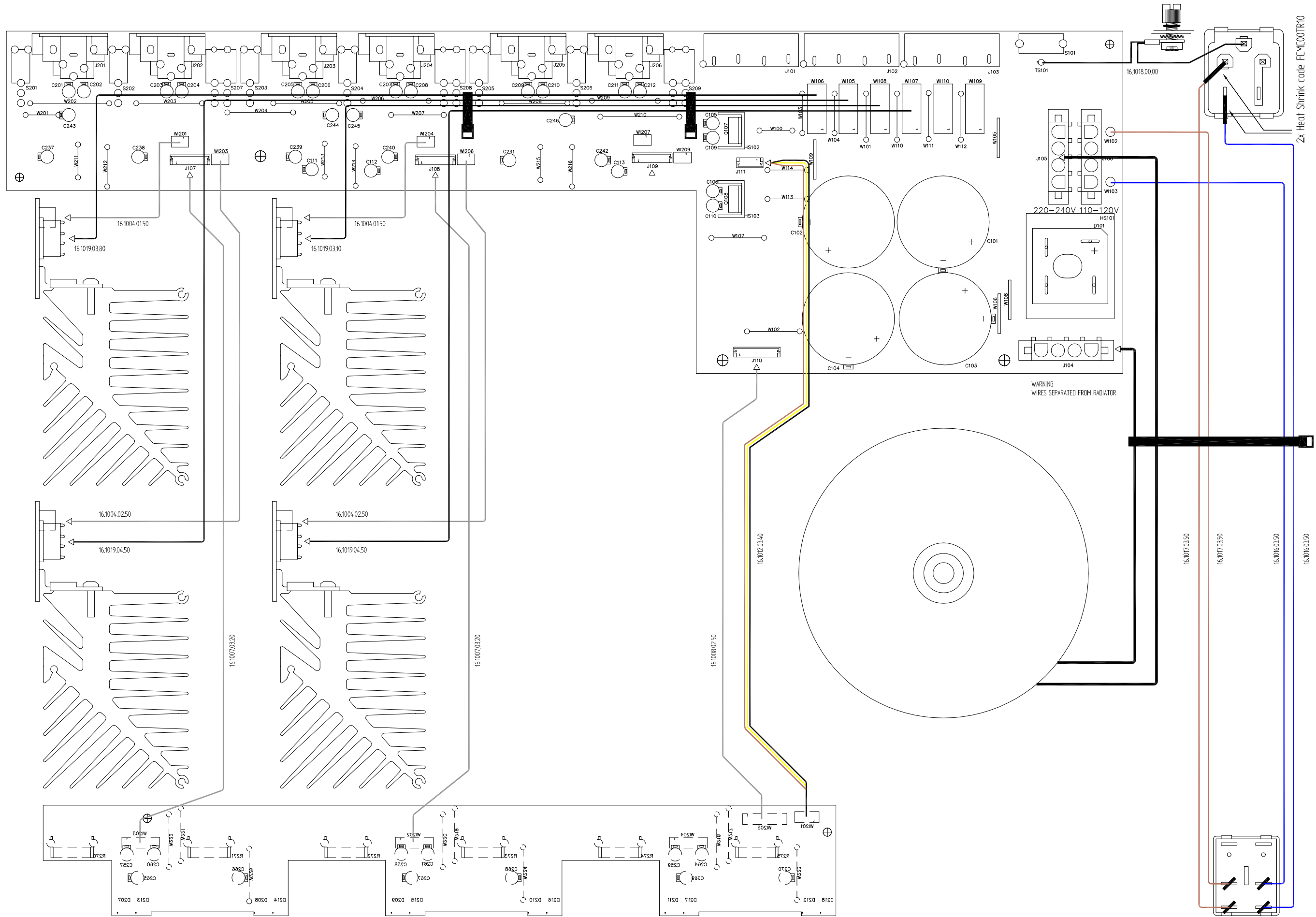


drawn by: *J. Colomines* date: *010417* approved by: *Josep M Sans*

title:

WIRING DIAGRAM EPO1-99A

number: **31.0107** version **01.03**

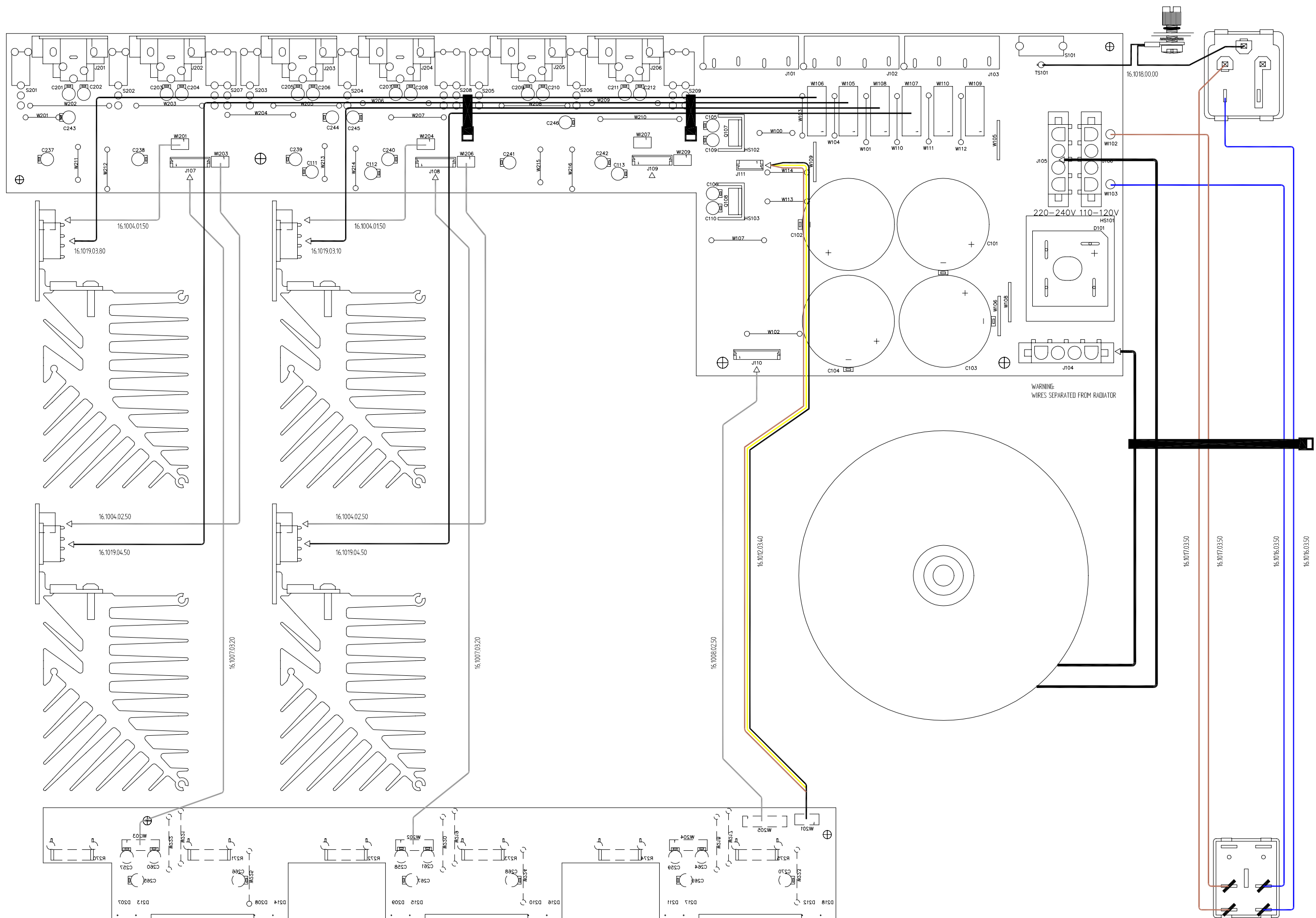


drawn by: *J. Colomines* date: *001018* approved by: *Josep M Sans*

title:

WIRING DIAGRAM EPO1-99A

number: *31.0107* version: *01.02*

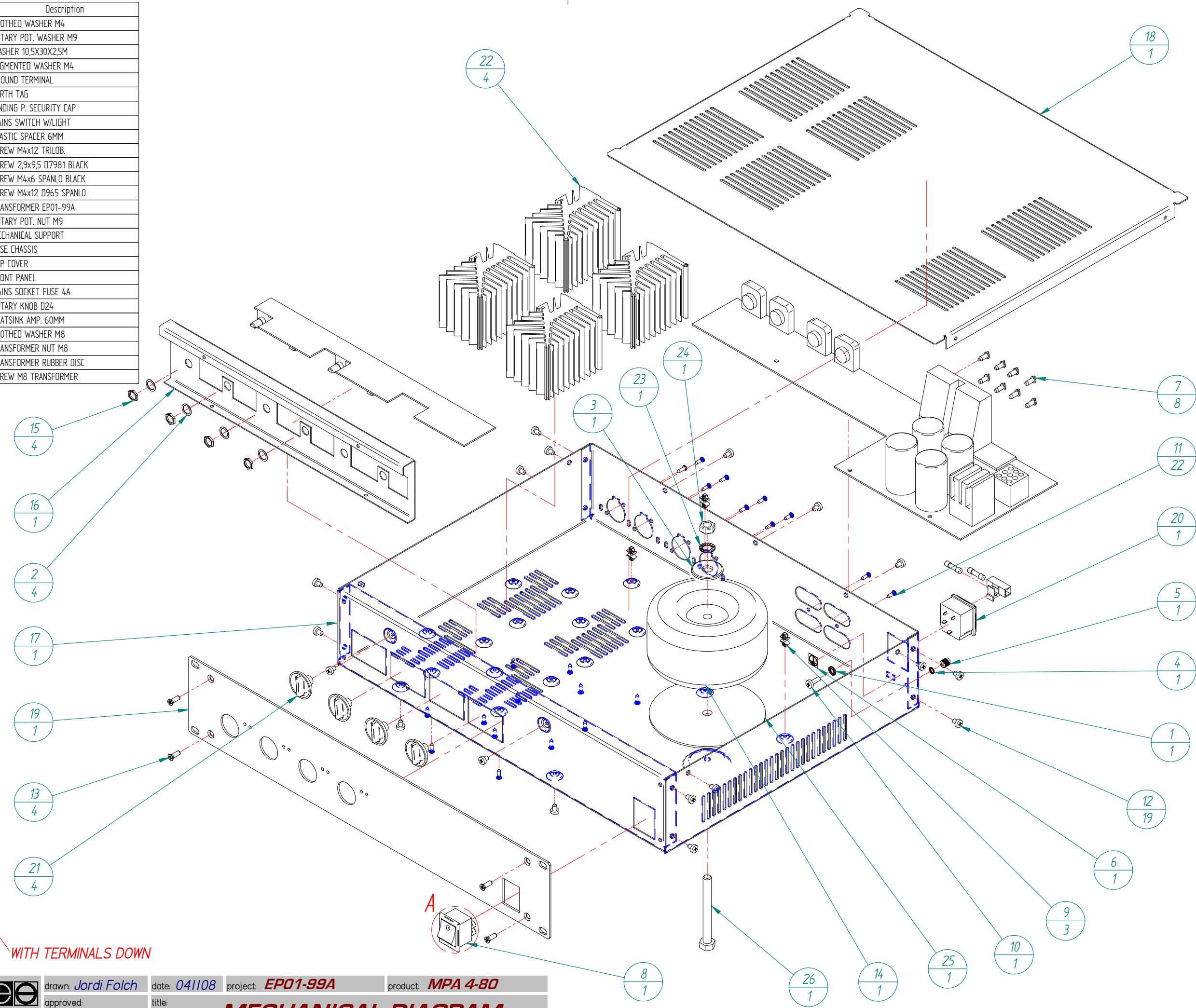


drawn by: *J. Colomines* date: *000330* approved by: *Josep M Sans*

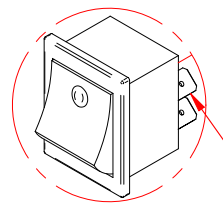
title: **WIRING DIAGRAM EPO1-99A**

number: *31.0107* version: *01.01*

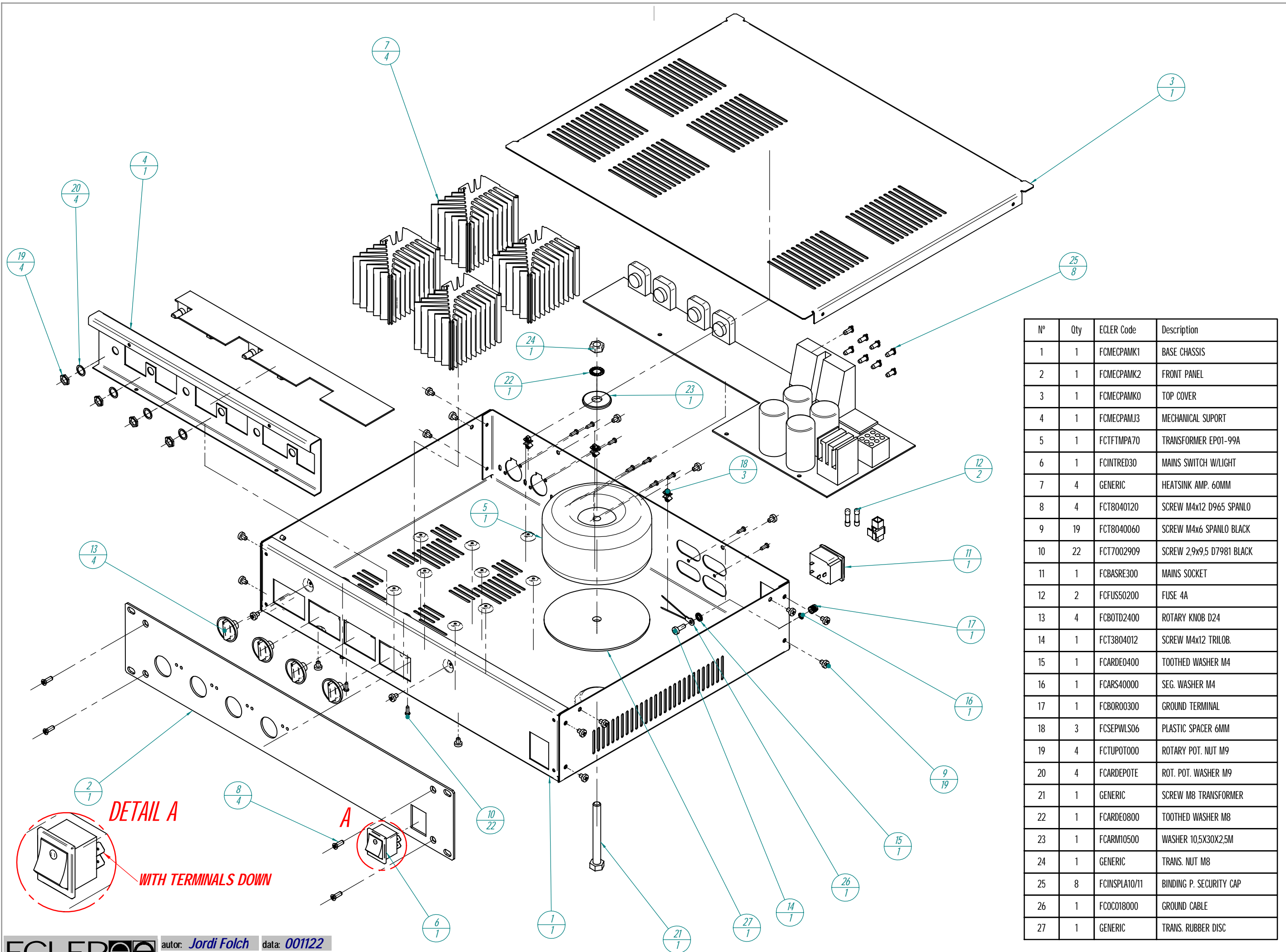
N°	Qty.	Code	Description
1	1	FCARDE040000	TOOTHED WASHER M4
2	4	FCARDEPOTE00	ROTARY POT. WASHER M9
3	1	FCARM1050000	WASHER 10,5X30X2,5M
4	1	FCARS4000000	SEGMENTED WASHER M4
5	1	FCBOR0030000	GROUND TERMINAL
6	1	FCETIZTT0000	EARTH TAG
7	8	FCINSPLA10/11	BINDING P. SECURITY CAP
8	1	FCINTRED3000	MAINS SWITCH W/LIGHT
9	3	FCSEPWS0600	PLASTIC SPACER 6MM
10	1	FCT380401200	SCREW M4x12 TRILOB.
11	22	FCT700290900	SCREW 2,9x9,5 D7981 BLACK
12	19	FCT804006000	SCREW M4x6 SPANLO BLACK
13	4	FCT804012000	SCREW M4x12 D965 SPANLO
14	1	FCTFTMPA7000	TRANSFORMER EP01-99A
15	4	FCTUP0T00000	ROTARY POT. NUT M9
16	1	FP0248500000	MECHANICAL SUPPORT
17	1	FP0248600000	BASE CHASSIS
18	1	FP0248700000	TOP COVER
19	1	FP0248800000	FRONT PANEL
20	1	FRBASRE20400	MAINS SOCKET FUSE 4A
21	4	FRBOTRD24000	ROTARY KNOB D24
22	4	GENERIC	HEATSINK AMP. 60MM
23	1	GENERIC	TOOTHED WASHER M8
24	1	GENERIC	TRANSFORMER NUT M8
25	1	GENERIC	TRANSFORMER RUBBER DISC
26	1	GENERIC	SCREW M8 TRANSFORMER



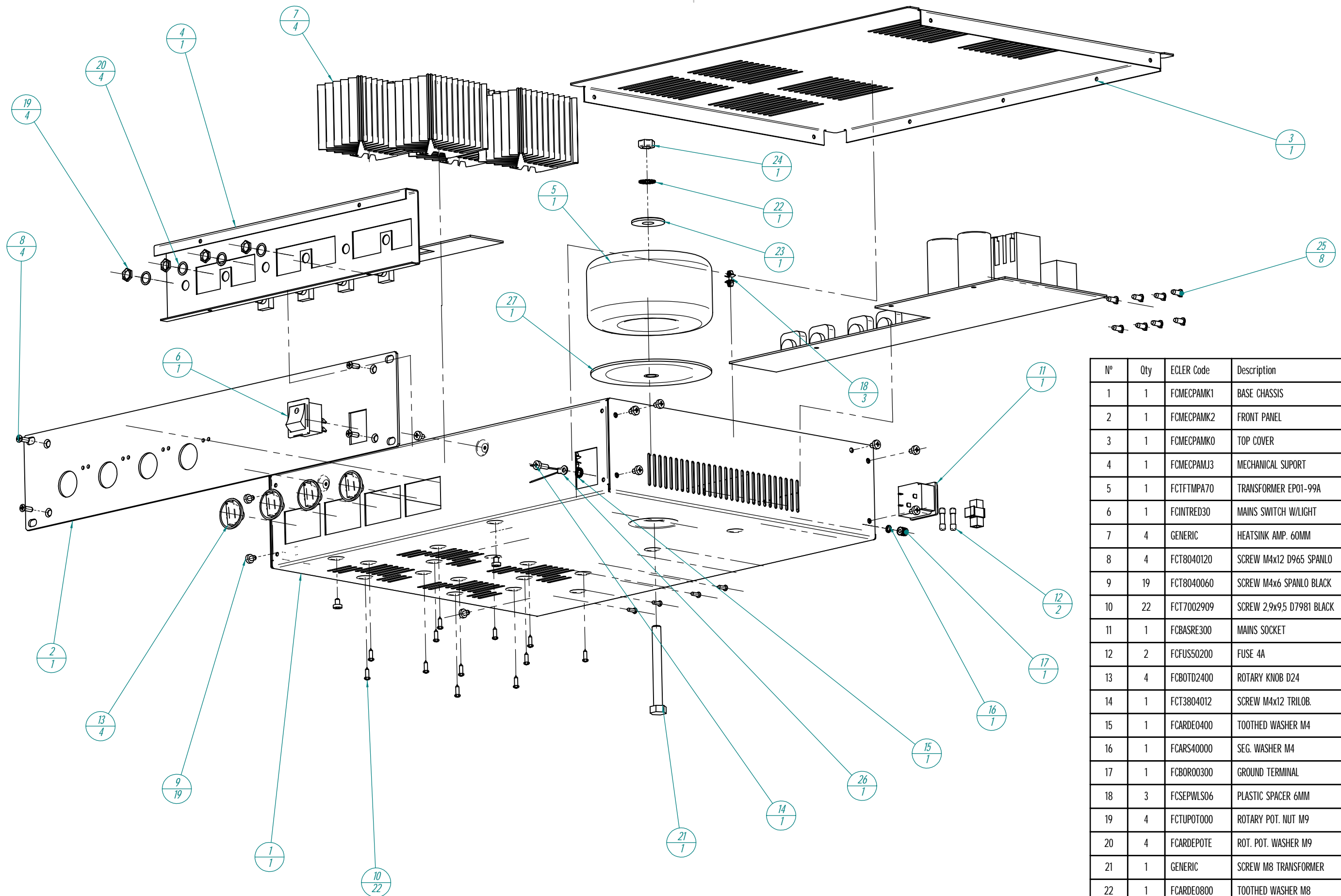
DETAIL A



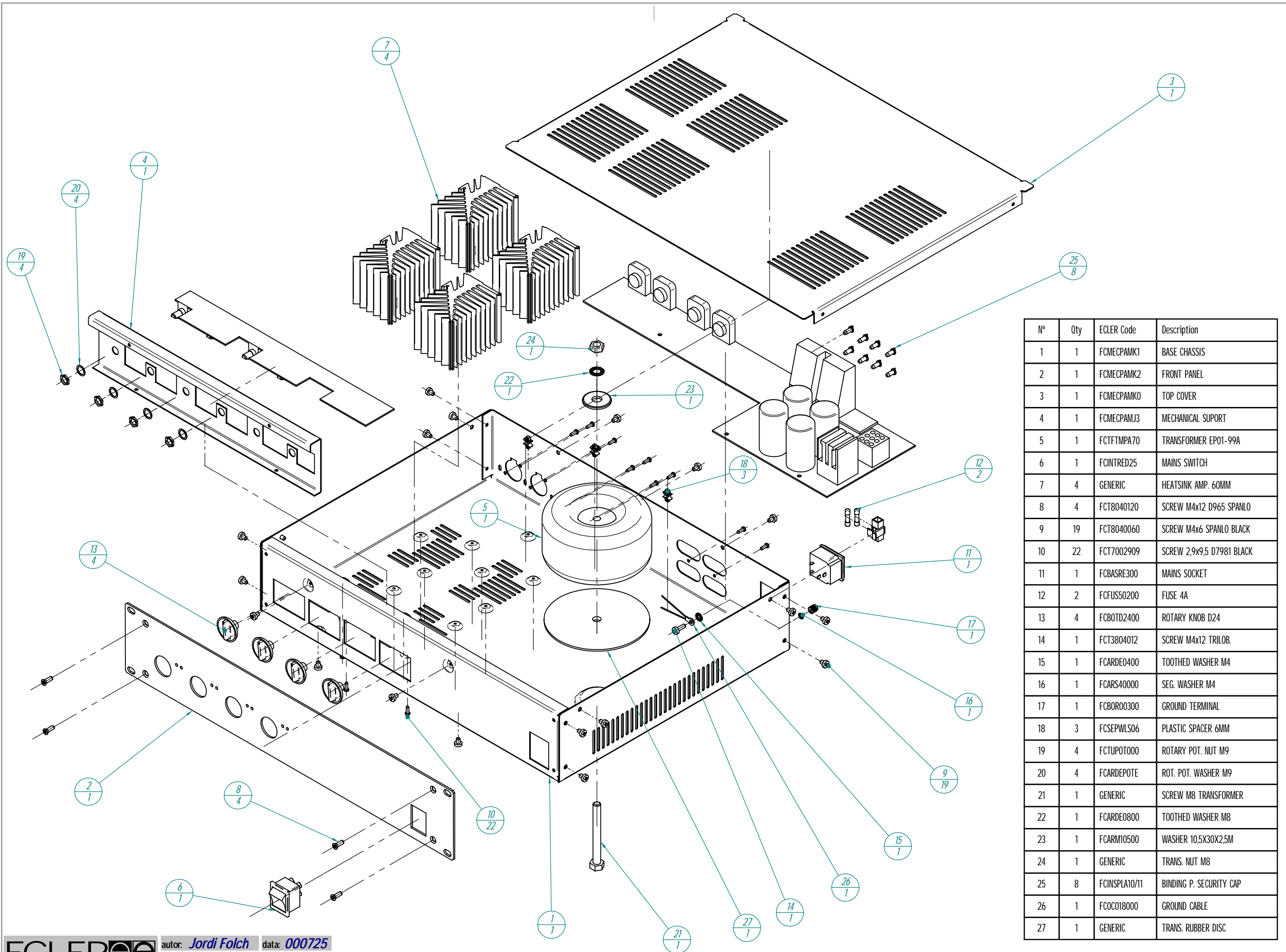
WITH TERMINALS DOWN



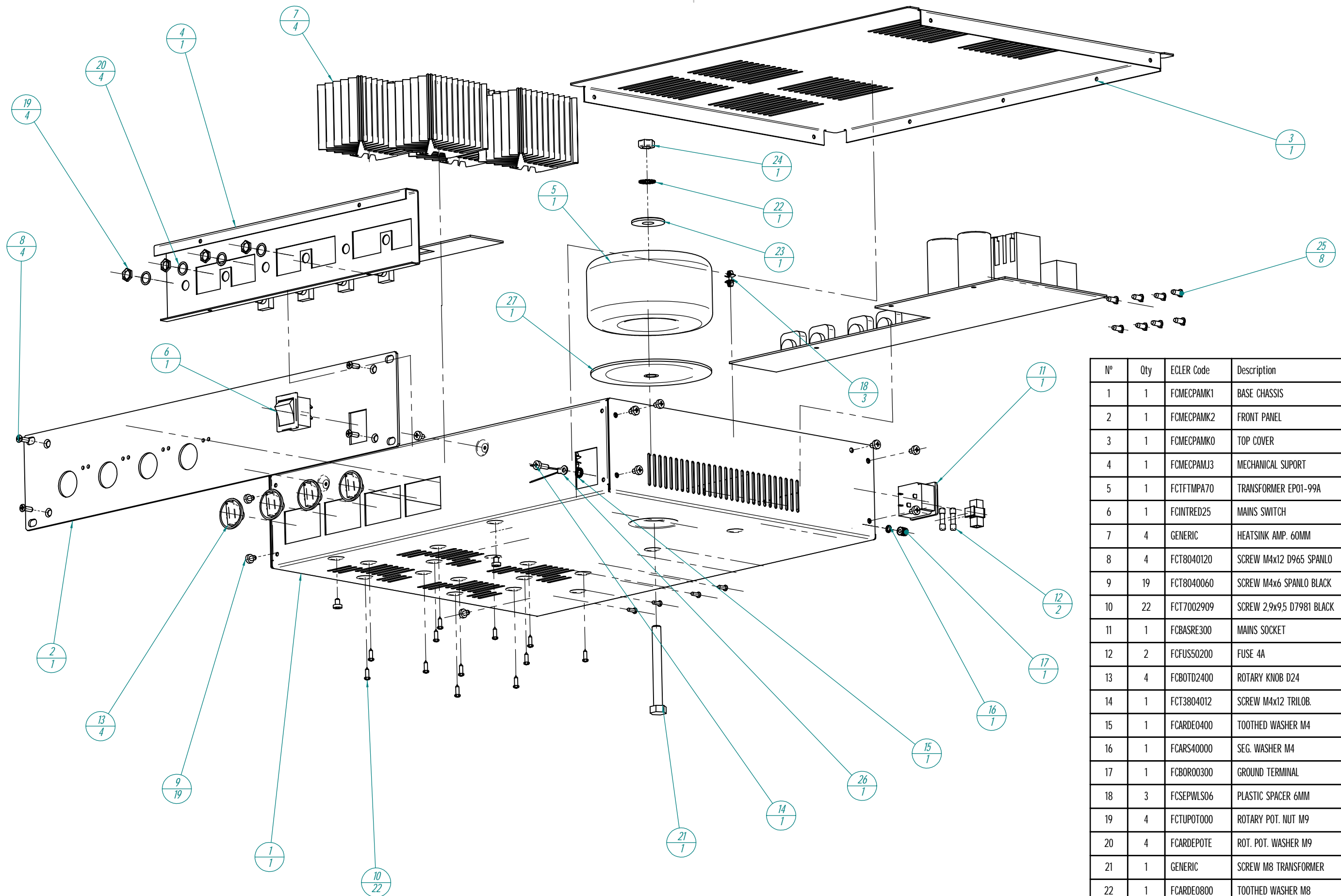
Nº	Qty	ECLER Code	Description
1	1	FCMECPAMK1	BASE CHASSIS
2	1	FCMECPAMK2	FRONT PANEL
3	1	FCMECPAMK0	TOP COVER
4	1	FCMECPAMJ3	MECHANICAL SUPORT
5	1	FCTFTMPA70	TRANSFORMER EP01-99A
6	1	FCINTRED30	MAINS SWITCH W/LIGHT
7	4	GENERIC	HEATSINK AMP. 60MM
8	4	FCT8040120	SCREW M4x12 D965 SPANLO
9	19	FCT8040060	SCREW M4x6 SPANLO BLACK
10	22	FCT7002909	SCREW 2,9x9,5 D7981 BLACK
11	1	FCBASRE300	MAINS SOCKET
12	2	FCFUS50200	FUSE 4A
13	4	FCBOTD2400	ROTARY KNOB D24
14	1	FCT3804012	SCREW M4x12 TRILOB.
15	1	FCARDE0400	TOOTHED WASHER M4
16	1	FCARS40000	SEG. WASHER M4
17	1	FCBOR00300	GROUND TERMINAL
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	4	FCTUPOT000	ROTARY POT. NUT M9
20	4	FCARDEPOTE	ROT. POT. WASHER M9
21	1	GENERIC	SCREW M8 TRANSFORMER
22	1	FCARDE0800	TOOTHED WASHER M8
23	1	FCARM10500	WASHER 10,5X30X2,5M
24	1	GENERIC	TRANS. NUT M8
25	8	FCINSPLA10/11	BINDING P. SECURITY CAP
26	1	FCOC018000	GROUND CABLE
27	1	GENERIC	TRANS. RUBBER DISC



Nº	Qty	ECLER Code	Description
1	1	FCMECPAMK1	BASE CHASSIS
2	1	FCMECPAMK2	FRONT PANEL
3	1	FCMECPAMK0	TOP COVER
4	1	FCMECPAMJ3	MECHANICAL SUPORT
5	1	FCTFTMPA70	TRANSFORMER EP01-99A
6	1	FCINTRED30	MAINS SWITCH W/LIGHT
7	4	GENERIC	HEATSINK AMP. 60MM
8	4	FCT8040120	SCREW M4x12 D965 SPANLO
9	19	FCT8040060	SCREW M4x6 SPANLO BLACK
10	22	FCT7002909	SCREW 2,9x9,5 D7981 BLACK
11	1	FCBASRE300	MAINS SOCKET
12	2	FCFUS50200	FUSE 4A
13	4	FCBOTD2400	ROTARY KNOB D24
14	1	FCT3804012	SCREW M4x12 TRILOB.
15	1	FCARDE0400	TOOTHED WASHER M4
16	1	FCARS40000	SEG. WASHER M4
17	1	FCBOR00300	GROUND TERMINAL
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	4	FCTUPOT000	ROTARY POT. NUT M9
20	4	FCARDEPOTE	ROT. POT. WASHER M9
21	1	GENERIC	SCREW M8 TRANSFORMER
22	1	FCARDE0800	TOOTHED WASHER M8
23	1	FCARM10500	WASHER 10,5X30X2,5M
24	1	GENERIC	TRANS. NUT M8
25	8	FCINSPLA10/11	BINDING P. SECURITY CAP
26	1	FCOC018000	GROUND CABLE
27	1	GENERIC	TRANS. RUBBER DISC

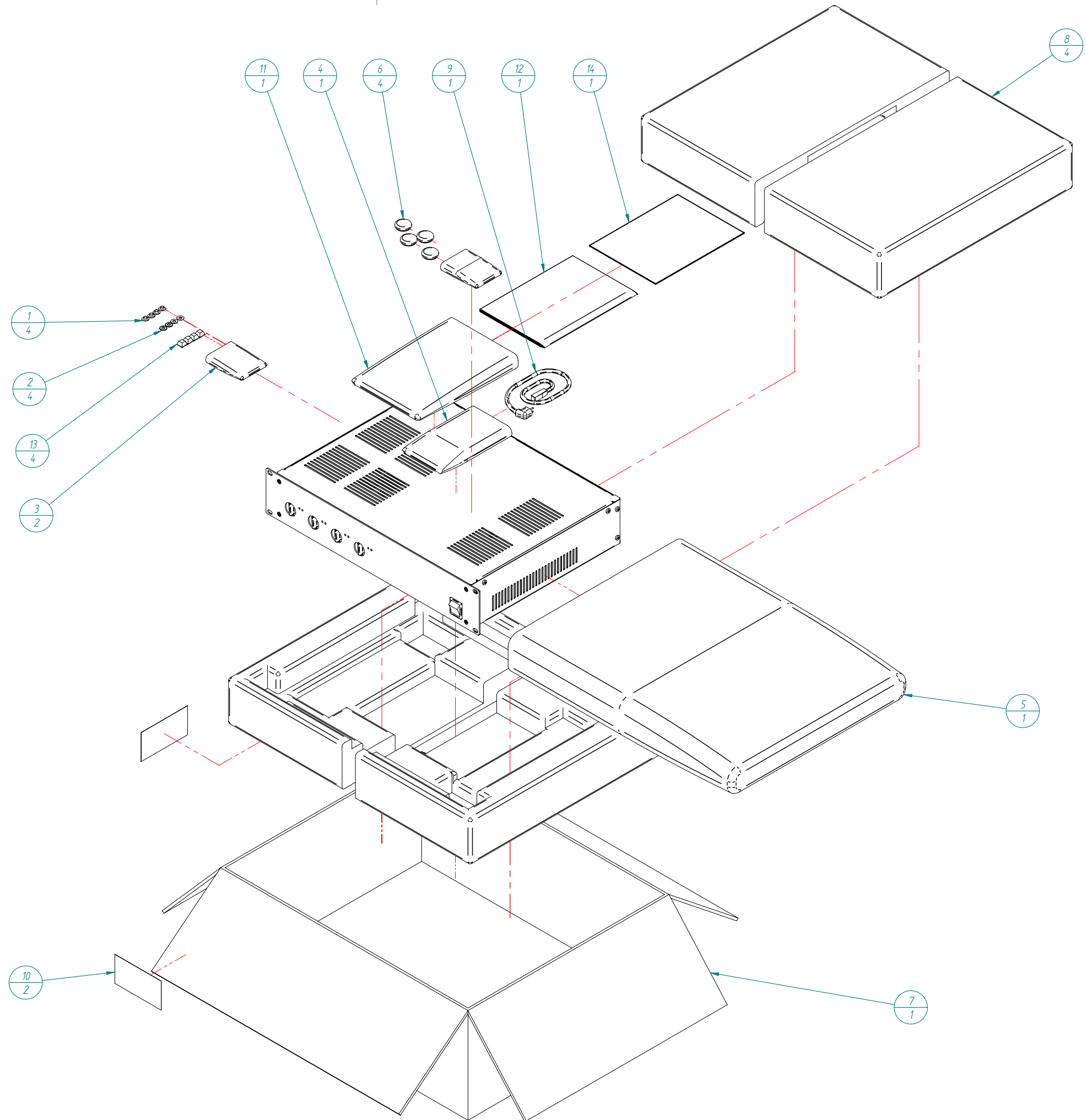


Nº	Qty	ECLER Code	Description
1	1	FCMECPAMK1	BASE CHASSIS
2	1	FCMECPAMK2	FRONT PANEL
3	1	FCMECPAMK0	TOP COVER
4	1	FCMECPAMJ3	MECHANICAL SUPORT
5	1	FCTFTMPA70	TRANSFORMER EP01-99A
6	1	FCINTRED25	MAINS SWITCH
7	4	GENERIC	HEATSINK AMP. 60MM
8	4	FCT8040120	SCREW M4x12 D965 SPANLO
9	19	FCT8040060	SCREW M4x6 SPANLO BLACK
10	22	FCT7002909	SCREW 2,9x9,5 D7981 BLACK
11	1	FCBASRE300	MAINS SOCKET
12	2	FCFUS50200	FUSE 4A
13	4	FCBOTD2400	ROTARY KNOB D24
14	1	FCT3804012	SCREW M4x12 TRILOB.
15	1	FCARDE0400	TOOTHED WASHER M4
16	1	FCARS40000	SEG. WASHER M4
17	1	FCBOR00300	GROUND TERMINAL
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	4	FCTUPOT000	ROTARY POT. NUT M9
20	4	FCARDEPOTE	ROT. POT. WASHER M9
21	1	GENERIC	SCREW M8 TRANSFORMER
22	1	FCARDE0800	TOOTHED WASHER M8
23	1	FCARM0500	WASHER 10,5X30X2,5M
24	1	GENERIC	TRANS. NUT M8
25	8	FCINSPLA10/11	BINDING P. SECURITY CAP
26	1	FCOC018000	GROUND CABLE
27	1	GENERIC	TRANS. RUBBER DISC

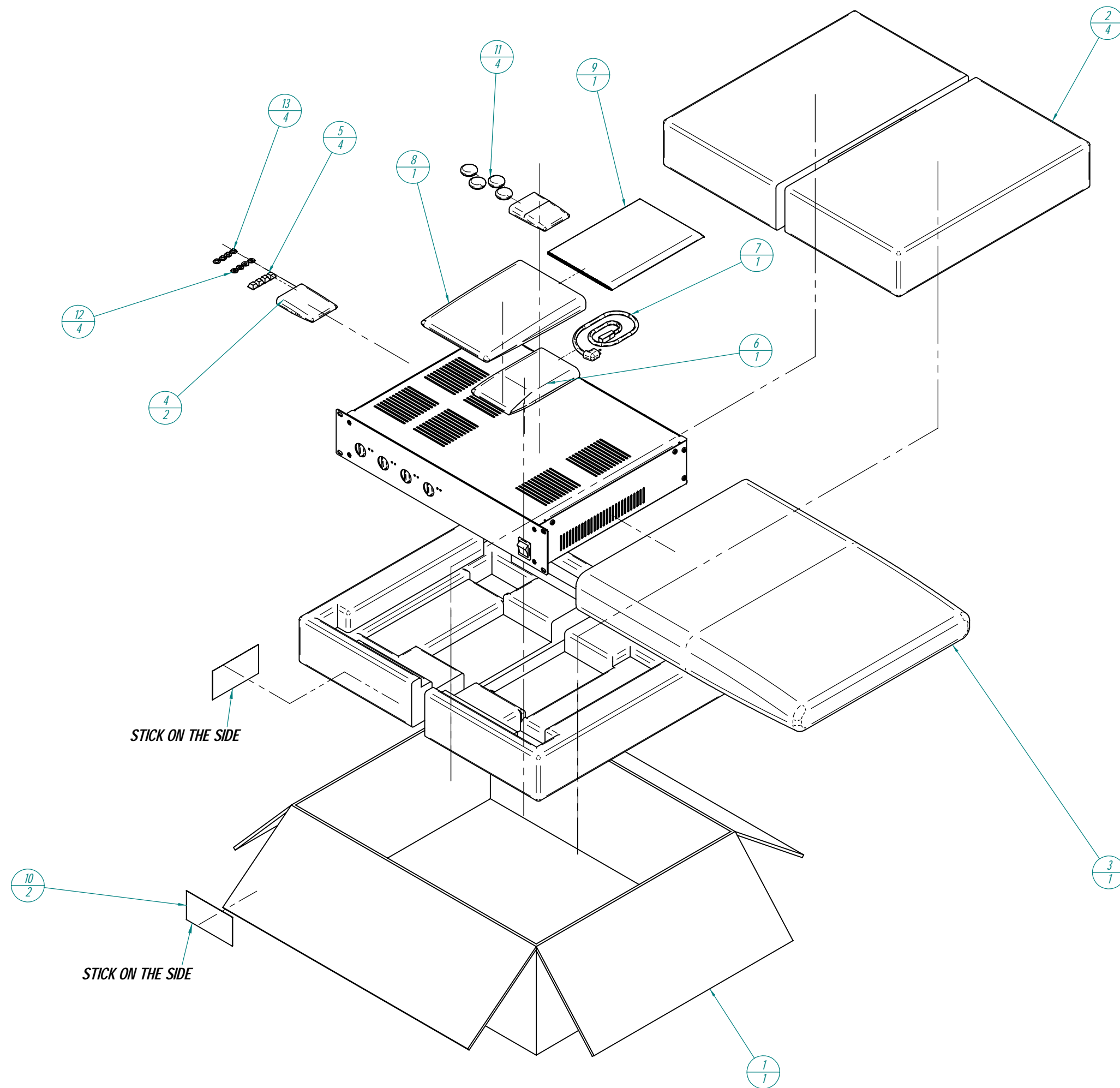


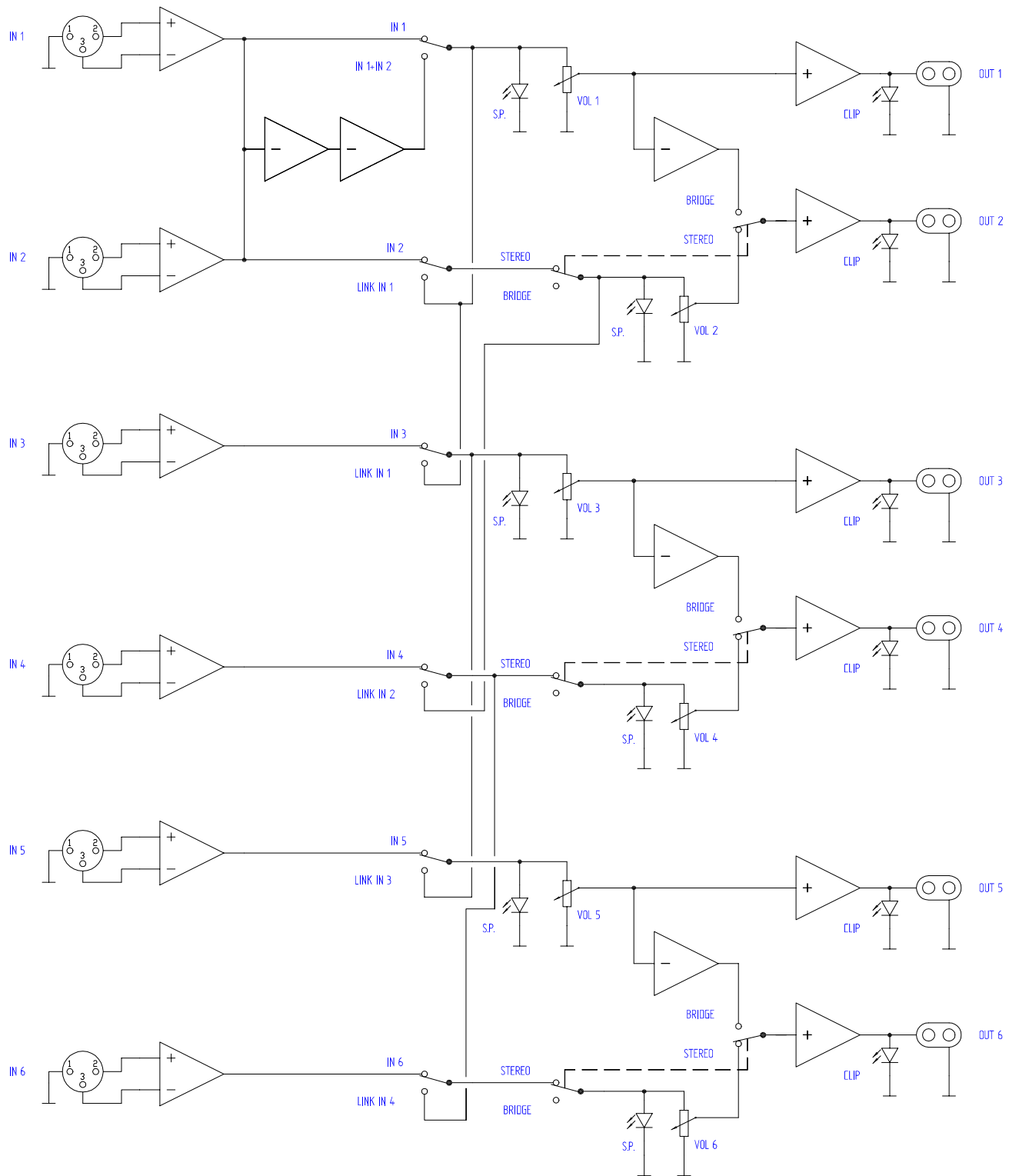
Nº	Qty	ECLER Code	Description
1	1	FCMECPAMK1	BASE CHASSIS
2	1	FCMECPAMK2	FRONT PANEL
3	1	FCMECPAMK0	TOP COVER
4	1	FCMECPAMJ3	MECHANICAL SUPORT
5	1	FCTFTMPA70	TRANSFORMER EP01-99A
6	1	FCINTRED25	MAINS SWITCH
7	4	GENERIC	HEATSINK AMP. 60MM
8	4	FCT8040120	SCREW M4x12 D965 SPANLO
9	19	FCT8040060	SCREW M4x6 SPANLO BLACK
10	22	FCT7002909	SCREW 2,9x9,5 D7981 BLACK
11	1	FCBASRE300	MAINS SOCKET
12	2	FCFUS50200	FUSE 4A
13	4	FCBOTD2400	ROTARY KNOB D24
14	1	FCT3804012	SCREW M4x12 TRILOB.
15	1	FCARDE0400	TOOTHED WASHER M4
16	1	FCARS40000	SEG. WASHER M4
17	1	FCBOR00300	GROUND TERMINAL
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	4	FCTUPOT000	ROTARY POT. NUT M9
20	4	FCARDEPOTE	ROT. POT. WASHER M9
21	1	GENERIC	SCREW M8 TRANSFORMER
22	1	FCARDE0800	TOOTHED WASHER M8
23	1	FCARM10500	WASHER 10,5X30X2,5M
24	1	GENERIC	TRANS. NUT M8
25	8	FCINSPLA10/11	BINDING P. SECURITY CAP
26	1	FCOC018000	GROUND CABLE
27	1	GENERIC	TRANS. RUBBER DISC

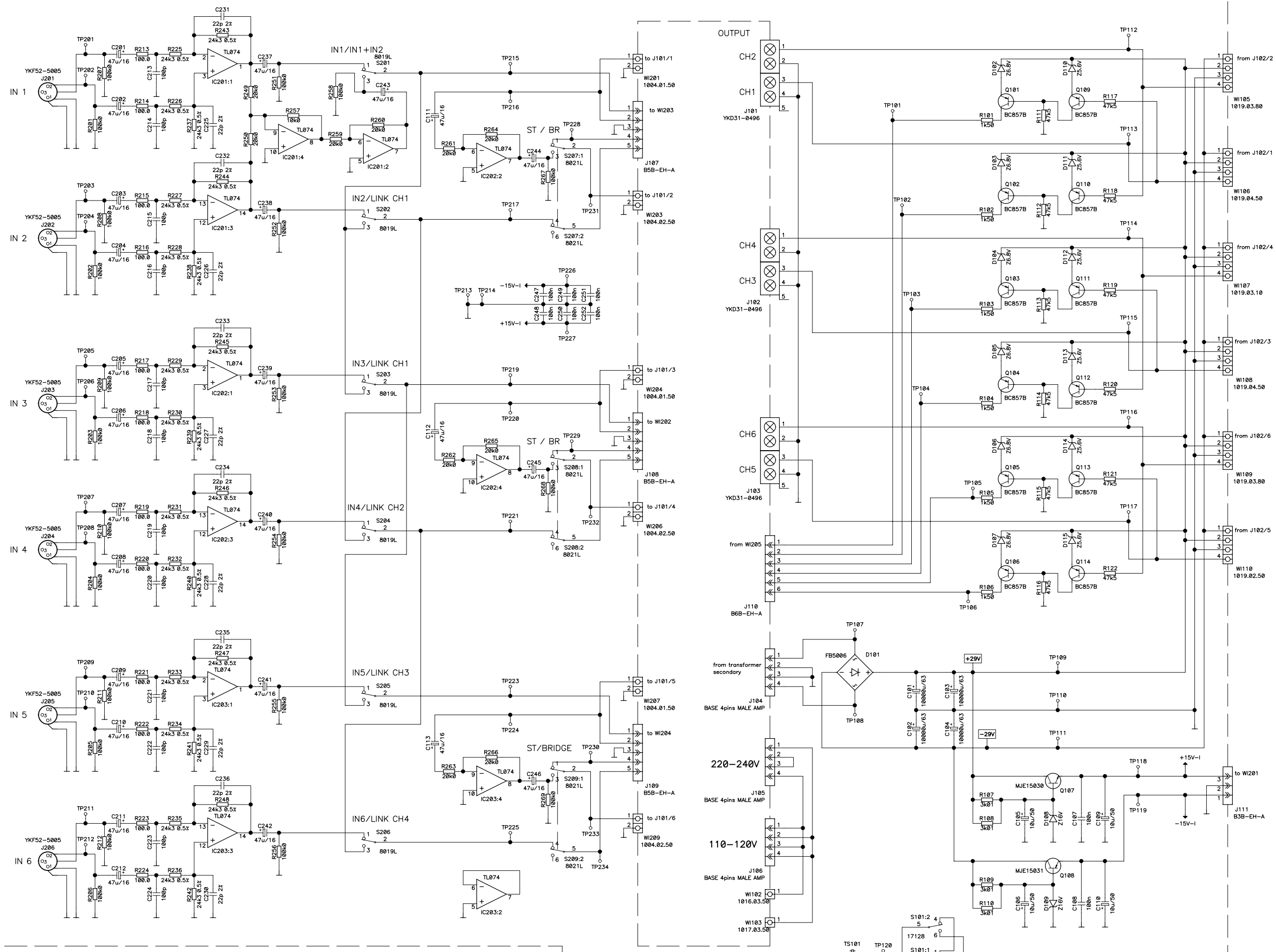
N°	Qty	Code	Description
1	4	FCARAT300000	SCREW INSULATOR
2	4	FCARN5000000	WASHER 5X11,5X0,8
3	2	FCBOL0010000	BAG 60x80
4	1	FCBOL0020000	PLASTIC BAG 120x180
5	1	FCBOLS020000	STANDARD BAG 75x65
6	4	FCBOTD240100	ROT. KNOB PROTECTION COVER
7	1	FCCAJSTA0100	BOX STANDARD 1
8	4	FCCANT118000	INTERIOR REINFORCEMENT
9	1	FCCONX017500	MAINS CABLE 3x1
10	2	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
11	1	FCFUNMAN0000	USER MANUAL BAG
12	1	FCMANMPA7000	USER MANUAL MPA 70W
13	4	FCPIE1125500	RUBBER FOOT
14*	1	FCTARJG000000	WARRANTY CARD



Nº	Qty	ECLER Code	Description
1	1	FCCAJSTA01	BOX STANDARD 1
2	4	FCCANT1010	INTERIOR REINFORCEMENT
3	1	FCBOLS0200	STANDARD BAG 75x65
4	2	FCBOLO0100	BAG 60x80
5	4	FCPIE11255	RUBBER FOOT
6	1	FCBOLO0200	BAG 120x180
7	1	FCCONX0175	MAINS CABLE 3x1
8	1	FCFUNMAN00	USER MANUAL BAG
9	1	FCMANPAM70	USER MANUAL MPA 70W
10	2	FCETICAJA0	UNIT INFORMATION LABEL
11	4	FCBOTD2401	ROT. KNOB PROTECTION COVER
12	4	FCARN50000	WASHER 5X11,5X0,8M
13	4	FCARAT3000	SCREW INSULATOR





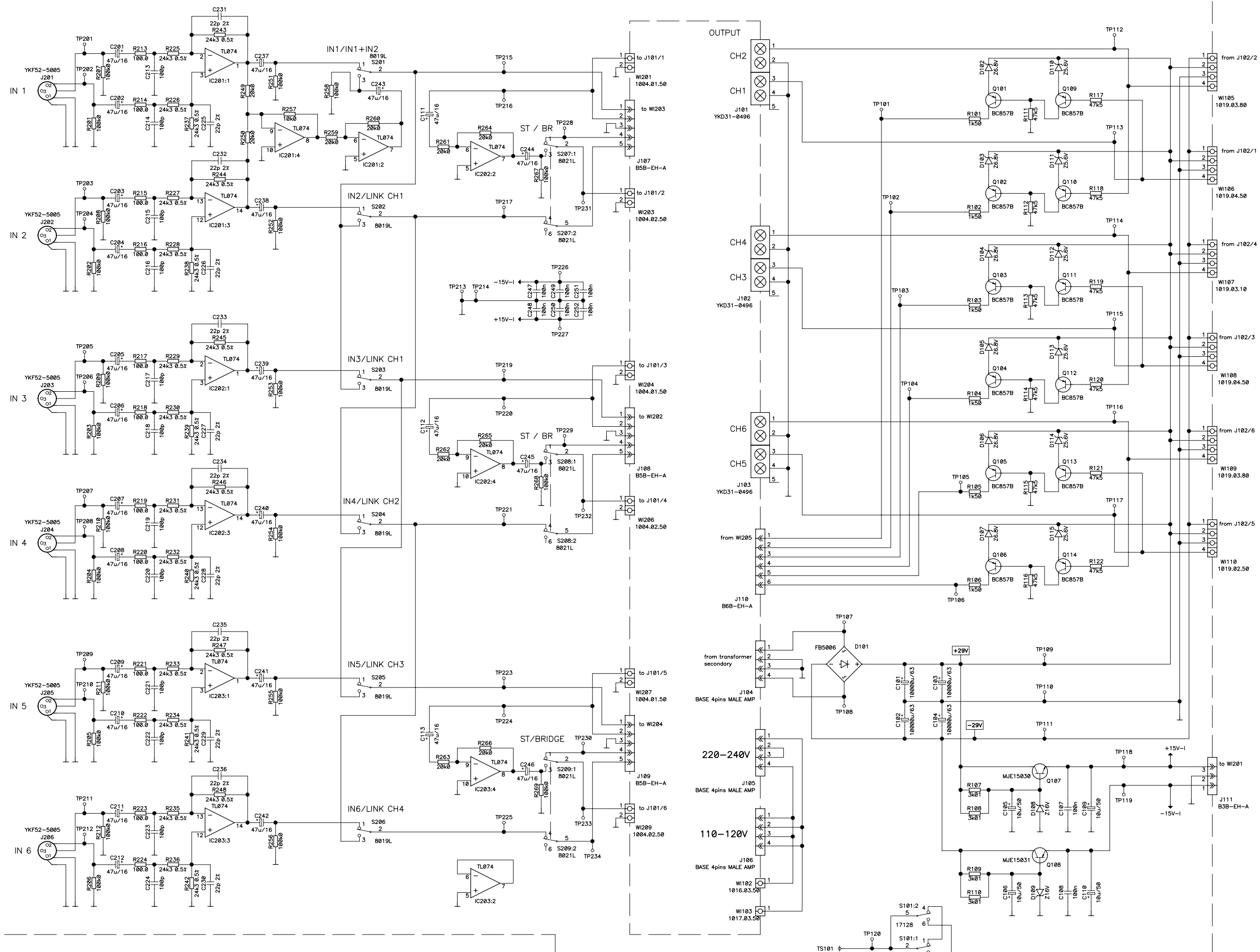


ECLEREO
LABORATÓRIO DE ELECTRO-ACUSTICA S.A.

number: 10.0486 version: 01.03

drawn by: M. Amoros date: 000221 approved by: Angel Sanuy
title: EP01-99B Inputs & Power Supply

Printed Board 11.0762



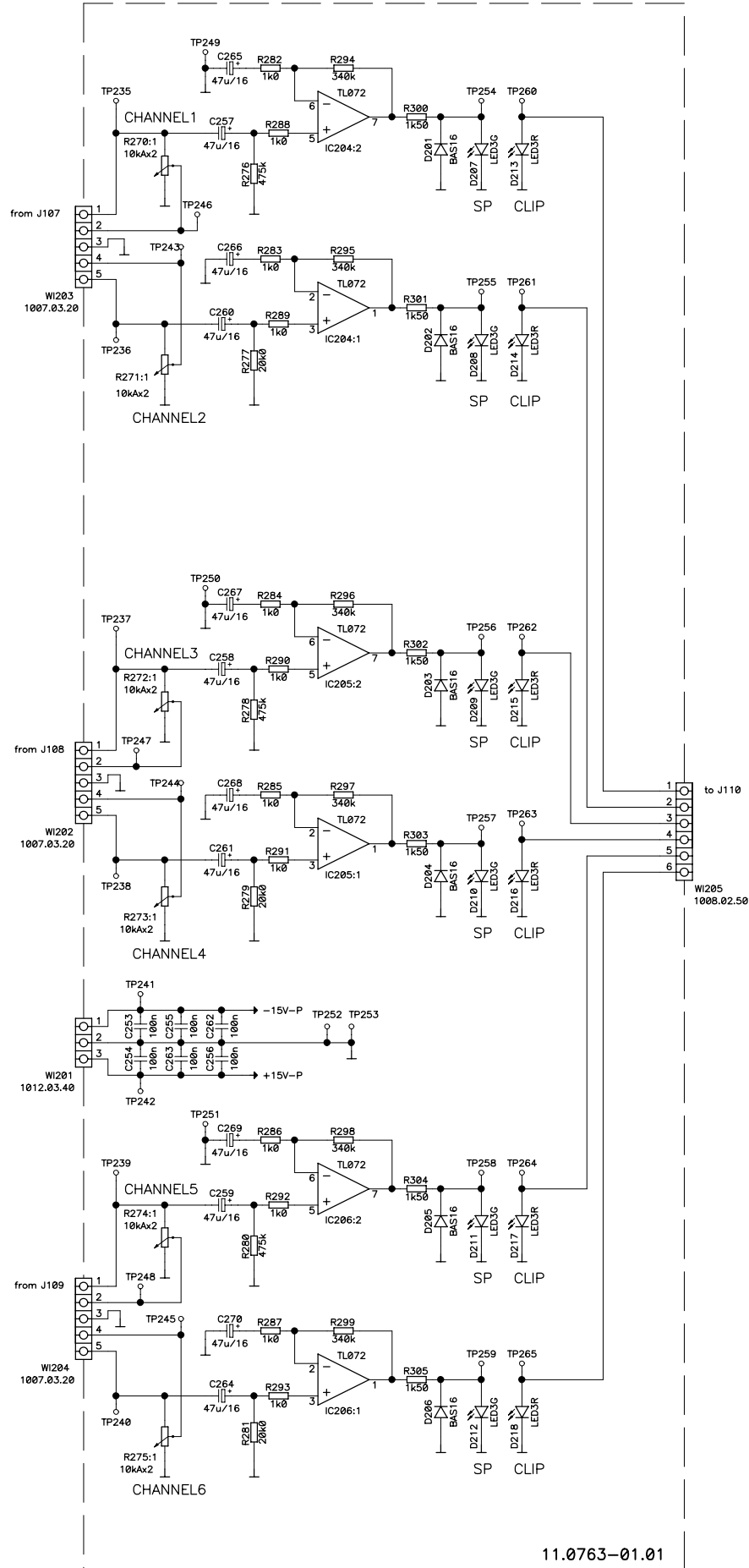
ECLEREO
LABORATÓRIO DE ELECTRO-ACUSTICA S.A.

number: 10.0486 version: 01.02

drawn by: M. Amoros date: 000221 approved by: Angel Sanuy

title: EP01-99B Inputs & Power Supply

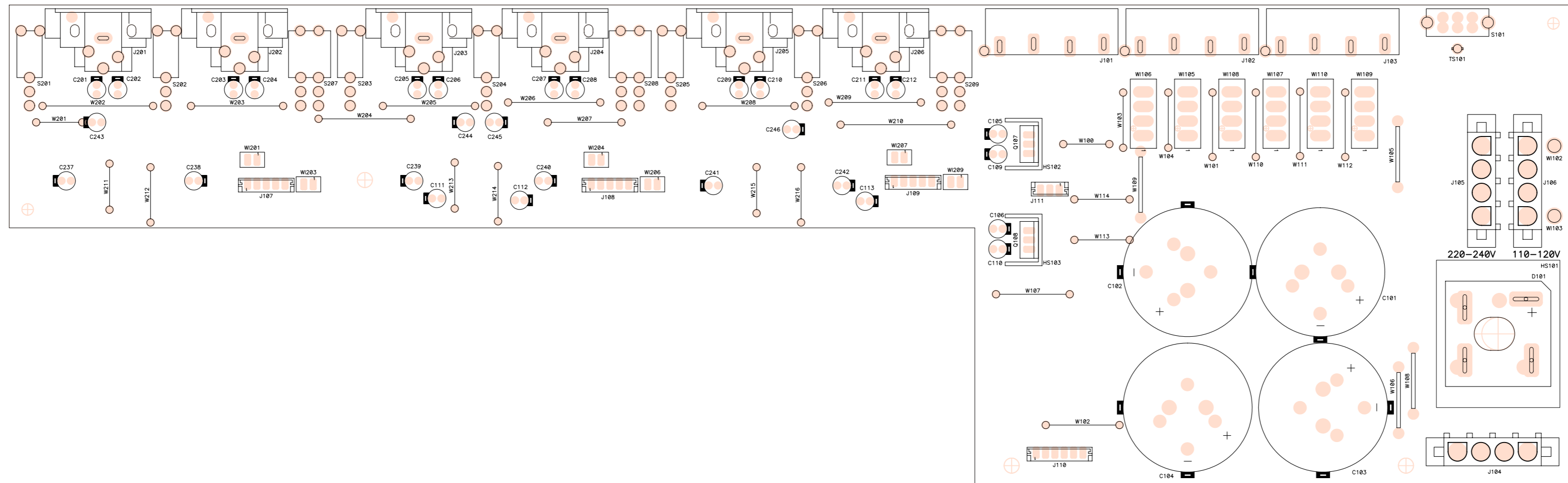
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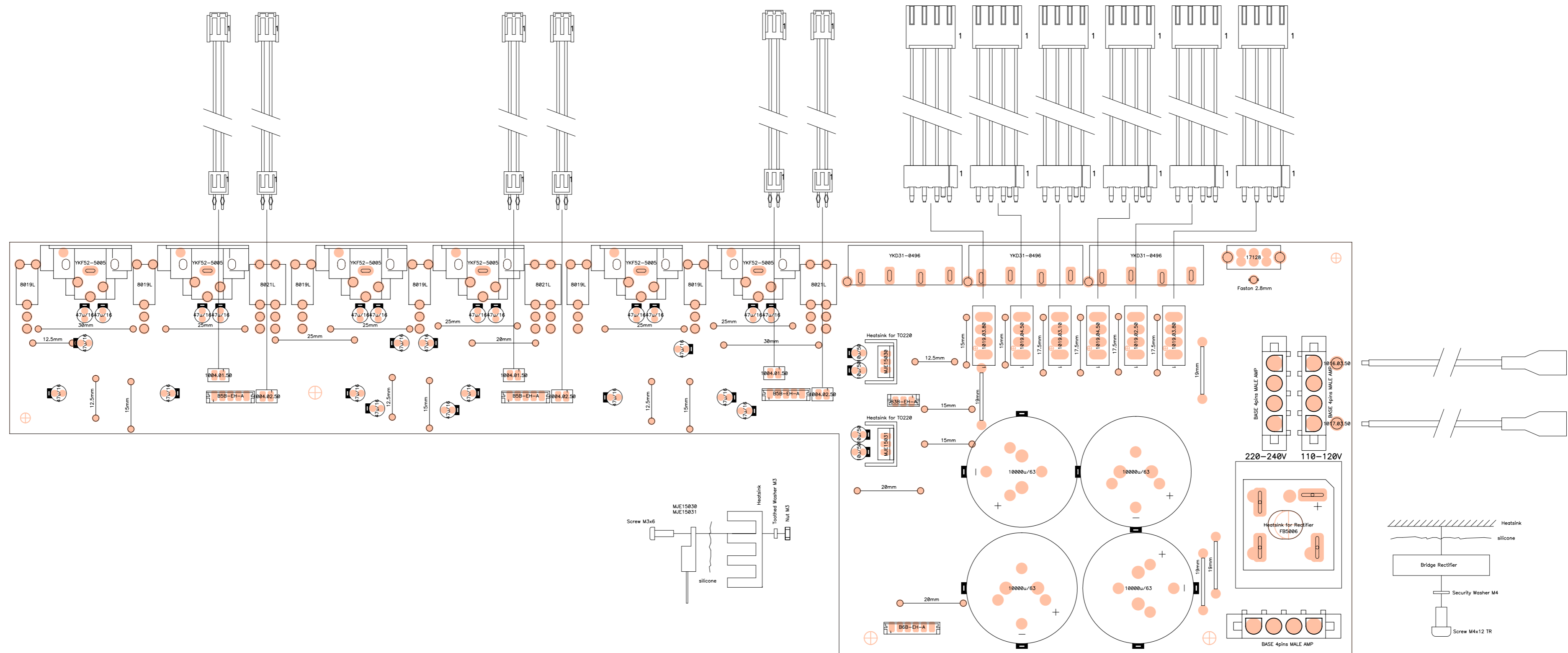
drawn by: M. Amoros date: 000221 approved by: Angel Sanuy

title: EP01-99B Ptcmt & Leds Ct.

number: 10.0487 version: 01.01

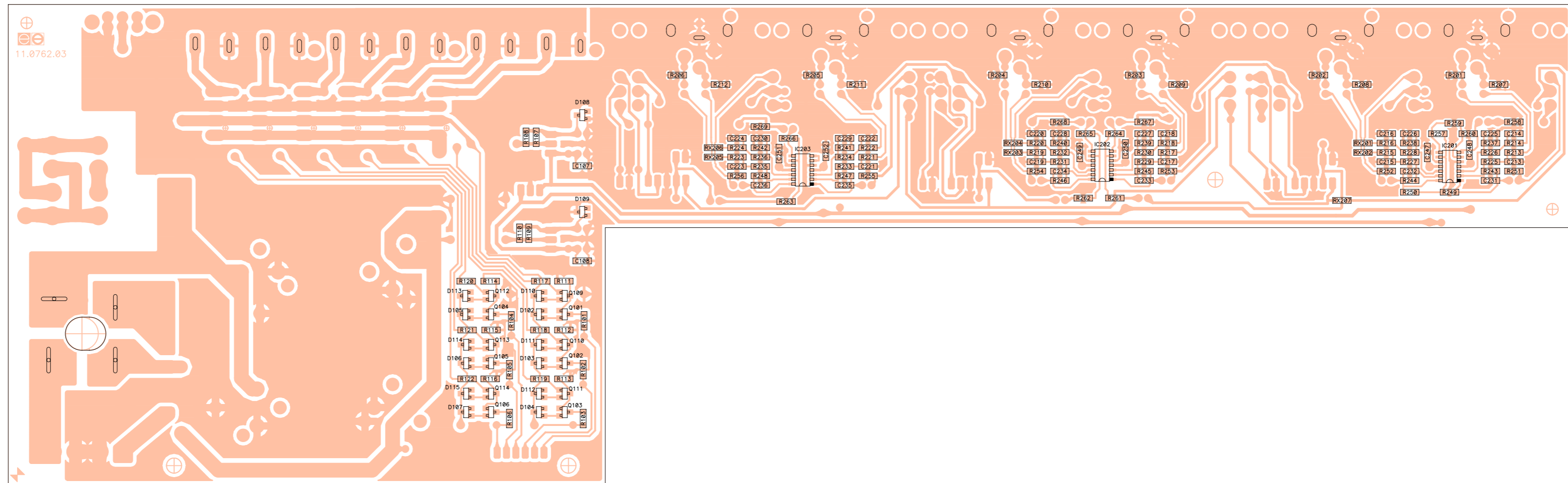


related to:	circuit no: 11.0762-01.03 schema no: 10.0486-01.02 insertion file no:	side: Component view: Reference
drawn by:	M. Amoros	date: 040311
approved by:	Angel Sanuy	
number: 33.0373	version: 01.03	title: EP01-99B Inputs & Power Supply

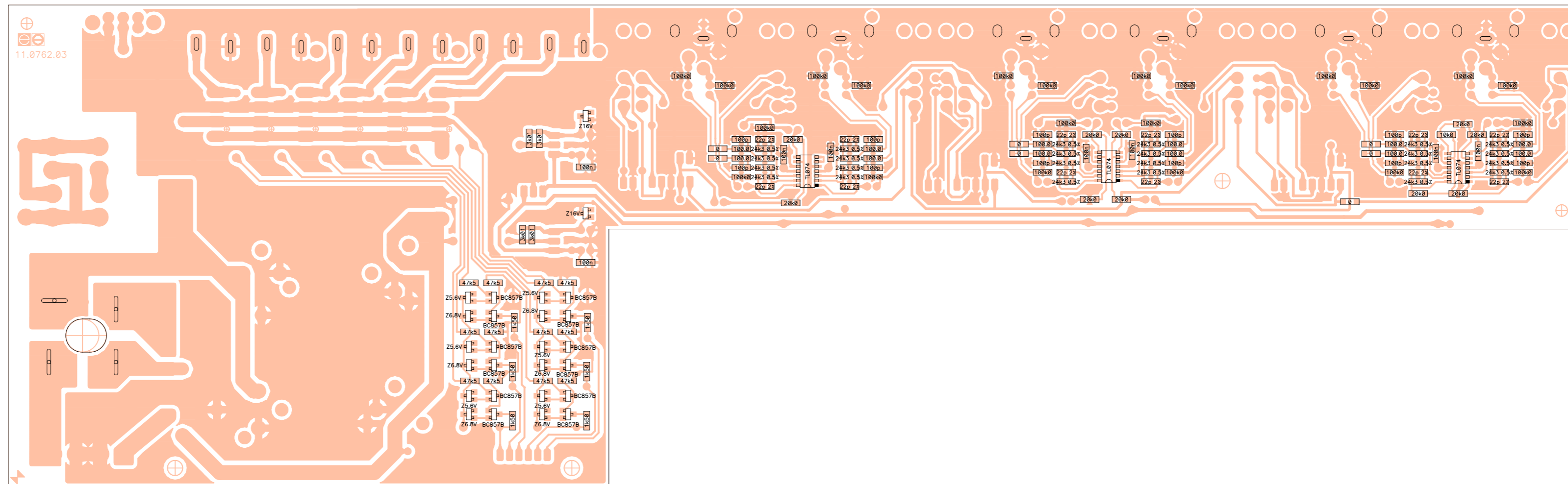


number: 33.0374 version: 01.04

related to:	circuit no: 11.0762-01.03 schema no: 10.0486-01.02 insertion file no:	side: Component view: Value
drawn by:	M. Amoros date: 040311	approved by: Angel Sanuy
title: EP01-99B Inputs & Power Supply		



related to:	circuit no: 11.0762-01.03 schema no: 10.0486-01.02 insertion file no: 81.0009-01.02	side: Solder view: Reference
drawn by:	M. Amoros	date: 040311
approved by:	Angel Sanuy	
number: 33.0375	version: 01.03	title: EP01-99B Inputs & Power Supply



LABORATORIO DE ELECTRO-ACUSTICA S.A.

number: 33.0376 version: 01.03

related to:	circuit no: 11.0762-01.03 schema no: 10.0486-01.02 insertion file no: 81.0009-01.02	side: Solder view: Value
drawn by:	M. Amoros	date: 040311
approved by:	Angel Sanuy	
title: EP01-99B Inputs & Power Supply		

PRINTED CIRCUIT 11.0762.03.00

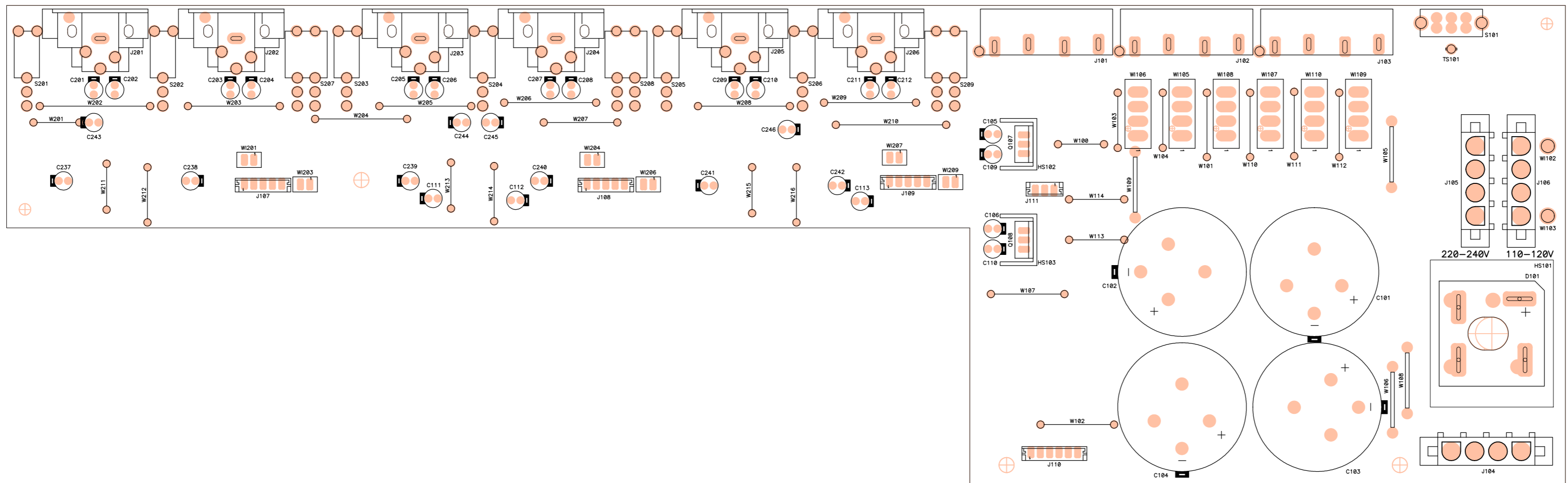
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C102	10000u/63	FCCE321000
C103	10000u/63	FCCE321000
C104	10000u/63	FCCE321000
C105	10u/50	FCCE250100
C106	10u/50	FCCE250100
C107	100n	FCXCN41000
C108	100n	FCXCN41000
C109	10u/50	FCCE250100
C110	10u/50	FCCE250100
C111	47u/16	FCCE100000
C112	47u/16	FCCE100000
C113	47u/16	FCCE100000
C201	47u/16	FCCE100000
C202	47u/16	FCCE100000
C203	47u/16	FCCE100000
C204	47u/16	FCCE100000
C205	47u/16	FCCE100000
C206	47u/16	FCCE100000
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C208	47u/16	FCCE100000
C209	47u/16	FCCE100000
C210	47u/16	FCCE100000
C211	47u/16	FCCE100000
C212	47u/16	FCCE100000
C213	100p	FCXCN21000
C214	100p	FCXCN21000
C215	100p	FCXCN21000
C216	100p	FCXCN21000
C217	100p	FCXCN21000
C218	100p	FCXCN21000
C219	100p	FCXCN21000
C220	100p	FCXCN21000
C221	100p	FCXCN21000
C222	100p	FCXCN21000
C223	100p	FCXCN21000
C224	100p	FCXCN21000
C225	22p 2%	FCXCN12201
C226	22p 2%	FCXCN12201
C227	22p 2%	FCXCN12201
C228	22p 2%	FCXCN12201
C229	22p 2%	FCXCN12201
C230	22p 2%	FCXCN12201
C231	22p 2%	FCXCN12201
C232	22p 2%	FCXCN12201
C233	22p 2%	FCXCN12201
C234	22p 2%	FCXCN12201
C235	22p 2%	FCXCN12201
C236	22p 2%	FCXCN12201
C237	47u/16	FCCE100000
C238	47u/16	FCCE100000


REFERENCE	VALUE	CODE
C239	47u/16	FCCE100000
C240	47u/16	FCCE100000
C241	47u/16	FCCE100000
C242	47u/16	FCCE100000
C243	47u/16	FCCE100000
C244	47u/16	FCCE100000
C245	47u/16	FCCE100000
C246	47u/16	FCCE100000
C247	100n	FCXCN41000
C248	100n	FCXCN41000
C249	100n	FCXCN41000
C250	100n	FCXCN41000
C251	100n	FCXCN41000
C252	100n	FCXCN41000
CI101	11.0762-01.01	FCCIMPA762
D101	FB5006	FCREC50060
D102	Z6.8V	FCXZ000068
D103	Z6.8V	FCXZ000068
D104	Z6.8V	FCXZ000068
D105	Z6.8V	FCXZ000068
D106	Z6.8V	FCXZ000068
D107	Z6.8V	FCXZ000068
D108	Z16V	FCXZ000160
D109	Z16V	FCXZ000160
D110	Z5.6V	FCXZ000056
D111	Z5.6V	FCXZ000056
D112	Z5.6V	FCXZ000056
D113	Z5.6V	FCXZ000056
D114	Z5.6V	FCXZ000056
D115	Z5.6V	FCXZ000056
HS101	Heatsink for Re	FCRAD11515
HS102	Heatsink for TO	FCRAD29060
HS103	Heatsink for TO	FCRAD29060
IC201	TL074	FCIC074010
IC202	TL074	FCIC074010
IC203	TL074	FCIC074010
J101	YKD31-0496	FCCTJAL100
J102	YKD31-0496	FCCTJAL100
J103	YKD31-0496	FCCTJAL100
J104	BASE 4pins MALE	FCCTAMP040
J105	BASE 4pins MALE	FCCTAMP040
J106	BASE 4pins MALE	FCCTAMP040
J107	B5B-EH-A	FCCTM00050
J108	B5B-EH-A	FCCTM00050
J109	B5B-EH-A	FCCTM00050
J110	B6B-EH-A	FCCTM00060
J111	B3B-EH-A	FCCTM00030
J201	YKF52-5005	FCBASX0900
J202	YKF52-5005	FCBASX0900
J203	YKF52-5005	FCBASX0900
J204	YKF52-5005	FCBASX0900
J205	YKF52-5005	FCBASX0900
J206	YKF52-5005	FCBASX0900
NV100	M3	FCTUE00300
NV101	M3	FCTUE00300
Q101	BC857B	FCXTT08570
Q102	BC857B	FCXTT08570

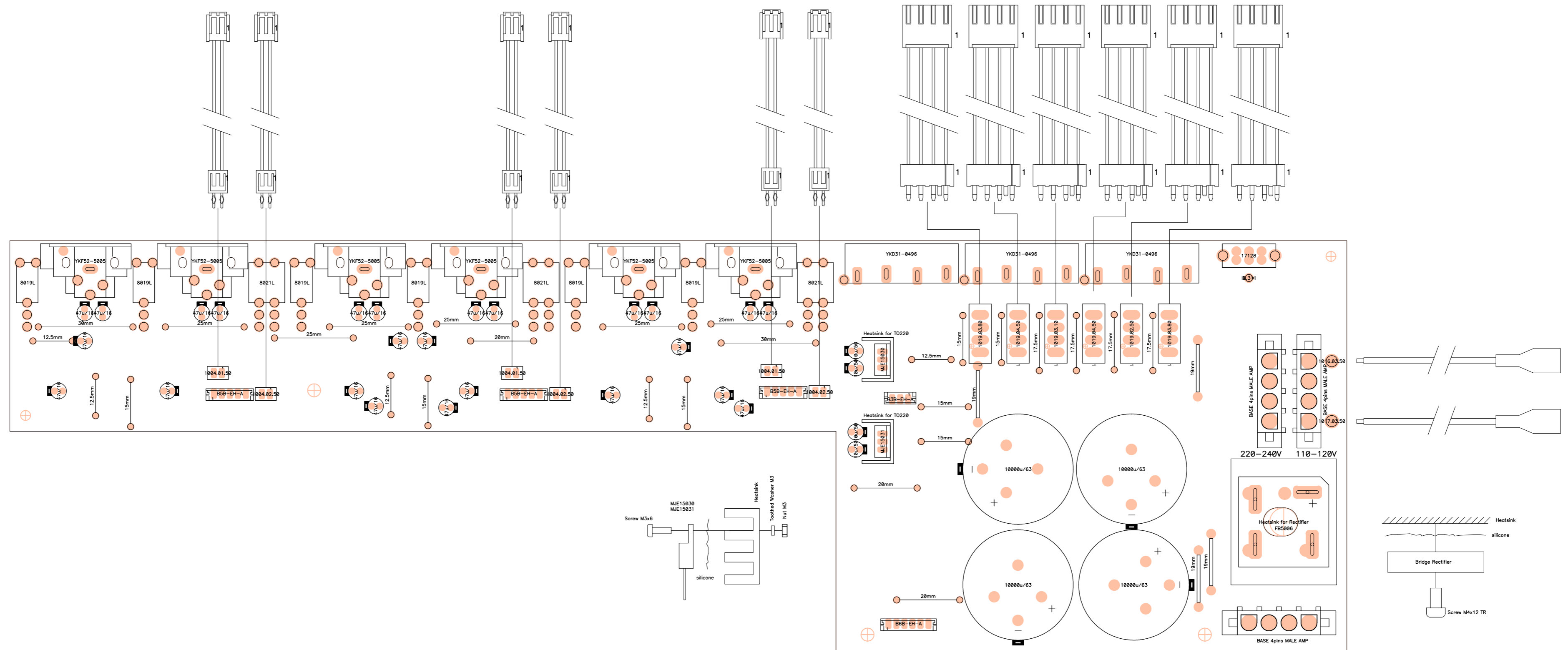
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Q106	BC857B	FCXTT08570
Q107	MJE15030	FCTR150300
Q108	MJE15031	FCTR150310
Q109	BC857B	FCXTT08570
Q110	BC857B	FCXTT08570
Q111	BC857B	FCXTT08570
Q112	BC857B	FCXTT08570
Q113	BC857B	FCXTT08570
Q114	BC857B	FCXTT08570
R101	1k50	FCXR131500
R102	1k50	FCXR131500
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R105	1k50	FCXR131500
R106	1k50	FCXR131500
R107	3k01	FCXR133010
R108	3k01	FCXR133010
R109	3k01	FCXR133010
R110	3k01	FCXR133010
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R211	100k0	FCXR151000
R212	100k0	FCXR151000
R213	100.0Ω	FCXR121000
R214	100.0Ω	FCXR121000
R215	100.0Ω	FCXR121000
R216	100.0Ω	FCXR121000
R217	100.0Ω	FCXR121000
R218	100.0Ω	FCXR121000
R219	100.0Ω	FCXR121000
R220	100.0Ω	FCXR121000
R221	100.0Ω	FCXR121000
R222	100.0Ω	FCXR121000
R223	100.0Ω	FCXR121000

REFERENCE	VALUE	CODE
R224	100.0Ω	FCXR121000
R225	24k3 0.5%	FCXR242430
R226	24k3 0.5%	FCXR242430
R227	24k3 0.5%	FCXR242430
R228	24k3 0.5%	FCXR242430
R229	24k3 0.5%	FCXR242430
R230	24k3 0.5%	FCXR242430
R231	24k3 0.5%	FCXR242430
R232	24k3 0.5%	FCXR242430
R233	24k3 0.5%	FCXR242430
R234	24k3 0.5%	FCXR242430
R235	24k3 0.5%	FCXR242430
R236	24k3 0.5%	FCXR242430
R237	24k3 0.5%	FCXR242430
R238	24k3 0.5%	FCXR242430
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R240	24k3 0.5%	FCXR242430
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R245	24k3 0.5%	FCXR242430
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R267	100k0	FCXR151000
R268	100k0	FCXR151000
R269	100k0	FCXR151000
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RX202	0Ω	FCXR000000
RX203	0Ω	FCXR000000
RX204	0Ω	FCXR000000
RX205	0Ω	FCXR000000
RX206	0Ω	FCXR000000
RX207	0Ω	FCXR000000
S101	17128	FCINTD4000
S201	8019L	FCINTAP130
S202	8019L	FCINTAP130
S203	8019L	FCINTAP130

REFERENCE	VALUE	CODE
S204	8019L	FCINTAP130
S205	8019L	FCINTAP130
S206	8019L	FCINTAP130
S207	8021L	FCINTAP140
S208	8021L	FCINTAP140
S209	8021L	FCINTAP140
SC100	M3x6	FCT7503006
SC101	M3x6	FCT7503006
SC102	M4x15	FCT7004015
SP100	ADE p/M3	FCARDE0300
SP101	ADE p/M3	FCARDE0300
TS101	T-120	FCTERMF280
W100	12.5mm	FCPONT0125
W101	17.5mm	FCPONT0175
W102	20mm	FCPONT0200
W103	15mm	FCPONT0150
W104	15mm	FCPONT0150
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	20mm	FCPONT0200
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	17.5mm	FCPONT0175
W111	17.5mm	FCPONT0175
W112	17.5mm	FCPONT0175
W113	15mm	FCPONT0150
W114	15mm	FCPONT0150
W201	12.5mm	FCPONT0125
W202	30mm	FCPONT0300
W203	25mm	FCPONT0250
W204	25mm	FCPONT0250
W205	25mm	FCPONT0250
W206	25mm	FCPONT0250
W207	20mm	FCPONT0200
W208	25mm	FCPONT0250
W209	25mm	FCPONT0250
W210	30mm	FCPONT0300
W211	12.5mm	FCPONT0125
W212	15mm	FCPONT0150
W213	12.5mm	FCPONT0125
W214	15mm	FCPONT0150
W215	12.5mm	FCPONT0125
W216	15mm	FCPONT0150
WI102	1016.03.50	FC2F016350
WI103	1017.03.50	FC2F017350
WI105	1019.04.50	FC0E019450
WI106	1019.03.80	FC0E019380
WI107	1019.04.50	FC0E019450
WI108	1019.03.10	FC0E019310
WI109	1019.03.80	FC0E019380
WI110	1019.02.50	FC0E019250
WI201	1004.01.50	FC4G004150
WI203	1004.02.50	FC4G004250
WI204	1004.01.50	FC4G004150
WI206	1004.02.50	FC4G004250
WI207	1004.01.50	FC4G004150
WI209	1004.02.50	FC4G004250

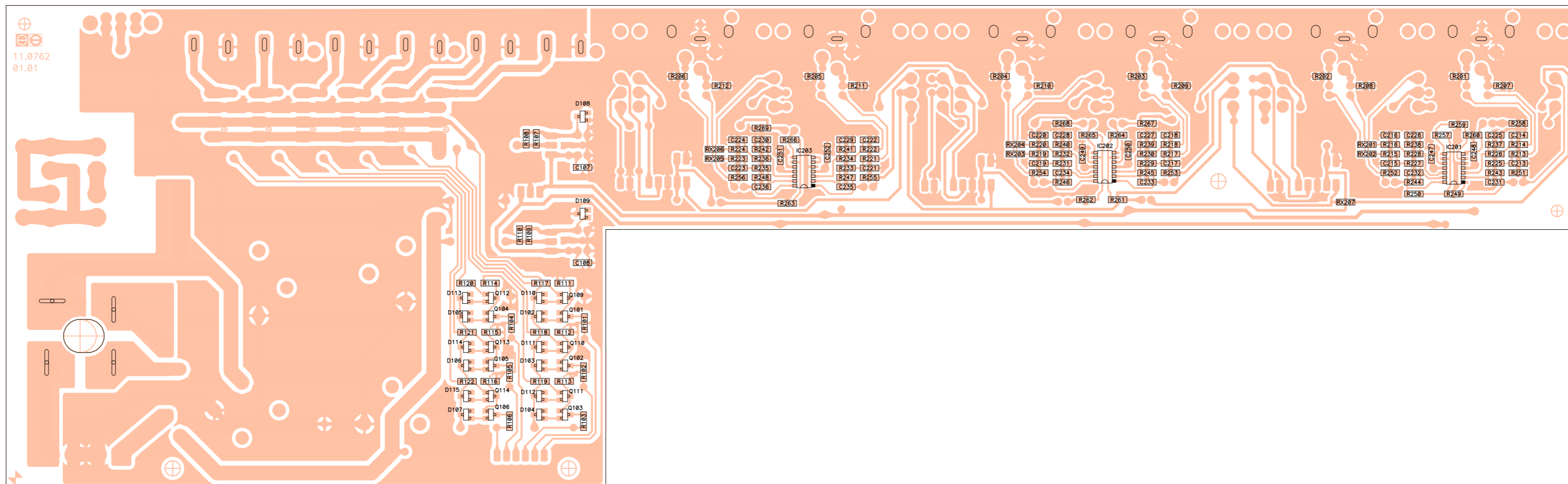



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0762-01.01 schema no: 10.0486-01.02 insertion file no:	side: Component
	drawn by: M. Amoros	date: 000208	approved by: Angel Sanuy
number: 33.0373	version: 01.02	title: EP01-99B Inputs & Power Supply	

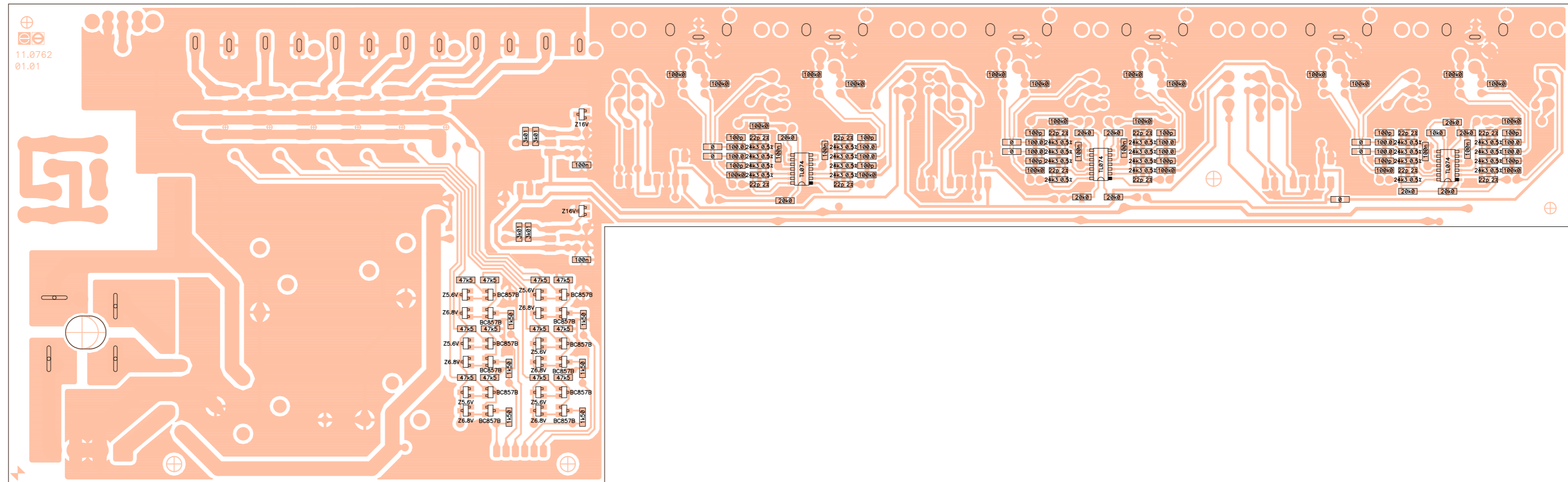


number: 33.0374 version: 01.03

related to:	circuit no: 11.0762-01.01 schema no: 10.0486-01.02 insertion file no:	side: Component view: Value
drawn by:	M. Amoros	date: 000208
approved by:	Angel Sanuy	
title: EP01-99B Inputs & Power Supply		



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0762-01.01 schema no: 10.0486-01.02 insertion file no: 81.0009-01.02	side: Solder
	drawn by: M. Amoros	date: 000208	view: Reference
number: 33.0375	version: 01.02	title: EP01-99B Inputs & Power Supply	
approved by: Angel Sanuy			



11.0762
01.01



LABORATORIO DE ELECTRO-ACUSTICA S.A.

number: 33.0376 version: 01.02

related to:	circuit no: 11.0762-01.01	side: Solder
	schema no: 10.0486-01.02	view: Value
	insertion file no: 81.0009-01.02	
drawn by:	M. Amoros	date: 000208
		approved by: Angel Sanuy
title: EP01-99B Inputs & Power Supply		

PRINTED CIRCUIT 11.0762-01.01

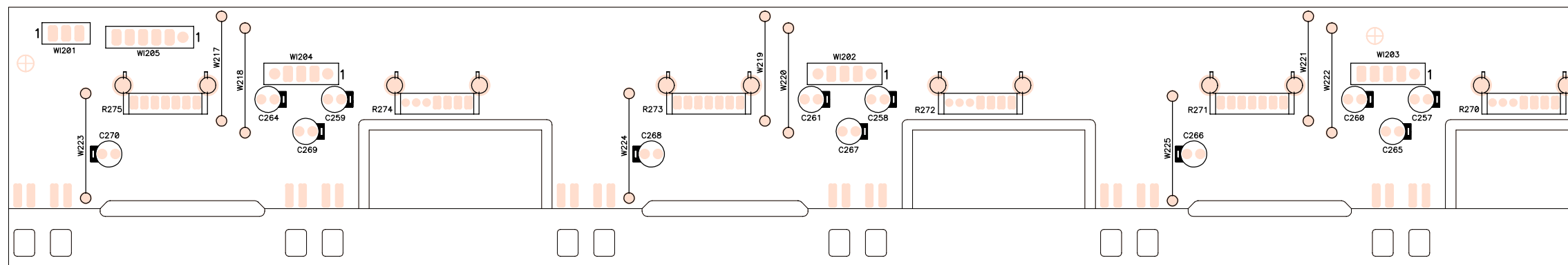
REFERENCE	VALUE	CODE
C101	10000u/63	FCCE321000
C102	10000u/63	FCCE321000
C103	10000u/63	FCCE321000
C104	10000u/63	FCCE321000
C105	10u/50	FCCE250100
C106	10u/50	FCCE250100
C107	100n	FCXCN41000
C108	100n	FCXCN41000
C109	10u/50	FCCE250100
C110	10u/50	FCCE250100
C111	47u/16	FCCE100000
C112	47u/16	FCCE100000
C113	47u/16	FCCE100000
C201	47u/16	FCCE100000
C202	47u/16	FCCE100000
C203	47u/16	FCCE100000
C204	47u/16	FCCE100000
C205	47u/16	FCCE100000
C206	47u/16	FCCE100000
C207	47u/16	FCCE100000
C208	47u/16	FCCE100000
C209	47u/16	FCCE100000
C210	47u/16	FCCE100000
C211	47u/16	FCCE100000
C212	47u/16	FCCE100000
C213	100p	FCXCN21000
C214	100p	FCXCN21000
C215	100p	FCXCN21000
C216	100p	FCXCN21000
C217	100p	FCXCN21000
C218	100p	FCXCN21000
C219	100p	FCXCN21000
C220	100p	FCXCN21000
C221	100p	FCXCN21000
C222	100p	FCXCN21000
C223	100p	FCXCN21000
C224	100p	FCXCN21000
C225	22p 2%	FCXCN12201
C226	22p 2%	FCXCN12201
C227	22p 2%	FCXCN12201
C228	22p 2%	FCXCN12201
C229	22p 2%	FCXCN12201
C230	22p 2%	FCXCN12201
C231	22p 2%	FCXCN12201
C232	22p 2%	FCXCN12201
C233	22p 2%	FCXCN12201
C234	22p 2%	FCXCN12201
C235	22p 2%	FCXCN12201
C236	22p 2%	FCXCN12201
C237	47u/16	FCCE100000
C238	47u/16	FCCE100000
C239	47u/16	FCCE100000


REFERENCE	VALUE	CODE
C240	47u/16	FCCE100000
C241	47u/16	FCCE100000
C242	47u/16	FCCE100000
C243	47u/16	FCCE100000
C244	47u/16	FCCE100000
C245	47u/16	FCCE100000
C246	47u/16	FCCE100000
C247	100n	FCXCN41000
C248	100n	FCXCN41000
C249	100n	FCXCN41000
C250	100n	FCXCN41000
C251	100n	FCXCN41000
C252	100n	FCXCN41000
CI101	11.0762-01.01	FCCIMPA762
D101	FB5006	FCREC50060
D102	Z6.8V	FCXZ000068
D103	Z6.8V	FCXZ000068
D104	Z6.8V	FCXZ000068
D105	Z6.8V	FCXZ000068
D106	Z6.8V	FCXZ000068
D107	Z6.8V	FCXZ000068
D108	Z16V	FCXZ000160
D109	Z16V	FCXZ000160
D110	Z5.6V	FCXZ000056
D111	Z5.6V	FCXZ000056
D112	Z5.6V	FCXZ000056
D113	Z5.6V	FCXZ000056
D114	Z5.6V	FCXZ000056
D115	Z5.6V	FCXZ000056
HS101	Heatsink for Re	FCRAD11515
HS102	Heatsink for TO	FCRAD29060
HS103	Heatsink for TO	FCRAD29060
IC201	TL074	FCIC074010
IC202	TL074	FCIC074010
IC203	TL074	FCIC074010
J101	YKD31-0496	FCCTJAL100
J102	YKD31-0496	FCCTJAL100
J103	YKD31-0496	FCCTJAL100
J104	BASE 4pins MALE	FCCTAMP040
J105	BASE 4pins MALE	FCCTAMP040
J106	BASE 4pins MALE	FCCTAMP040
J107	B5B-EH-A	FCCTM00050
J108	B5B-EH-A	FCCTM00050
J109	B5B-EH-A	FCCTM00050
J110	B6B-EH-A	FCCTM00060
J111	B3B-EH-A	FCCTM00030
J201	YKF52-5005	FCBASX0900
J202	YKF52-5005	FCBASX0900
J203	YKF52-5005	FCBASX0900
J204	YKF52-5005	FCBASX0900
J205	YKF52-5005	FCBASX0900
J206	YKF52-5005	FCBASX0900
NV100	M3	FCTUE00300
NV101	M3	FCTUE00300
Q101	BC857B	FCXTT08570
Q102	BC857B	FCXTT08570
Q103	BC857B	FCXTT08570
Q104	BC857B	FCXTT08570

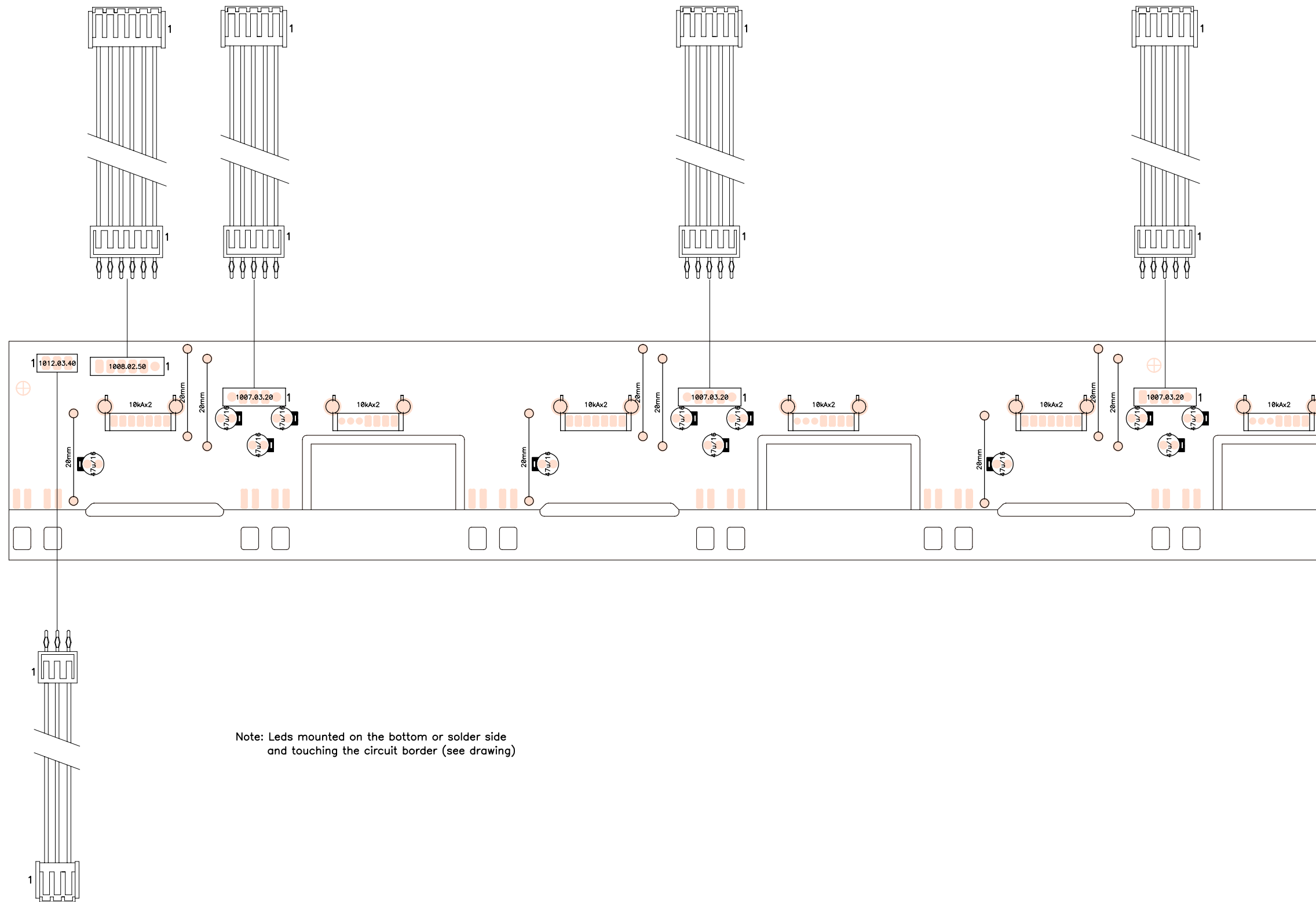
REFERENCE	VALUE	CODE
Q105	BC857B	FCXTT08570
Q106	BC857B	FCXTT08570
Q107	MJE15030	FCTR150300
Q108	MJE15031	FCTR150310
Q109	BC857B	FCXTT08570
Q110	BC857B	FCXTT08570
Q111	BC857B	FCXTT08570
Q112	BC857B	FCXTT08570
Q113	BC857B	FCXTT08570
Q114	BC857B	FCXTT08570
R101	1k50	FCXR131500
R102	1k50	FCXR131500
R103	1k50	FCXR131500
R104	1k50	FCXR131500
R105	1k50	FCXR131500
R106	1k50	FCXR131500
R107	3k01	FCXR133010
R108	3k01	FCXR133010
R109	3k01	FCXR133010
R110	3k01	FCXR133010
R111	47k5	FCXR144750
R112	47k5	FCXR144750
R113	47k5	FCXR144750
R114	47k5	FCXR144750
R115	47k5	FCXR144750
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R119	47k5	FCXR144750
R120	47k5	FCXR144750
R121	47k5	FCXR144750
R122	47k5	FCXR144750
R201	100k0	FCXR151000
R202	100k0	FCXR151000
R203	100k0	FCXR151000
R204	100k0	FCXR151000
R205	100k0	FCXR151000
R206	100k0	FCXR151000
R207	100k0	FCXR151000
R208	100k0	FCXR151000
R209	100k0	FCXR151000
R210	100k0	FCXR151000
R211	100k0	FCXR151000
R212	100k0	FCXR151000
R213	100.0Ω	FCXR121000
R214	100.0Ω	FCXR121000
R215	100.0Ω	FCXR121000
R216	100.0Ω	FCXR121000
R217	100.0Ω	FCXR121000
R218	100.0Ω	FCXR121000
R219	100.0Ω	FCXR121000
R220	100.0Ω	FCXR121000
R221	100.0Ω	FCXR121000
R222	100.0Ω	FCXR121000
R223	100.0Ω	FCXR121000
R224	100.0Ω	FCXR121000
R225	24k3 0.5%	FCXR242430
R226	24k3 0.5%	FCXR242430

REFERENCE	VALUE	CODE
R227	24k3 0.5%	FCXR242430
R228	24k3 0.5%	FCXR242430
R229	24k3 0.5%	FCXR242430
R230	24k3 0.5%	FCXR242430
R231	24k3 0.5%	FCXR242430
R232	24k3 0.5%	FCXR242430
R233	24k3 0.5%	FCXR242430
R234	24k3 0.5%	FCXR242430
R235	24k3 0.5%	FCXR242430
R236	24k3 0.5%	FCXR242430
R237	24k3 0.5%	FCXR242430
R238	24k3 0.5%	FCXR242430
R239	24k3 0.5%	FCXR242430
R240	24k3 0.5%	FCXR242430
R241	24k3 0.5%	FCXR242430
R242	24k3 0.5%	FCXR242430
R243	24k3 0.5%	FCXR242430
R244	24k3 0.5%	FCXR242430
R245	24k3 0.5%	FCXR242430
R246	24k3 0.5%	FCXR242430
R247	24k3 0.5%	FCXR242430
R248	24k3 0.5%	FCXR242430
R249	20k0	FCXR142000
R250	20k0	FCXR142000
R251	100k0	FCXR151000
R252	100k0	FCXR151000
R253	100k0	FCXR151000
R254	100k0	FCXR151000
R255	100k0	FCXR151000
R256	100k0	FCXR151000
R257	10k0	FCXR141000
R258	100k0	FCXR151000
R259	20k0	FCXR142000
R260	20k0	FCXR142000
R261	20k0	FCXR142000
R262	20k0	FCXR142000
R263	20k0	FCXR142000
R264	20k0	FCXR142000
R265	20k0	FCXR142000
R266	20k0	FCXR142000
R267	100k0	FCXR151000
R268	100k0	FCXR151000
R269	100k0	FCXR151000
RX201	0Ω	FCXR000000
RX202	0Ω	FCXR000000
RX203	0Ω	FCXR000000
RX204	0Ω	FCXR000000
RX205	0Ω	FCXR000000
RX206	0Ω	FCXR000000
RX207	0Ω	FCXR000000
S101	17128	FCINTD4000
S201	8019L	FCINTAP130
S202	8019L	FCINTAP130
S203	8019L	FCINTAP130
S204	8019L	FCINTAP130
S205	8019L	FCINTAP130
S206	8019L	FCINTAP130
S207	8021L	FCINTAP140


REFERENCE	VALUE	CODE
S208	8021L	FCINTAP140
S209	8021L	FCINTAP140
SC100	M3x6	FCT7503006
SC101	M3x6	FCT7503006
SC102	M4x15	FCT7004015
SP100	ADE p/M3	FCARDE0300
SP101	ADE p/M3	FCARDE0300
TS101	IB.311	FCTERMSOLO
W100	12.5mm	FCPONT0125
W101	17.5mm	FCPONT0175
W102	20mm	FCPONT0200
W103	15mm	FCPONT0150
W104	15mm	FCPONT0150
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	20mm	FCPONT0200
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	17.5mm	FCPONT0175
W111	17.5mm	FCPONT0175
W112	17.5mm	FCPONT0175
W113	15mm	FCPONT0150
W114	15mm	FCPONT0150
W201	12.5mm	FCPONT0125
W202	30mm	FCPONT0300
W203	25mm	FCPONT0250
W204	25mm	FCPONT0250
W205	25mm	FCPONT0250
W206	25mm	FCPONT0250
W207	20mm	FCPONT0200
W208	25mm	FCPONT0250
W209	25mm	FCPONT0250
W210	30mm	FCPONT0300
W211	12.5mm	FCPONT0125
W212	15mm	FCPONT0150
W213	12.5mm	FCPONT0125
W214	15mm	FCPONT0150
W215	12.5mm	FCPONT0125
W216	15mm	FCPONT0150
WI102	1016.03.50	FC2F016350
WI103	1017.03.50	FC2F017350
WI105	1019.04.50	FC0E019450
WI106	1019.03.80	FC0E019380
WI107	1019.04.50	FC0E019450
WI108	1019.03.10	FC0E019310
WI109	1019.03.80	FC0E019380
WI110	1019.02.50	FC0E019250
WI201	1004.01.50	FC4G004150
WI203	1004.02.50	FC4G004250
WI204	1004.01.50	FC4G004150
WI206	1004.02.50	FC4G004250
WI207	1004.01.50	FC4G004150
WI209	1004.02.50	FC4G004250

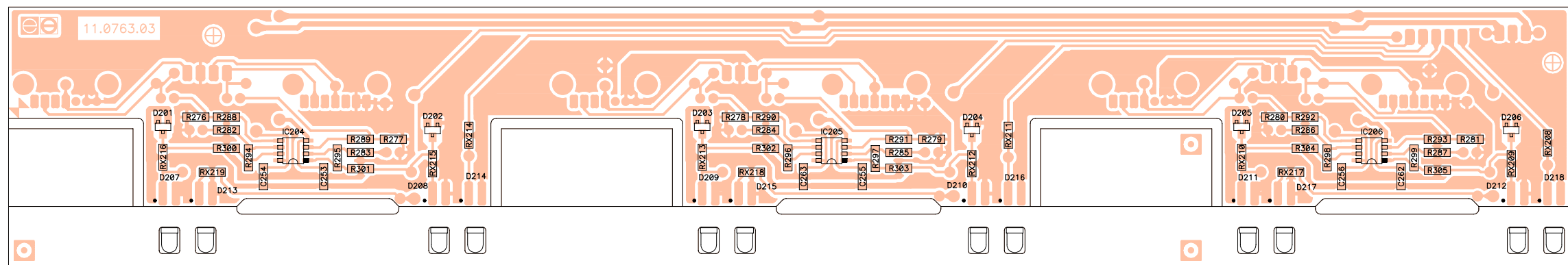



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-03.00 schema no: 10.0487-01.02 insertion file no:	side: Component
	project n: EP01-99B	title:	view: Reference
number: 33.0385	version: 01.04	product n: MPA6-80	Pttmtr & Leds Ct.
drawn by: M. Amoros	date: 030509	approved: Angel Sanuy	



Note: Leds mounted on the bottom or solder side
and touching the circuit border (see drawing)

 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-03.00 schema no: 10.0487-01.02 insertion file no:	side: Component
	project n: EP01-99B	title:	
number: 33.0386	version: 01.04	product n: MPA6-80	Pttmtr & Leds Ct.
drawn by: M. Amoros	date: 030509	approved: Angel Sanuy	



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-03.00 schema no: 10.0487-01.02 insertion file no: 81.0010-01.02	side: Solder
			view: Reference
number: 33.0387	version: 01.04	project n: EP01-99B	title: Pttmtr & Leds Ct.
drawn by: M. Amoros	date: 030509	product n: MPA6-80	
		approved: Angel Sanuy	

PRINTED CIRCUIT 11.0763-03.00

REFERENCE	VALUE	CODE
C253	100n	FCXCN41000
C254	100n	FCXCN41000
C255	100n	FCXCN41000
C256	100n	FCXCN41000
C257	47u/16	FCCE100000
C258	47u/16	FCCE100000
C259	47u/16	FCCE100000
C260	47u/16	FCCE100000
C261	47u/16	FCCE100000
C262	100n	FCXCN41000
C263	100n	FCXCN41000
C264	47u/16	FCCE100000
C265	47u/16	FCCE100000
C266	47u/16	FCCE100000
C267	47u/16	FCCE100000
C268	47u/16	FCCE100000
C269	47u/16	FCCE100000
C270	47u/16	FCCE100000
CI101	11.0763-03.00	FCCIMPA763
D201	BAS16	FCXDDBAS16
D202	BAS16	FCXDDBAS16
D203	BAS16	FCXDDBAS16
D204	BAS16	FCXDDBAS16
D205	BAS16	FCXDDBAS16
D206	BAS16	FCXDDBAS16
D207	LED3G	FCLED300VE
D208	LED3G	FCLED300VE
D209	LED3G	FCLED300VE
D210	LED3G	FCLED300VE
D211	LED3G	FCLED300VE
D212	LED3G	FCLED300VE
D213	LED3R	FCLED300RO
D214	LED3R	FCLED300RO
D215	LED3R	FCLED300RO
D216	LED3R	FCLED300RO
D217	LED3R	FCLED300RO
D218	LED3R	FCLED300RO
IC204	TL072	FCIC072010
IC205	TL072	FCIC072010
IC206	TL072	FCIC072010
R270	10kAx2	FCPR210040
R271	10kAx2	FCPR210040
R272	10kAx2	FCPR210040
R273	10kAx2	FCPR210040
R274	10kAx2	FCPR210040
R275	10kAx2	FCPR210040
R276	475k	FCXR154750
R277	20k0	FCXR142000
R278	475k	FCXR154750
R279	20k0	FCXR142000
R280	475k	FCXR154750
R281	20k0	FCXR142000

REFERENCE	VALUE	CODE
R282	1k0	FCXR131000
R283	1k0	FCXR131000
R284	1k0	FCXR131000
R285	1k0	FCXR131000
R286	1k0	FCXR131000
R287	1k0	FCXR131000
R288	1k0	FCXR131000
R289	1k0	FCXR131000
R290	1k0	FCXR131000
R291	1k0	FCXR131000
R292	1k0	FCXR131000
R293	1k0	FCXR131000
R294	340k	FCXR153400
R295	340k	FCXR153400
R296	340k	FCXR153400
R297	340k	FCXR153400
R298	340k	FCXR153400
R299	340k	FCXR153400
R300	1k50	FCXR131500
R301	1k50	FCXR131500
R302	1k50	FCXR131500
R303	1k50	FCXR131500
R304	1k50	FCXR131500
R305	1k50	FCXR131500
RX208	0Ω	FCXR000000
RX209	0Ω	FCXR000000
RX210	0Ω	FCXR000000
RX211	0Ω	FCXR000000
RX212	0Ω	FCXR000000
RX213	0Ω	FCXR000000
RX214	0Ω	FCXR000000
RX215	0Ω	FCXR000000
RX216	0Ω	FCXR000000
RX217	0Ω	FCXR000000
RX218	0Ω	FCXR000000
RX219	0Ω	FCXR000000
W217	20mm	FCPONT0200
W218	20mm	FCPONT0200
W219	20mm	FCPONT0200
W220	20mm	FCPONT0200
W221	20mm	FCPONT0200
W222	20mm	FCPONT0200
W223	20mm	FCPONT0200
W224	20mm	FCPONT0200
W225	20mm	FCPONT0200
WI201	1012.03.40	FC0C012340
WI202	1007.03.20	FC4K007320
WI203	1007.03.20	FC4K007320
WI204	1007.03.20	FC4K007320
WI205	1008.02.50	FC4L008250

Announcement addressed to Technical Support Services

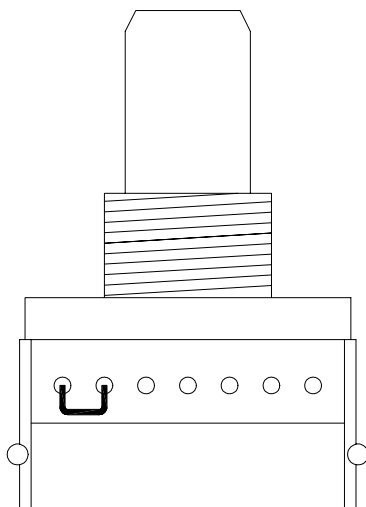
Involved series:

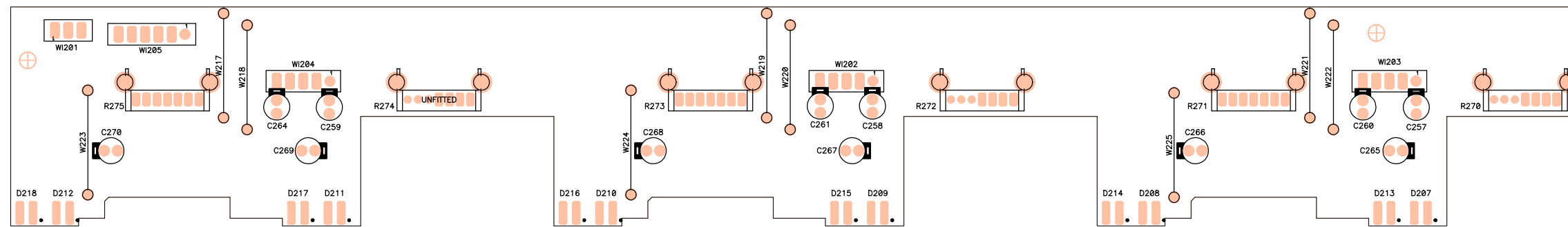
APA1400 / APA1000 / APA600
PAM1100 / PAM2100
MPA4-80 / MPA6-80 / MPA4-150


VOLUME potentiometer replacement.

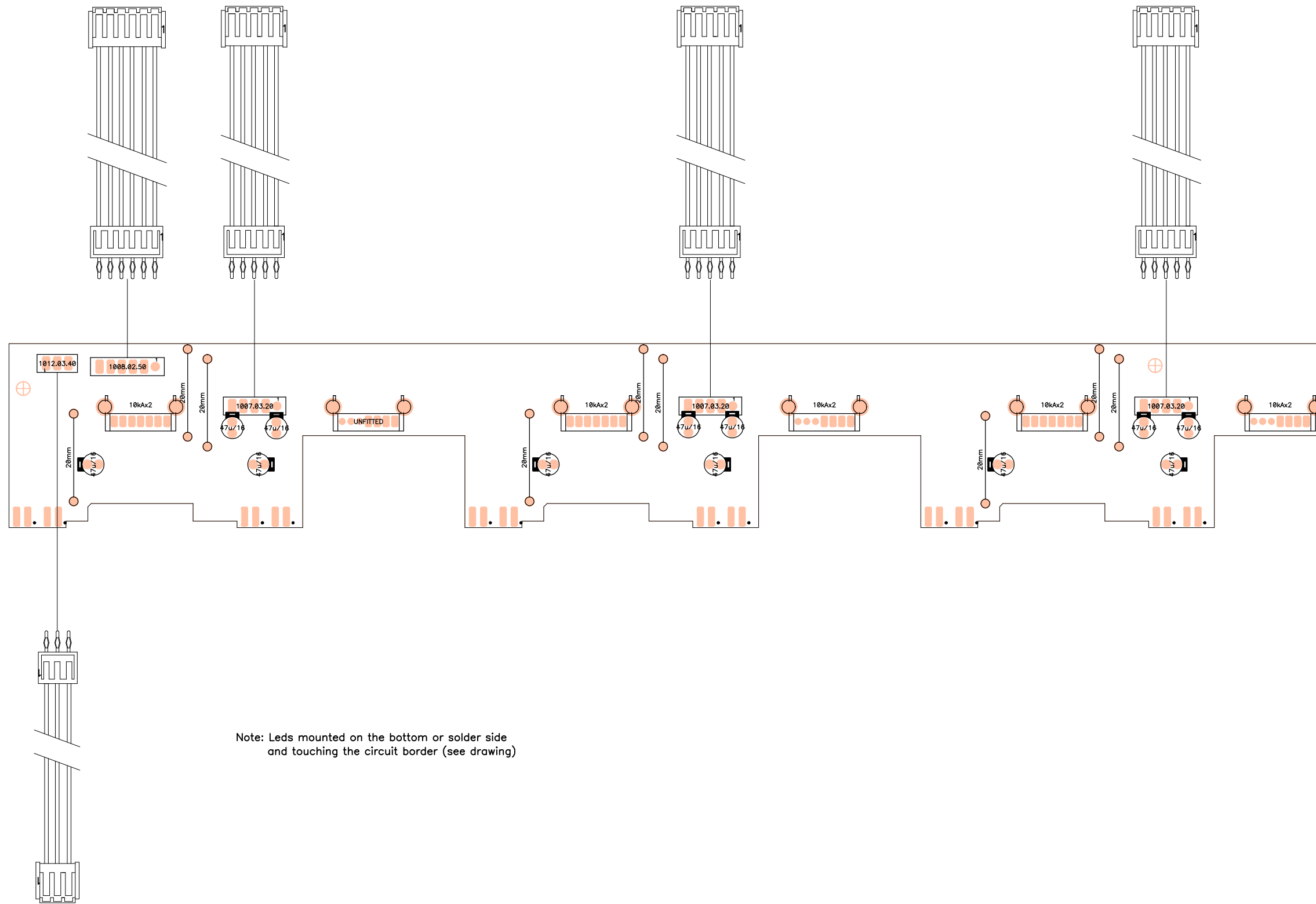
Replaced service part code: FCPR210040

When this potentiometer is being replaced, after soldering it on the printed circuit board, the two leads should be shorted as shown in the picture, in order to ensure a correct performance depending on the available service part.




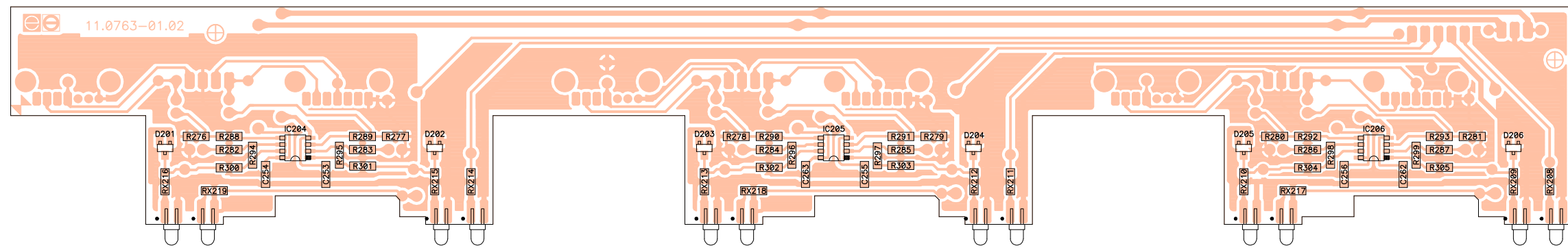



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-01.02 schema no: 10.0487-01.01 insertion file no: 81.0010-01.00	side: Component
	drawn by: M. Amoros	date: 000209	view: Reference
number: 33.0385	version: 01.02	approved by: Angel Sanuy	
title: EP01-99B Pttmtr & Leds Ct.			

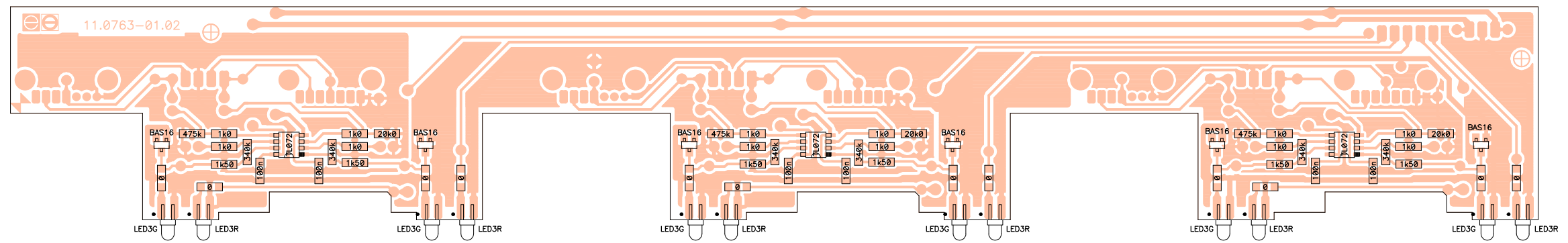


Note: Leds mounted on the bottom or solder side and touching the circuit border (see drawing)


 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-01.02 schema no: 10.0487-01.01 insertion file no: 81.0010-01.00	side: Component
	drawn by: M. Amoros	date: 000209	view: Value
number: 33.0386	version: 01.02	approved by: Angel Sanuy	
title:		EP01-99B Pttmtr & Leds Ct.	



 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-01.02 schema no: 10.0487-01.01 insertion file no: 81.0010-01.00	side: Solder
	drawn by: M. Amoros	date: 000209	view: Reference
number: 33.0387	version: 01.02	approved by: Angel Sanuy	
title:		EP01-99B Pttmtr & Leds Ct.	



Note: Leds mounted on the bottom or solder side and touching the circuit border (see drawing)

 LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to:	circuit no: 11.0763-01.02 schema no: 10.0487-01.01 insertion file no: 81.0010-01.00	side: Solder
	drawn by: M. Amoros	date: 000209	view: Value
number: 33.0388	version: 01.02	approved by: Angel Sanuy	
title:		EP01-99B Pttmtr & Leds Ct.	

PRINTED CIRCUIT 11.0763-01.02

REFERENCE	VALUE	CODE
C253	100n	FCXCN41000
C254	100n	FCXCN41000
C255	100n	FCXCN41000
C256	100n	FCXCN41000
C257	47u/16	FCCE100000
C258	47u/16	FCCE100000
C259	47u/16	FCCE100000
C260	47u/16	FCCE100000
C261	47u/16	FCCE100000
C262	100n	FCXCN41000
C263	100n	FCXCN41000
C264	47u/16	FCCE100000
C265	47u/16	FCCE100000
C266	47u/16	FCCE100000
C267	47u/16	FCCE100000
C268	47u/16	FCCE100000
C269	47u/16	FCCE100000
C270	47u/16	FCCE100000
CI101	11.0763-01.02	FCCIMPA763
D201	BAS16	FCXDDBAS16
D202	BAS16	FCXDDBAS16
D203	BAS16	FCXDDBAS16
D204	BAS16	FCXDDBAS16
D205	BAS16	FCXDDBAS16
D206	BAS16	FCXDDBAS16
D207	LED3G	FCLED300VE
D208	LED3G	FCLED300VE
D209	LED3G	FCLED300VE
D210	LED3G	FCLED300VE
D211	LED3G	FCLED300VE
D212	LED3G	FCLED300VE
D213	LED3R	FCLED300RO
D214	LED3R	FCLED300RO
D215	LED3R	FCLED300RO
D216	LED3R	FCLED300RO
D217	LED3R	FCLED300RO
D218	LED3R	FCLED300RO
IC204	TL072	FCIC072010
IC205	TL072	FCIC072010
IC206	TL072	FCIC072010
R270	10kAx2	FCPR210040
R271	10kAx2	FCPR210040
R272	10kAx2	FCPR210040
R273	10kAx2	FCPR210040
R274	10kAx2	FCPR210040
R275	10kAx2	FCPR210040
R276	475k	FCXR154750
R277	20k0	FCXR142000
R278	475k	FCXR154750
R279	20k0	FCXR142000
R280	475k	FCXR154750
R281	20k0	FCXR142000

REFERENCE	VALUE	CODE
R282	1k0	FCXR131000
R283	1k0	FCXR131000
R284	1k0	FCXR131000
R285	1k0	FCXR131000
R286	1k0	FCXR131000
R287	1k0	FCXR131000
R288	1k0	FCXR131000
R289	1k0	FCXR131000
R290	1k0	FCXR131000
R291	1k0	FCXR131000
R292	1k0	FCXR131000
R293	1k0	FCXR131000
R294	340k	FCXR153400
R295	340k	FCXR153400
R296	340k	FCXR153400
R297	340k	FCXR153400
R298	340k	FCXR153400
R299	340k	FCXR153400
R300	1k50	FCXR131500
R301	1k50	FCXR131500
R302	1k50	FCXR131500
R303	1k50	FCXR131500
R304	1k50	FCXR131500
R305	1k50	FCXR131500
RX208	0Ω	FCXR000000
RX209	0Ω	FCXR000000
RX210	0Ω	FCXR000000
RX211	0Ω	FCXR000000
RX212	0Ω	FCXR000000
RX213	0Ω	FCXR000000
RX214	0Ω	FCXR000000
RX215	0Ω	FCXR000000
RX216	0Ω	FCXR000000
RX217	0Ω	FCXR000000
RX218	0Ω	FCXR000000
RX219	0Ω	FCXR000000
W217	20mm	FCPONT0200
W218	20mm	FCPONT0200
W219	20mm	FCPONT0200
W220	20mm	FCPONT0200
W221	20mm	FCPONT0200
W222	20mm	FCPONT0200
W223	20mm	FCPONT0200
W224	20mm	FCPONT0200
W225	20mm	FCPONT0200
WI201	1012.03.40	FC0C012340
WI202	1007.03.20	FC4K007320
WI203	1007.03.20	FC4K007320
WI204	1007.03.20	FC4K007320
WI205	1008.02.50	FC4L008250

PRELIMINARY

- Check the Ground Link.
- Check out that there is no shorting between the unit's mounting frame and the metallic part of the IC package.
- Set tested unit's power main switch to Off position.
- While the signal generator is still turned off, adjust the generator's output in order to obtain a 1KHz 0dB output signal.
- Connect three bridged 8Ω load impedances between outputs 1-2, 3-4 and 5-6.
- Using a set formed by a mVoltmeter and a dual-channel oscilloscope, connect oscilloscope's channel one test probe between Output1 and signal ground, and connect channel two's test probe between Output2 and signal ground.
- Turn down both input trimming potentiometers to their minimum position.

- Set the following front-end selector switches to the positions as listed bellow:
 - IN1/IN1 + IN2 to IN1
 - IN2/LINK CH1 to LINK CH1
 - ST/BRIDGE to ST
 - IN3/LINK CH1 to LINK CH1
 - IN4/LINK CH2 to LINK CH2
 - ST/BRIDGE to ST
 - IN5/LINK CH3 to LINK CH3
 - IN6/LINK CH4 to LINK CH4
 - ST/BRIDGE to ST

- Connect the signal generator's output to the unit's IN1 input.
- Connect the unit to 230Vac mains socket

VERIFICATION

- Switch the tested unit's Power main switch to ON. Verify that the power on LED is lit.
- Set the signal generator to ON. At this point, all Signal Present LED's should light on.
- Turn up channel one's input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT1 is only dependent from the INPUT1 signal.
- Turn up channel two's input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT2 is only dependent from the INPUT2 signal.
- Both output signals should have no phase differs.
- Now change the ST/BRIDGE selector to the BRIDGE position, and verify that OUTPUT1 and OUTPUT2 phase differ has turned to push-pull. However, V_o remains unchanged, 14V. S.P. CHII's LED has turned off, and the unit's channels 1&2 section is now controlled only by channel one's input trimming potentiometer. Turn it up and leave it at its maximum position.

- Disconnect the oscilloscope's both channels test probes, and connect them to outputs 3-4.
 - Turn up channel three's input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT3 is only dependent from the INPUT3 signal.
 - Turn up channel four's input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT4 is only dependent from the INPUT4 signal.
 - Both output signals should have no phase differs.
 - Now change the ST/BRIDGE selector to the BRIDGE position, and verify that OUTPUT3 and OUTPUT4 phase differ has turned to push-pull. However, V_o remains unchanged, 14V. S.P. CHIV's LED has turned off, and the unit's channels 3&4 section is now controlled only by channel three's input trimming potentiometer. Turn it up and leave it at its maximum position.
-
- Disconnect the oscilloscope's both channels test probes, and connect them to outputs 5-6.
 - Turn up channel five's input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT5 is only dependent from the INPUT5 signal.
 - Turn up channel six' input trimming potentiometer, and check that it's sweep is complete and smooth. At its maximum position, check that $V_o = 14V$, and that the output signal monitored on OUTPUT6 is only dependent from the INPUT6 signal.
 - Both output signals should have no phase differs.
 - Now change the ST/BRIDGE selector to the BRIDGE position, and verify that OUTPUT5 and OUTPUT6 phase differ has turned to push-pull. However, V_o remains unchanged, 14V. S.P. CHVI's LED has turned off, and the unit's channels 5&6 section is now controlled only by channel five's input trimming potentiometer. Turn it up and leave it at its maximum position.
-
- At this point, all clip indicators should be lighting. If necessary, add a little bit of level to the input signal.
 - Set the IN1/IN1 + IN2 selector to IN1, and verify that the output level as decreased 6dB.

QUALITY CONTROL

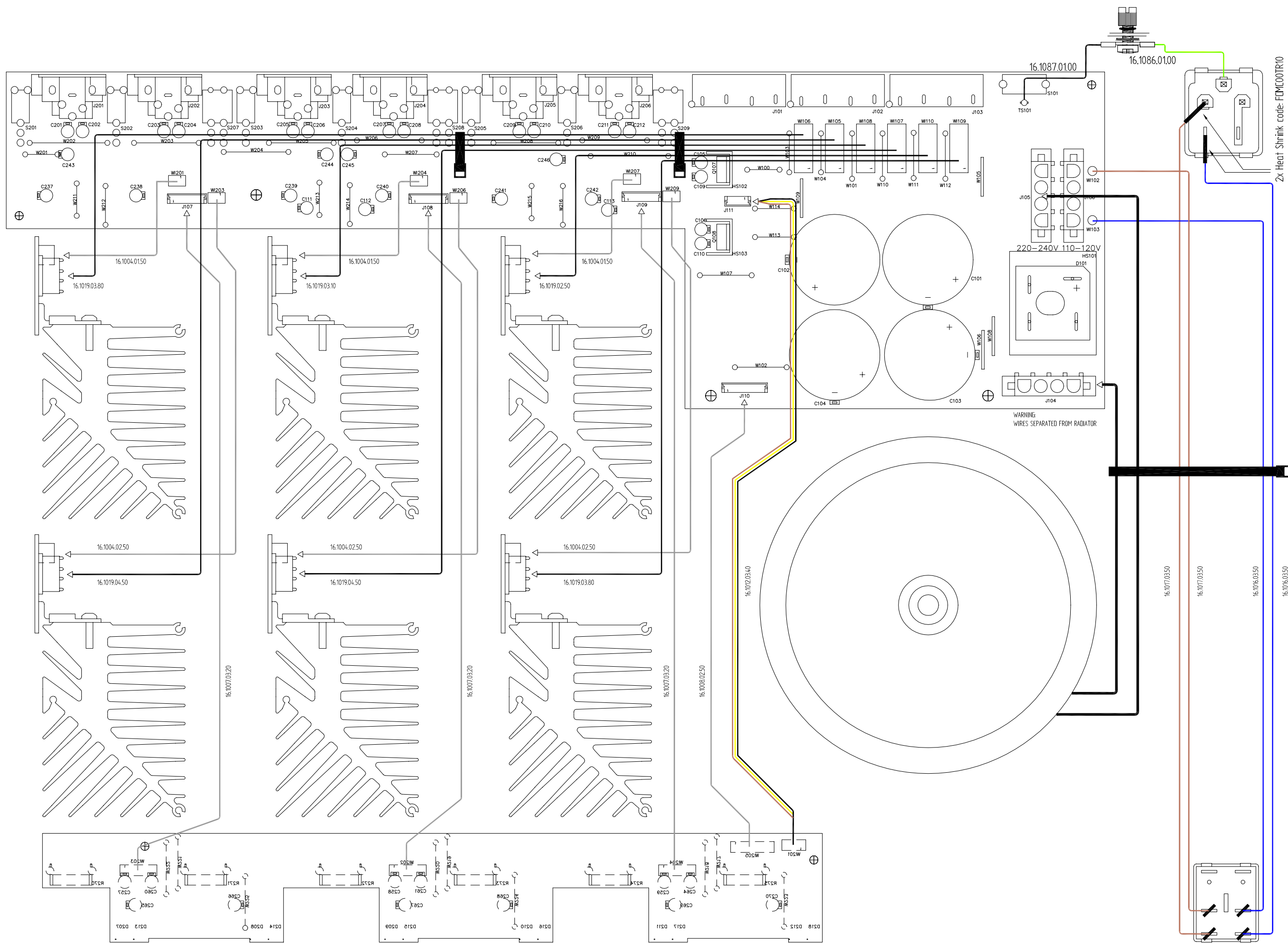
All mechanical parts should be visually revised, in order to detect scratches on the unit's painting; all screws should be on their place, correctly tight and unmarked. Check out the unit's general presentation.

BURNING (BURN-IN) TEST

Leave the tested unit connected to its correspondent voltage mains socket, applying input signal and connecting load impedances, and working at 3dB under its maximum output power level for at least 24 hours.

VERIFICATION USING MUSIC

Verify the unit's sound quality, which should be distortion- and noise-free. Also check that all potentiometers can run smoothly their whole sweep, without annoying noises and crisperings. At their minimum position, check that output signal is completely cutted off. To ensure that all electrical junctions are well-fixed, hit the tested unit against your working table, obviously without damaging its outer presentation. Verify also all inputs and outputs. At last, short-circuit the output terminals while carrying amplified signal, and verify that once short-circuit is removed, the amplifying stages still are working.

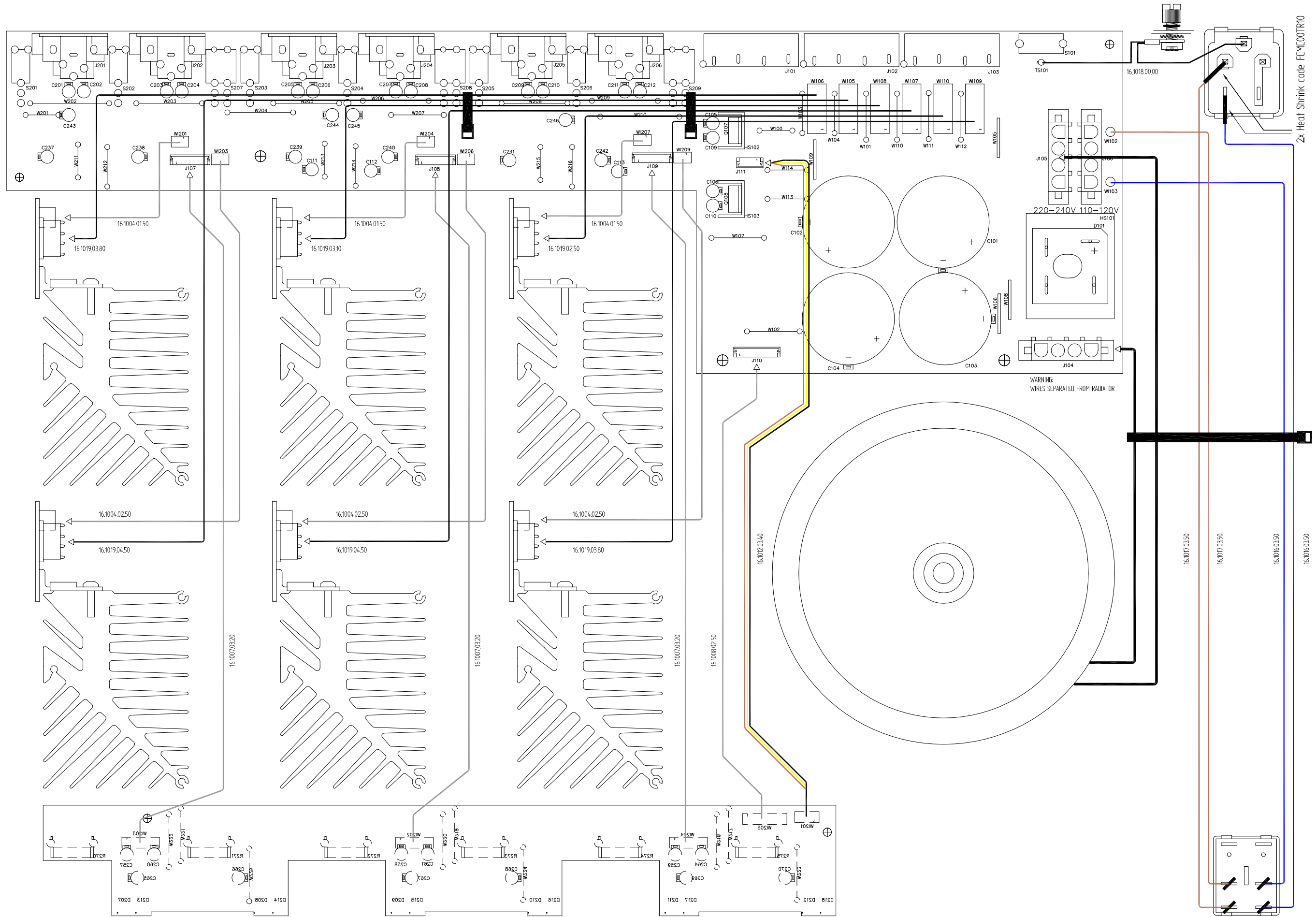


drawn by: *J. Colomines* date: *010417* approved by: *Josep M Sans*

title:

WIRING DIAGRAM EPO1-99B

number: **31.0106** version **01.03**

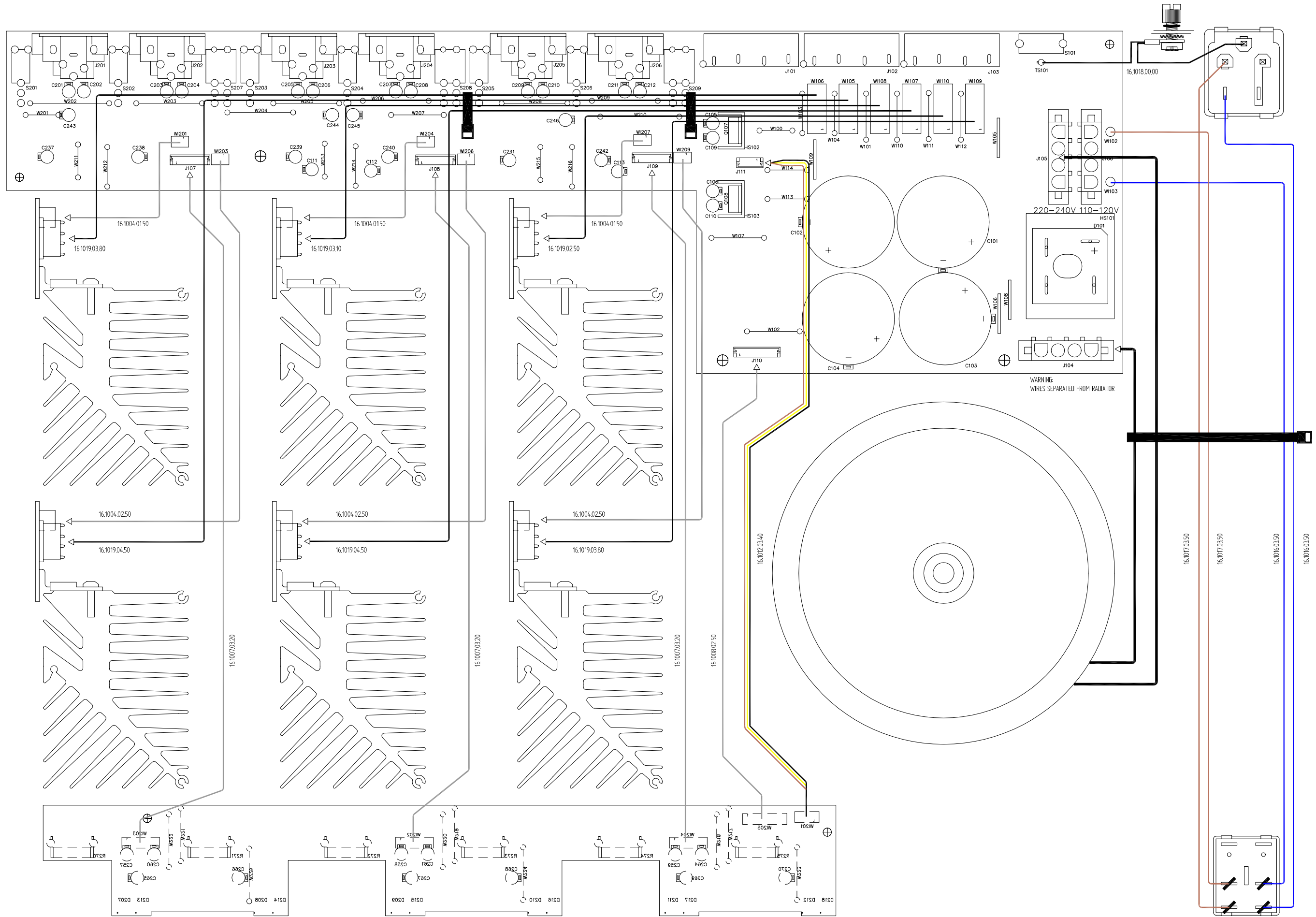


drawn by: *J. Colomines* date: *001018* approved by: *Josep M Sans*

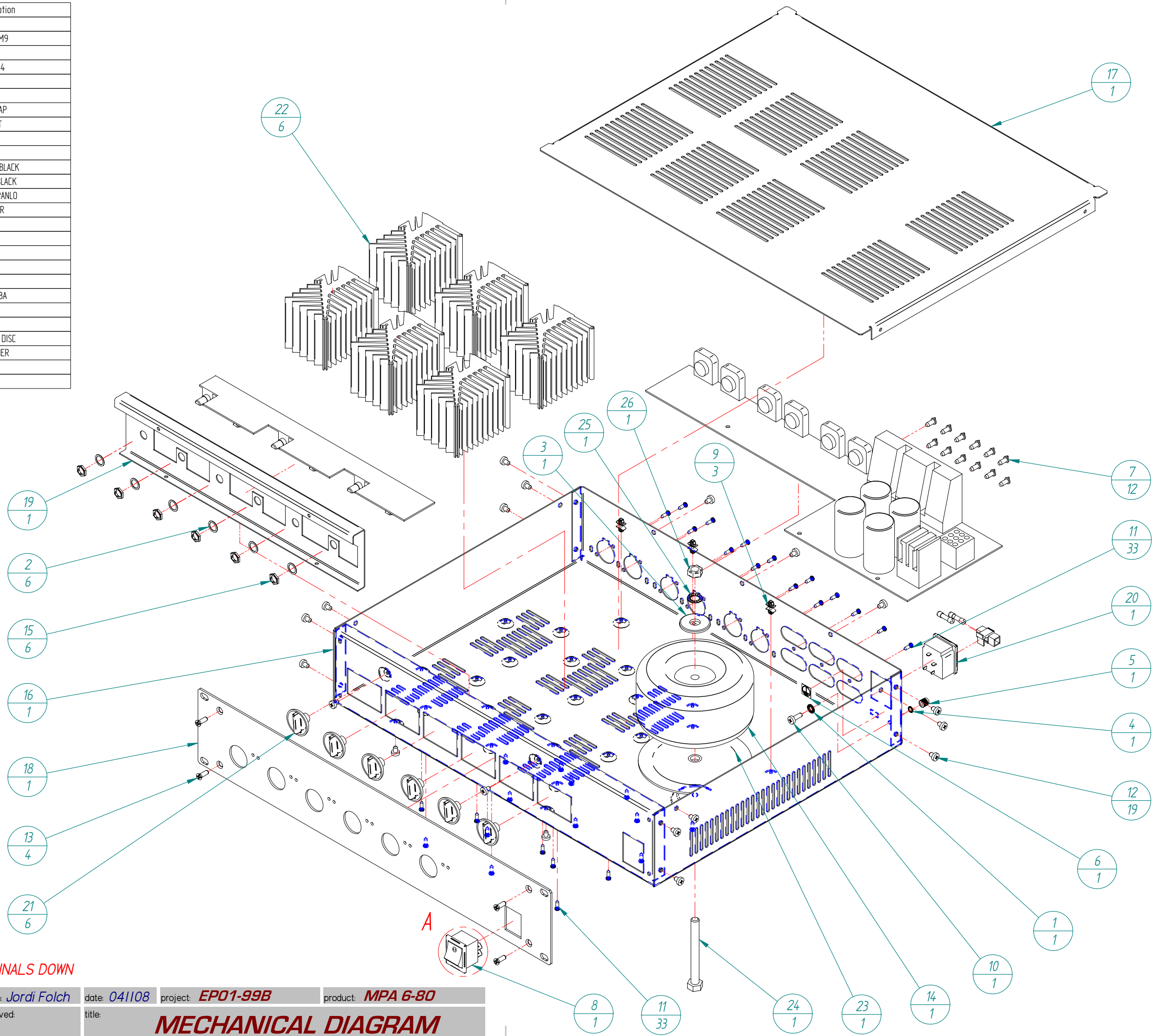
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WIRING DIAGRAM EPO1-99B

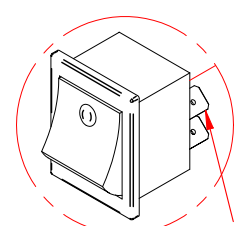
number: *31.0106* version: *01.02*



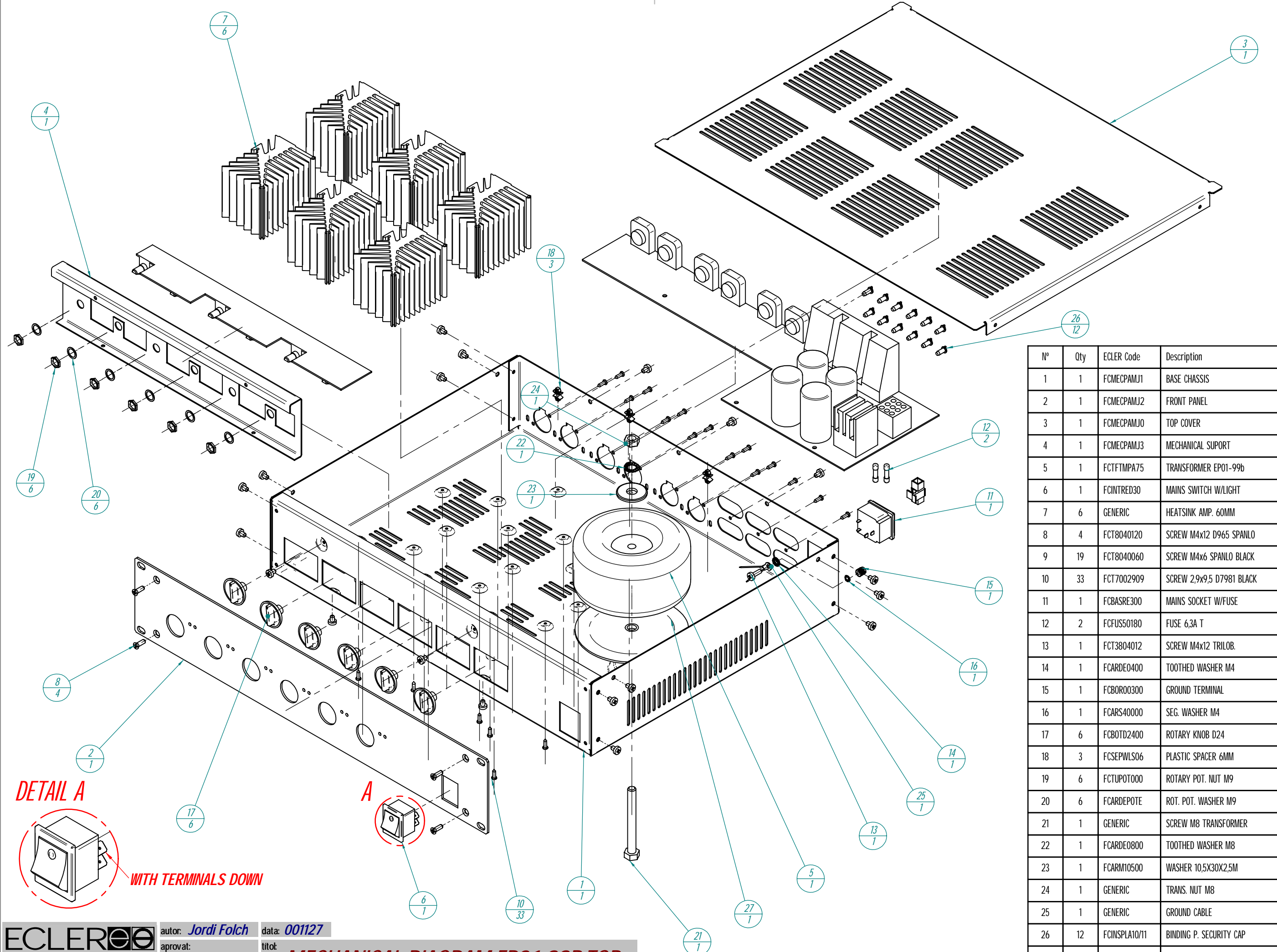
N°	Qty.	Code	Description
1	1	FCARDE040000	TOOTHED WASHER M4
2	6	FCARDEP0TE00	ROTARY POT. WASHER M9
3	1	FCARM1050000	WASHER 10,5X30X2,5M
4	1	FCARS4000000	SEGMENTED WASHER M4
5	1	FCBOR0030000	GROUND TERMINAL
6	1	FCETIZT00000	EARTH TAG
7	12	FCINSPLA10/11	BINDING P. SECURITY CAP
8	1	FCINTRED30000	MAINS SWITCH W/LIGHT
9	3	FCSEPWS06000	PLASTIC SPACER 6MM
10	1	FCT380401200	SCREW M4x12 TRILOB.
11	33	FCT700290900	SCREW 2,9x9,5 D7981 BLACK
12	19	FCT804006000	SCREW M4x6 SPANLO BLACK
13	4	FCT804012000	SCREW M4x12 D965 SPANLO
14	1	FCTFTMPA7500	TOROIDAL TRANSFORMER
15	6	FCTUP0T00000	ROTARY POT. NUT M9
16	1	FPO248200000	BASE CHASSIS
17	1	FPO248300000	TOP COVER
18	1	FPO248400000	FRONT PANEL
19	1	FPO248500000	MECHANICAL SUPPORT
20	1	FRBASRE20450	MAINS SOCKET FUSE 6,3A
21	6	FRBOTRD24000	ROTARY KNOB D24
22	6	GENERIC	HEATSINK AMP. 60MM
23	1	GENERIC	TRANSFORMER RUBBER DISC
24	1	GENERIC	SCREW M8 TRANSFORMER
25	1	GENERIC	TOOTHED WASHER M8
26	1	GENERIC	TRANSFORMER NUT M8



DETAIL A

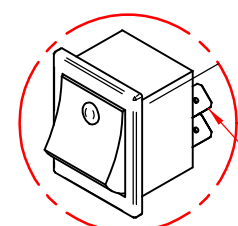


WITH TERMINALS DOWN

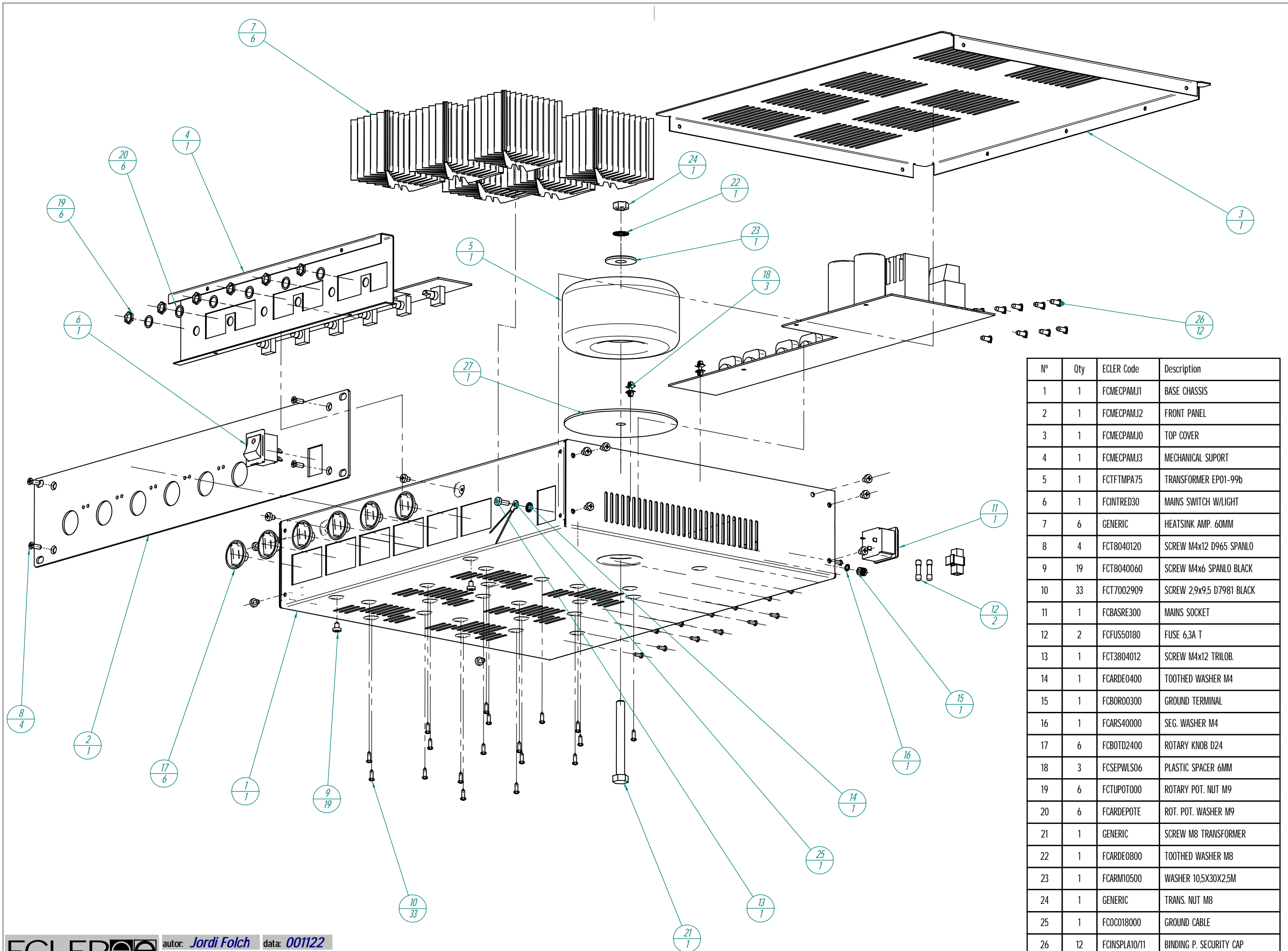


Nº	Qty	ECLER Code	Description
1	1	FCMECPAMJ1	BASE CHASSIS
2	1	FCMECPAMJ2	FRONT PANEL
3	1	FCMECPAMJ0	TOP COVER
4	1	FCMECPAMJ3	MECHANICAL SUPORT
5	1	FCTFTMPA75	TRANSFORMER EP01-99b
6	1	FCINTRED30	MAINS SWITCH W/LIGHT
7	6	GENERIC	HEATSINK AMP. 60MM
8	4	FCT8040120	SCREW M4x12 D965 SPANLO
9	19	FCT8040060	SCREW M4x6 SPANLO BLACK
10	33	FCT7002909	SCREW 2,9x9,5 D7981 BLACK
11	1	FCBASRE300	MAINS SOCKET W/FUSE
12	2	FCFUS50180	FUSE 6,3A T
13	1	FCT3804012	SCREW M4x12 TRILOB.
14	1	FCARDE0400	TOOTHED WASHER M4
15	1	FCBOR00300	GROUND TERMINAL
16	1	FCARS40000	SEG. WASHER M4
17	6	FCBOTD2400	ROTARY KNOB D24
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	6	FCTUPOT000	ROTARY POT. NUT M9
20	6	FCARDEPOTE	ROT. POT. WASHER M9
21	1	GENERIC	SCREW M8 TRANSFORMER
22	1	FCARDE0800	TOOTHED WASHER M8
23	1	FCARM10500	WASHER 10,5X30X2,5M
24	1	GENERIC	TRANS. NUT M8
25	1	GENERIC	GROUND CABLE
26	12	FCINSPLA10/11	BINDING P. SECURITY CAP
27	1	GENERIC	TRANS. RUBBER DISC

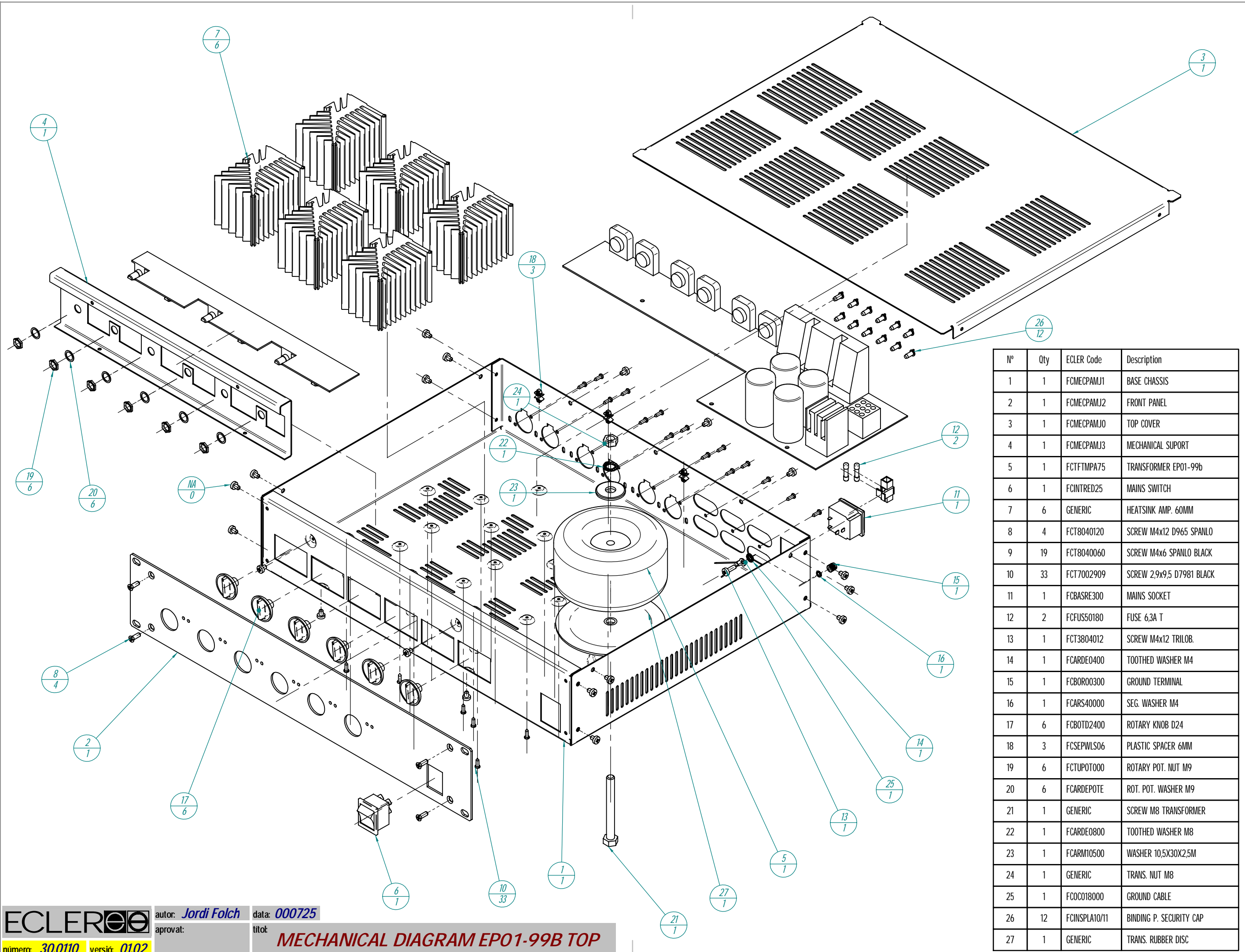
DETAIL A



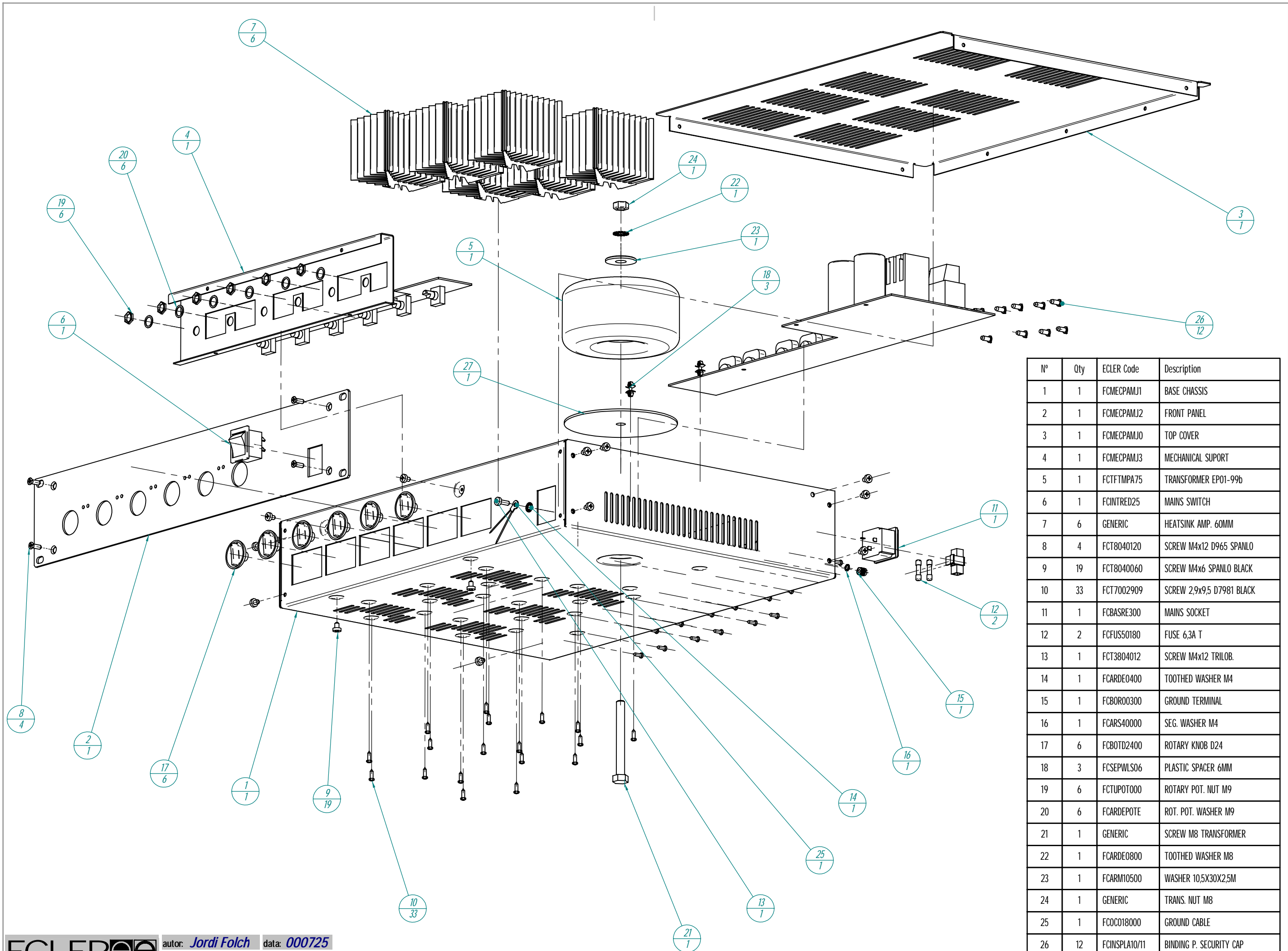
WITH TERMINALS DOWN



Nº	Qty	ECLER Code	Description
1	1	FCMECPAMJ1	BASE CHASSIS
2	1	FCMECPAMJ2	FRONT PANEL
3	1	FCMECPAMJ0	TOP COVER
4	1	FCMECPAMJ3	MECHANICAL SUPORT
5	1	FCTFTMPA75	TRANSFORMER EP01-99b
6	1	FCINTRED30	MAINS SWITCH W/LIGHT
7	6	GENERIC	HEATSINK AMP. 60MM
8	4	FCT8040120	SCREW M4x12 D965 SPANLO
9	19	FCT8040060	SCREW M4x6 SPANLO BLACK
10	33	FCT7002909	SCREW 2,9x9,5 D7981 BLACK
11	1	FCBASRE300	MAINS SOCKET
12	2	FCFUS50180	FUSE 6,3A T
13	1	FCT3804012	SCREW M4x12 TRILOB.
14	1	FCARDE0400	TOOTHED WASHER M4
15	1	FCBOR00300	GROUND TERMINAL
16	1	FCARS40000	SEG. WASHER M4
17	6	FCBOTD2400	ROTARY KNOB D24
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	6	FCTUPOT000	ROTARY POT. NUT M9
20	6	FCARDEPOTE	ROT. POT. WASHER M9
21	1	GENERIC	SCREW M8 TRANSFORMER
22	1	FCARDE0800	TOOTHED WASHER M8
23	1	FCARM10500	WASHER 10,5X30X2,5M
24	1	GENERIC	TRANS. NUT M8
25	1	FCOCO18000	GROUND CABLE
26	12	FCINSPLA10/11	BINDING P. SECURITY CAP
27	1	GENERIC	TRANS. RUBBER DISC

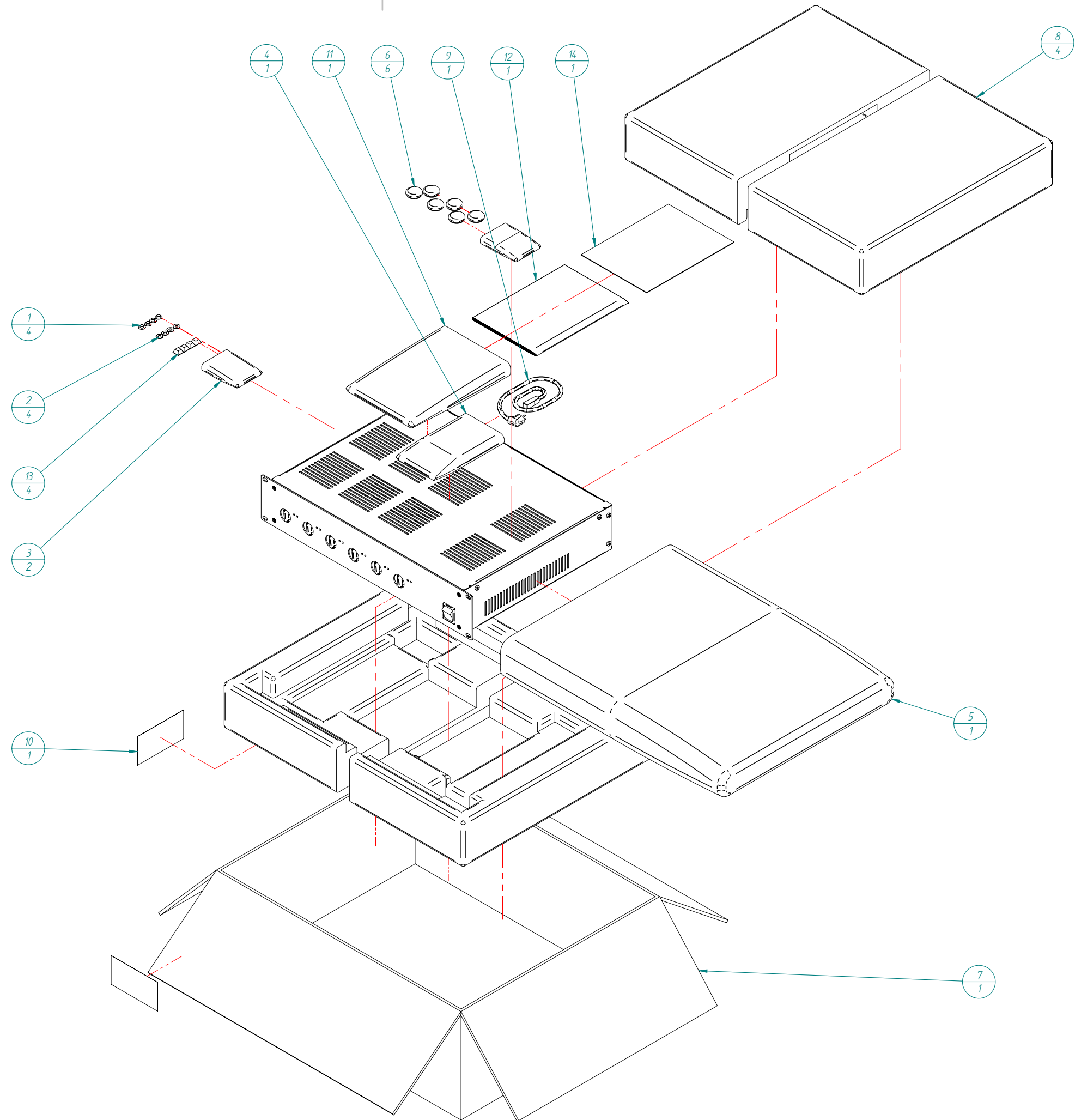


Nº	Qty	ECLER Code	Description
1	1	FCMECPAMJ1	BASE CHASSIS
2	1	FCMECPAMJ2	FRONT PANEL
3	1	FCMECPAMJ0	TOP COVER
4	1	FCMECPAMJ3	MECHANICAL SUPORT
5	1	FCTFTMPA75	TRANSFORMER EP01-99b
6	1	FCINTRED25	MAINS SWITCH
7	6	GENERIC	HEATSINK AMP. 60MM
8	4	FCT8040120	SCREW M4x12 D965 SPANLO
9	19	FCT8040060	SCREW M4x6 SPANLO BLACK
10	33	FCT7002909	SCREW 2,9x9,5 D7981 BLACK
11	1	FCBASRE300	MAINS SOCKET
12	2	FCFUS50180	FUSE 6,3A T
13	1	FCT3804012	SCREW M4x12 TRILOB.
14	1	FCARDE0400	TOOTHED WASHER M4
15	1	FCBOR00300	GROUND TERMINAL
16	1	FCARS40000	SEG. WASHER M4
17	6	FCBOTD2400	ROTARY KNOB D24
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	6	FCTUPOT000	ROTARY POT. NUT M9
20	6	FCARDEPOTE	ROT. POT. WASHER M9
21	1	GENERIC	SCREW M8 TRANSFORMER
22	1	FCARDE0800	TOOTHED WASHER M8
23	1	FCARM10500	WASHER 10,5X30X2,5M
24	1	GENERIC	TRANS. NUT M8
25	1	FCOC018000	GROUND CABLE
26	12	FCINSPLA10/11	BINDING P. SECURITY CAP
27	1	GENERIC	TRANS. RUBBER DISC



Nº	Qty	ECLER Code	Description
1	1	FCMECPAMJ1	BASE CHASSIS
2	1	FCMECPAMJ2	FRONT PANEL
3	1	FCMECPAMJ0	TOP COVER
4	1	FCMECPAMJ3	MECHANICAL SUPORT
5	1	FCTFTMPA75	TRANSFORMER EP01-99b
6	1	FCINTRED25	MAINS SWITCH
7	6	GENERIC	HEATSINK AMP. 60MM
8	4	FCT8040120	SCREW M4x12 D965 SPANLO
9	19	FCT8040060	SCREW M4x6 SPANLO BLACK
10	33	FCT7002909	SCREW 2,9x9,5 D7981 BLACK
11	1	FCBASRE300	MAINS SOCKET
12	2	FCFUS50180	FUSE 6,3A T
13	1	FCT3804012	SCREW M4x12 TRILOB.
14	1	FCARDE0400	TOOTHED WASHER M4
15	1	FCBOR00300	GROUND TERMINAL
16	1	FCARS40000	SEG. WASHER M4
17	6	FCBOTD2400	ROTARY KNOB D24
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	6	FCTUPOT000	ROTARY POT. NUT M9
20	6	FCARDEPOTE	ROT. POT. WASHER M9
21	1	GENERIC	SCREW M8 TRANSFORMER
22	1	FCARDE0800	TOOTHED WASHER M8
23	1	FCARM10500	WASHER 10,5X30X2,5M
24	1	GENERIC	TRANS. NUT M8
25	1	FCOCO18000	GROUND CABLE
26	12	FCINSPLA10/11	BINDING P. SECURITY CAP
27	1	GENERIC	TRANS. RUBBER DISC

N°	Qty	Code	Description
1	4	FCARAT300000	SCREW INSULATOR
2	4	FCARN5000000	WASHER 5X11,5X0,8
3	2	FCBOL0010000	BAG 60x80
4	1	FCBOL0020000	PLASTIC BAG 120x180
5	1	FCBOLS020000	STANDARD BAG 75x65
6	6	FCBOTD240100	ROT. KNOB PROTECTION COVER
7	1	FCCAJSTA0100	BOX STANDARD 1
8	4	FCCANT118000	INTERIOR REINFORCEMENT
9	1	FCCONX017500	MAINS CABLE 3x1
10	1	FEETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
11	1	FCFUNMAN0000	USER MANUAL BAG
12	1	FCMANMPA7000	USER MANUAL MPA 70W
13	4	FCPIE1125500	RUBBER FOOT
14	1	FCTARJG00000	WARRANTY CARD



N°	Qty	ECLER Code	Description
1	1	FCCAUSTA01	BOX STANDARD 1
2	4	FCCANT1010	INTERIOR REINFORCEMENT
3	1	FCBOLS0200	STANDARD BAG 75x65
4	2	FCBOL00100	BAG 60x80
5	4	FCPIE11255	RUBBER FOOT
6	4	FCARN50000	WASHER 5X11,5X0,8M
7	4	FCARAT3000	SCREW INSULATOR
8	1	FCBOL00200	BAG 120x180
9	1	FCCONX0175	MAINS CABLE 3x1
10	1	FCFUNMAN00	USER MANUAL BAG
11	1	FCMANPAM70	USER MANUAL MPA 70W
12	2	FCETICAJA0	UNIT INFORMATION LABEL
13	6	FCBOTD2401	ROT. KNOB PROTECTION COVER

