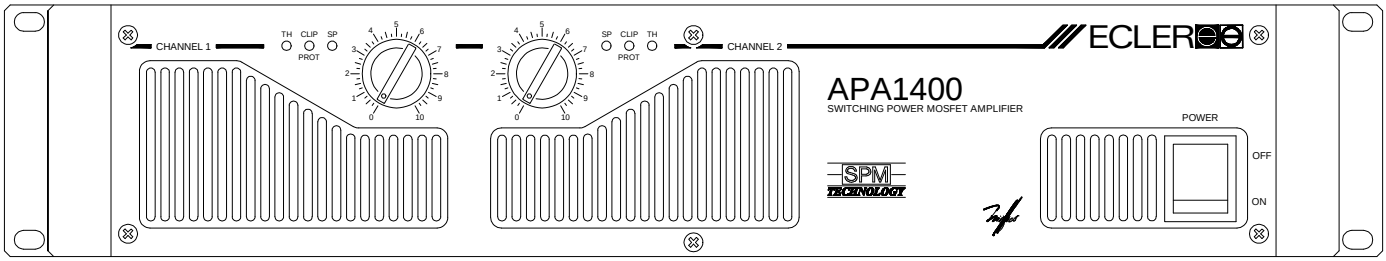
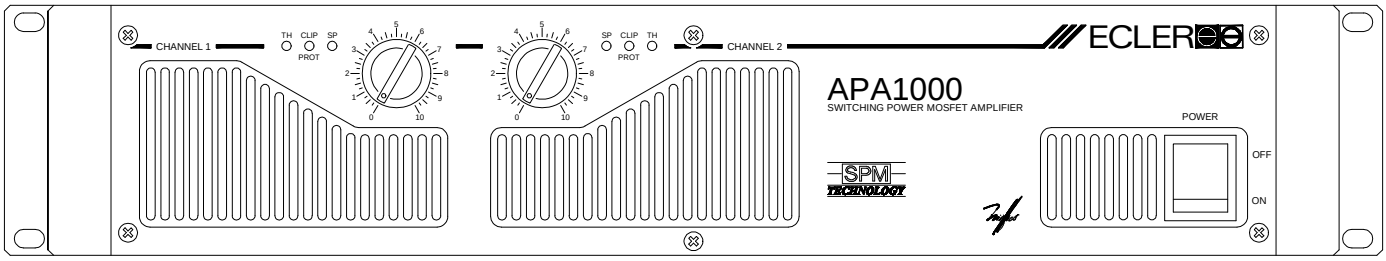
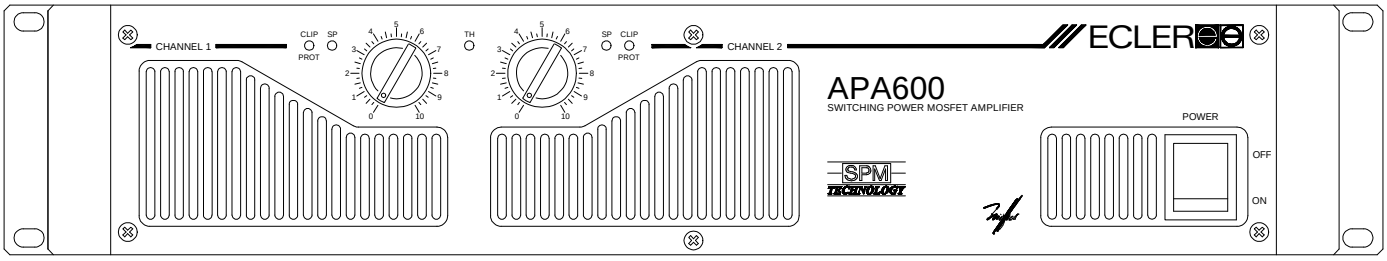
APA1400
APA1000
APA600

SERVICE MANUAL







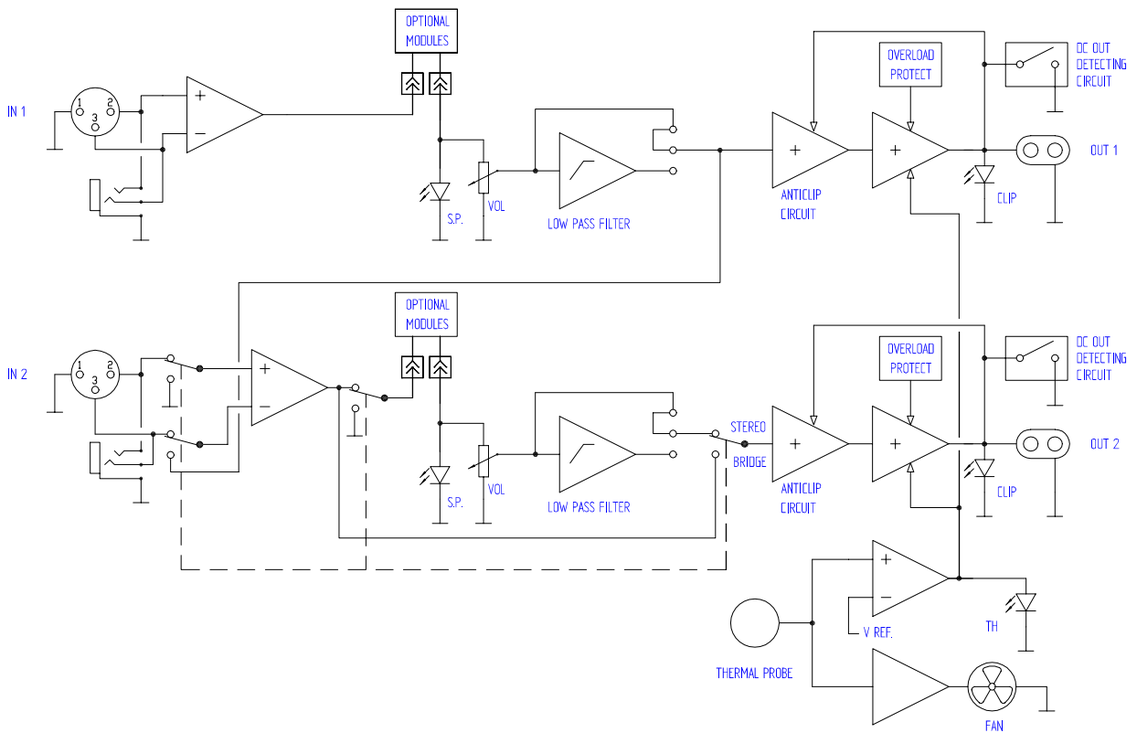
ECLER

AUDIO CREATIVE POWER

SERVICE MANUAL APA1400/1000/600

INDEX

- BLOCK DIAGRAM
- FUNCTIONING DESCRIPTION
- SCHEMATICS
- COMPONENTS LOCATION SCHEMA AND PART LIST
- TESTING AND QUALITY CONTROL
- TECHNICAL CHARACTERISTICS
- WIRING DIAGRAM
- CONFIGURATION DIAGRAM
- MECHANICAL DIAGRAM
- PACKING DIAGRAM



ECLEREE

drawn by: J. Colomines | date: 000410 | approved by: Josep M Sans

number: 10.0499 | version 01.01

title: **EP03-99 BLOCK DIAGRAM**

The amplifying stage basic structure is actually the one commonly used until now, this is, a push-pull mounted A-B class amplifier, using P-type (IRFP9240) and N-type (IRFP240) mosfets.

The system's controlling core is a NE5534 OpAmp, which is internally compensated in order to obtain an amplifying gain ratio equal or greater than 3. The amplifier's feedback runs through a resistor and a capacitor associated to the OpAmp's non-inverting input.

Transistors BF871 and BF872 are common-base configured, becoming actually a current source structure. They accomplish a dual function: on one hand, they polarise the mosfet's gate-source junction, keeping them on their conduction knee. On the other hand, they carry out the OpAmp's output voltage variations, referred to signal ground.

The polarisation current adjustment is fixed by a 2k5 trimming potentiometer connected to the BF transistors base. This current is added to the current source's output, which passes through the BF-transistors load resistors. The bias current stability against temperature is fixed through the BD437 transistors. Their temperature- dependent base emitter voltage curve is used to alter adequately the current source's reference voltage. As a consequence, if the temperature rises, the reference voltage decreases, thus the gate-source voltage also does, and finally the bias current also decreases.

The Zobel network, formed by a resistor-inductor-capacitor group, and which is located at the amplifier's output, intends to keep the amplifier's load impedance as constant as possible, no matter which load is connected to the stage's output, or which signal frequency is to be amplified, in order to prevent an inverted-phase feedback signal.

In order to avoid a DC offset on the output signal, a diac-triac tandem system is used, which shorts the output to signal ground when the DC level is enough to get the diac triggered. To prevent this from happening while carrying audio signal (sine-wave, music), the diac's reference voltage is taken from a filter formed by resistor R149 and capacitor C124.

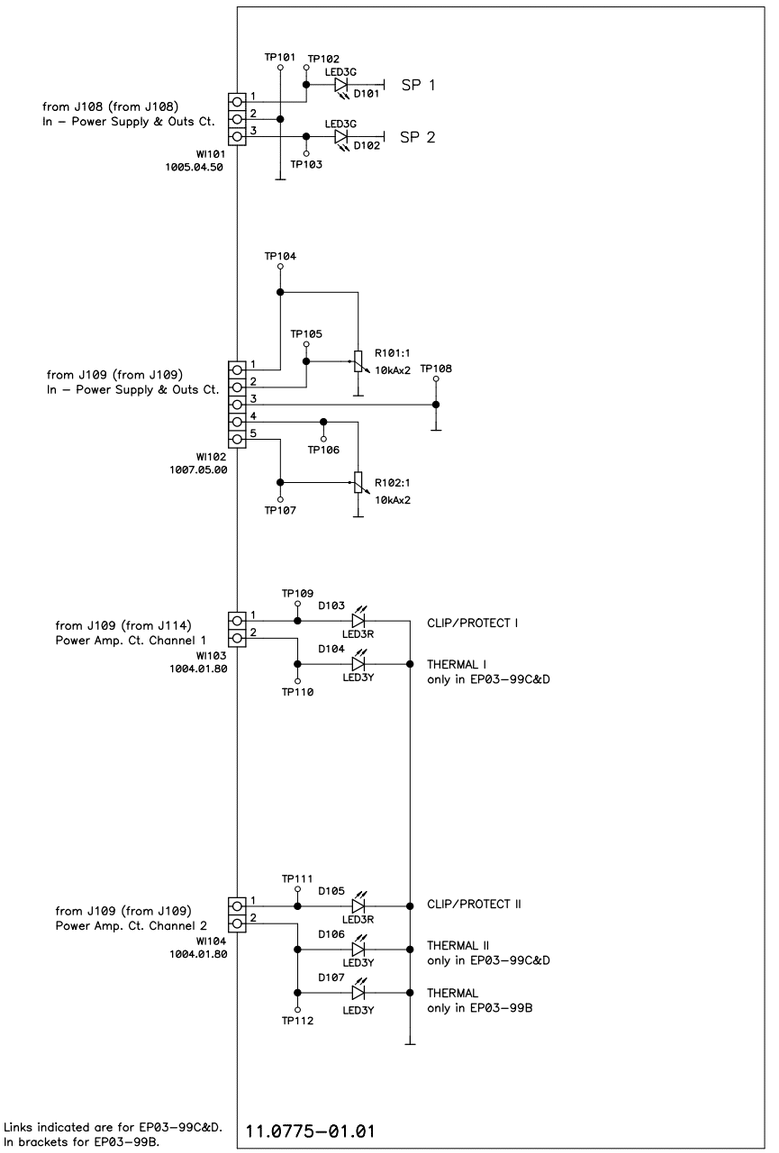
The protection circuitry supervises at any time the power consumed by the MOSFETS. The circuitry basically consists on two sections: MOSFET's drain current (Id) monitoring and drain-source voltage (Vds) monitoring.
When the drain current exceeds a certain limiting value, a transistor (called control-transistor) becomes conducting, together with an auxiliary circuitry (helper), formed by a transistor (which is the same type as the control-transistor) and a 8'2V Zener diode. This value determines the point where the auxillary circuitry starts to run. The helper-transistor's base-emitter junction curve is used to obtain a non-linear variation on the MOSFETS gate-source voltage control, and thus on their drain current.

Moreover, as the helper-transistor's base-emitter current is temperature-dependent, the controlling circuitry (basically the control-transistor) compensates the safe operation area (SOA) drift due to temperature.
If the MOSFET's drain-source voltage (Vds) drops too low, a second circuitry actuates to alter the control-transistor's triggering level, obtaining a SOA-like curve section and a current stage, which can be adjusted adequately in order to maintain the MOSFET's power consumption as close as possible to its SOA.

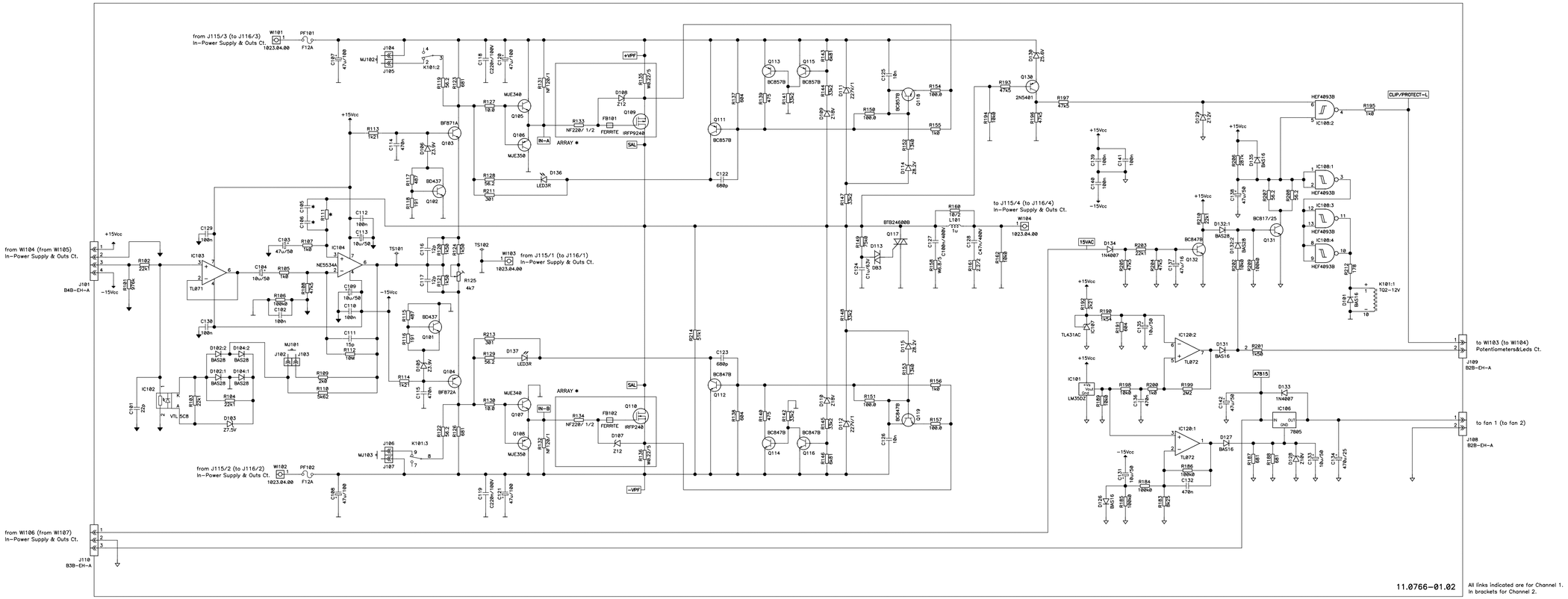
Moreover, the amplifier also includes an ANTICLIP system.
When the amplifier reaches its clipping level, the OpAmp becomes unable to keep the system under control, and as a consequence ±V peaks appear at its output (15V power supply). This peaks are used to be rectified and sent to an optocupler (led-resistor) which modifies its impedance as a function of those peaks' amplitude. The resulting impedance is part of a voltage divider, together with the amplifier's input impedance. So, as the optocoupler increases its impedance, the amplifier's input signal level decreases until the system becomes stable.

Also a dual-function temperature control circuitry is provided:
- Temperature-depending control of the cooling fan speed, whose voltage supply is variable between 7 and 14 Vac.
- Amplifier shutdown when temperature exceeds approximately 90ºC.
The circuitry is formed by LM35D-type IC, which acts like a thermal probe, an amplifier, thermal probe level comparator and a 7805-type voltage regulator.
The amplifier is responsible for the cooling fan speed control. The comparator triggers a relay, which cuts off the MOSFETs' bias current by shunting a 22W resistance to the BF-type transistors' load resistors. This way, the output signal of the amplifier is effectively cutted off.

The STAND-BY circuit.
This circuit keeps the safety relay closed for about 10 seconds, thus the MOSFET's bias current is cutted off during this period, until the whole system reaches again a voltage-stable situation. Due to this, hearing annoying transients and noises during start up through the loudspeakers is avoided. This delay is obtained by a RC-cell, where R = 287K, and C = 47μF/50V. During start up, this RC-cell's voltage smoothly rises until the 40106-type Trigger-Schmitt trigging level is reached, and the amplifier starts functioning. C = 47μF resets or discharges when the unit is turned off. During a short period of time, a BC817-type transistor acts like a switch, connecting two 75W parallel resistors to C = 47μ/50V.



ECLER LABORATORIO DE ELECTRO–ACUSTICA S.A.	drawn by: M. Amoros	date: 000314	approved by: Angel Sanuy
	title: EP03–99 Potentiometers & Leds		
number: 10.0497	version: 01.02		



All links indicated are for Channel 1.
In brackets for Channel 2.

★

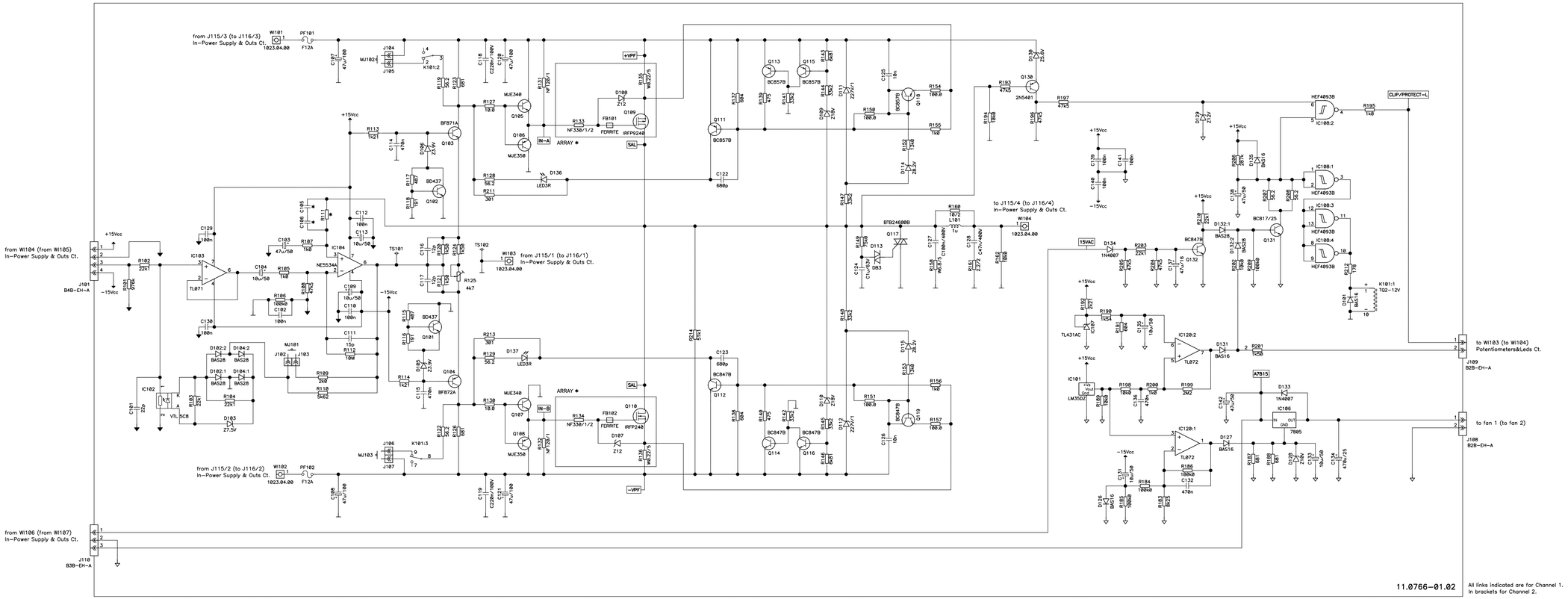
MODEL	C105 C106	R111	ARRAYS QTY.
EP03-99C	2 x 68p	41k2	5
EP03-99D	2 x 47p	51k1	6

ECLER
LABORATORIO DE ELECTRO-ACUSTICA S.A.

drawn by:	date:	approved by:
M. Amoros	000314	Angel Sanuy

title: EP03-99C&D Power Amp. Ct.

number: 10.0495 | version: 01.03



All links indicated are for Channel 1.
In brackets for Channel 2.

★

MODEL	C105 C106	R111	ARRAYS QTY.
EP03-99C	2 x 68p	41k2	5
EP03-99D	2 x 47p	51k1	6

OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 000314	approved by: Angel Sanuy
number: 10.0495	version: 01.02	title: EP03-99C&D Power Amp. Ct.	

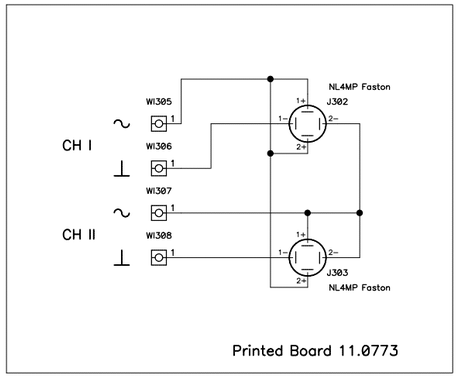
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110–120V/220–240V TABLE		
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EP03–99C	57AK164	10A
EP03–99D	61AK210	16A

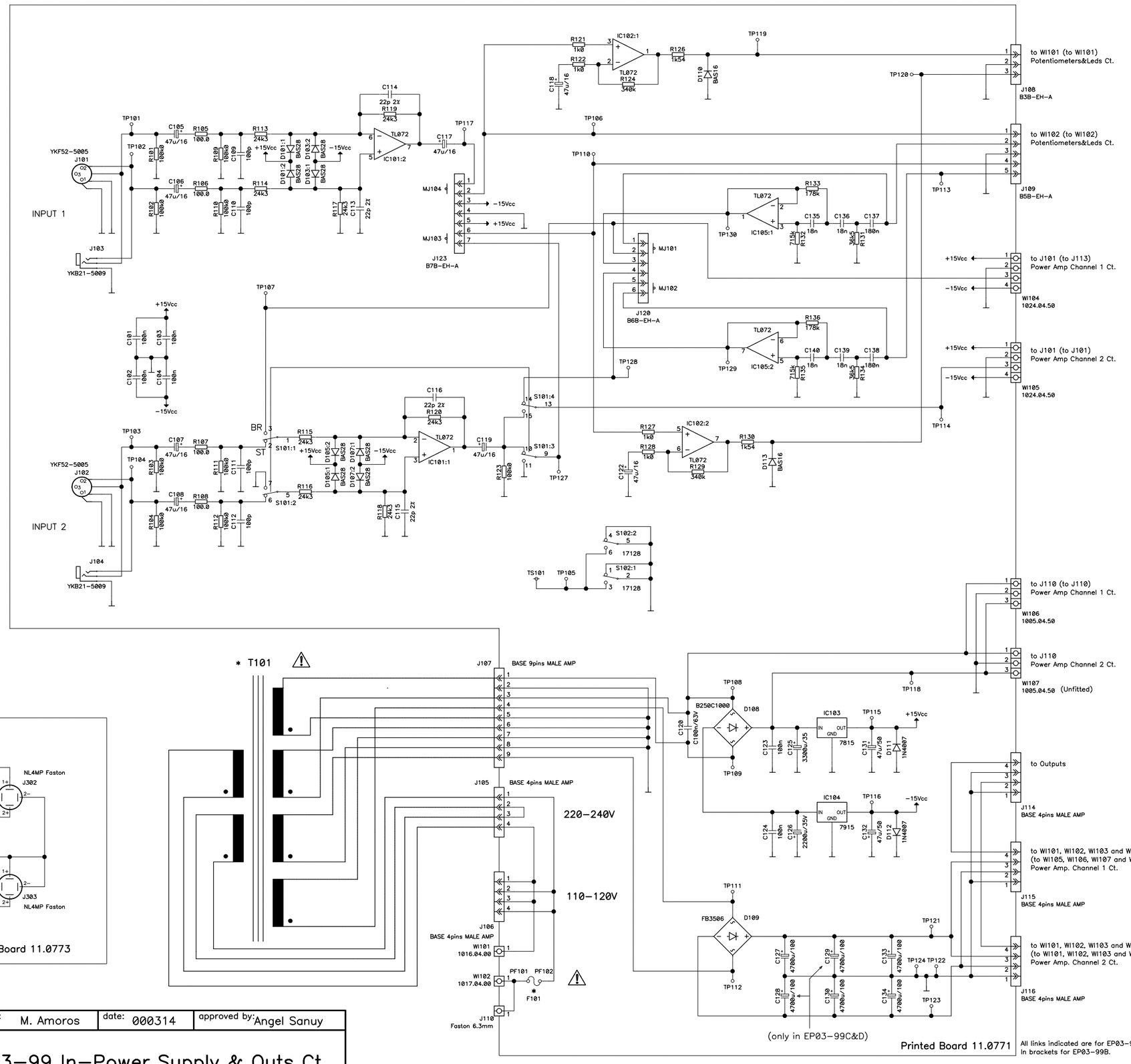
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EP03–99C	27AM164	12.5A
EP03–99D	71AM210	16A

⚠ CRITICAL COMPONENT



Printed Board 11.0773

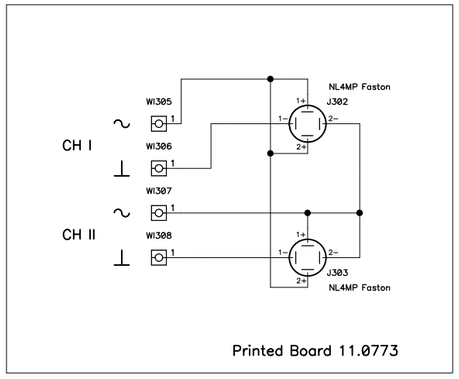


ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 000314	approved by: Angel Sanuy
	title: EP03–99 In–Power Supply & Outs Ct.		
number: 10.0496	version: 01.06		

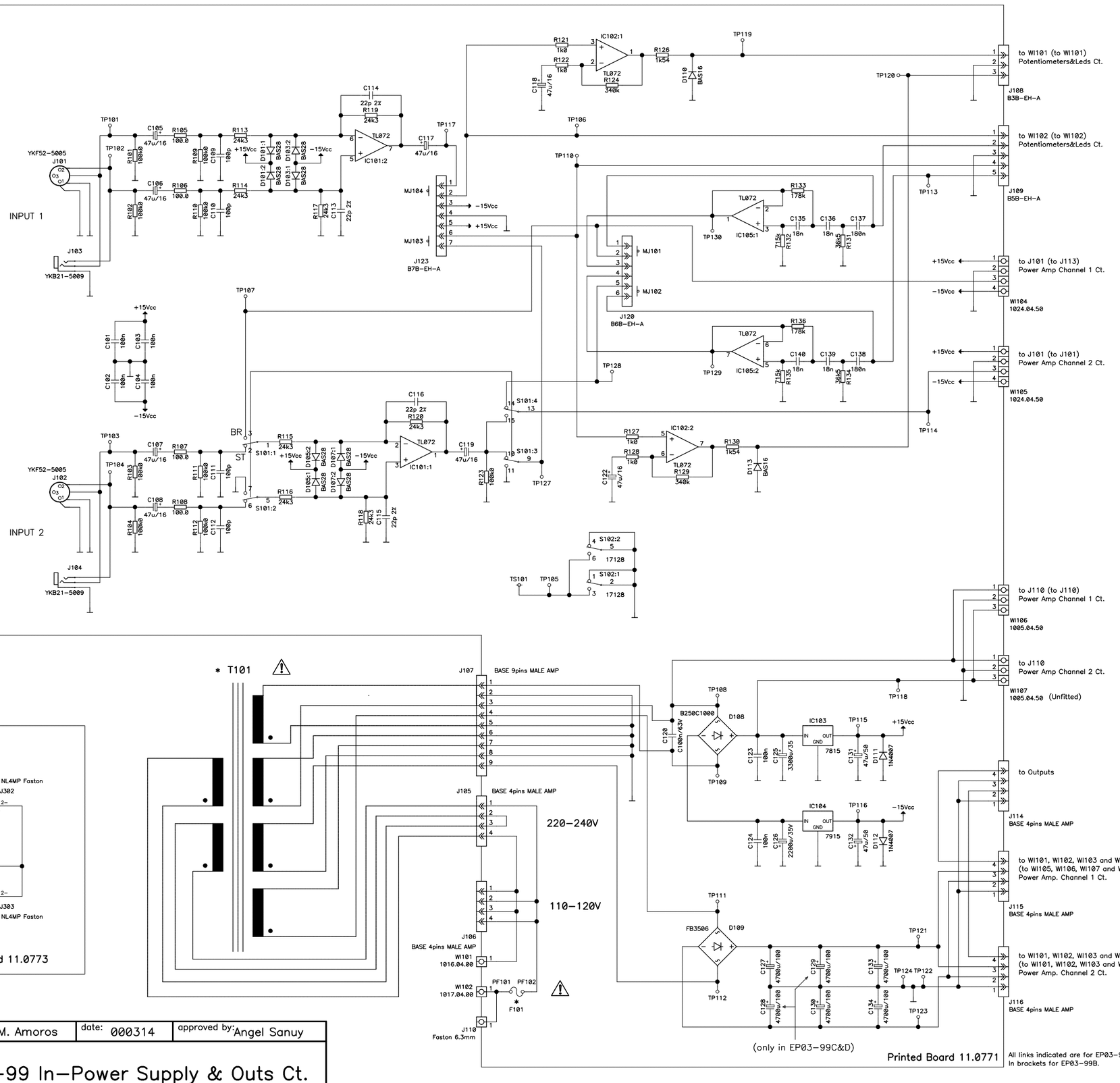
OLD VERSION

*	MODEL	F101	T101
	EP03-99B	6.3A	56AK140
	EP03-99C	10A	57AK164
	EP03-99D	16A	61AK210

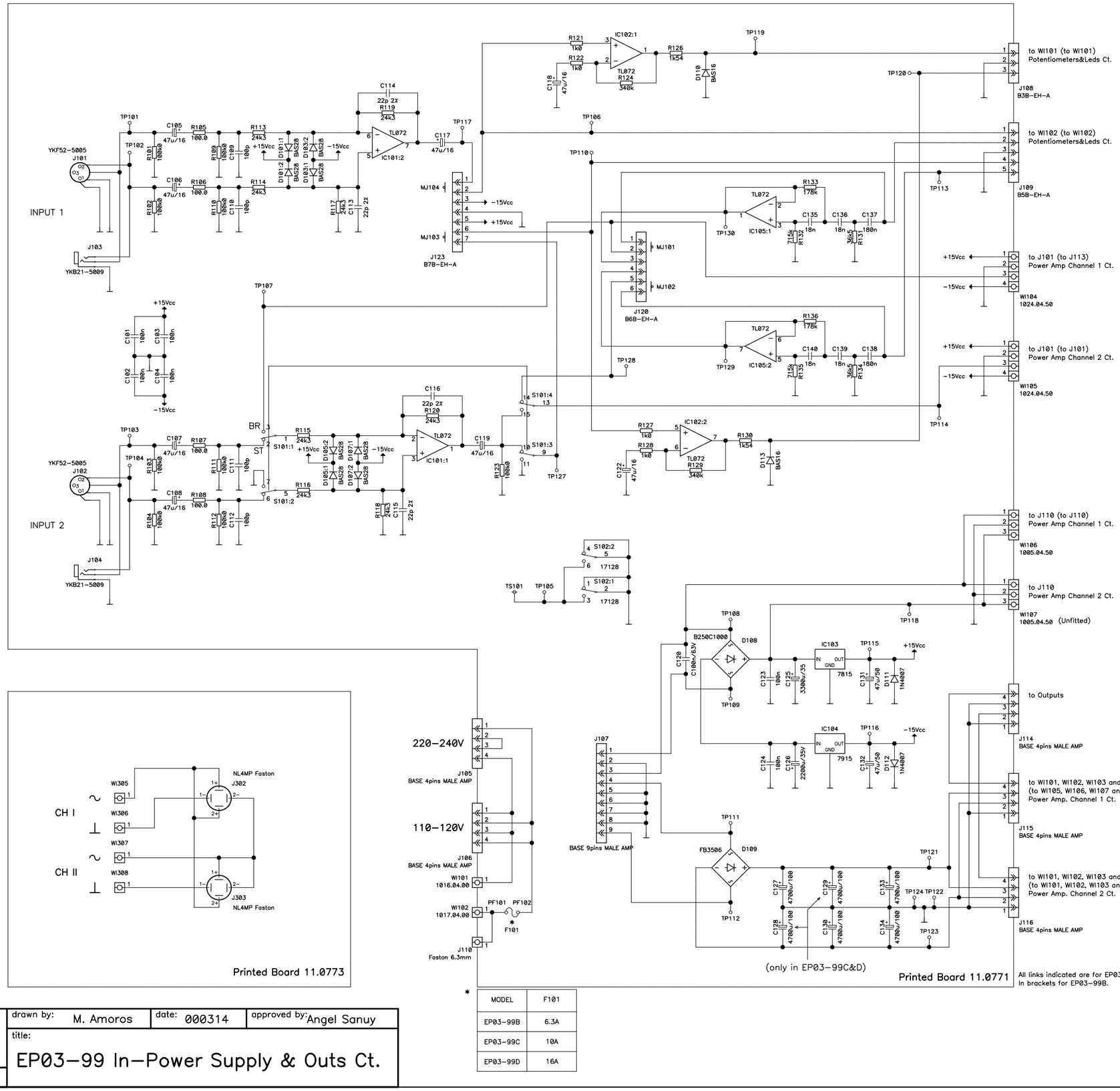
⚠ CRITICAL COMPONENT



Printed Board 11.0773



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 000314	approved by: Angel Sanuy
	title: EP03-99 In-Power Supply & Outs Ct.		
number: 10.0496	version: 01.05		



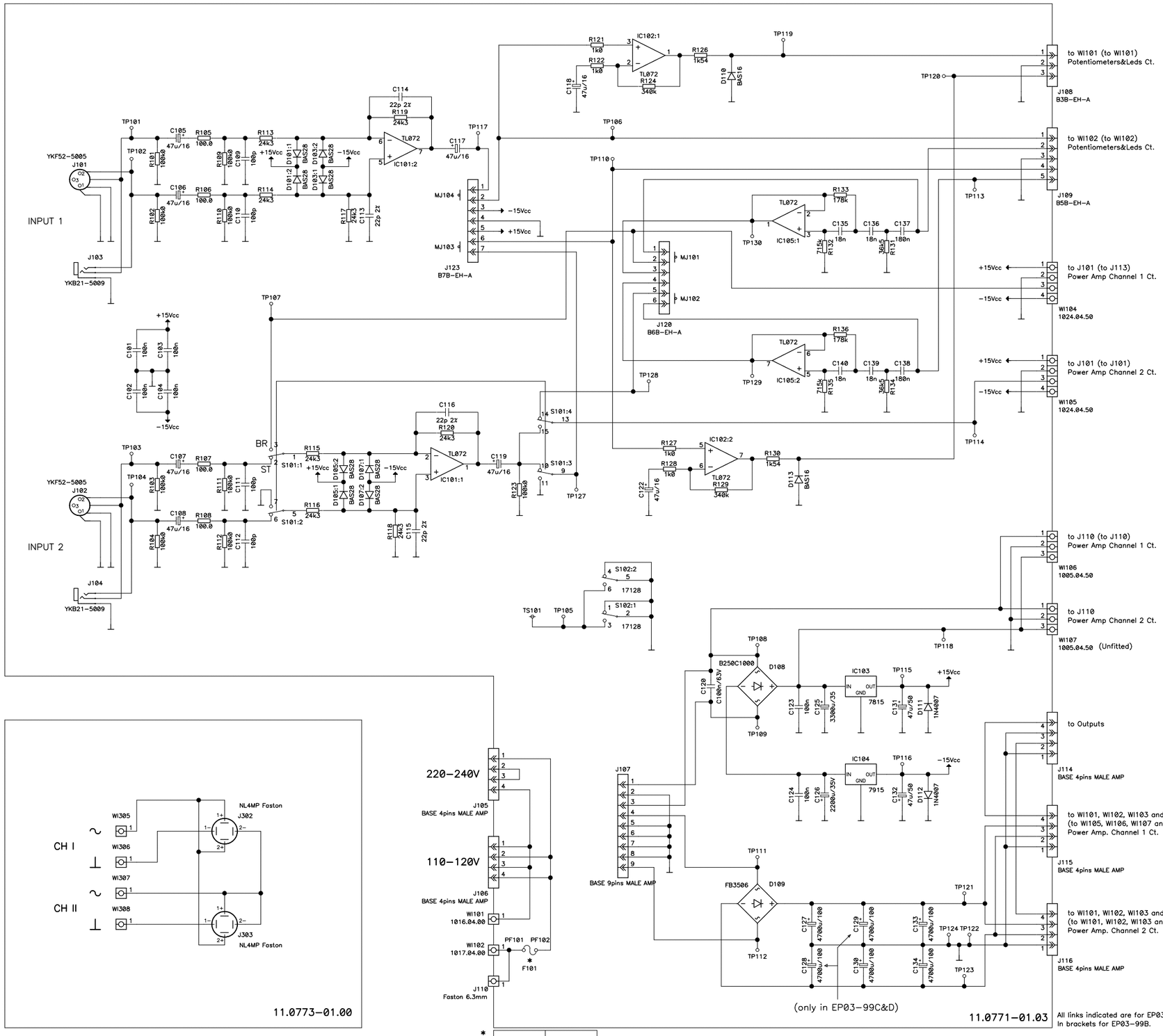
MODEL	F101
EP03–99B	6.3A
EP03–99C	10A
EP03–99D	16A

LABORATORIO DE ELECTRO–ACUSTICA S.A.

drawn by: M. Amoros | date: 000314 | approved by: Angel Sanuy

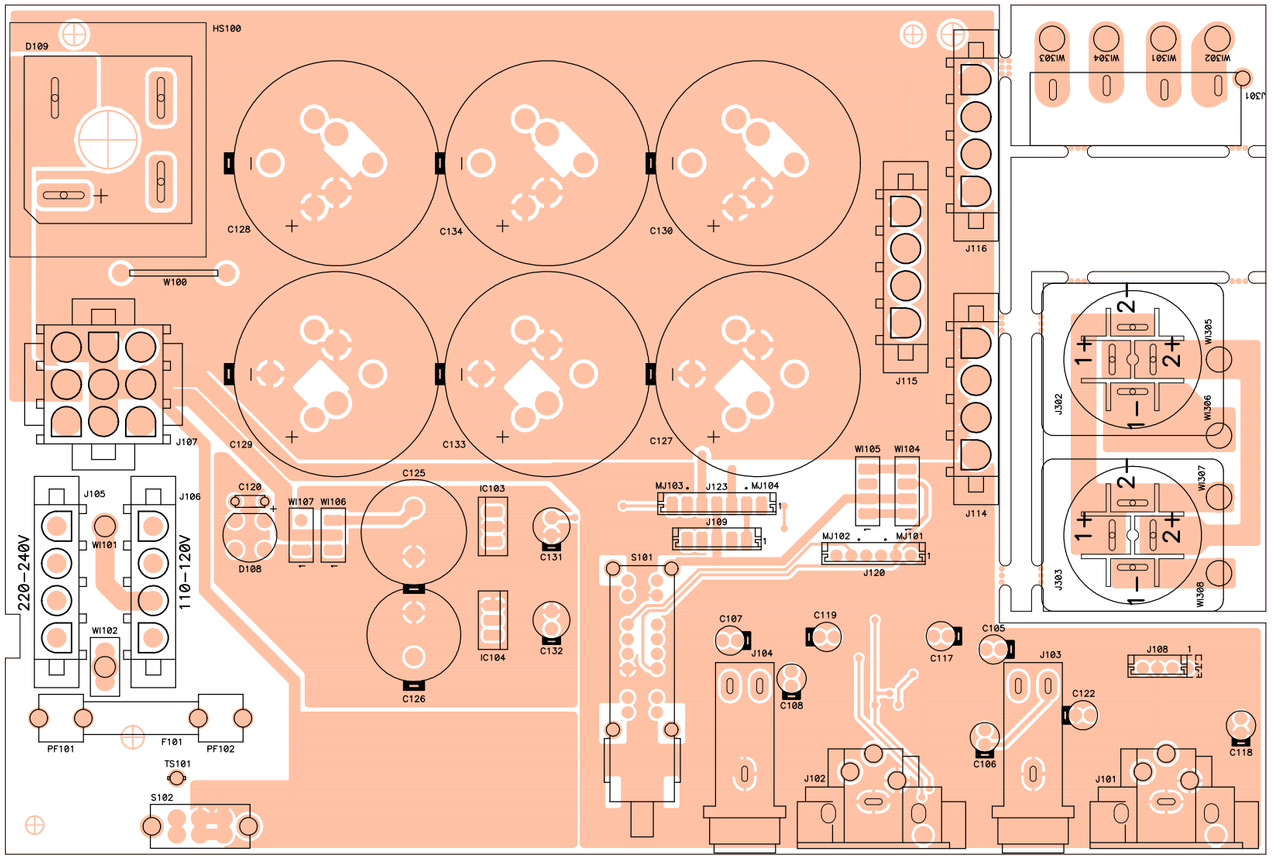
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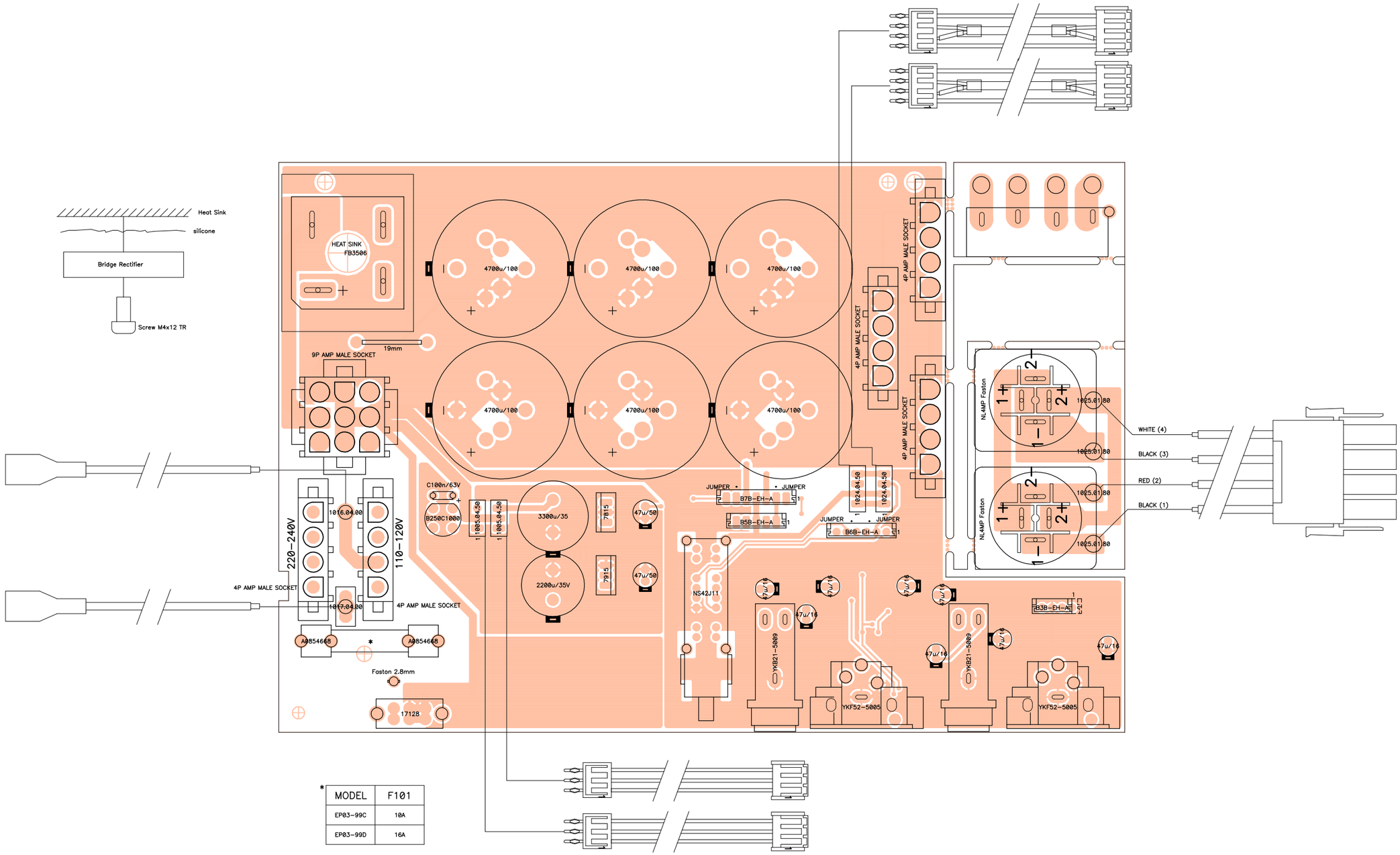


drawn by: M. Amoros	date: 000314	approved by: Angel Sanuy	
title: EP03-99 In-Power Supply & Outs Ct.			
number: 10.0496	version: 01.03		

ECLER
LABORATORIO DE ELECTRO-ACUSTICA S.A.



ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0774–01.04 schema no: 10.0496–01.04 insertion file no:		side: Component
			view: Reference
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0441 / version: 01.02	title: EP03–99C&D Ins–Power Supply & Outs		

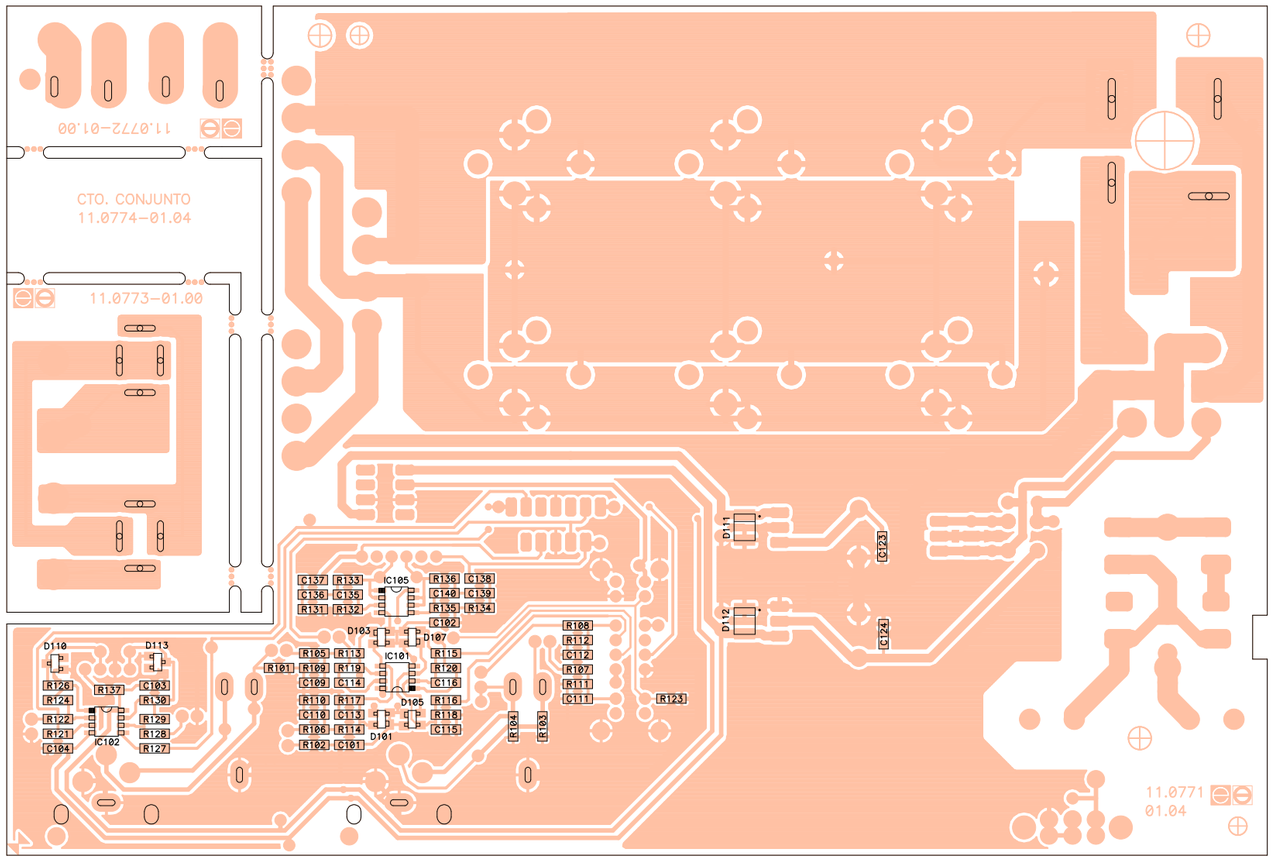


*	MODEL	F101
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	EP03-99D	16A

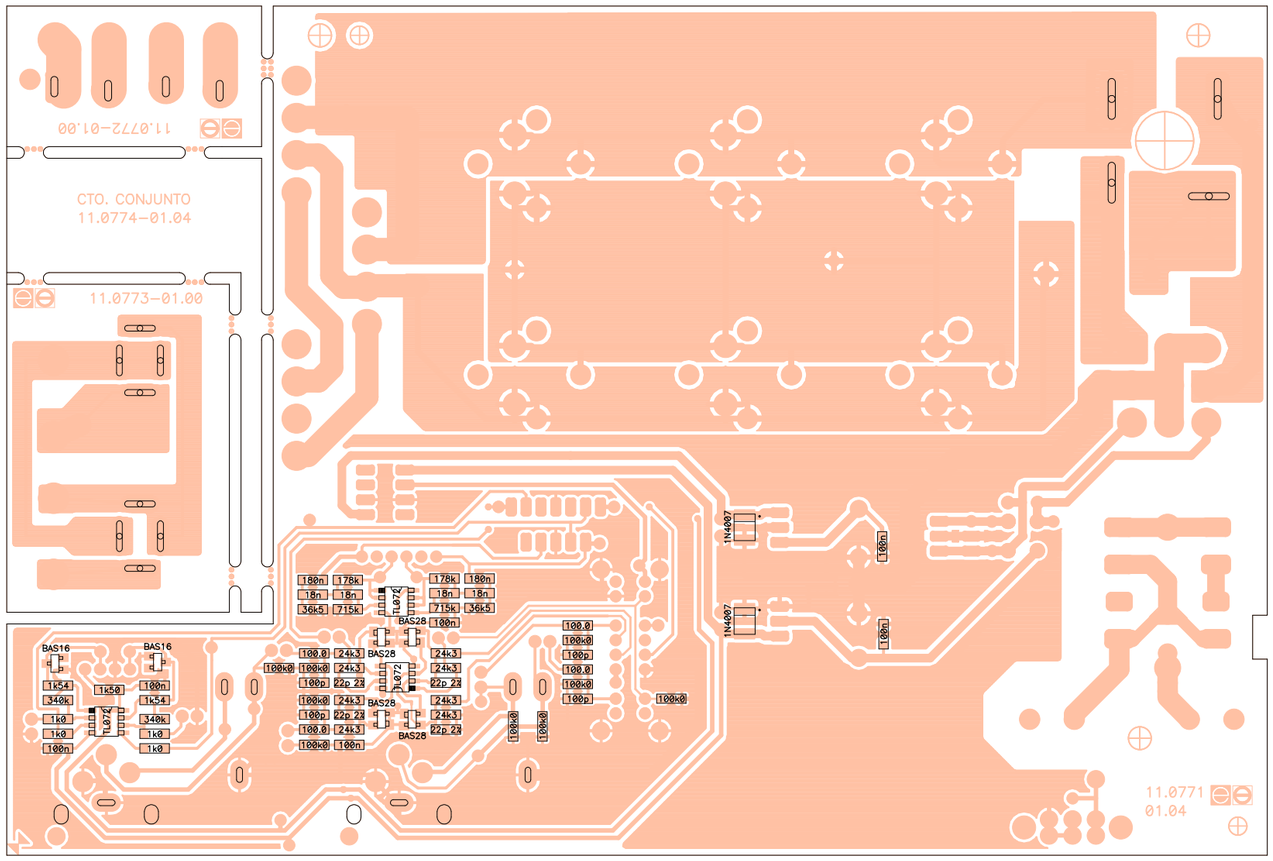
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LABORATORIO DE ELECTRO-ACUSTICA S.A.

related to: circuit no: 11.0774-01.04 schema no: 10.0496-01.04 insertion file no:			side: Component view: Value
drawn by: M. Amoros	date: 000317		approved by: Angel Sanuy
number: 33.0442	version: 01.02		

title: EP03-99C&D Ins-Power Supply & Outs



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.04 schema no: 10.0496-01.04 insertion file no: 81.0016-01.01		side: Solder
			view: Reference
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0443	version: 01.02	title: EP03-99C&D Ins-Power Supply & Outs	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.04 schema no: 10.0496-01.04 insertion file no: 81.0016-01.01		side: Solder
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	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0444	version: 01.02	title: EP03-99C&D Ins-Power Supply & Outs	

ECLER

author: Queralt
approved:

date: 020430
model:

num: 40.0048 version: 01.01

PARTS LIST

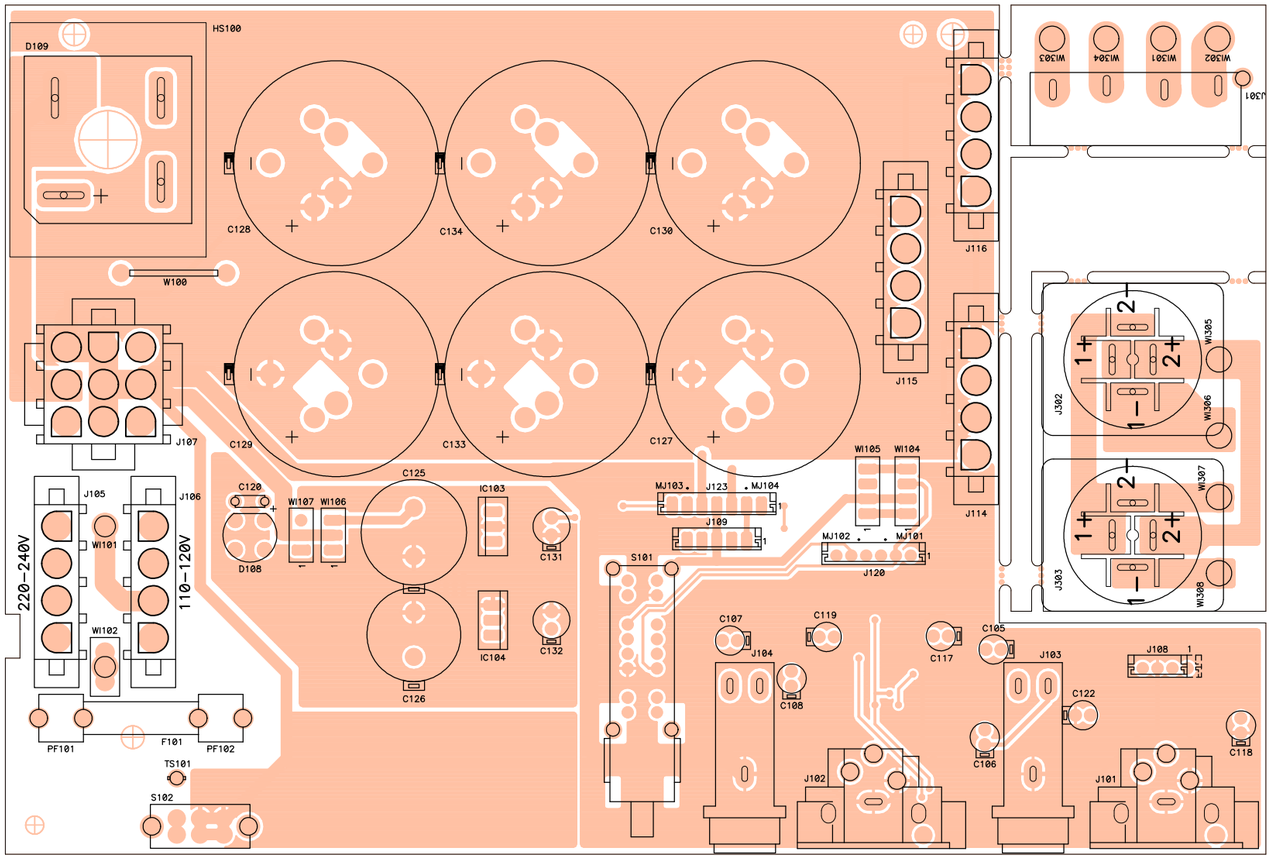
EP03-99C&D

PRINTED CIRCUIT 11.0774-01.04

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C103	100n	FCXCN41000
C104	100n	FCXCN41000
C105	47u/16	FCCE100000
C106	47u/16	FCCE100000
C107	47u/16	FCCE100000
C108	47u/16	FCCE100000
C109	100p	FCXCN21000
C110	100p	FCXCN21000
C111	100p	FCXCN21000
C112	100p	FCXCN21000
C113	22p 2%	FCXCN12201
C114	22p 2%	FCXCN12201
C115	22p 2%	FCXCN12201
C116	22p 2%	FCXCN12201
C117	47u/16	FCCE100000
C118	47u/16	FCCE100000
C119	47u/16	FCCE100000
C120	C100n/63V	FCCDK11000
C122	47u/16	FCCE100000
C123	100n	FCXCN41000
C124	100n	FCXCN41000
C125	3300u/35	FCCE213300
C126	2200u/35V	FCCE212200
C127	4700u/100	FCCE331525
C128	4700u/100	FCCE331525
C129	4700u/100	FCCE331525
C130	4700u/100	FCCE331525
C131	47u/50	FCCE250470
C132	47u/50	FCCE250470
C133	4700u/100	FCCE331525
C134	4700u/100	FCCE331525
C135	18n	FCXCN40180
C136	18n	FCXCN40180
C137	180n	FCXCN41800
C138	180n	FCXCN41800
C139	18n	FCXCN40180
C140	18n	FCXCN40180
D101	BAS28	FCXDDBAS28
D103	BAS28	FCXDDBAS28
D105	BAS28	FCXDDBAS28
D107	BAS28	FCXDDBAS28
D108	B250C1000	FCREC25100
D109	FB3506	FCREC35060
D110	BAS16	FCXDDBAS16
D111	1N4007	FCXDD40070
D112	1N4007	FCXDD40070
D113	BAS16	FCXDDBAS16
F101 FOR 230V	T10A	FCFUS60100
F101 FOR 115V	T16A	FCFUS60400
HS100	HEAT SINK	FCRAD11515

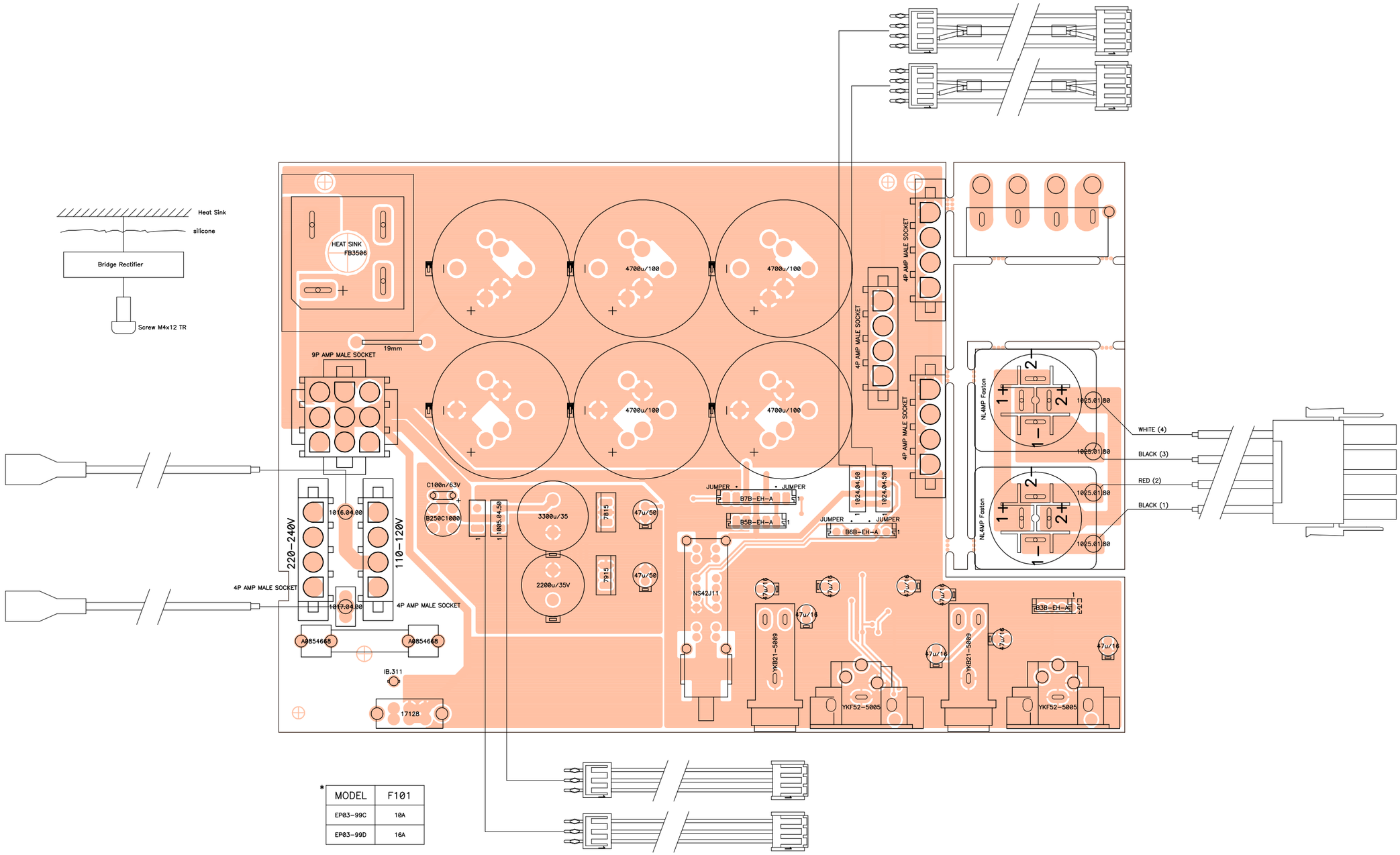
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IC104	7915	FCREG79150
IC105	TL072	FCIC072010
J101	YKF52-5005	FCBASX0900
J102	YKF52-5005	FCBASX0900
J103	YKB21-5009	FCBASJ0200
J104	YKB21-5009	FCBASJ0200
J105	BASE 4pins MALE	FCCTAMP040
J106	BASE 4pins MALE	FCCTAMP040
J107	BASE 9pins MALE	FCCTAMP090
J108	B3B-EH-A	FCCTM00030
J109	B5B-EH-A	FCCTM00050
J110	FASTON 6.3mm	FCTERMF630
J114	BASE 4pins MALE	FCCTAMP040
J115	BASE 4pins MALE	FCCTAMP040
J116	BASE 4pins MALE	FCCTAMP040
J120	B6B-EH-A	FCCTM00060
J123	B7B-EH-A	FCCTM00070
J302	NL4MP Faston	FCBASS0100
J303	NL4MP Faston	FCBASS0100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MJ104	JUMPER	FCMJ000100
PF101	A0854668	FCPORF0100
PF102	A0854668	FCPORF0100
R101	100k0	FCXR151000
R102	100k0	FCXR151000
R103	100k0	FCXR151000
R104	100k0	FCXR151000
R105	100.0Ω	FCXR121000
R106	100.0Ω	FCXR121000
R107	100.0Ω	FCXR121000
R108	100.0Ω	FCXR121000
R109	100k0	FCXR151000
R110	100k0	FCXR151000
R111	100k0	FCXR151000
R112	100k0	FCXR151000
R113	24k3	FCXR242430
R114	24k3	FCXR242430
R115	24k3	FCXR242430
R116	24k3	FCXR242430
R117	24k3	FCXR242430
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R120	24k3	FCXR242430
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R122	1k0	FCXR131000
R123	100k0	FCXR151000
R124	340k	FCXR153400
R126	1k54	FCXR131540
R127	1k0	FCXR131000
R128	1k0	FCXR131000
R129	340k	FCXR153400
R130	1k54	FCXR131540
R131	36k5	FCXR143650

REFERENCE	VALUE	CODE
R132	715k	FCXR157150
R133	178k	FCXR151780
R134	36k5	FCXR143650
R135	715k	FCXR157150
R136	178k	FCXR151780
R137	1k50	FCXR131500
S101	NS42J11	FCINTAP080
S102	17128	FCINTD4000
SC100	M4x12 TR	FCT3804012
TS101	T-120	FCTERMF280
W100	19mm	FCMECPON19
WI101	1016.04.00	FC2F016400
WI102	1017.04.00	FC2F017400
WI104	1024.04.50	FC6J024450
WI105	1024.04.50	FC6J024450
WI106	1005.04.50	FC4I005450
WI107	1005.04.50	FC4I005450
WI305	1025.01.80	FC0H025180
WI306	1025.01.80	FC0H025180
WI307	1025.01.80	FC0H025180
WI308	1025.01.80	FC0H025180



OLD VERSION

ECLER ee LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0774–01.03 schema no: 10.0496–01.03 insertion file no:		side: Component view: Reference
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0441 / version: 01.01	title: EP03–99C&D Ins–Power Supply & Outs		

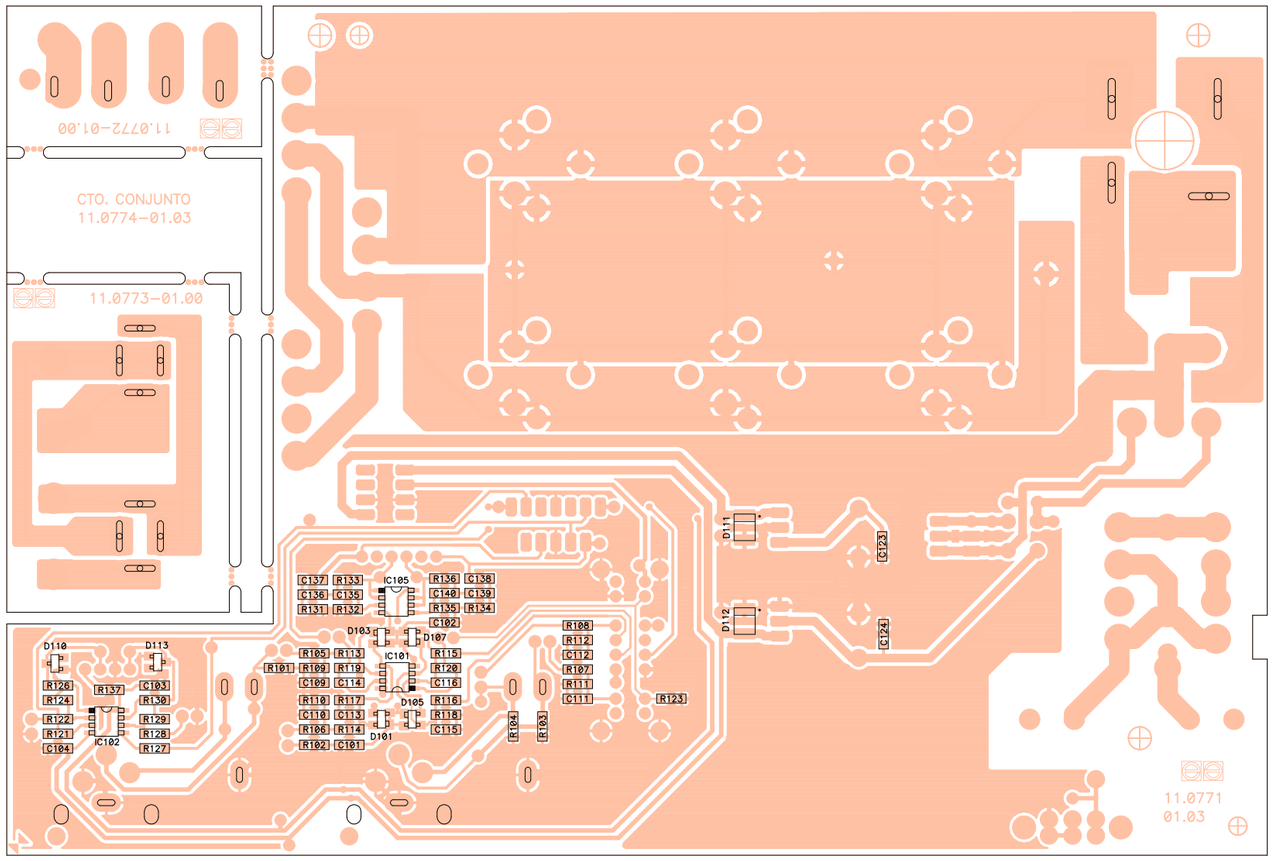


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MODEL	F101
EP03-99C	10A
EP03-99D	16A

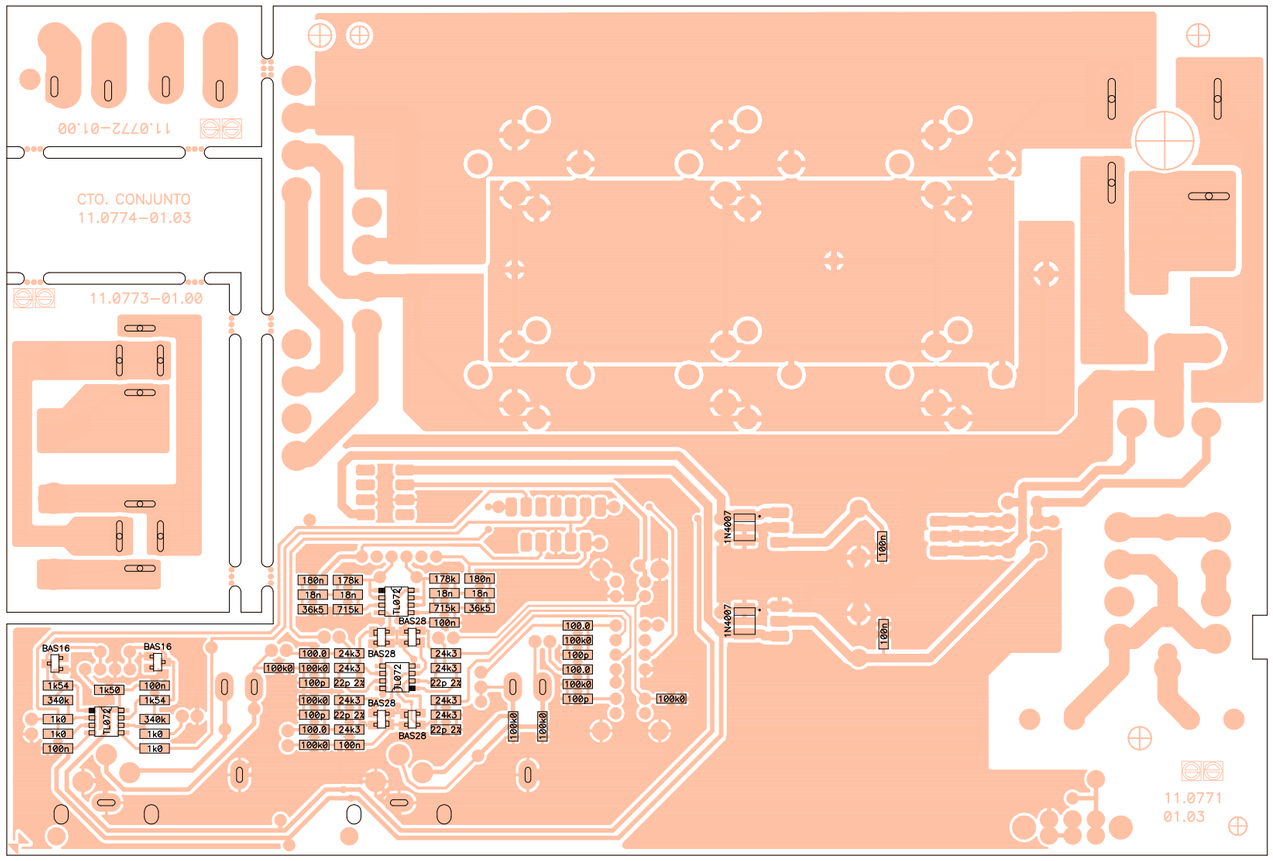
OLD VERSION

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number: 33.0442	version: 01.01	title: EP03-99C&D Ins-Power Supply & Outs	



OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.03 schema no: 10.0496-01.03 insertion file no: 81.0016-01.01		side: Solder
			view: Reference
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0443	version: 01.01	title: EP03-99C&D Ins-Power Supply & Outs	



OLD VERSION

ECLEREE LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.03 schema no: 10.0496-01.03 insertion file no: 81.0016-01.01		side: Solder
			view: Value
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0444	version: 01.01	title: EP03-99C&D Ins-Power Supply & Outs	

ECLER

author: Queralt
approved:

date: 000913
model:

num: 40.0048 version: 01.00

PARTS LIST

EP03-99C&D

PRINTED CIRCUIT 11.0774-01.03

REFERENCE	VALUE	CODE
C101	100n	FCXCN41000
C102	100n	FCXCN41000
C103	100n	FCXCN41000
C104	100n	FCXCN41000
C105	47u/16	FCCE100000
C106	47u/16	FCCE100000
C107	47u/16	FCCE100000
C108	47u/16	FCCE100000
C109	100p	FCXCN21000
C110	100p	FCXCN21000
C111	100p	FCXCN21000
C112	100p	FCXCN21000
C113	22p 2%	FCXCN12201
C114	22p 2%	FCXCN12201
C115	22p 2%	FCXCN12201
C116	22p 2%	FCXCN12201
C117	47u/16	FCCE100000
C118	47u/16	FCCE100000
C119	47u/16	FCCE100000
C120	C100n/63V	FCCDK11000
C122	47u/16	FCCE100000
C123	100n	FCXCN41000
C124	100n	FCXCN41000
C125	3300u/35	FCCE213300
C126	2200u/35V	FCCE212200
C127	4700u/100	FCCE331525
C128	4700u/100	FCCE331525
C129	4700u/100	FCCE331525
C130	4700u/100	FCCE331525
C131	47u/50	FCCE250470
C132	47u/50	FCCE250470
C133	4700u/100	FCCE331525
C134	4700u/100	FCCE331525
C135	18n	FCXCN40180
C136	18n	FCXCN40180
C137	180n	FCXCN41800
C138	180n	FCXCN41800
C139	18n	FCXCN40180
C140	18n	FCXCN40180
D101	BAS28	FCXDDBAS28
D103	BAS28	FCXDDBAS28
D105	BAS28	FCXDDBAS28
D107	BAS28	FCXDDBAS28
D108	B250C1000	FCREC25100
D109	FB3506	FCREC35060
D110	BAS16	FCXDDBAS16
D111	1N4007	FCXDD40070
D112	1N4007	FCXDD40070
D113	BAS16	FCXDDBAS16
F101 FOR 230V	T10A	FCFUS60100
F101 FOR 115V	T16A	FCFUS60400
HS100	HEAT SINK	FCRAD11515

OLD VERSION

REFERENCE	VALUE	CODE
IC101	TL072	FCIC072010
IC102	TL072	FCIC072010
IC103	7815	FCREG78150
IC104	7915	FCREG79150
IC105	TL072	FCIC072010
J101	YKF52-5005	FCBASX0900
J102	YKF52-5005	FCBASX0900
J103	YKB21-5009	FCBASJ0200
J104	YKB21-5009	FCBASJ0200
J105	BASE 4pins MALE	FCCTAMP040
J106	BASE 4pins MALE	FCCTAMP040
J107	BASE 9pins MALE	FCCTAMP090
J108	B3B-EH-A	FCCTM00030
J109	B5B-EH-A	FCCTM00050
J110	FASTON 6.3mm	FCTERMF630
J114	BASE 4pins MALE	FCCTAMP040
J115	BASE 4pins MALE	FCCTAMP040
J116	BASE 4pins MALE	FCCTAMP040
J120	B6B-EH-A	FCCTM00060
J123	B7B-EH-A	FCCTM00070
J302	NL4MP Faston	FCBASS0100
J303	NL4MP Faston	FCBASS0100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MJ104	JUMPER	FCMJ000100
PF101	A0854668	FCPORF0100
PF102	A0854668	FCPORF0100
R101	100k0	FCXR151000
R102	100k0	FCXR151000
R103	100k0	FCXR151000
R104	100k0	FCXR151000
R105	100.0Ω	FCXR121000
R106	100.0Ω	FCXR121000
R107	100.0Ω	FCXR121000
R108	100.0Ω	FCXR121000
R109	100k0	FCXR151000
R110	100k0	FCXR151000
R111	100k0	FCXR151000
R112	100k0	FCXR151000
R113	24k3	FCXR242430
R114	24k3	FCXR242430
R115	24k3	FCXR242430
R116	24k3	FCXR242430
R117	24k3	FCXR242430
R118	24k3	FCXR242430
R119	24k3	FCXR242430
R120	24k3	FCXR242430
R121	1k0	FCXR131000
R122	1k0	FCXR131000
R123	100k0	FCXR151000
R124	340k	FCXR153400
R126	1k54	FCXR131540
R127	1k0	FCXR131000
R128	1k0	FCXR131000
R129	340k	FCXR153400
R130	1k54	FCXR131540
R131	36k5	FCXR143650

OLD VERSION

REFERENCE	VALUE	CODE
R132	715k	FCXR157150
R133	178k	FCXR151780
R134	36k5	FCXR143650
R135	715k	FCXR157150
R136	178k	FCXR151780
R137	1k50	FCXR131500
S101	NS42J11	FCINTAP080
S102	17128	FCINTD4000
SC100	M4x12 TR	FCT3804012
TS101	IB.311	FCTERMSOL0
W100	19mm	FCMECPON19
WI101	1016.04.00	FC2F016400
WI102	1017.04.00	FC2F017400
WI104	1024.04.50	FC6J024450
WI105	1024.04.50	FC6J024450
WI106	1005.04.50	FC4I005450
WI107	1005.04.50	FC4I005450
WI305	1025.01.80	FC0H025180
WI306	1025.01.80	FC0H025180
WI307	1025.01.80	FC0H025180
WI308	1025.01.80	FC0H025180

OLD VERSION

Announcement addressed to Technical Support Services

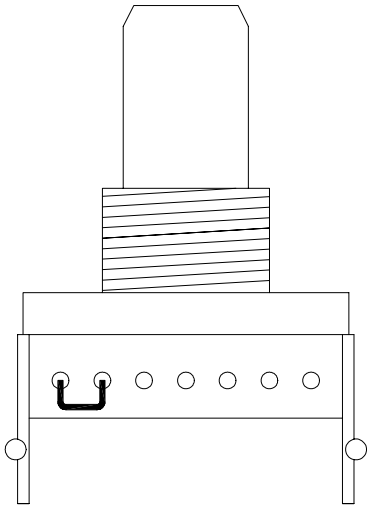
Involved series:

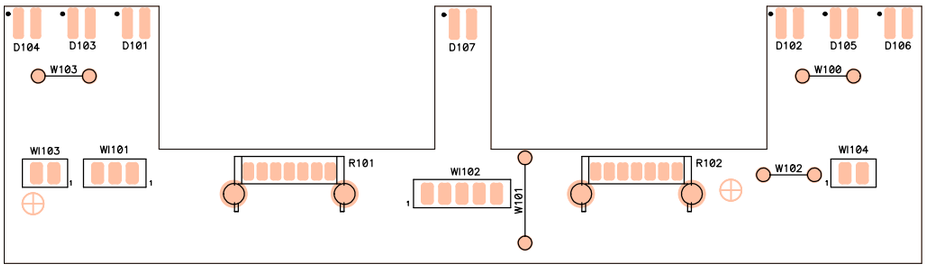
APA1400 / APA1000 / APA600
PAM1100 / PAM2100
MPA4-80 / MPA6-80 / MPA4-150

VOLUME potentiometer replacement.

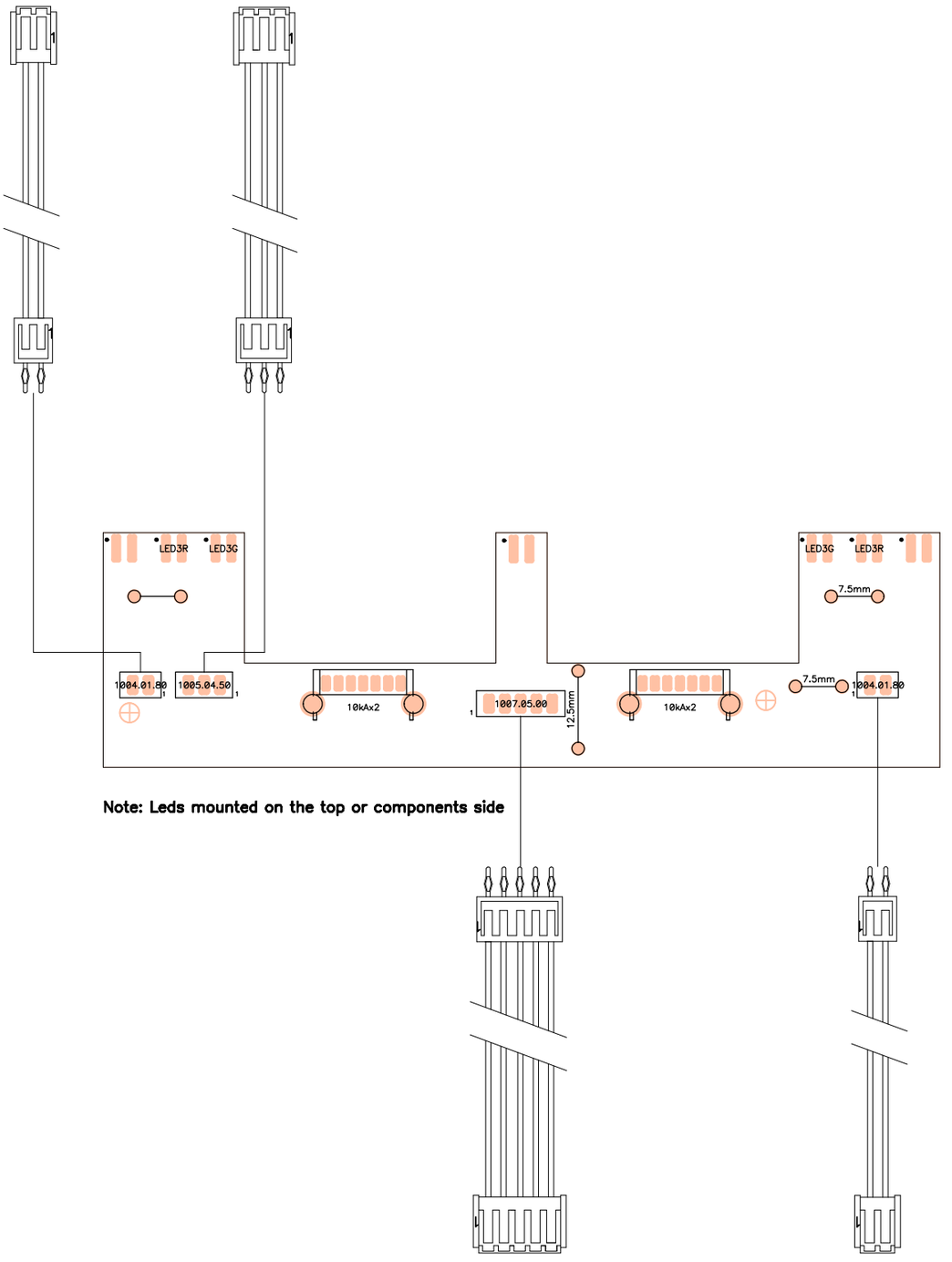
Replaced service part code: FCPR210040

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.





ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0775-01.01 schema no: 10.0497-01.02 insertion file no:		side: Component view: Reference
	drawn by: M. Amoros	date: 000313	approved by: Angel Sanuy
number: 33.0445 / version: 01.01	title: EP03-99C&D Potentiometers&Leds Ct.		



Note: Leds mounted on the top or components side

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0775-01.01 schema no: 10.0497-01.02 insertion file no:		side: Component view: Value
	drawn by: M. Amoros	date: 000313	approved by: Angel Sanuy
number: 33.0446	version: 01.01	title: EP03-99C&D Potentiometers&Leds Ct.	

ECLER

author: Queralt
approved:

date: 000913
model:

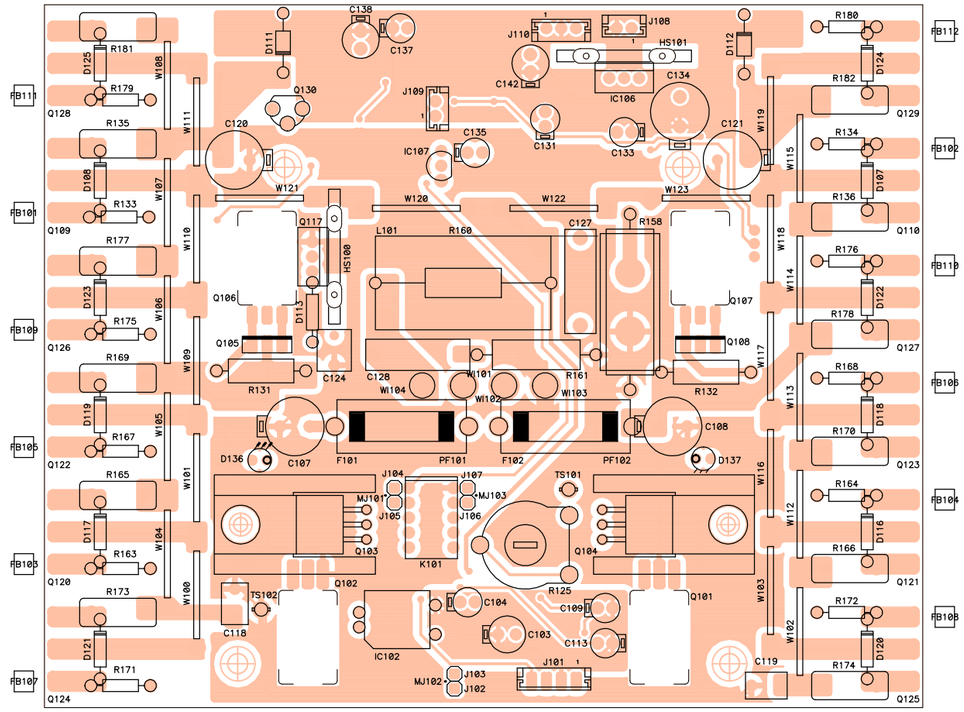
num: 40.0049 version: 01.00

PARTS LIST

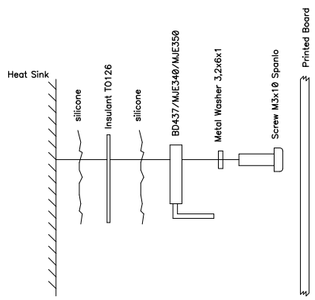
EP03-99C&D

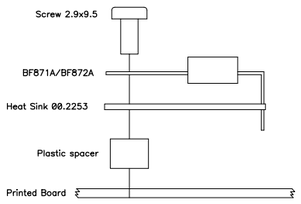
PRINTED CIRCUIT 11.0775-01.01

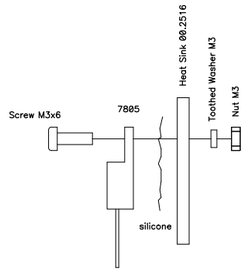
REFERENCE	VALUE	CODE
D101	LED3G	FCLED300VE
D102	LED3G	FCLED300VE
D103	LED3R	FCLED300RO
D104	LED3Y	FCLED300AM
D105	LED3R	FCLED300RO
D106	LED3Y	FCLED300AM
D107	UNFITTED	FCLED300AM
R101	10kAx2	FCPR210040
R102	10kAx2	FCPR210040
W100	7.5mm	FCPONT0075
W101	12.5mm	FCPONT0125
W102	7.5mm	FCPONT0075
W103	7.5mm	FCPONT0075
WI101	1005.04.50	FC4I005450
WI102	1007.05.00	FC4K007500
WI103	1004.01.80	FC4G004180
WI104	1004.01.80	FC4G004180

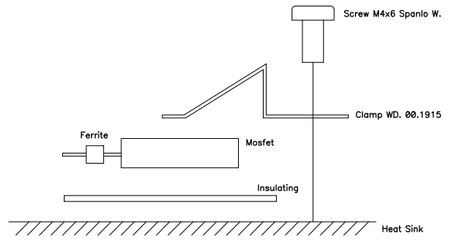


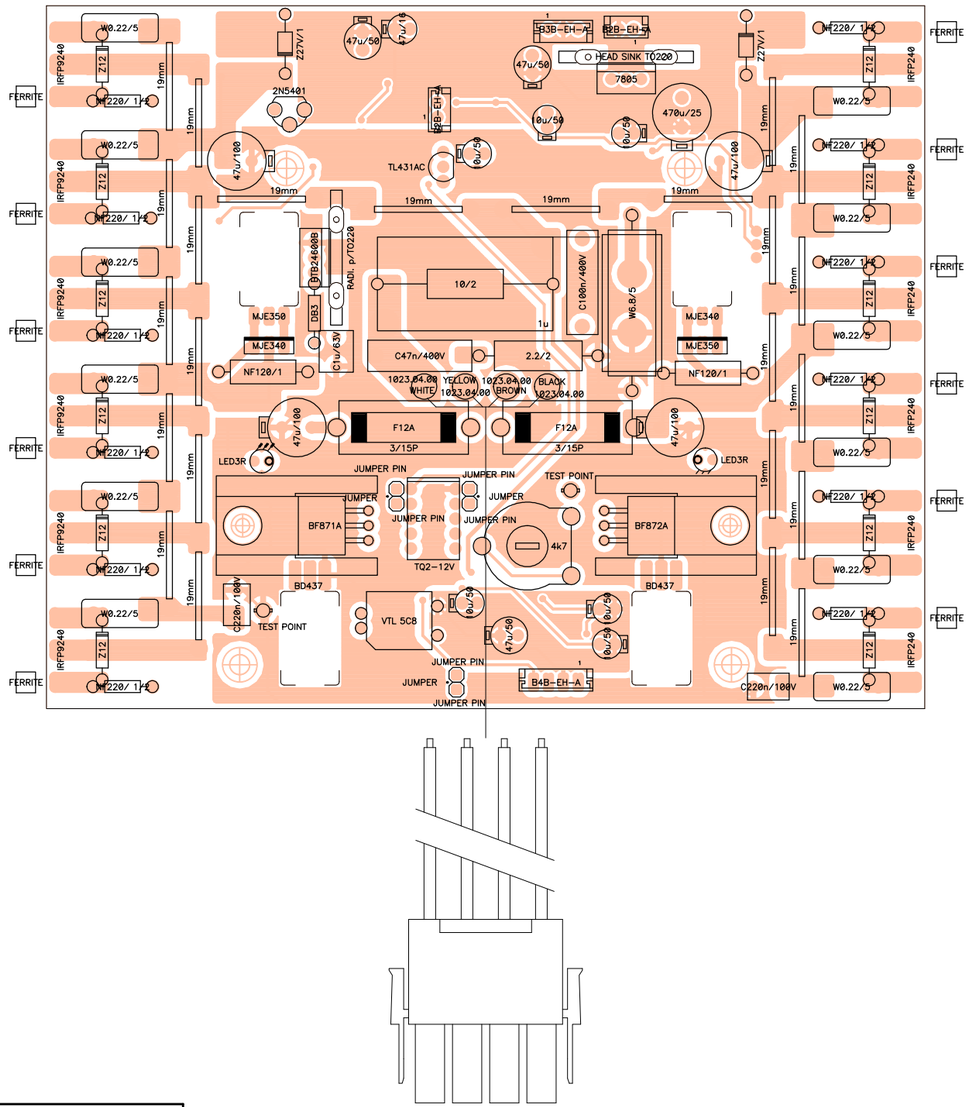
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0019-01.01		side: Component
			view: Reference
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0449	version: 01.02	title: EP03-99D Power Amp.	



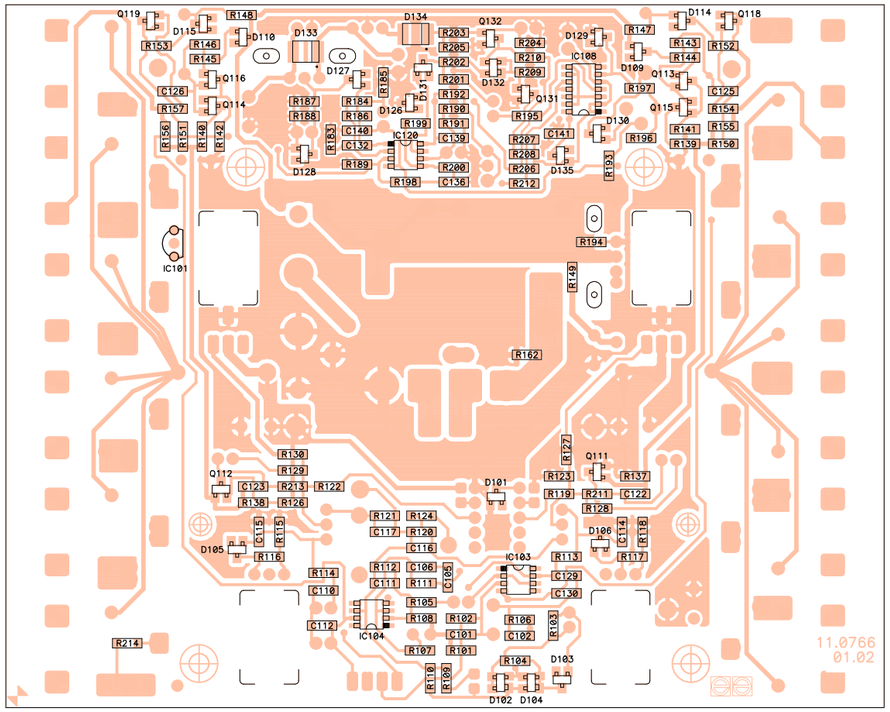




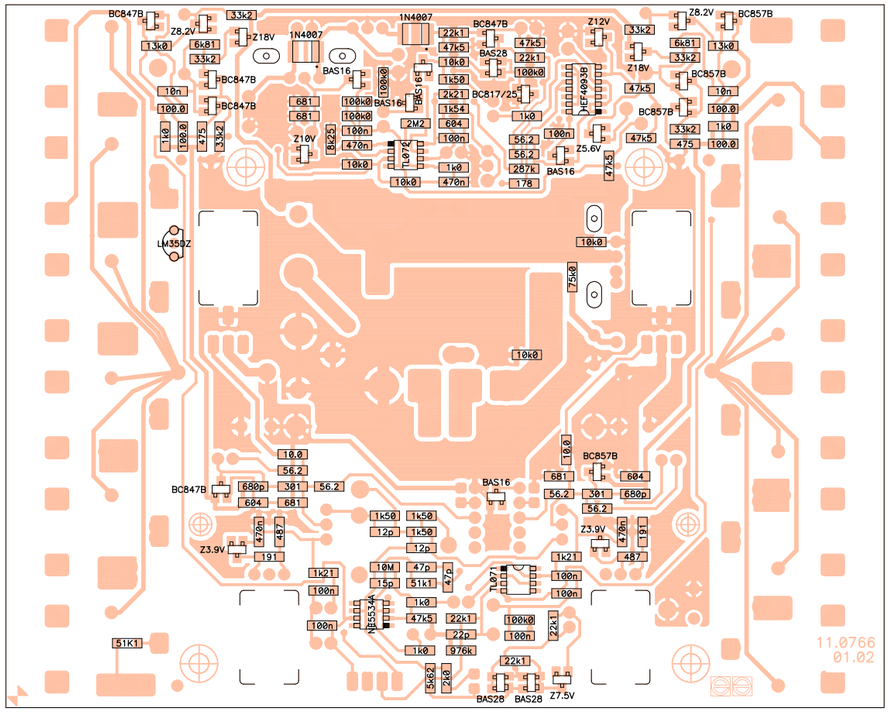




ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0019-01.01		side: Component
			view: Value
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0450	version: 01.02	title: EP03-99D Power Amp.	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0019-01.01		side: Solder
			view: Reference
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0451	version: 01.02	title: EP03-99D Power Amp.	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0019-01.01		side: Solder
			view: Value
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0452	version: 01.02	title: EP03-99D Power Amp.	

ECLER

author: Queralt
approved:

date: 000913
model:

num: 40.0050 version: 01.00

PARTS LIST

EP03-99D

PRINTED CIRCUIT 11.0766-01.02

REFERENCE	VALUE	CODE
C101	22p	FCXCN12200
C102	100n	FCXCN41000
C103	47u/50	FCCE250470
C104	10u/50	FCCE250100
C105	47p	FCXCN14700
C106	47p	FCXCN14700
C107	47u/100	FCCE350470
C108	47u/100	FCCE350470
C109	10u/50	FCCE250100
C110	100n	FCXCN41000
C111	15p	FCXCN11500
C112	100n	FCXCN41000
C113	10u/50	FCCE250100
C114	470n	FCXCN44700
C115	470n	FCXCN44700
C116	12p	FCXCN11200
C117	12p	FCXCN11200
C118	C220n/100V	FCCDK52200
C119	C220n/100V	FCCDK52200
C120	47u/100	FCCE350470
C121	47u/100	FCCE350470
C122	680p	FCXCN26800
C123	680p	FCXCN26800
C124	C1u/63V	FCCDK20010
C125	10n	FCXCN40100
C126	10n	FCXCN40100
C127	C100n/400V	FCCDH71100
C128	C47n/400V	FCCDH71047
C129	100n	FCXCN41000
C130	100n	FCXCN41000
C131	10u/50	FCCE250100
C132	470n	FCXCN44700
C133	10u/50	FCCE250100
C134	470u/25	FCCE154700
C135	10u/50	FCCE250100
C136	470n	FCXCN44700
C137	47u/16	FCCE100000
C138	47u/50	FCCE250470
C139	100n	FCXCN41000
C140	100n	FCXCN41000
C141	100n	FCXCN41000
C142	47u/50	FCCE250470
D101	BAS16	FCXDDBAS16
D102	BAS28	FCXDDBAS28
D103	Z7.5V	FCXZ000075
D104	BAS28	FCXDDBAS28
D105	Z3.9V	FCXZ000039
D106	Z3.9V	FCXZ000039
D107	Z12	FCDD041200
D108	Z12	FCDD041200
D109	Z18V	FCXZ000180
D110	Z18V	FCXZ000180

REFERENCE	VALUE	CODE
D111	Z27V/1	FCDD102700
D112	Z27V/1	FCDD102700
D113	DB3	FCDIDB3000
D114	Z8.2V	FCXZ000082
D115	Z8.2V	FCXZ000082
D116	Z12	FCDD041200
D117	Z12	FCDD041200
D118	Z12	FCDD041200
D119	Z12	FCDD041200
D120	Z12	FCDD041200
D121	Z12	FCDD041200
D122	Z12	FCDD041200
D123	Z12	FCDD041200
D124	Z12	FCDD041200
D125	Z12	FCDD041200
D126	BAS16	FCXDDBAS16
D127	BAS16	FCXDDBAS16
D128	Z10V	FCXZ000100
D129	Z12V	FCXZ000120
D130	Z5.6V	FCXZ000056
D131	BAS16	FCXDDBAS16
D132	BAS28	FCXDDBAS28
D133	1N4007	FCXDD40070
D134	1N4007	FCXDD40070
D135	BAS16	FCXDDBAS16
D136	LED3R	FCLED300RO
D137	LED3R	FCLED300RO
F101	F12A	FCFUS50400
F102	F12A	FCFUS50400
FB101	FERRITE	FCFER43220
FB102	FERRITE	FCFER43220
FB103	FERRITE	FCFER43220
FB104	FERRITE	FCFER43220
FB105	FERRITE	FCFER43220
FB106	FERRITE	FCFER43220
FB107	FERRITE	FCFER43220
FB108	FERRITE	FCFER43220
FB109	FERRITE	FCFER43220
FB110	FERRITE	FCFER43220
FB111	FERRITE	FCFER43220
FB112	FERRITE	FCFER43220
HS100	HEAT SINK TO220	FCMECTO220
HS101	HEAT SINK	FCMECTO220
HS102	HEAT SINK BF'S	FCMECPI130
HS103	HEAT SINK BF'S	FCMECPI130
HS104	HEAT SINK MODULE	FCRAD13800
IC101	LM35DZ	FCIC350000
IC102	VTL 5C8	FCOPTVTL50
IC103	TL071	FCIC071010
IC104	NE5534A	FCIC553400
IC106	7805	FCREG78050
IC107	TL431AC	FCIC431000
IC108	HEF4093B	FCIC409301
IC120	TL072	FCIC072010
IN100	INSULATING TO126	FCMICTO126
IN101	INSULATING TO126	FCMICTO126
IN102	INSULATING TO126	FCMICTO126
IN103	INSULATING TO126	FCMICTO126

REFERENCE	VALUE	CODE
J101	B4B-EH-A	FCCTM00040
J102	JUMPER PIN	FCTERM0100
J103	JUMPER PIN	FCTERM0100
J104	JUMPER PIN	FCTERM0100
J105	JUMPER PIN	FCTERM0100
J106	JUMPER PIN	FCTERM0100
J107	JUMPER PIN	FCTERM0100
J108	B2B-EH-A	FCCTM00020
J109	B2B-EH-A	FCCTM00020
J110	B3B-EH-A	FCCTM00030
K101	TQ2-12V	FCREL00300
L101	1uH	FCIND00100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MP100	CLAMP	FCPINZAM00
MP101	CLAMP	FCPINZAM00
MP102	SARCON	FCTIRKON00
MP103	SARCON	FCTIRKON00
NV100	NUT M3	FCTUE00300
NV101	NUT M3	FCTUE00300
PF101	3/15P	FCPORF3150
PF102	3/15P	FCPORF3150
Q101	BD437	FCTR437000
Q102	BD437	FCTR437000
Q103	BF871A	FCTR871000
Q104	BF872A	FCTR872000
Q105	MJE340	FCTR340000
Q106	MJE350	FCTR350000
Q107	MJE340	FCTR340000
Q108	MJE350	FCTR350000
Q109	IRFP9240	FCTR243000
Q110	IRFP240	FCTR240000
Q111	BC857B	FCXTT08570
Q112	BC847B	FCXTT08470
Q113	BC857B	FCXTT08570
Q114	BC847B	FCXTT08470
Q115	BC857B	FCXTT08570
Q116	BC847B	FCXTT08470
Q117	BTB24600B	FCTI246000
Q118	BC857B	FCXTT08570
Q119	BC847B	FCXTT08470
Q120	IRFP9240	FCTR243000
Q121	IRFP240	FCTR240000
Q122	IRFP9240	FCTR243000
Q123	IRFP240	FCTR240000
Q124	IRFP9240	FCTR243000
Q125	IRFP240	FCTR240000
Q126	IRFP9240	FCTR243000
Q127	IRFP240	FCTR240000
Q128	IRFP9240	FCTR243000
Q129	IRFP240	FCTR240000
Q130	2N5401	FCTR254010
Q131	BC817/25	FCXTT08170
Q132	BC847B	FCXTT08470
R101	976k	FCXR159760
R102	22k1	FCXR142210
R103	22k1	FCXR142210

REFERENCE	VALUE	CODE
R104	22k1	FCXR142210
R105	1k0	FCXR131000
R106	100k0	FCXR151000
R107	1k0	FCXR131000
R108	47k5	FCXR144750
R109	2k0	FCXR132000
R110	5k62	FCXR135620
R111	51k1	FCXR145110
R112	10M	FCXR071000
R113	1k21	FCXR131210
R114	1k21	FCXR131210
R115	487Ω	FCXR124870
R116	191Ω	FCXR121910
R117	487Ω	FCXR124870
R118	191Ω	FCXR121910
R119	56.2Ω	FCXR115620
R120	1k50	FCXR131500
R121	1k50	FCXR131500
R122	56.2Ω	FCXR115620
R123	681Ω	FCXR126810
R124	1k50	FCXR131500
R125	4k7	FCRJG44700
R126	681Ω	FCXR126810
R127	10.0Ω	FCXR111000
R128	56.2Ω	FCXR115620
R129	56.2Ω	FCXR115620
R130	10.0Ω	FCXR111000
R131	NF120Ω/1	FCRF431200
R132	NF120Ω/1	FCRF431200
R133	NF220Ω/ 1/2	FCRF232200
R134	NF220Ω/ 1/2	FCRF232200
R135	W0.22Ω/5	FCRY000100
R136	W0.22Ω/5	FCRY000100
R137	604Ω	FCXR126040
R138	604Ω	FCXR126040
R139	475Ω	FCXR124750
R140	475Ω	FCXR124750
R141	33k2	FCXR143320
R142	33k2	FCXR143320
R143	6k81	FCXR136810
R144	33k2	FCXR143320
R145	33k2	FCXR143320
R146	6k81	FCXR136810
R147	33k2	FCXR143320
R148	33k2	FCXR143320
R149	75k0	FCXR147500
R150	100.0Ω	FCXR121000
R151	100.0Ω	FCXR121000
R152	13k0	FCXR141300
R153	13k0	FCXR141300
R154	100.0Ω	FCXR121000
R155	1k0	FCXR131000
R156	1k0	FCXR131000
R157	100.0Ω	FCXR121000
R158	W6.8Ω/5	FCRY000250
R160	10/2	FCRC521000
R161	2.2Ω/2	FCRC512200
R162	10k0	FCXR141000

REFERENCE	VALUE	CODE
R163	NF220Ω/ 1/2	FCRF232200
R164	NF220Ω/ 1/2	FCRF232200
R165	W0.22Ω/5	FCRY000100
R166	W0.22Ω/5	FCRY000100
R167	NF220Ω/ 1/2	FCRF232200
R168	NF220Ω/ 1/2	FCRF232200
R169	W0.22Ω/5	FCRY000100
R170	W0.22Ω/5	FCRY000100
R171	NF220Ω/ 1/2	FCRF232200
R172	NF220Ω/ 1/2	FCRF232200
R173	W0.22Ω/5	FCRY000100
R174	W0.22Ω/5	FCRY000100
R175	NF220Ω/ 1/2	FCRF232200
R176	NF220Ω/ 1/2	FCRF232200
R177	W0.22Ω/5	FCRY000100
R178	W0.22Ω/5	FCRY000100
R179	NF220Ω/ 1/2	FCRF232200
R180	NF220Ω/ 1/2	FCRF232200
R181	W0.22Ω/5	FCRY000100
R182	W0.22Ω/5	FCRY000100
R183	8k25	FCXR138250
R184	100k0	FCXR151000
R185	100k0	FCXR151000
R186	100k0	FCXR151000
R187	681Ω	FCXR126810
R188	681Ω	FCXR126810
R189	10k0	FCXR141000
R190	1k54	FCXR131540
R191	604Ω	FCXR126040
R192	2k21	FCXR132210
R193	47k5	FCXR144750
R194	10k0	FCXR141000
R195	1k0	FCXR131000
R196	47k5	FCXR144750
R197	47k5	FCXR144750
R198	10k0	FCXR141000
R199	2M2	FCXR062200
R200	1k0	FCXR131000
R201	1k50	FCXR131500
R202	10k0	FCXR141000
R203	22k1	FCXR142210
R204	47k5	FCXR144750
R205	47k5	FCXR144750
R206	287k	FCXR152870
R207	56.2Ω	FCXR115620
R208	56.2Ω	FCXR115620
R209	100k0	FCXR151000
R210	22k1	FCXR142210
R211	301Ω	FCXR123010
R212	178Ω	FCXR121780
R213	301Ω	FCXR123010
R214	51K1	FCXR145110
SC100	SCREW M4x6	FCT8040061
SC101	SCREW M4x6	FCT8040061
SC102	SCREW M4x6	FCT8040061
SC103	SCREW M4x6	FCT8040061
SC104	SCREW M3x10	FCT8030100
SC105	SCREW M3x10	FCT8030100

REFERENCE	VALUE	CODE
SC106	SCREW M3x10	FCT8030100
SC107	SCREW M3x10	FCT8030100
SC108	SCREW M3x10	FCT8030100
SC109	SCREW M3x10	FCT8030100
SC110	SCREW M3x10	FCT8030100
SC111	SCREW M3x10	FCT8030100
SC112	SPACER	FCSEPPM000
SC113	SPACER	FCSEPPM000
SC114	SPACER	FCSEPPM000
SC115	SPACER	FCSEPPM000
SC116	SCREW M3x6	FCT7503006
SC117	SPACER	FCSEPPM000
SC118	SPACER	FCSEPPM000
SC119	SCREW 2.9x9.5	FCT7002909
SC120	SCREW 2.9x9.5	FCT7002909
SC121	SCREW M3x6	FCT7503006
TS101	TEST POINT	FCTERMSOL0
TS102	TEST POINT	FCTERMSOL0
W100	19mm	FCMECPON19
W101	19mm	FCMECPON19
W102	19mm	FCMECPON19
W103	19mm	FCMECPON19
W104	19mm	FCMECPON19
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	19mm	FCMECPON19
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	19mm	FCMECPON19
W111	19mm	FCMECPON19
W112	19mm	FCMECPON19
W113	19mm	FCMECPON19
W114	19mm	FCMECPON19
W115	19mm	FCMECPON19
W116	19mm	FCMECPON19
W117	19mm	FCMECPON19
W118	19mm	FCMECPON19
W119	19mm	FCMECPON19
W120	19mm	FCMECPON19
W121	19mm	FCMECPON19
W122	19mm	FCMECPON19
W123	19mm	FCMECPON19
WA100	WASHER 3.2x6x1 M	FCARM32010
WA101	WASHER 3.2x6x1 M	FCARM32010
WA102	WASHER 3.2x6x1 M	FCARM32010
WA103	WASHER 3.2x6x1 M	FCARM32010
WA104	TOOTHED WASHER	FCARDE0300
WA105	TOOTHED WASHER	FCARDE0300
WI101 TO WI104	1023.04.00	FC0H023400

PRELIMINAR:

- Set the MONO-STEREO switch to STEREO.
- Check the GROUND-LINK switch.
- Place a mini-jumper at connector J123's terminals (power supply).
- Select the subsonic filter switch to OFF.
- Verify that the correct cables and connections are used.
- Connect the unit's mains power cable to a variac output, and leave it on the 0V output voltage position.
- Keep an ammeter prepared to verify the unit's current demand.

VERIFICATION

- Turn on the unit without any load connected to its outputs by setting the main power switch to its ON position. Increase slowly the variac's output voltage until it reaches its maximum value, which is mains voltage. At this point, verify that the unit's bias current demand keeps its factory adjusted value and, if not, proceed to readjust this parameter. After this, fix the adjustment devices with sealing lacquer. Also check that the Power On led is lit.
- Replace the ammeter by the corresponding fuse. Warning! The power supply will be charged! Note: to discharge the power supply, apply a 0dB 2KHz input signal to the unit and turn its mains voltage down to 0V by reducing the variac's output voltage.
- Turn off the unit and afterwards on again in order to verify the time it remains in STAND-BY mode, which should last approximately 10 seconds. Also verify that when the unit is turned on, the cooling fans run up until their maximum speed.
- Verify both XLR and JACK input terminals, also check the attenuation values by sweeping their potentiometers between -v and 0dB.
· Verify the amplifier's output power while connected to the mains power supply:

- APA1400	635W	51V on 4Ω	BIAS CURRENT = 300mA
- APA1000	440W	42V on 4Ω	BIAS CURRENT = 250mA
- APA600	275W	33V on 4Ω	BIAS CURRENT = 150mA

- Verify the ANTICLIP system is functioning correctly by increasing the input signal level up to values higher than 0dB. The output signal should be smoothly clipped. Verify that if a mini-jumper is placed at the test terminals (which are located near the VTL5C8 package), the ANTICLIP system switches on earlier, making the clipped signal appear even more smoothened. Check that the front panel CLIP leds are lit, and observe that, when the input signal is damped 1 or 2 dB, the CLIP indicator leds turn off. Do not retire the mini-jumper.
- While applying a 0'5V input signal, verify the unit's frequency response bandwith, which should be linear between 20Hz and 20KHz. The output signal should appear

distortion- and noise-free. Verify that even if the input signal frequency rises up to 50KHz, the output signal level only decreases 1 or 2 dB, but no distortion is noticed.
- Verify the MONO operation mode. Apply a 1KHz 0'5V input signal and set the MONO STEREO selection switch to the MONO position. The output signals should now appear in phase opposition one referred to the other, and only the Channel1 input potentiometer is responding. Connect an 8Ω load impedance to the unit's actual active output terminals of both outputs and verify that the anticlip system switches on easily when needed. Set the amplifier back to the STEREO operation mode.
- Connect an output load impedance formed by a 4Ω resistor shunted to a 2μF capacitor, and apply a 1KHz square waveform input signal. Monitor the output signal through an oscilloscope, and increase the input signal level until the output starts clipping. On the flat sections of the sandcastle output waveform, only two or three little ringings should be detected.
- To verify the subsonic filter, apply a 20Hz input signal. When the subsonic filter is active, the output signal should decrease 6.5dB referred to the non-active filter output level.
- Verify the THERMAL protection. When the thermal probe 1 and 2 leads are shorted, check that the relay opens, the THERMAL indicator led lights on, the output signal is cutted off and the cooling fan increases its speed up to the maximum running speed.

PROTECTIONS

- Turn off the signal generator. Select a 1KHz output signal, set the amplitude range to 1V but leave the amplitude control knob down to its minimum position.
- Connect a 0'5 ohm load impedance to the amplifier's output.
- Turn on the signal generator, and slowly increase the amplifier's input signal amplitude, while watching that the unit's output voltage does not exceed its limiting value, depending on the type under test, as listed below:

	FIRST STAGE	SECOND STAGE
- APA1400	13Vpp	22Vpp
- APA1000	20Vpp	25Vpp
- APA600	15Vpp	18Vp

Note: the clipping signal should appear distortion- and ringing-free. The different stages are obtained by varying the amplifier's mains voltage through the variac's output.

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.

PRELIMINAR:

OLD VERSION

- Set the MONO-STEREO switch to STEREO.
- Check the GROUND-LINK switch.
- Place a mini-jumper at connector J123's terminals (power supply).
- Select the subsonic filter switch to OFF.
- Verify that the correct cables and connections are used.
- Connect the unit's mains power cable to a variac output, and leave it on the 0V output voltage position.
- Keep an ammeter prepared to verify the unit's current demand.

VERIFICATION

- Turn on the unit without any load connected to its outputs by setting the main power switch to its ON position. Increase slowly the variac's output voltage until it reaches its maximum value, which is 230Vac. At this point, verify that the unit's bias current demand keeps its factory adjusted value and, if not, proceed to readjust this parameter. After this, fix the adjustment devices with sealing lacquer. Also check that the Power On led is lit.
- Replace the ammeter by the corresponding fuse. Warning! The power supply will be charged! Note: to discharge the power supply, apply a 0dB 2KHz input signal to the unit and turn its mains voltage down to 0V by reducing the variac's output voltage.
- Turn off the unit and afterwards on again in order to verify the time it remains in STAND-BY mode, which should last approximately 10 seconds. Also verify that when the unit is turned on, the cooling fans run up until their maximum speed.
- Verify both XLR and JACK input terminals, also check the attenuation values by sweeping their potentiometers between -v and 0dB.
· Verify the amplifier's output power while connected to the mains power supply:

- APA1400	635W	51V on 4Ω
- APA1000	440W	42V on 4Ω
- APA600	275W	33V on 4Ω

- Verify the ANTICLIP system is functioning correctly by increasing the input signal level up to values higher than 0dB. The output signal should be smoothly clipped. Verify that if a mini-jumper is placed at the test terminals (which are located near the VTL5C8 package), the ANTICLIP system switches on earlier, making the clipped signal appear even more smoothened. Check that the front panel CLIP leds are lit, and observe that, when the input signal is damped 1 or 2 dB, the CLIP indicator leds turn off. Do not retire the mini-jumper.
- While applying a 0'5V input signal, verify the unit's frequency response bandwith, which should be linear between 20Hz and 20KHz. The output signal should appear

distortion- and noise-free. Verify that even if the input signal frequency rises up to 50KHz, the output signal level only decreases 1 or 2 dB, but no distortion is noticed.
- Verify the MONO operation mode. Apply a 1KHz 0'5V input signal and set the MONO STEREO selection switch to the MONO position. The output signals should now appear in phase opposition one referred to the other, and only the Channel 1 input potentiometer is responding. Connect an 8Ω load impedance to the unit's actual active output terminals of both outputs and verify that the anticlip system switches on easily when needed. Set the amplifier back to the STEREO operation mode.
- Connect an output load impedance formed by a 4Ω resistor shunted to a 2μF capacitor, and apply a 1KHz square waveform input signal. Monitor the output signal through an oscilloscope, and increase the input signal level until the output starts clipping. On the flat sections of the sandcastle output waveform, only two or three little ringings should be detected.
- To verify the subsonic filter, apply a 20Hz input signal. When the subsonic filter is active, the output signal should decrease 6.5dB referred to the non-active filter output level.
- Verify the THERMAL protection. When the thermal probe 1 and 2 leads are shorted, check that the relay opens, the THERMAL indicator led lights on, the output signal is cutted off and the cooling fan increases its speed up to the maximum running speed.

OLD VERSION

PROTECTIONS

- Turn off the signal generator. Select a 1KHz output signal, set the amplitude range to 1V but leave the amplitude control knob down to its minimum position.
- Connect a 0'5 ohm load impedance to the amplifier's output.
- Turn on the signal generator, and slowly increase the amplifier's input signal amplitude, while watching that the unit's output voltage does not exceed its limiting value, depending on the type under test, as listed below:

	FIRST STAGE	SECOND STAGE
- APA1400	13Vpp (240V)	22Vpp (215V)
- APA1000	20Vpp (235V)	25Vpp (210V)
- APA600	15Vpp (240V)	18Vpp (210V)

Note: the clipping signal should appear distortion- and ringing-free. The different stages are obtained by varying the amplifier's mains voltage through the variac's output.

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.

OLD VERSION

BURNING (BURN-IN) TEST

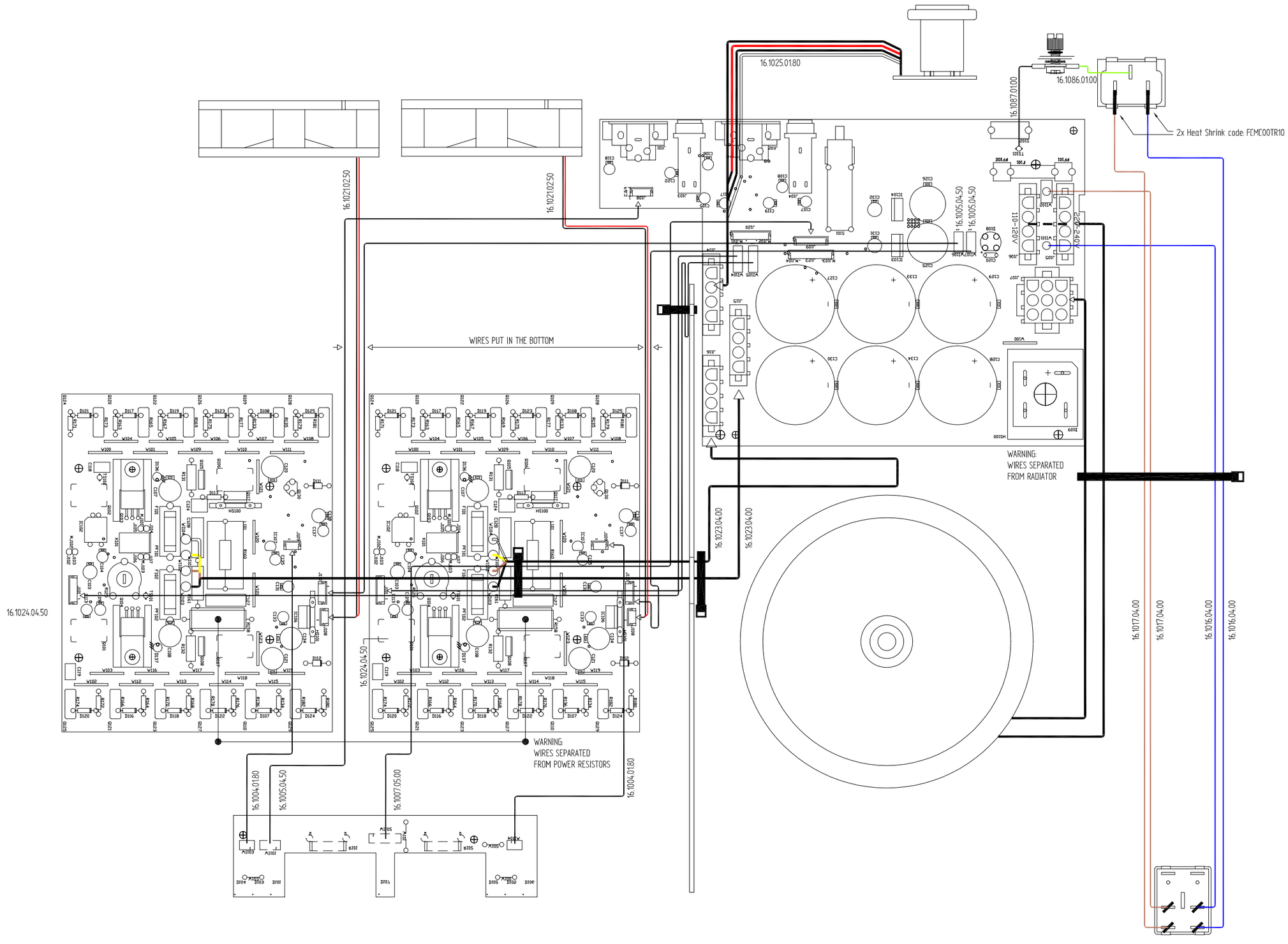
Leave the tested unit connected to its correspondent voltage mains socket, applying input signal and connecting load impedances, and working at 3dB under its maximum output power level for at least 24 hours.

VERIFICATION USING MUSIC

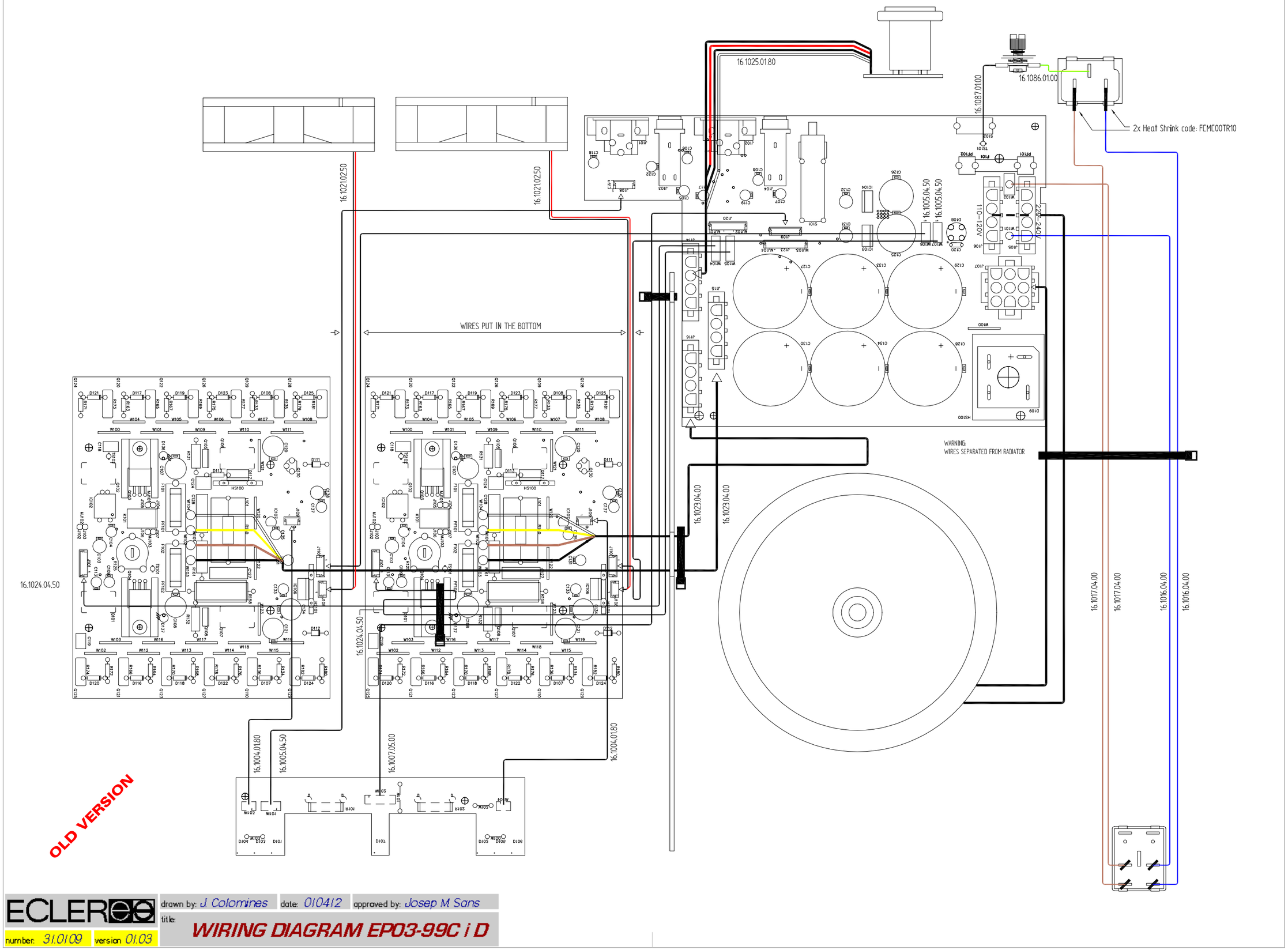
Verify the unit's sound quality, which should be distortion- and noise-free. Also check that all potentiometers can run smoothly their whole sweep, without annoying noises and crisperings. At their minimum position, check that output signal is completely cutted off. To ensure that all electrical junctions 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.

ECLER	author: J.Colomines	date: 010627	TECHNICAL CHARACTERISTICS
num: 53.0009 version: 01.02	approved:	title:	EP03-99D

POWER 20-20kHz 1% THD	
4Ω Stereo	635 WRMS
8Ω Stereo	395 WRMS
8Ω Bridged	1270 WRMS
POWER 1kHz 0.1% THD	
4Ω Stereo	590 WRMS
8Ω Stereo	370 WRMS
8Ω Bridged	1180 WRMS
Peak Power 2Ω/1kHz	2Kw
Frequency response (-1dB)	7Hz-50kHz
High pass filter (-3dB)	25Hz/Butt./18dB/oct.
THD+Noise @ 1kHz Full Pwr.	<0.03%
Imd. Dist. 50Hz & 7kHz, 4:1	<0.08%
TIM 100	<0.01%
S+N/N 20Hz-20kHz @ 1W/4Ω	>80dB
Damping factor 1kHz @ 8Ω	>300
Slew Rate	±75V/μs
Channel crosstalk @ 1kHz	>75dB
Input connector	XLR3 balanced
Input CMRR/ref. Max. PWR)	>60dB @ 1kHz
Input Sensitivity / Impedance	0dBV/>22kΩ
Signal present indicator	-40dB
Output connectors	Speak-on
Clip indicators	-1.5dB real clip
Anticlip limiter	1% & 5% aprox.
Mains Depending on your country	See characteristics in the back of the unit.
Power consumption (max. Out)	1720VA
Dimensions	Panel 482.6x88 mm
	Depth 410 mm
Weight	18.300kg



ECLER	drawn: J Colomines	date: 020305	project: EP03-99 C i D	product: APA1000/1400
	approved:	title:	WIRING DIAGRAM	
number: 31.0109	version 01.04			

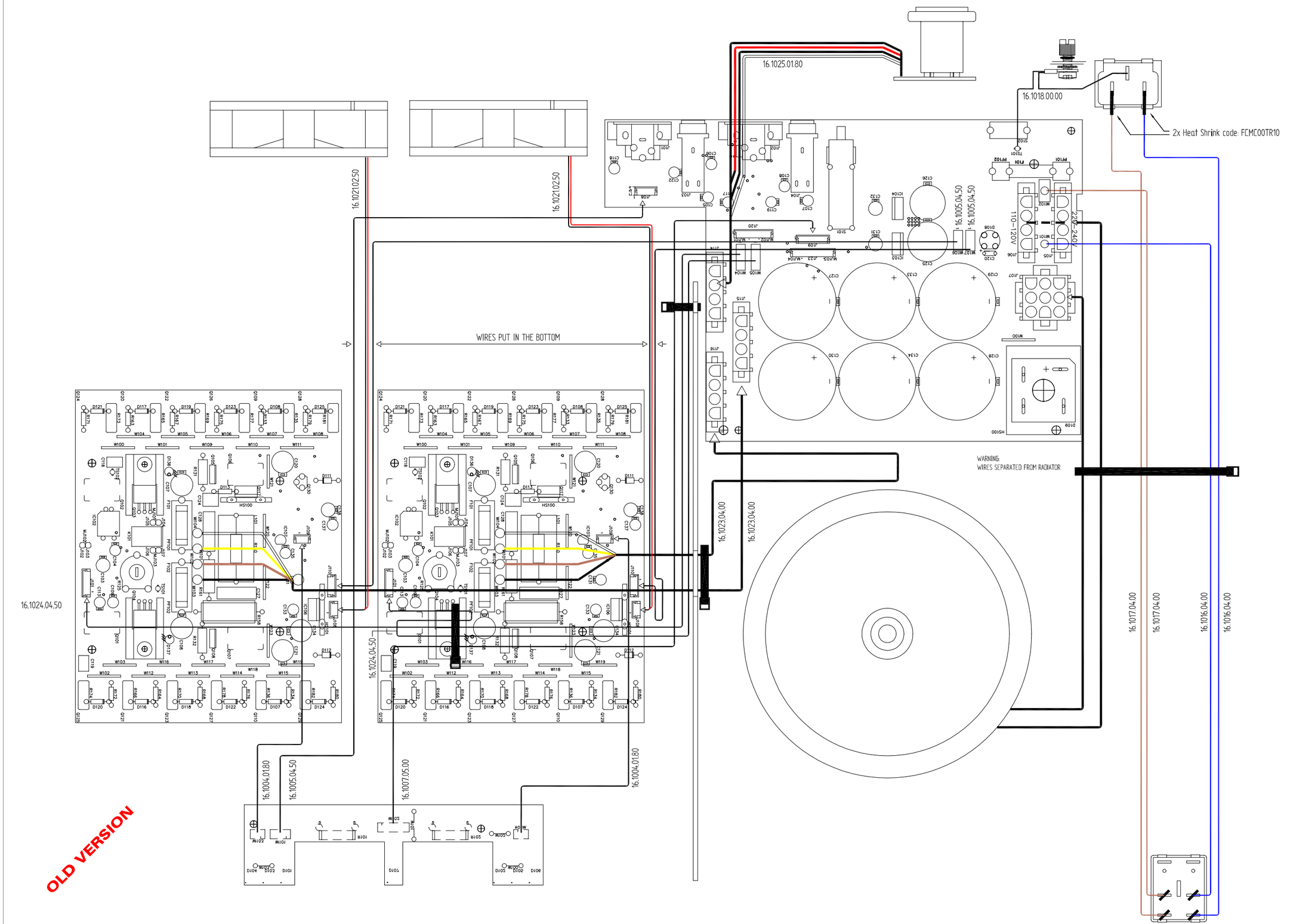


ECLEREE

drawn by: J. Colomines | date: 010412 | approved by: Josep M. Sans

number: 31.0109 | version 01.03

title: **WIRING DIAGRAM EP03-99C i D**



ECLEREE

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

number: 31.0109 | version 01.02

title: **WIRING DIAGRAM EP03-99C i D**

16.1025.01.80

16.1018.00.00

16.1021.02.50

16.1021.02.50

WIRES PUT IN THE BOTTOM

16.1005.04.50

16.1005.04.50

110–120V

220–240V

WARNING:
WIRES SEPARATED FROM RADIATOR

16.1023.04.00

16.1023.04.00

16.1024.04.50

16.1024.04.50

16.1017.04.00

16.1017.04.00

16.1016.04.00

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16.1007.05.00

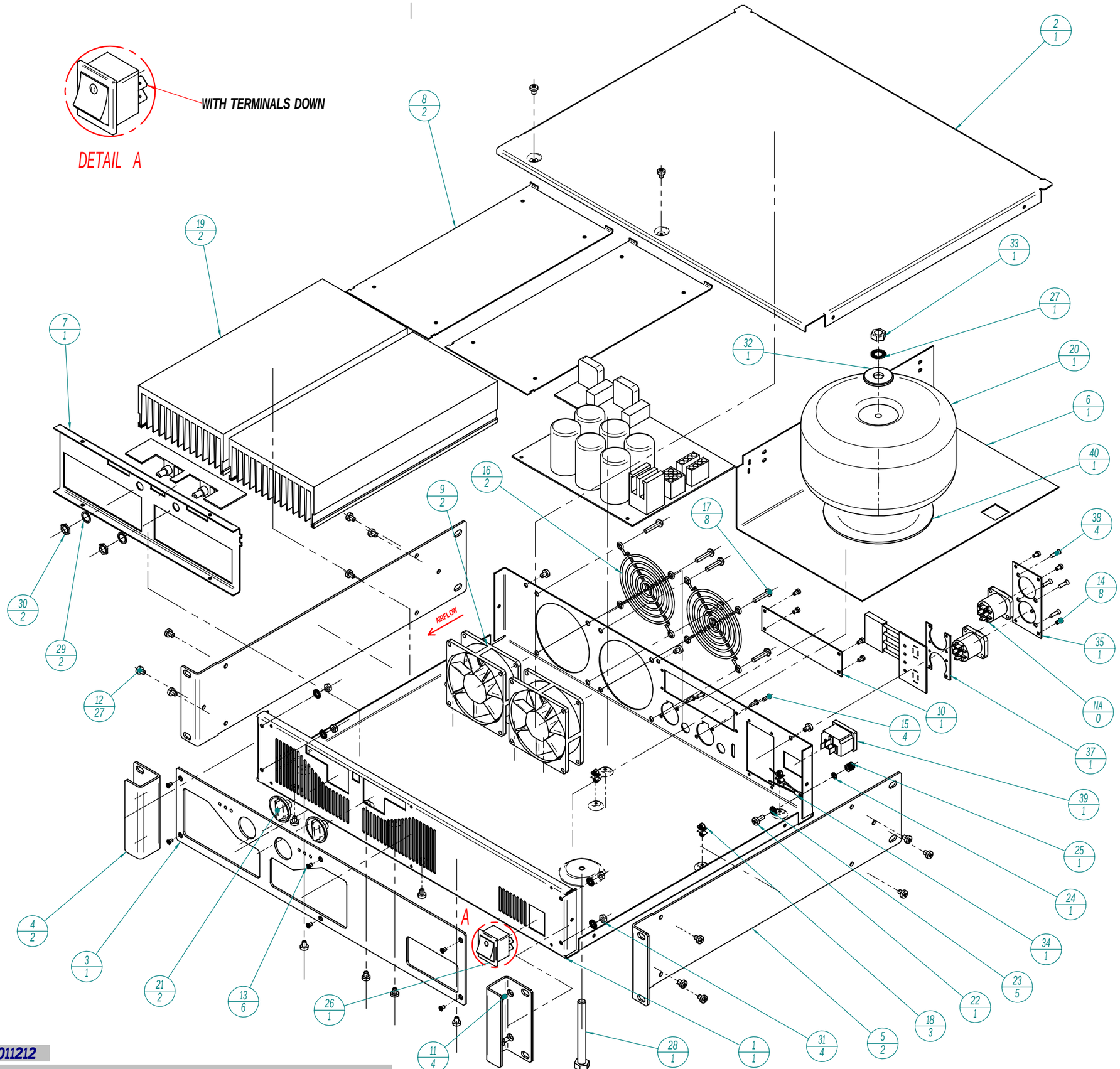
16.1004.01.80

OLD VERSION

ECLEREE	drawn by: J. Colomines	date: 000428	approved by: Josep M. Sans
number: 31.01.09	version: 01.01	title: WIRING DIAGRAM EP03-99C i D	

Nº	Qty	ECLER Code	Description
1	1	FCMECPM120	BASE CHASSIS
2	1	FCMECPM130	TOP COVER
3	1	FCMECPM140	FRONT PANEL
4	2	FCMECPM180	FRONTAL HANDLE
5	2	FCMECPM170	LEFT/RIGHT SIDE
6	1	FCMECPM100	MECHANICAL REINFORCEMENT
7	1	FCMECPM110	LED CIRCUIT MEC. SUPORT
8	2	FCMECPM190	MODULE SUPPORT PLATE 260MM
9	2	FCVEN08000	FAN 80x80 12VDC
10	1	FCMECPM150	FILTERS PLATE
11	4	FCTALL4081	SCREW M4x8 ALLEN BLACK
12	27	FCT8040060	SCREW M4x6 SPANLO BLACK
13	6	FCT8030055	SCREW D965 M3x5 BLACK
14	8	FCT8503005	SCREW M3x5 REDUCED HEAD
15	4	FCT4002909	SCREW 2,9x9,5 D7981F BLACK
16	2	FCREJ08000	FAN GRILLE 80x80
17	8	FCT0605120	SCREW 5,1x20
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	2	FCRAD13800	HEATSINK 260MM
20*	1	FCTFT00530*	TRANSFORMER EP03-99D
21	2	FCBOTD2400	ROTARY KNOB D24
22	1	FCT8504110	SCREW M4x10 TRILOB. W
23	5	FCARDE0400	TOOTHED WASHER M4
24	1	FCARS40000	SEG. WASHER M4
25	1	FCBOR00300	GROUND TERMINAL
26	1	FCINTRED30	MAINS SWITCH W/LIGHT
27	1	FCARDE0800	TOOTHED WASHER M8
28	1	GENERIC	SCREW M8 TRANSFORMER
29	2	FCARDEPOTE	ROT. POT. WASHER M9
30	2	FCTUPOT000	ROTARY POT. NUT M9
31	4	FCTUE00400	NUT M4
32	1	FCARM10500	WASHER 10,5X30X2,5M
33	1	GENERIC	TRANS. NUT M8
34	1	FC0C018000	GROUND CABLE
35	1	FCMECPM161	SPEAK ON PLATE
36	2	FCBASS0100	SPEAKON SOCKET 4C
37	1	FCMECPM165	SPEAKON MECHANICAL SUPPORT
38	4	FCT5002913	SCREW 2,9x13 D7982
39	1	FCBASRE500	MAINS SOCKET
40	1	GENERIC	TRANS. RUBBER DISC

** FOR 100V UNIT TRANSFORMER CODE FCTFT02700*



ECLER

autor: Jordi Folch | data: 011212

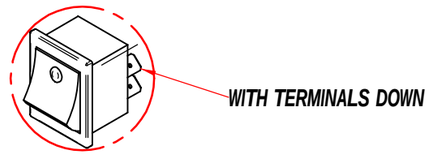
aprovat:

número: 30.0113 | versió: 01.05

títol:

MECHANICAL DIAGRAM EP03-99D

Nº	Qty	ECLER Code	Description
1	1	FCMECPM120	BASE CHASSIS
2	1	FCMECPM130	TOP COVER
3	1	FCMECPM140	FRONT PANEL
4	2	FCMECPM180	FRONTAL HANDLE
5	2	FCMECPM170	LEFT/RIGHT SIDE
6	1	FCMECPM100	MECHANICAL REINFORCEMENT
7	1	FCMECPM110	LED CIRCUIT MEC. SUPORT
8	2	FCMECPM190	MODULE SUPPORT PLATE 260MM
9	2	FCVEN08000	FAN 80x80 12VDC
10	1	FCMECPM150	FILTERS PLATE
11	4	FCTALL4081	SCREW M4x8 ALLEN BLACK
12	27	FCT8040060	SCREW M4x6 SPANLO BLACK
13	6	FCT8030055	SCREW D965 M3x5 BLACK
14	8	FCT8503005	SCREW M3x5 REDUCED HEAD
15	4	FCT4002909	SCREW 2,9x9,5 D7981F BLACK
16	2	FCREJ08000	FAN GRILLE 80x80
17	8	FCT0605120	SCREW 5,1x20
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	2	FCRAD13800	HEATSINK 260MM
20	1	FCTFT00530	TRANSFORMER EP03-99D
21	2	FCBOTD2400	ROTARY KNOB D24
22	1	FCT8504110	SCREW M4x10 TRILOB. W
23	5	FCARDE0400	TOOTHED WASHER M4
24	1	FCARS40000	SEG. WASHER M4
25	1	FCBOR00300	GROUND TERMINAL
26	1	FCINTRED30	MAINS SWITCH W/LIGHT
27	1	FCARDE0800	TOOTHED WASHER M8
28	1	GENERIC	SCREW M8 TRANSFORMER
29	2	FCARDEPOTE	ROT. POT. WASHER M9
30	2	FCTUPOT000	ROTARY POT. NUT M9
31	4	FCTUE00400	NUT M4
32	1	FCARM10500	WASHER 10,5X30X2,5M
33	1	GENERIC	TRANS. NUT M8
34	1	FCOC018000	GROUND CABLE
35	1	FCMECPM161	SPEAK ON PLATE
36	2	FCBASS0100	SPEAKON SOCKET 4C
37	1	FCMECPM165	SPEAKON MECHANICAL SUPPORT
38	4	FCT5002913	SCREW 2,9x13 D7982
39	1	FCBASRE500	MAINS SOCKET
40	1	GENERIC	TRANS. RUBBER DISC



OLD VERSION

ECLER

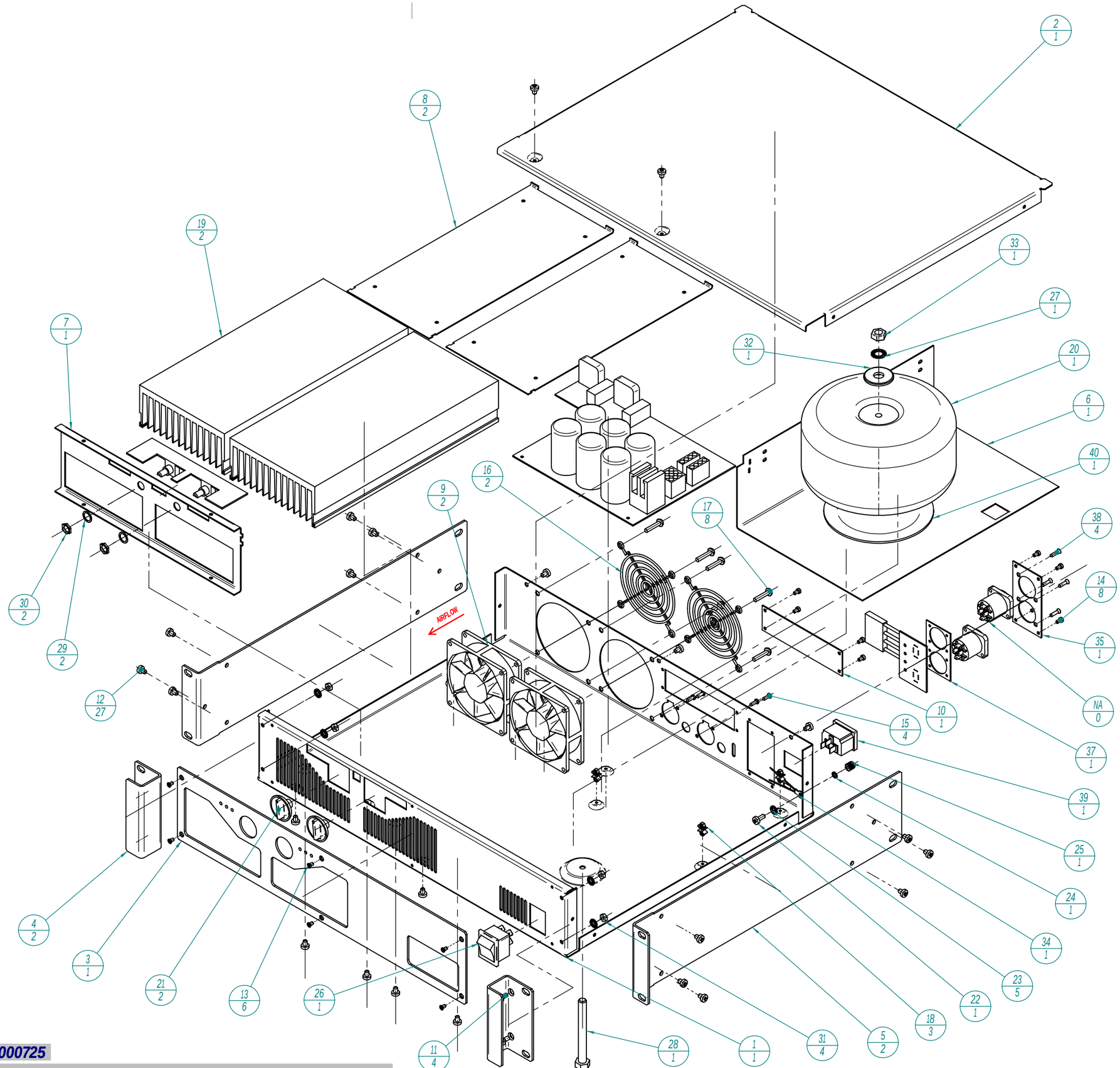
autor: Jordi Folch | data: 001024

aprovat:

títol: MECHANICAL DIAGRAM EP03-99D

número: 30.0113 | versió: 01.04

Nº	Qty	ECLER Code	Description
1	1	FCMECPM120	BASE CHASSIS
2	1	FCMECPM130	TOP COVER
3	1	FCMECPM140	FRONT PANEL
4	2	FCMECPM180	FRONTAL HANDLE
5	2	FCMECPM170	LEFT/RIGHT SIDE
6	1	FCMECPM100	MECHANICAL REINFORCEMENT
7	1	FCMECPM110	LED CIRCUIT MEC. SUPORT
8	2	FCMECPM190	MODULE SUPPORT PLATE 260MM
9	2	FCVEN08000	FAN 80x80 12VDC
10	1	FCMECPM150	FILTERS PLATE
11	4	FCTALL4081	SCREW M4x8 ALLEN BLACK
12	27	FCT8040060	SCREW M4x6 SPANLO BLACK
13	6	FCT8030055	SCREW D965 M3x5 BLACK
14	8	FCT8503005	SCREW M3x5 REDUCED HEAD
15	4	FCT4002909	SCREW 2,9x9,5 D7981F BLACK
16	2	FCREJ08000	FAN GRILLE 80x80
17	8	FCT0605120	SCREW 5,1x20
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	2	FCRAD13800	HEATSINK 260MM
20	1	FCTFT00530	TRANSFORMER EP03-99D
21	2	FCBOTD2400	ROTARY KNOB D24
22	1	FCT8504110	SCREW M4x10 TRILOB. W
23	5	FCARDE0400	TOOTHED WASHER M4
24	1	FCARS40000	SEG. WASHER M4
25	1	FCBOR00300	GROUND TERMINAL
26	1	FCINTRED25	MAINS SWITCH
27	1	FCARDE0800	TOOTHED WASHER M8
28	1	GENERIC	SCREW M8 TRANSFORMER
29	2	FCARDEPOTE	ROT. POT. WASHER M9
30	2	FCTUPOT000	ROTARY POT. NUT M9
31	4	FCTUE00400	NUT M4
32	1	FCARM10500	WASHER 10,5X30X2,5M
33	1	GENERIC	TRANS. NUT M8
34	1	FC0C018000	GROUND CABLE
35	1	FCMECPM161	SPEAK ON PLATE
36	2	FCBASS0100	SPEAKON SOCKET 4C
37	1	FCMECPM165	SPEAKON MECHANICAL SUPPORT
38	4	FCT5002913	SCREW 2,9x13 D7982
39	1	FCBASRE500	MAINS SOCKET
40	1	GENERIC	TRANS. RUBBER DISC



OLD VERSION

ECLER

autor: Jordi Folch

data: 000725

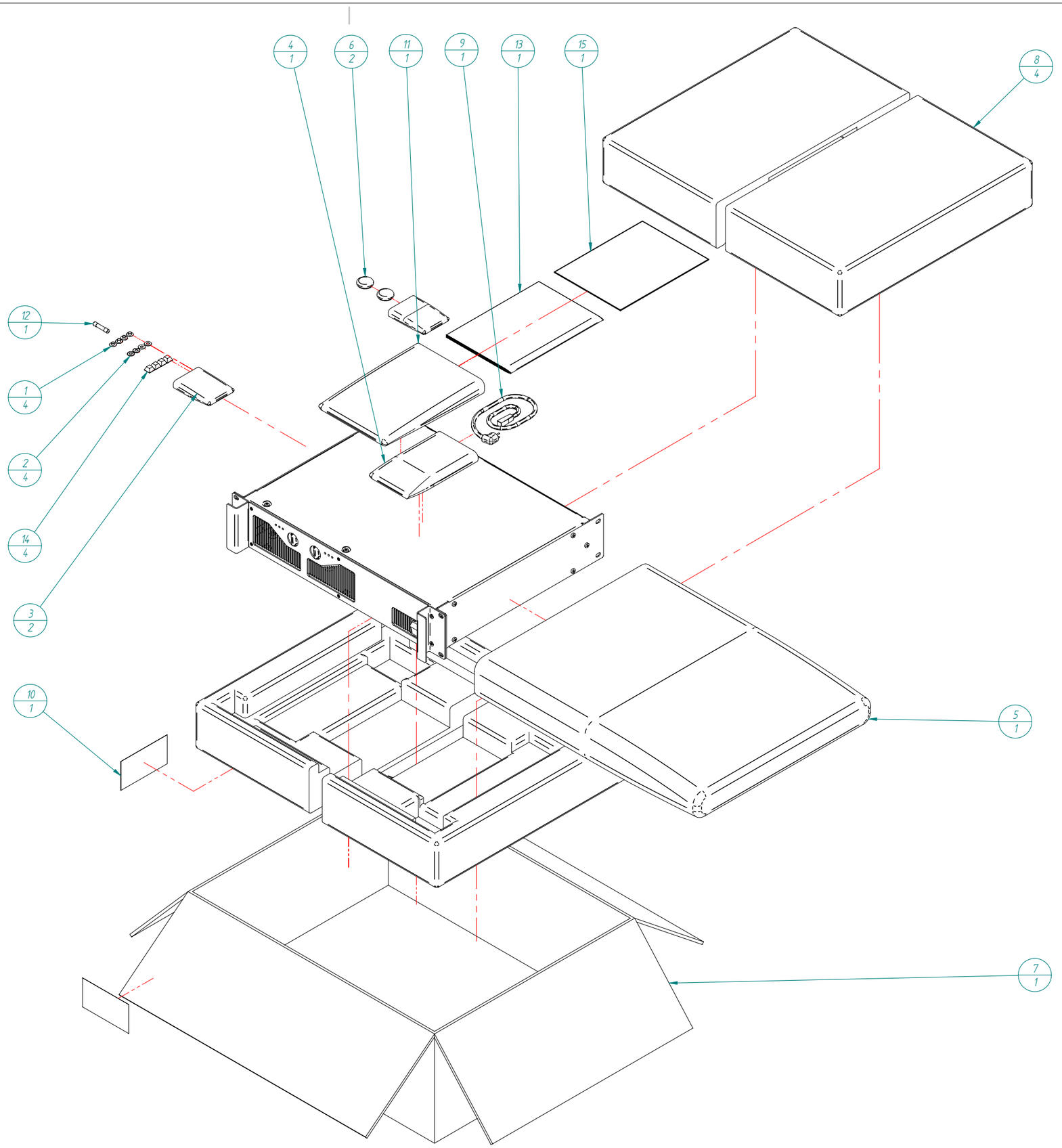
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títol: MECHANICAL DIAGRAM EP03-99D

número: 30.0113

versió: 01.03

Nº	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	2	FCBOTD240100	ROT. KNOB PROTECTION COVER
7	1	FCCAJSTA0100	BOX STANDARD 1
8	4	FCCANT118000	INTERIOR REINFORCEMENT
9	1	FCCONX017500	MAINS CABLE 3x1
10	1	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
11	1	FCFUNMAN0000	USER MANUAL BAG
12	1	FCFUS6040000	FUSE 16A
13	1	FCMANPAML000	USER MANUAL APA
14	4	FCPIE1125500	RUBBER FOOT
15	1	FCTARJG00000	WARRANTY CARD



ECLEREE

autor: Jordi Folch

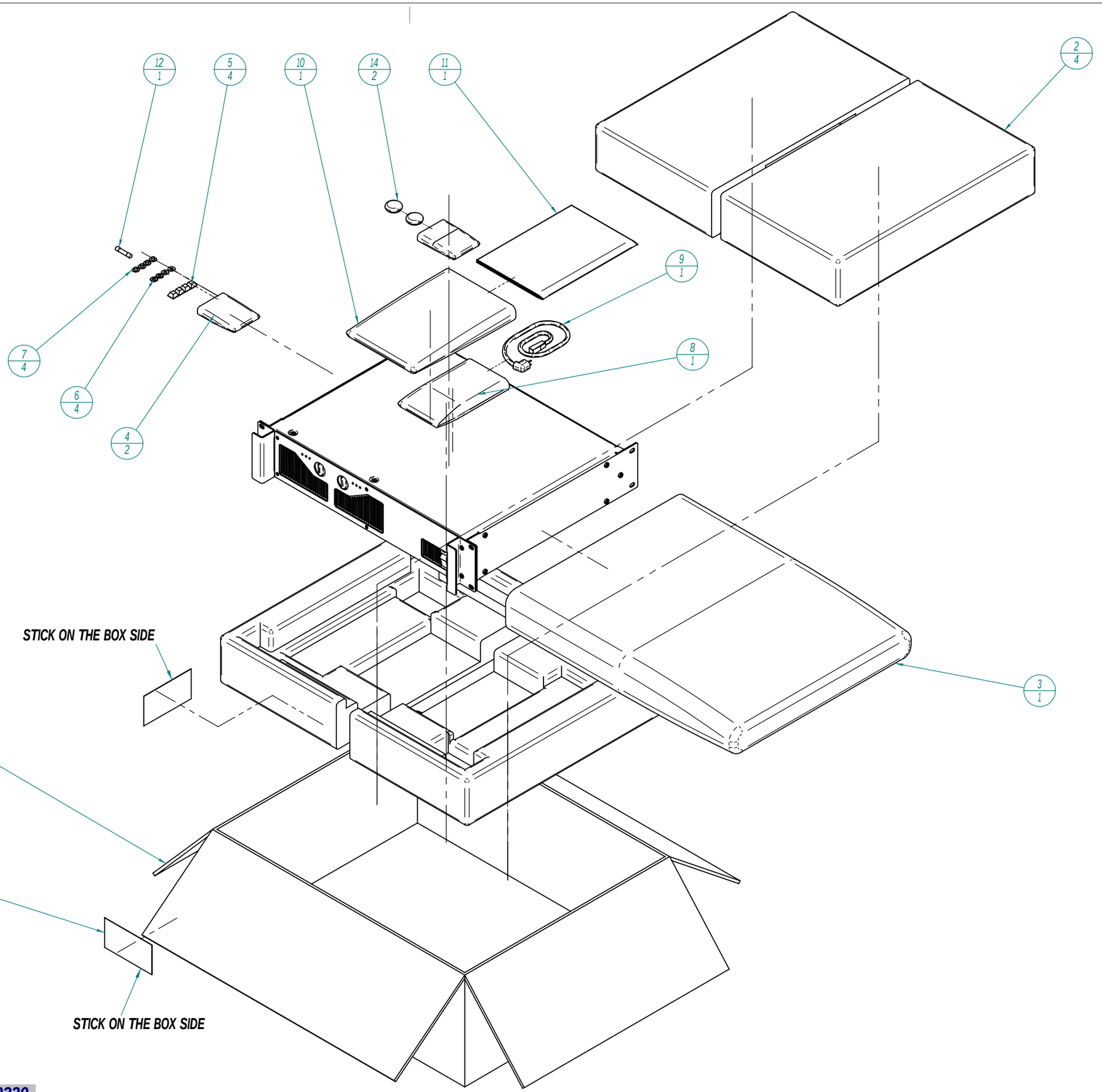
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títol: PACKING DIAGRAM EP03-99D

número: 32.0046 versió: 01.03

Nº	Qty	ECLER Code	Description
1	1	FCCAJSTA01	BOX STANDARD 1
2	4	FCCANT1180	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	FCMANPAMLO	USER MANUAL APA
12	1	FCFUS60400	FUSE 16A 6X32
13	2	FCETICAJA0	UNIT INFORMATION LABEL
14	2	FCBOTD2401	ROT. KNOB PROTECTION COVER



OLD VERSION

ECLER

autor: Jordi Folch

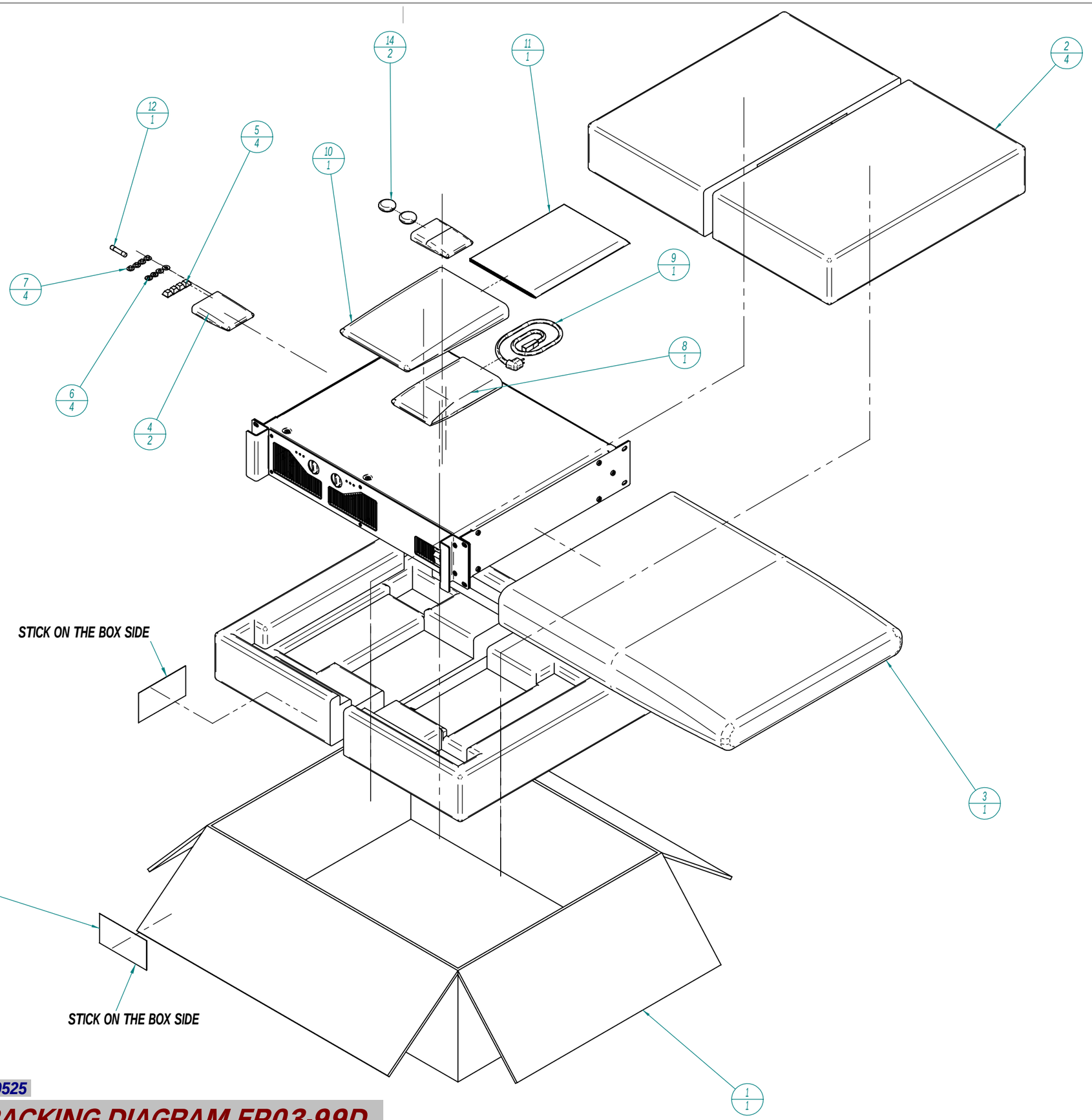
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títol: PACKING DIAGRAM EP03-99D

número: 32.0046 versió: 01.02

Nº	Qty	ECLER Code	Description
1	1	FCCAJSTA01	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	FCMANPAMLO	USER MANUAL APA
12	1	FCFUS60400	FUSE 16A 6X32
13	2	FCETICAJA0	UNIT INFORMATION LABEL
14	2	FCBOTD2401	ROT. KNOB PROTECTION COVER



OLD VERSION

ECLER

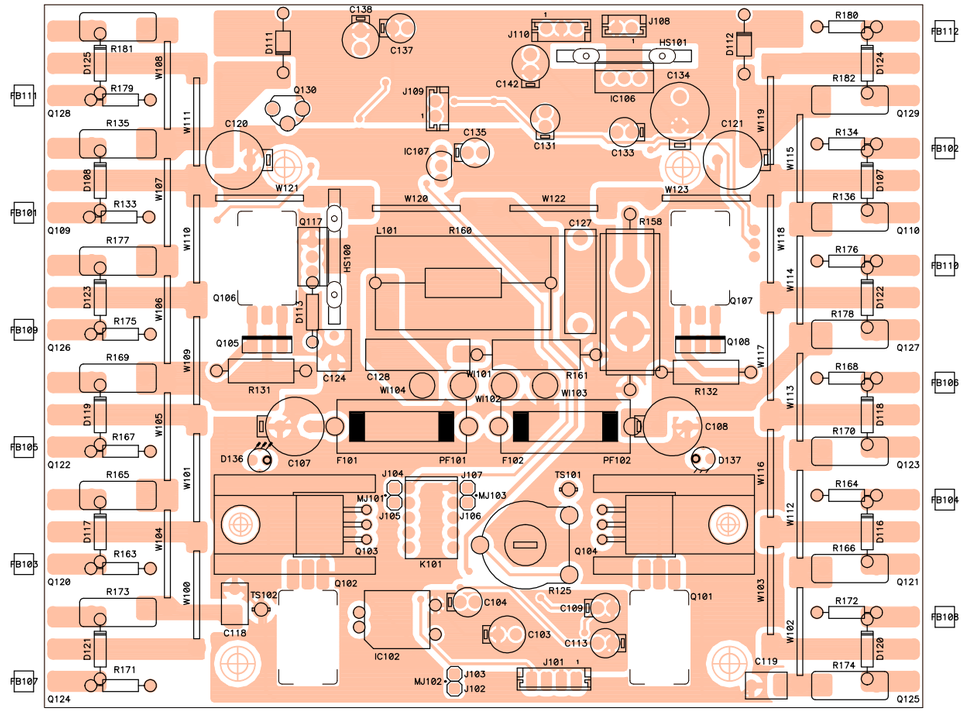
autor: Jordi Folch

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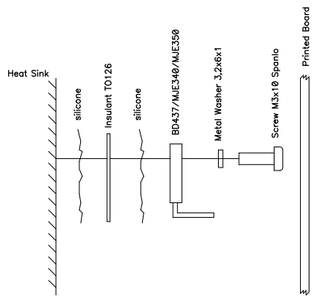
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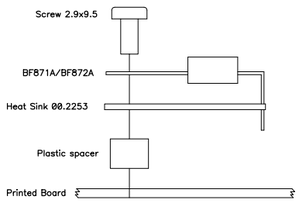
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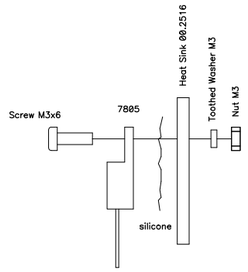
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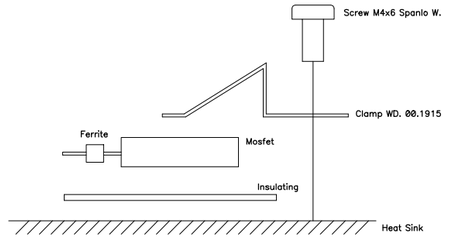


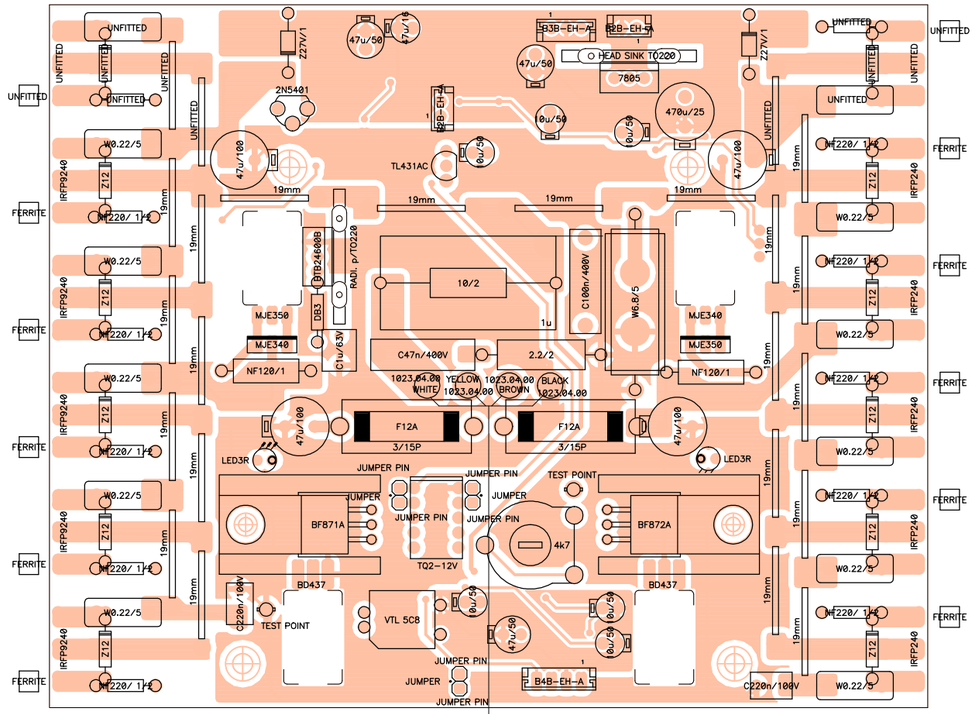
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			view: Reference
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0437	version: 01.02	title: EP03-99C Power Amp.	

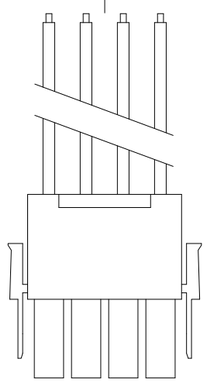




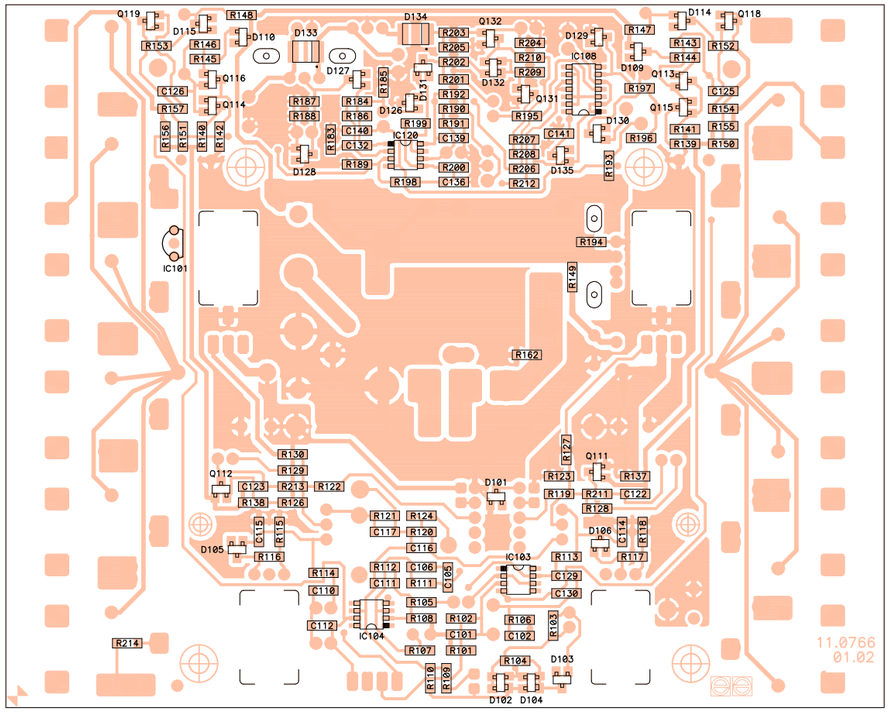




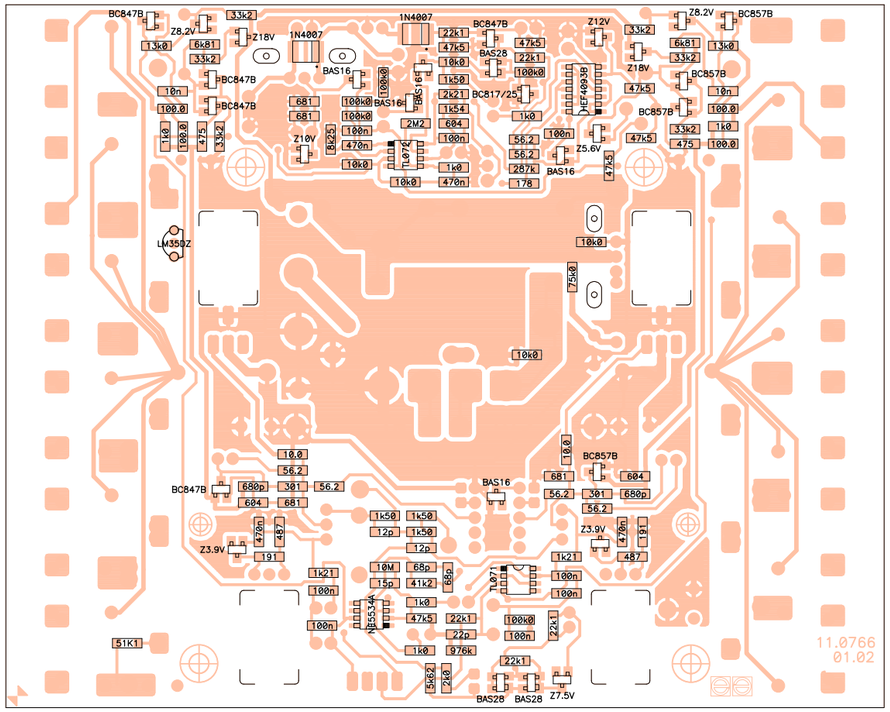




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			view: Value
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0438	version: 01.02	title: EP03-99C Power Amp.	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0017-01.01		side: Solder
			view: Reference
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0439	version: 01.02	title: EP03-99C Power Amp.	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0017-01.01		side: Solder
			view: Value
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0440	version: 01.02	title: EP03-99C Power Amp.	

ECLER

author: Queralt
approved:

date: 000913
model:

num: 40.0051 version: 01.00

PARTS LIST

EP03-99C

PRINTED CIRCUIT 11.0766-01.02

REFERENCE	VALUE	CODE
C101	22p	FCXCN12200
C102	100n	FCXCN41000
C103	47u/50	FCCE250470
C104	10u/50	FCCE250100
C105	68p	FCXCN16800
C106	68p	FCXCN16800
C107	47u/100	FCCE350470
C108	47u/100	FCCE350470
C109	10u/50	FCCE250100
C110	100n	FCXCN41000
C111	15p	FCXCN11500
C112	100n	FCXCN41000
C113	10u/50	FCCE250100
C114	470n	FCXCN44700
C115	470n	FCXCN44700
C116	12p	FCXCN11200
C117	12p	FCXCN11200
C118	C220n/100V	FCCDK52200
C119	C220n/100V	FCCDK52200
C120	47u/100	FCCE350470
C121	47u/100	FCCE350470
C122	680p	FCXCN26800
C123	680p	FCXCN26800
C124	C1u/63V	FCCDK20010
C125	10n	FCXCN40100
C126	10n	FCXCN40100
C127	C100n/400V	FCCDH71100
C128	C47n/400V	FCCDH71047
C129	100n	FCXCN41000
C130	100n	FCXCN41000
C131	10u/50	FCCE250100
C132	470n	FCXCN44700
C133	10u/50	FCCE250100
C134	470u/25	FCCE154700
C135	10u/50	FCCE250100
C136	470n	FCXCN44700
C137	47u/16	FCCE100000
C138	47u/50	FCCE250470
C139	100n	FCXCN41000
C140	100n	FCXCN41000
C141	100n	FCXCN41000
C142	47u/50	FCCE250470
D101	BAS16	FCXDDBAS16
D102	BAS28	FCXDDBAS28
D103	Z7.5V	FCXZ000075
D104	BAS28	FCXDDBAS28
D105	Z3.9V	FCXZ000039
D106	Z3.9V	FCXZ000039
D107	Z12	FCDD041200
D108	Z12	FCDD041200
D109	Z18V	FCXZ000180
D110	Z18V	FCXZ000180

REFERENCE	VALUE	CODE
D111	Z27V/1	FCDD102700
D112	Z27V/1	FCDD102700
D113	DB3	FCDIDB3000
D114	Z8.2V	FCXZ000082
D115	Z8.2V	FCXZ000082
D116	Z12	FCDD041200
D117	Z12	FCDD041200
D118	Z12	FCDD041200
D119	Z12	FCDD041200
D120	Z12	FCDD041200
D121	Z12	FCDD041200
D122	Z12	FCDD041200
D123	Z12	FCDD041200
D124	UNFITTED	
D125	UNFITTED	
D126	BAS16	FCXDDBAS16
D127	BAS16	FCXDDBAS16
D128	Z10V	FCXZ000100
D129	Z12V	FCXZ000120
D130	Z5.6V	FCXZ000056
D131	BAS16	FCXDDBAS16
D132	BAS28	FCXDDBAS28
D133	1N4007	FCXDD40070
D134	1N4007	FCXDD40070
D135	BAS16	FCXDDBAS16
D136	LED3R	FCLED300RO
D137	LED3R	FCLED300RO
F101	F12A	FCFUS50400
F102	F12A	FCFUS50400
FB101	FERRITE	FCFER43220
FB102	FERRITE	FCFER43220
FB103	FERRITE	FCFER43220
FB104	FERRITE	FCFER43220
FB105	FERRITE	FCFER43220
FB106	FERRITE	FCFER43220
FB107	FERRITE	FCFER43220
FB108	FERRITE	FCFER43220
FB109	FERRITE	FCFER43220
FB110	FERRITE	FCFER43220
FB111	UNFITTED	
FB112	UNFITTED	
HS100	HEAT SINK TO220	FCMECTO220
HS101	HEAT SINK	FCMECTO220
HS102	HEAT SINK BF'S	FCMECPI130
HS103	HEAT SINK BF'S	FCMECPI130
HS104	HEAT SINK MODULE	FCRAD13800
IC101	LM35DZ	FCIC350000
IC102	VTL 5C8	FCOPTVTL50
IC103	TL071	FCIC071010
IC104	NE5534A	FCIC553400
IC106	7805	FCREG78050
IC107	TL431AC	FCIC431000
IC108	HEF4093B	FCIC409301
IC120	TL072	FCIC072010
IN100	INSULATING TO126	FCMICTO126
IN101	INSULATING TO126	FCMICTO126
IN102	INSULATING TO126	FCMICTO126
IN103	INSULATING TO126	FCMICTO126

REFERENCE	VALUE	CODE
J101	B4B-EH-A	FCCTM00040
J102	JUMPER PIN	FCTERM0100
J103	JUMPER PIN	FCTERM0100
J104	JUMPER PIN	FCTERM0100
J105	JUMPER PIN	FCTERM0100
J106	JUMPER PIN	FCTERM0100
J107	JUMPER PIN	FCTERM0100
J108	B2B-EH-A	FCCTM00020
J109	B2B-EH-A	FCCTM00020
J110	B3B-EH-A	FCCTM00030
K101	TQ2-12V	FCREL00300
L101	1uH	FCIND00100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MP100	CLAMP	FCPINZAM00
MP101	CLAMP	FCPINZAM00
MP102	SARCON	FCTIRKON00
MP103	SARCON	FCTIRKON00
NV100	NUT M3	FCTUE00300
NV101	NUT M3	FCTUE00300
PF101	3/15P	FCPORF3150
PF102	3/15P	FCPORF3150
Q101	BD437	FCTR437000
Q102	BD437	FCTR437000
Q103	BF871A	FCTR871000
Q104	BF872A	FCTR872000
Q105	MJE340	FCTR340000
Q106	MJE350	FCTR350000
Q107	MJE340	FCTR340000
Q108	MJE350	FCTR350000
Q109	IRFP9240	FCTR243000
Q110	IRFP240	FCTR240000
Q111	BC857B	FCXTT08570
Q112	BC847B	FCXTT08470
Q113	BC857B	FCXTT08570
Q114	BC847B	FCXTT08470
Q115	BC857B	FCXTT08570
Q116	BC847B	FCXTT08470
Q117	BTB24600B	FCTI246000
Q118	BC857B	FCXTT08570
Q119	BC847B	FCXTT08470
Q120	IRFP9240	FCTR243000
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Q122	IRFP9240	FCTR243000
Q123	IRFP240	FCTR240000
Q124	IRFP9240	FCTR243000
Q125	IRFP240	FCTR240000
Q126	IRFP9240	FCTR243000
Q127	IRFP240	FCTR240000
Q128	UNFITTED	
Q129	UNFITTED	
Q130	2N5401	FCTR254010
Q131	BC817/25	FCXTT08170
Q132	BC847B	FCXTT08470
R101	976k	FCXR159760
R102	22k1	FCXR142210
R103	22k1	FCXR142210

REFERENCE	VALUE	CODE
R104	22k1	FCXR142210
R105	1k0	FCXR131000
R106	100k0	FCXR151000
R107	1k0	FCXR131000
R108	47k5	FCXR144750
R109	2k0	FCXR132000
R110	5k62	FCXR135620
R111	41k2	FCXR144120
R112	10M	FCXR071000
R113	1k21	FCXR131210
R114	1k21	FCXR131210
R115	487Ω	FCXR124870
R116	191Ω	FCXR121910
R117	487Ω	FCXR124870
R118	191Ω	FCXR121910
R119	56.2Ω	FCXR115620
R120	1k50	FCXR131500
R121	1k50	FCXR131500
R122	56.2Ω	FCXR115620
R123	681Ω	FCXR126810
R124	1k50	FCXR131500
R125	4k7	FCRJG44700
R126	681Ω	FCXR126810
R127	10.0Ω	FCXR111000
R128	56.2Ω	FCXR115620
R129	56.2Ω	FCXR115620
R130	10.0Ω	FCXR111000
R131	NF120Ω/1	FCRF431200
R132	NF120Ω/1	FCRF431200
R133	NF220Ω/ 1/2	FCRF232200
R134	NF220Ω/ 1/2	FCRF232200
R135	W0.22Ω/5	FCRY000100
R136	W0.22Ω/5	FCRY000100
R137	604Ω	FCXR126040
R138	604Ω	FCXR126040
R139	475Ω	FCXR124750
R140	475Ω	FCXR124750
R141	33k2	FCXR143320
R142	33k2	FCXR143320
R143	6k81	FCXR136810
R144	33k2	FCXR143320
R145	33k2	FCXR143320
R146	6k81	FCXR136810
R147	33k2	FCXR143320
R148	33k2	FCXR143320
R149	75k	FCXR147500
R150	100.0Ω	FCXR121000
R151	100.0Ω	FCXR121000
R152	13k0	FCXR141300
R153	13k0	FCXR141300
R154	100.0Ω	FCXR121000
R155	1k0	FCXR131000
R156	1k0	FCXR131000
R157	100.0Ω	FCXR121000
R158	W6.8Ω/5	FCRY000250
R160	10/2	FCRC521000
R161	2.2Ω/2	FCRC512200
R162	10k0	FCXR141000

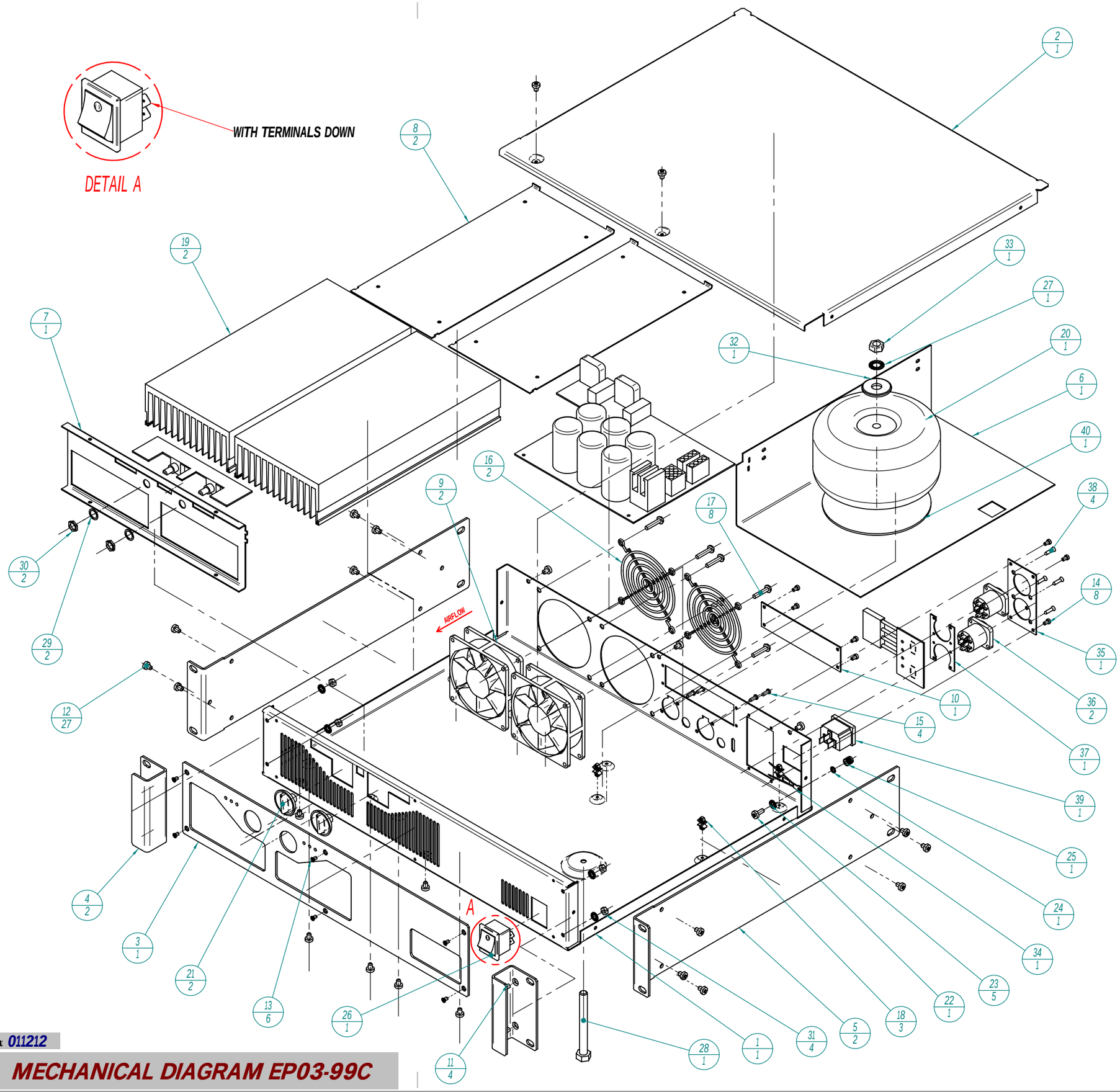
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R164	NF220Ω/ 1/2	FCRF232200
R165	W0.22Ω/5	FCRY000100
R166	W0.22Ω/5	FCRY000100
R167	NF220Ω/ 1/2	FCRF232200
R168	NF220Ω/ 1/2	FCRF232200
R169	W0.22Ω/5	FCRY000100
R170	W0.22Ω/5	FCRY000100
R171	NF220Ω/ 1/2	FCRF232200
R172	NF220Ω/ 1/2	FCRF232200
R173	W0.22Ω/5	FCRY000100
R174	W0.22Ω/5	FCRY000100
R175	NF220Ω/ 1/2	FCRF232200
R176	NF220Ω/ 1/2	FCRF232200
R177	W0.22Ω/5	FCRY000100
R178	W0.22Ω/5	FCRY000100
R179	UNFITTED	
R180	UNFITTED	
R181	UNFITTED	
R182	UNFITTED	
R183	8k25	FCXR138250
R184	100k0	FCXR151000
R185	100k0	FCXR151000
R186	100k0	FCXR151000
R187	681Ω	FCXR126810
R188	681Ω	FCXR126810
R189	10k0	FCXR141000
R190	1k54	FCXR131540
R191	604Ω	FCXR126040
R192	2k21	FCXR132210
R193	47k5	FCXR144750
R194	10k0	FCXR141000
R195	1k0	FCXR131000
R196	47k5	FCXR144750
R197	47k5	FCXR144750
R198	10k0	FCXR141000
R199	2M2	FCXR062200
R200	1k0	FCXR131000
R201	1k50	FCXR131500
R202	10k0	FCXR141000
R203	22k1	FCXR142210
R204	47k5	FCXR144750
R205	47k5	FCXR144750
R206	287k	FCXR152870
R207	56.2Ω	FCXR115620
R208	56.2Ω	FCXR115620
R209	100k0	FCXR151000
R210	22k1	FCXR142210
R211	301Ω	FCXR123010
R212	178Ω	FCXR121780
R213	301Ω	FCXR123010
R214	51K1	FCXR145110
SC100	SCREW M4x6	FCT8040061
SC101	SCREW M4x6	FCT8040061
SC102	SCREW M4x6	FCT8040061
SC103	SCREW M4x6	FCT8040061
SC104	SCREW M3x10	FCT8030100
SC105	SCREW M3x10	FCT8030100

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SC107	SCREW M3x10	FCT8030100
SC108	SCREW M3x10	FCT8030100
SC109	SCREW M3x10	FCT8030100
SC110	SCREW M3x10	FCT8030100
SC111	SCREW M3x10	FCT8030100
SC112	SPACER	FCSEPPM000
SC113	SPACER	FCSEPPM000
SC114	SPACER	FCSEPPM000
SC115	SPACER	FCSEPPM000
SC116	SCREW M3x6	FCT7503006
SC117	SPACER	FCSEPPM000
SC118	SPACER	FCSEPPM000
SC119	SCREW 2.9x9.5	FCT7002909
SC120	SCREW 2.9x9.5	FCT7002909
SC121	SCREW M3x6	FCT7503006
TS101	TEST POINT	FCTERMSOL0
TS102	TEST POINT	FCTERMSOL0
W100	19mm	FCMECPON19
W101	19mm	FCMECPON19
W102	19mm	FCMECPON19
W103	19mm	FCMECPON19
W104	19mm	FCMECPON19
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	19mm	FCMECPON19
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	19mm	FCMECPON19
W111	19mm	FCMECPON19
W112	19mm	FCMECPON19
W113	19mm	FCMECPON19
W114	19mm	FCMECPON19
W115	19mm	FCMECPON19
W116	19mm	FCMECPON19
W117	19mm	FCMECPON19
W118	19mm	FCMECPON19
W119	19mm	FCMECPON19
W120	19mm	FCMECPON19
W121	19mm	FCMECPON19
W122	19mm	FCMECPON19
W123	19mm	FCMECPON19
WA100	WASHER 3.2x6x1 M	FCARM32010
WA101	WASHER 3.2x6x1 M	FCARM32010
WA102	WASHER 3.2x6x1 M	FCARM32010
WA103	WASHER 3.2x6x1 M	FCARM32010
WA104	TOOTHED WASHER	FCARDE0300
WA105	TOOTHED WASHER	FCARDE0300
WI101 TO WI104	1023.04.00	FC0H023400

POWER 20-20kHz 1% THD	
4Ω Stereo	440 WRMS
8Ω Stereo	275 WRMS
8Ω Bridged	882 WRMS
POWER 1kHz 0.1% THD	
4Ω Stereo	400 WRMS
8Ω Stereo	252 WRMS
8Ω Bridged	800 WRMS
Peak Power 2Ω/1kHz	1.5Kw
Frequency response (-1dB)	7Hz-50kHz
High pass filter (-3dB)	25Hz/Butt./18dB/oct.
THD+Noise @ 1kHz Full Pwr.	<0.03%
Imd. Dist. 50Hz & 7kHz, 4:1	<0.08%
TIM 100	<0.01%
S+N/N 20Hz-20kHz @ 1W/4Ω	>80dB
Damping factor 1kHz @ 8Ω	>300
Slew Rate	±65V/μs
Channel crosstalk @ 1kHz	>75dB
Input connector	XLR3 balanced
Input CMRR/ref. Max. PWR)	>60dB @ 1kHz
Input Sensitivity / Impedance	0dBV/>22kΩ
Signal present indicator	-40dB
Output connectors	Speak-on
Clip indicators	-1.5dB real clip
Anticlip limiter	1% & 5% aprox.
Mains Depending on your country	See characteristics in the back of the unit.
Power consumption (max. Out)	1250VA
Dimensions	Panel 482.6x88 mm
	Depth 410 mm
Weight	15.450kg

Nº	Qty	ECLER Code	Description
1	1	FCMECPM120	BASE CHASSIS
2	1	FCMECPM130	TOP COVER
3	1	FCMECPM140	FRONT PANEL
4	2	FCMECPM180	FRONTAL HANDLE
5	2	FCMECPM170	LEFT/RIGHT SIDE
6	1	FCMECPM100	MECHANICAL REINFORCEMENT
7	1	FCMECPM110	LED CIRCUIT MEC. SUPORT
8	2	FCMECPM190	MODULE SUPPORT PLATE 260MM
9	2	FCVEN08000	FAN 80x80 12VDC
10	1	FCMECPM150	FILTERS PLATE
11	4	FCTALL4081	SCREW M4x8 ALLEN B
12	27	FCT8040060	SCREW M4x6 SPANLO BLACK
13	6	FCT8030055	SCREW D965 M3x5 BLACK
14	8	FCT8503005	SCREW M3x5 REDUCED HEAD
15	4	FCT4002909	SCREW 2,9x9,5 D7981F BLACK
16	2	FCREJ08000	FAN GRILLE 80x80
17	8	FCT0605120	SCREW 5,1x20
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	2	FCRAD13800	HEATSINK 260MM
20*	1	FCTFT00520*	TRANSFORMER EP03-99C
21	2	FCBOTD2400	ROTARY KNOB D24
22	1	FCT8504110	SCREW M4x10 TRILOB. W
23	5	FCARDE0400	TOOTHED WASHER M4
24	1	FCARS40000	SEG. WASHER M4
25	1	FCBOR00300	GROUND TERMINAL
26	1	FCINTRED30	MAINS SWITCH W/LIGHT
27	1	FCARDE0800	TOOTHED WASHER M8
28	1	GENERIC	SCREW M8 TRANSFORMER
29	2	FCARDEPOTE	ROT. POT. WASHER M9
30	2	FCTUPOT000	ROTARY POT. NUT M9
31	4	FCTUE00400	NUT M4
32	1	FCARM10500	WASHER 10,5X30X2,5M
33	1	GENERIC	TRANS. NUT M8
34	1	FC0C018000	GROUND CABLE
35	1	FCMECPM161	SPEAK ON PLATE
36	2	FCBASS0100	SPEAKON SOCKET 4C
37	1	FCMECPM165	SPEAKON MECHANICAL SUPPORT
38	4	FCT5002913	SCREW 2,9x13 D7982
39	1	FCBASRE500	MAINS SOCKET
40	1	GENERIC	TRANS. RUBBER DISC

** FOR 100V UNIT TRANSFORMER CODE FCTFT02600*



ECLER

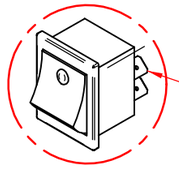
autor: Jordi Folch | data: 011212

aprovat:

títol: **MECHANICAL DIAGRAM EP03-99C**

número: 30.0115 | versió: 01.05

Nº	Qty	ECLER Code	Description
1	1	FCMECPM120	BASE CHASSIS
2	1	FCMECPM130	TOP COVER
3	1	FCMECPM140	FRONT PANEL
4	2	FCMECPM180	FRONTAL HANDLE
5	2	FCMECPM170	LEFT/RIGHT SIDE
6	1	FCMECPM100	MECHANICAL REINFORCEMENT
7	1	FCMECPM110	LED CIRCUIT MEC. SUPORT
8	2	FCMECPM190	MODULE SUPPORT PLATE 260MM
9	2	FCVEN08000	FAN 80x80 12VDC
10	1	FCMECPM150	FILTERS PLATE
11	4	FCTALL4081	SCREW M4x8 ALLEN B
12	27	FCT8040060	SCREW M4x6 SPANLO BLACK
13	6	FCT8030055	SCREW D965 M3x5 BLACK
14	8	FCT8503005	SCREW M3x5 REDUCED HEAD
15	4	FCT4002909	SCREW 2,9x9,5 D7981F BLACK
16	2	FCREJ08000	FAN GRILLE 80x80
17	8	FCT0605120	SCREW 5,1x20
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	2	FCRAD13800	HEATSINK 260MM
20	1	FCTFT00520	TRANSFORMER EP03-99C
21	2	FCBOTD2400	ROTARY KNOB D24
22	1	FCT8504110	SCREW M4x10 TRILOB. W
23	5	FCARDE0400	TOOTHED WASHER M4
24	1	FCARS40000	SEG. WASHER M4
25	1	FCBOR00300	GROUND TERMINAL
26	1	FCINTRED30	MAINS SWITCH W/LIGHT
27	1	FCARDE0800	TOOTHED WASHER M8
28	1	GENERIC	SCREW M8 TRANSFORMER
29	2	FCARDEPOTE	ROT. POT. WASHER M9
30	2	FCTUPOT000	ROTARY POT. NUT M9
31	4	FCTUE00400	NUT M4
32	1	FCARM10500	WASHER 10,5X30X2,5M
33	1	GENERIC	TRANS. NUT M8
34	1	FC0C018000	GROUND CABLE
35	1	FCMECPM161	SPEAK ON PLATE
36	2	FCBASS0100	SPEAKON SOCKET 4C
37	1	FCMECPM165	SPEAKON MECHANICAL SUPPORT
38	4	FCT5002913	SCREW 2,9x13 D7982
39	1	FCBASRE500	MAINS SOCKET
40	1	GENERIC	TRANS. RUBBER DISC



DETAIL A

WITH TERMINALS DOWN

OLD VERSION

ECLER

autor: Jordi Folch

data: 001024

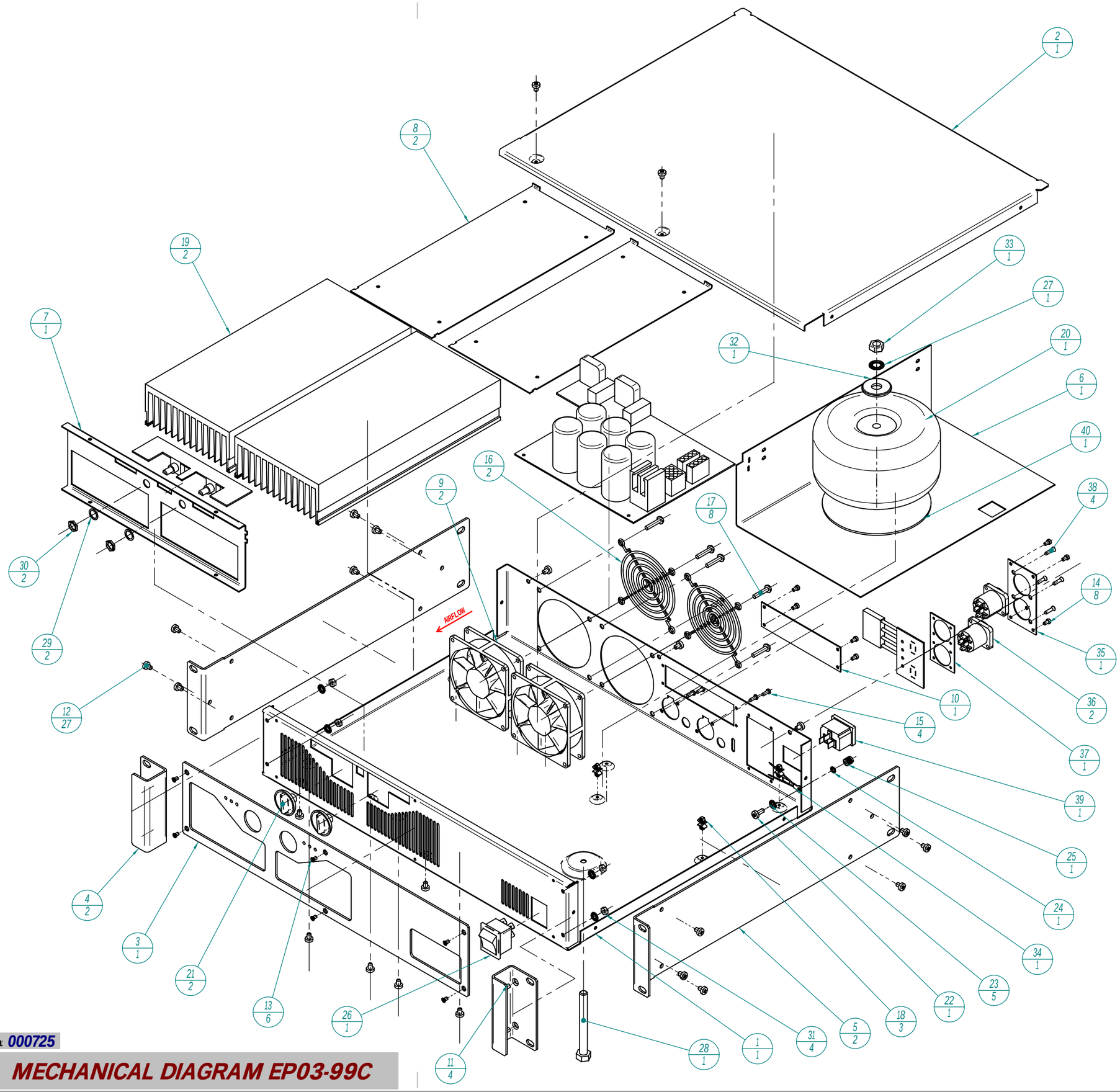
aprovat:

títol: MECHANICAL DIAGRAM EP03-99C

número: 30.0115

versió: 01.04

Nº	Qty	ECLER Code	Description
1	1	FCMECPM120	BASE CHASSIS
2	1	FCMECPM130	TOP COVER
3	1	FCMECPM140	FRONT PANEL
4	2	FCMECPM180	FRONTAL HANDLE
5	2	FCMECPM170	LEFT/RIGHT SIDE
6	1	FCMECPM100	MECHANICAL REINFORCEMENT
7	1	FCMECPM110	LED CIRCUIT MEC. SUPORT
8	2	FCMECPM190	MODULE SUPPORT PLATE 260MM
9	2	FCVEN08000	FAN 80x80 12VDC
10	1	FCMECPM150	FILTERS PLATE
11	4	FCTALL4081	SCREW M4x8 ALLEN B
12	27	FCT8040060	SCREW M4x6 SPANLO BLACK
13	6	FCT8030055	SCREW D965 M3x5 BLACK
14	8	FCT8503005	SCREW M3x5 REDUCED HEAD
15	4	FCT4002909	SCREW 2,9x9,5 D7981F BLACK
16	2	FCREJ08000	FAN GRILLE 80x80
17	8	FCT0605120	SCREW 5,1x20
18	3	FCSEPWLS06	PLASTIC SPACER 6MM
19	2	FCRAD13800	HEATSINK 260MM
20	1	FCTFT00520	TRANSFORMER EP03-99C
21	2	FCBOTD2400	ROTARY KNOB D24
22	1	FCT8504110	SCREW M4x10 TRILOB. W
23	5	FCARDE0400	TOOTHED WASHER M4
24	1	FCARS40000	SEG. WASHER M4
25	1	FCBOR00300	GROUND TERMINAL
26	1	FCINTRED25	MAINS SWITCH
27	1	FCARDE0800	TOOTHED WASHER M8
28	1	GENERIC	SCREW M8 TRANSFORMER
29	2	FCARDEPOTE	ROT. POT. WASHER M9
30	2	FCTUPOT000	ROTARY POT. NUT M9
31	4	FCTUE00400	NUT M4
32	1	FCARM10500	WASHER 10,5X30X2,5M
33	1	GENERIC	TRANS. NUT M8
34	1	FC0C018000	GROUND CABLE
35	1	FCMECPM161	SPEAK ON PLATE
36	2	FCBASS0100	SPEAKON SOCKET 4C
37	1	FCMECPM165	SPEAKON MECHANICAL SUPPORT
38	4	FCT5002913	SCREW 2,9x13 D7982
39	1	FCBASRE500	MAINS SOCKET
40	1	GENERIC	TRANS. RUBBER DISC



OLD VERSION

ECLER

autor: Jordi Folch

data: 000725

aprovat:

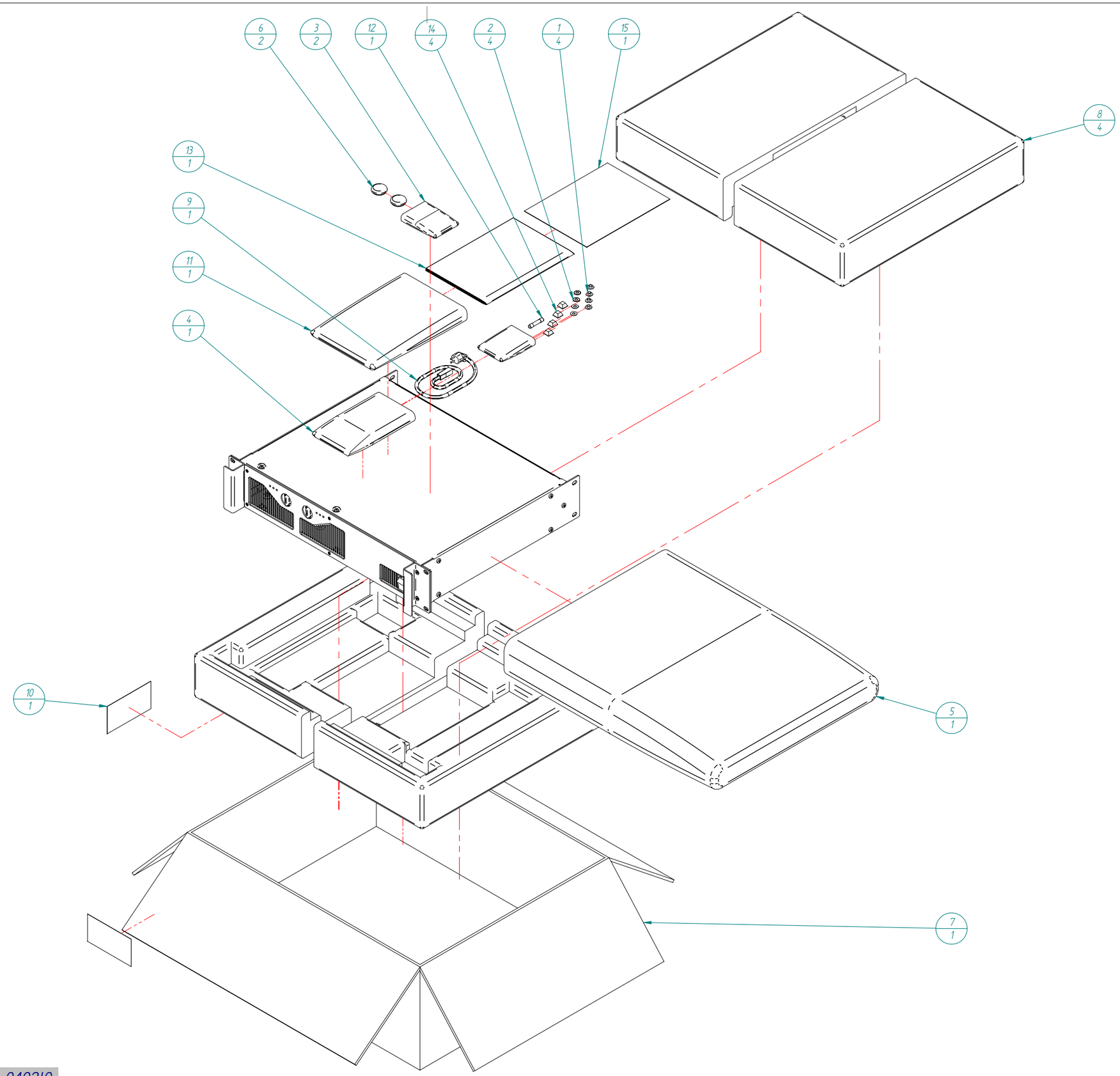
títol: MECHANICAL DIAGRAM EP03-99C

número: 30.0115

versió: 01.03

Nº	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	2	FCBOTD240100	ROT. KNOB PROTECTION COVER
7	1	FCCAJSTA0100	BOX STANDARD 1
8	4	FCCANT118000	INTERIOR REINFORCEMENT
9	1	FCCONX017500	MAINS CABLE 3x1
10	1	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
11	1	FCFUNMAN0000	USER MANUAL BAG
12 *	1 *	FCFUS6010000 *	FUSE 10A *
13	1	FCMANPAML000	USER MANUAL APA
14	4	FCPIE1125500	RUBBER FOOT
15	1	FCTARJG00000	WARRANTY CARD

* FOR 100VAC UNITS, USE FUSE TYPE:
FCFUS6030000 FUSE 12.5A 6X32



ECLEREE

autor: Jordi Folch

data: 040210

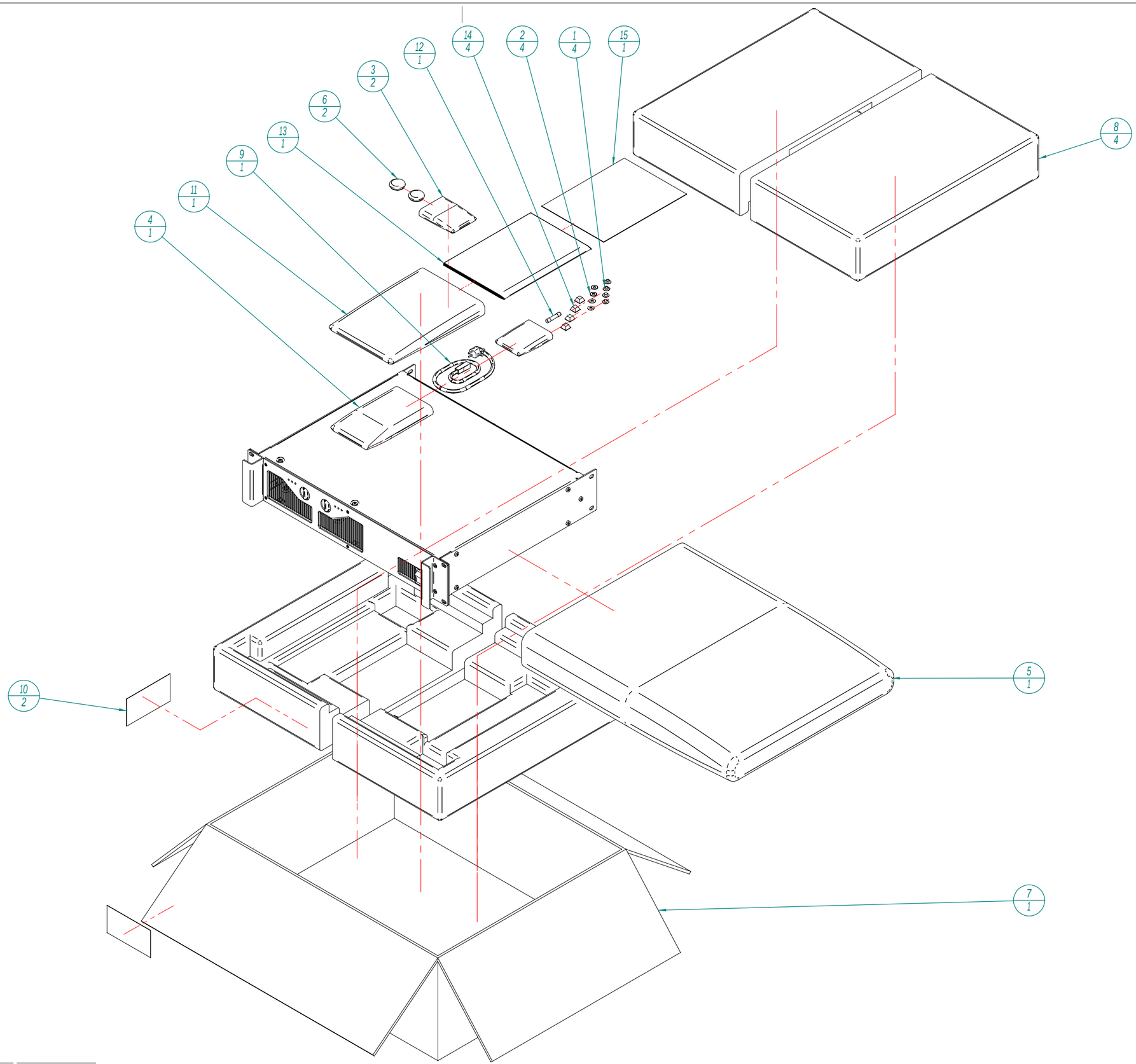
aprovat:

títol: PACKING DIAGRAM EP03-99C

número: 32.0045 versió: 01.04

Nº	Qty	ECLER Code	Description
1	4	FCARAT3000	SCREW INSULATOR
2	4	FCARN50000	WASHER 5X11,5X0,8
3	2	FCBOL00100	BAG 60x80
4	1	FCBOL00200	PLASTIC BAG 120x180
5	1	FCBOLS0200	STANDARD BAG 75x65
6	2	FCBOTD2401	ROT. KNOB PROTECTION COVER
7	1	FCCAJSTA01	BOX STANDARD 1
8	4	FCCANT1180	INTERIOR REINFORCEMENT
9	1	FCCONX0175	MAINS CABLE 3x1
10	2	FCETICAJA0	UNIT INFORMATION LABEL
11	1	FCFUNMAN00	USER MANUAL BAG
12*	1 *	FCFUS60100 *	FUSE 10A *
13	1	FCMANPAML0	USER MANUAL APA
14	4	FCPIE11255	RUBBER FOOT
15	1	FCTARJG000	WARRANTY CARD

** FOR 100VAC UNITS, USE FUSE TYPE:*
FCFUS60300 FUSE 12.5A 6X32



OLD VERSION

ECLER

autor: Jordi Folch

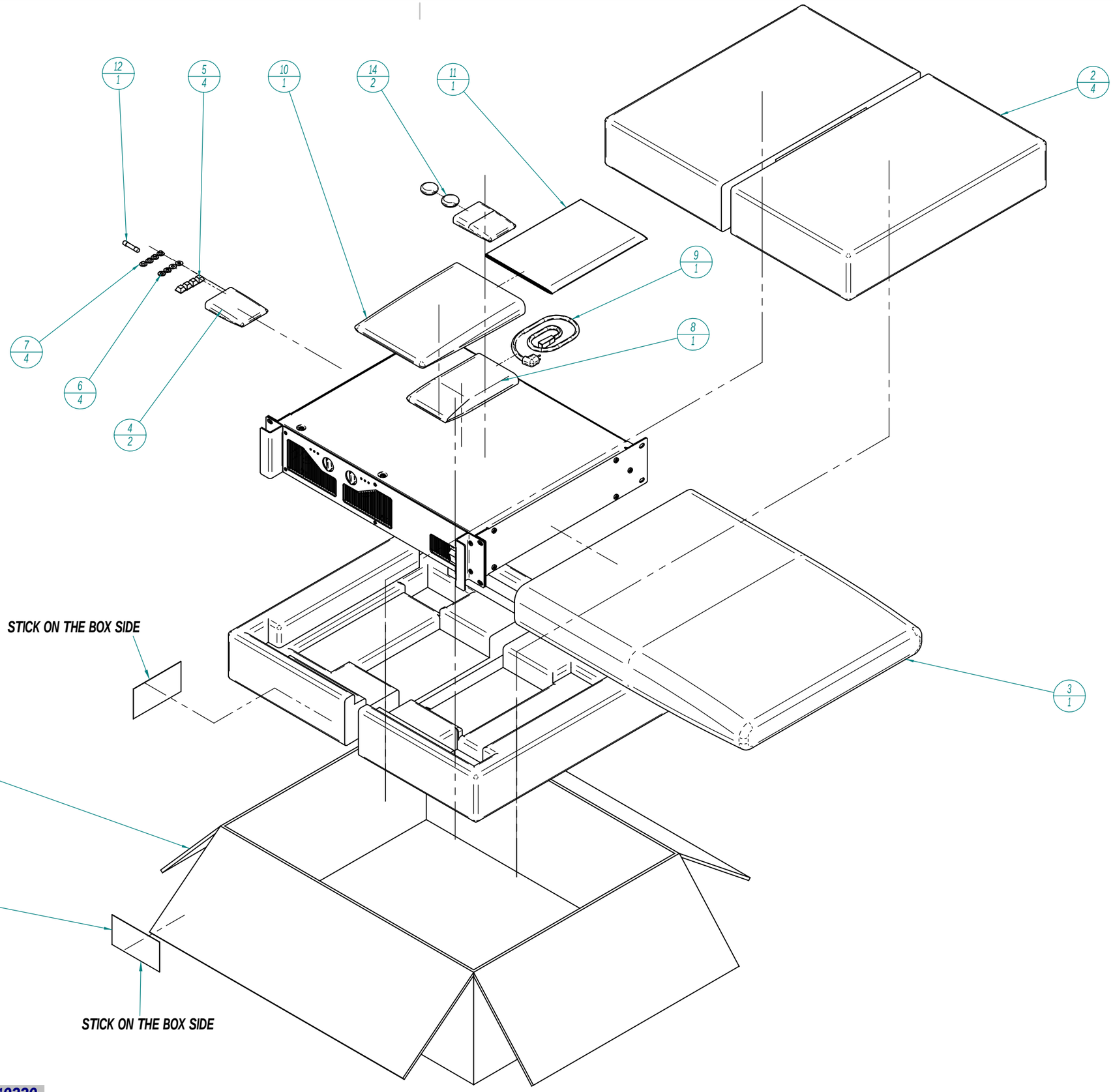
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aprovat:

títol: **PACKING DIAGRAM EP03-99C**

número: 32.0045 versió: 01.03

Nº	Qty	ECLER Code	Description
1	1	FCCAJSTA01	BOX STANDARD 1
2	4	FCCANT1180	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	FCMANPAMLO	USER MANUAL APA
12	1	FCFUS60100	FUSE 10A 6X32
13	2	FCETICAJA0	UNIT INFORMATION LABEL
14	2	FCBOTD2401	ROT. KNOB PROTECTION COVER



OLD VERSION

ECLER

autor: Jordi Folch

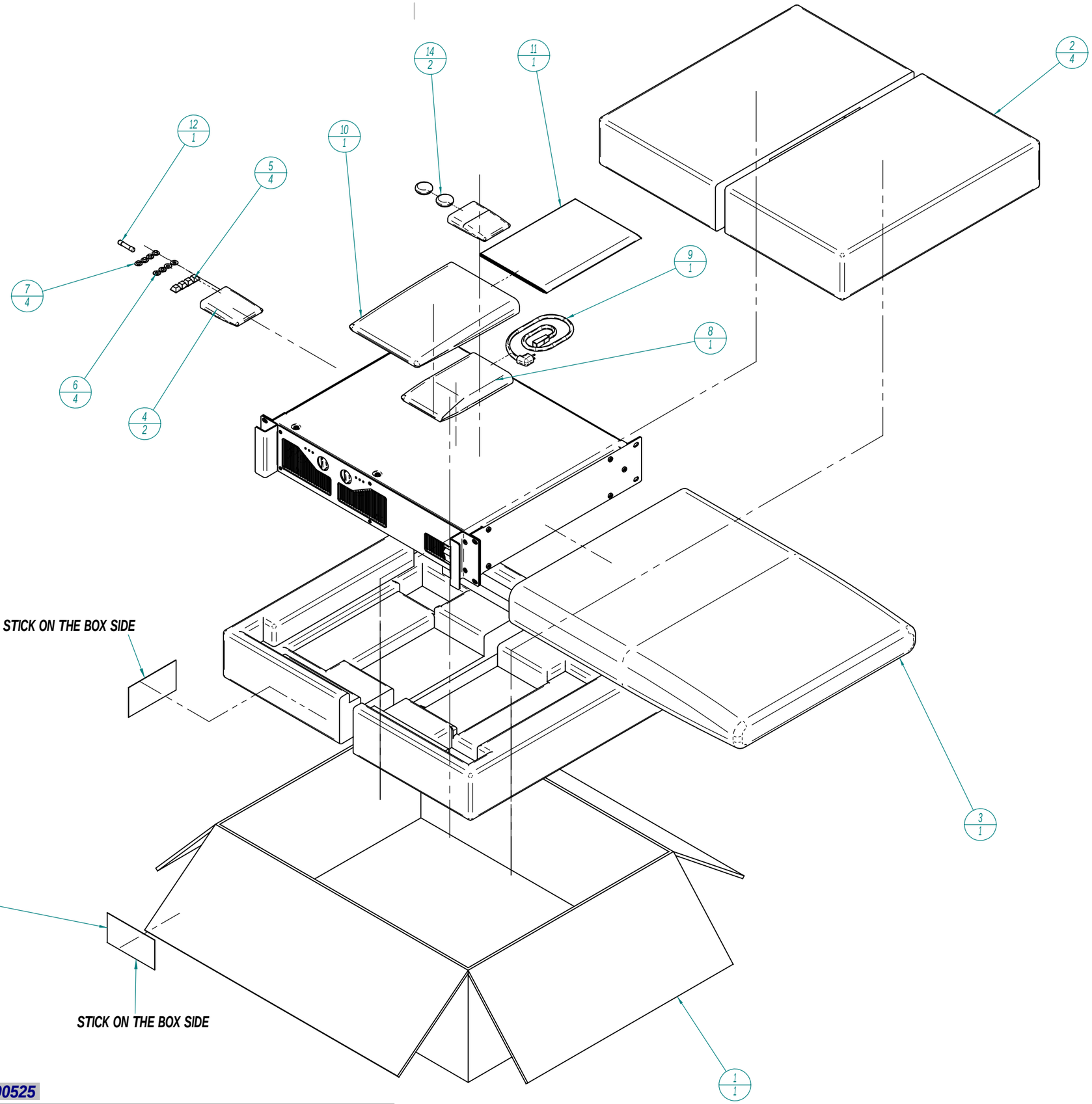
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títol: PACKING DIAGRAM EP03-99C

número: 32.0045 versió: 01.02

Nº	Qty	ECLER Code	Description
1	1	FCCAJSTA01	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	FCMANPAMLO	USER MANUAL APA
12	1	FCFUS60100	FUSE 10A 6X32
13	2	FCETICAJA0	UNIT INFORMATION LABEL
14	2	FCBOTD2401	ROT. KNOB PROTECTION COVER



OLD VERSION

ECLER


autor: Jordi Folch

data: 000525

aprovat:

títol: **PACKING DIAGRAM EP03-99C**

número: 32.0045 versió: 01.01

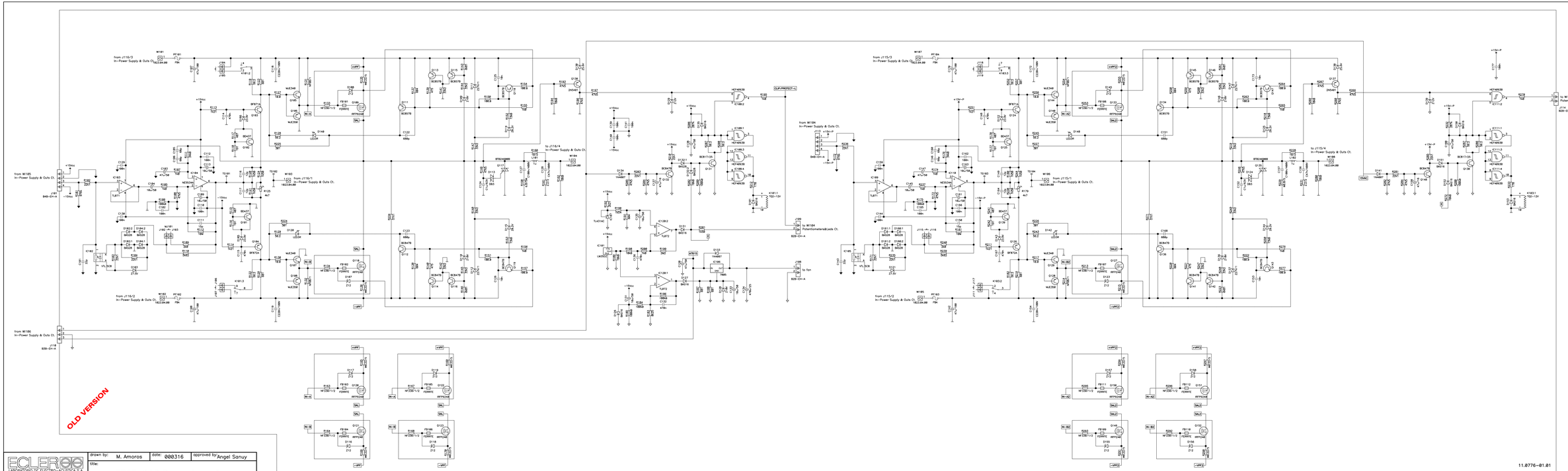


ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.

drawn by: M. Amoros | date: 000316 | approved by: Angel Sanuy

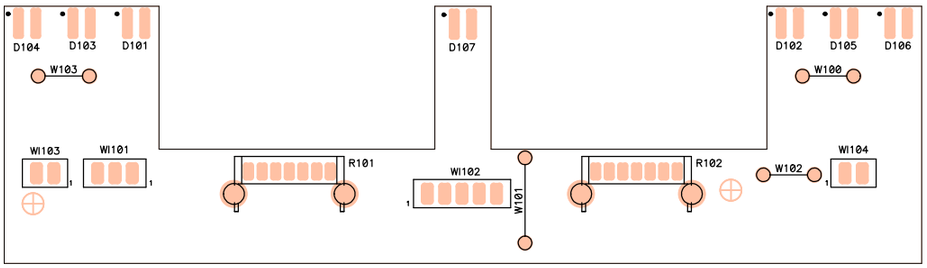
title: EP03-99B Power Amp. Ct.

number: 10.0498 | version: 01.02

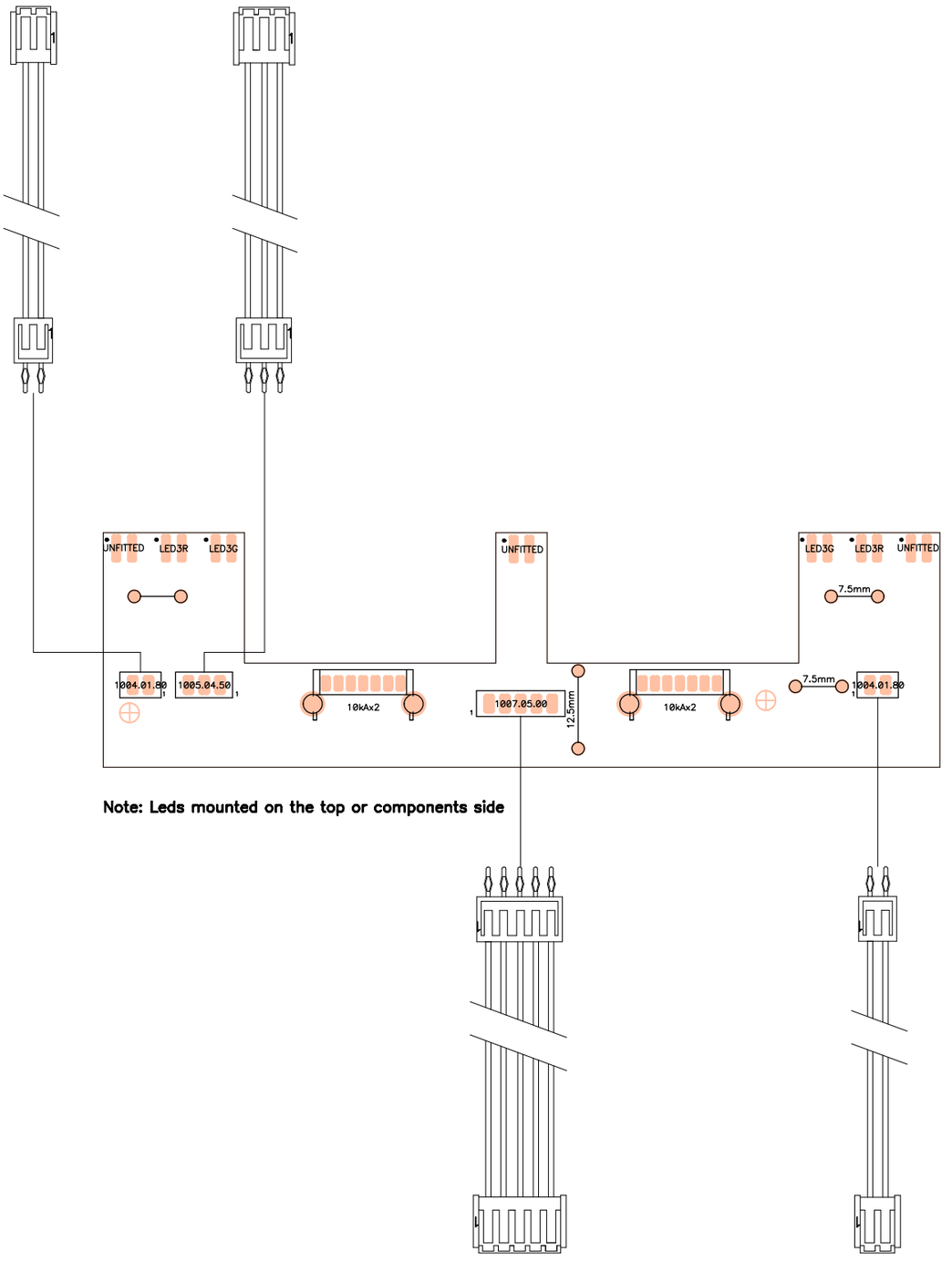


ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 000316	approved by: Angel Sanuy
number: 10.0498	version: 01.01	title: EP03-99B Power Amp. Ct.	

11.0776-01.01



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0775-01.01 schema no: 10.0497-01.02 insertion file no:		side: Component view: Reference
	drawn by: M. Amoros	date: 000313	approved by: Angel Sanuy
number: 33.0433	version: 01.01	title: EP03-99B Potentiometers&Leds Ct.	



Note: Leds mounted on the top or components side

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0775-01.01 schema no: 10.0497-01.02 insertion file no:		side: Component view: Value
	drawn by: M. Amoros	date: 000313	approved by: Angel Sanuy
number: 33.0434	version: 01.01	title: EP03-99B Potentiometers&Leds Ct.	

ECLER

author: Queralt
approved:

date: 000913
model:

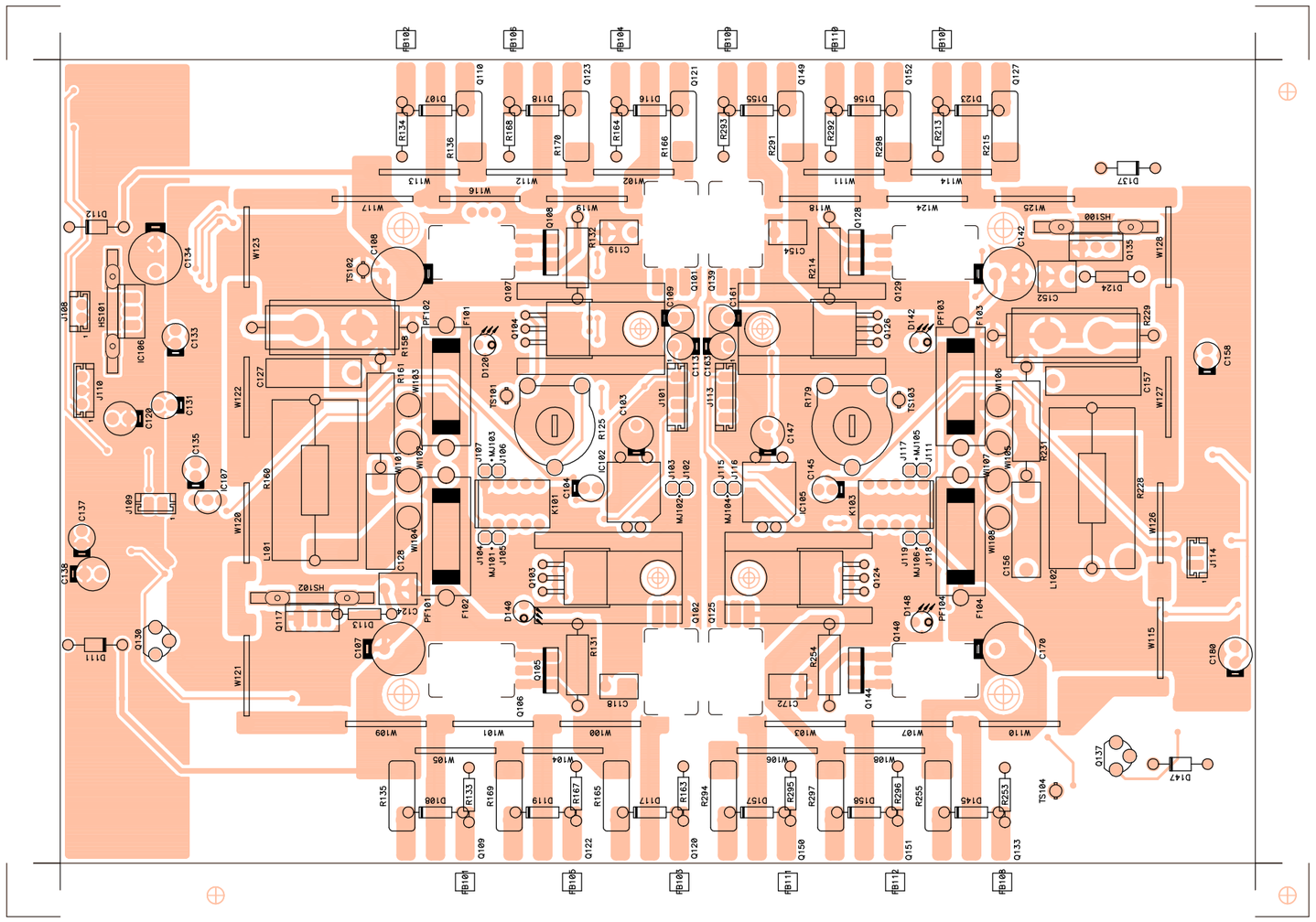
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PARTS LIST

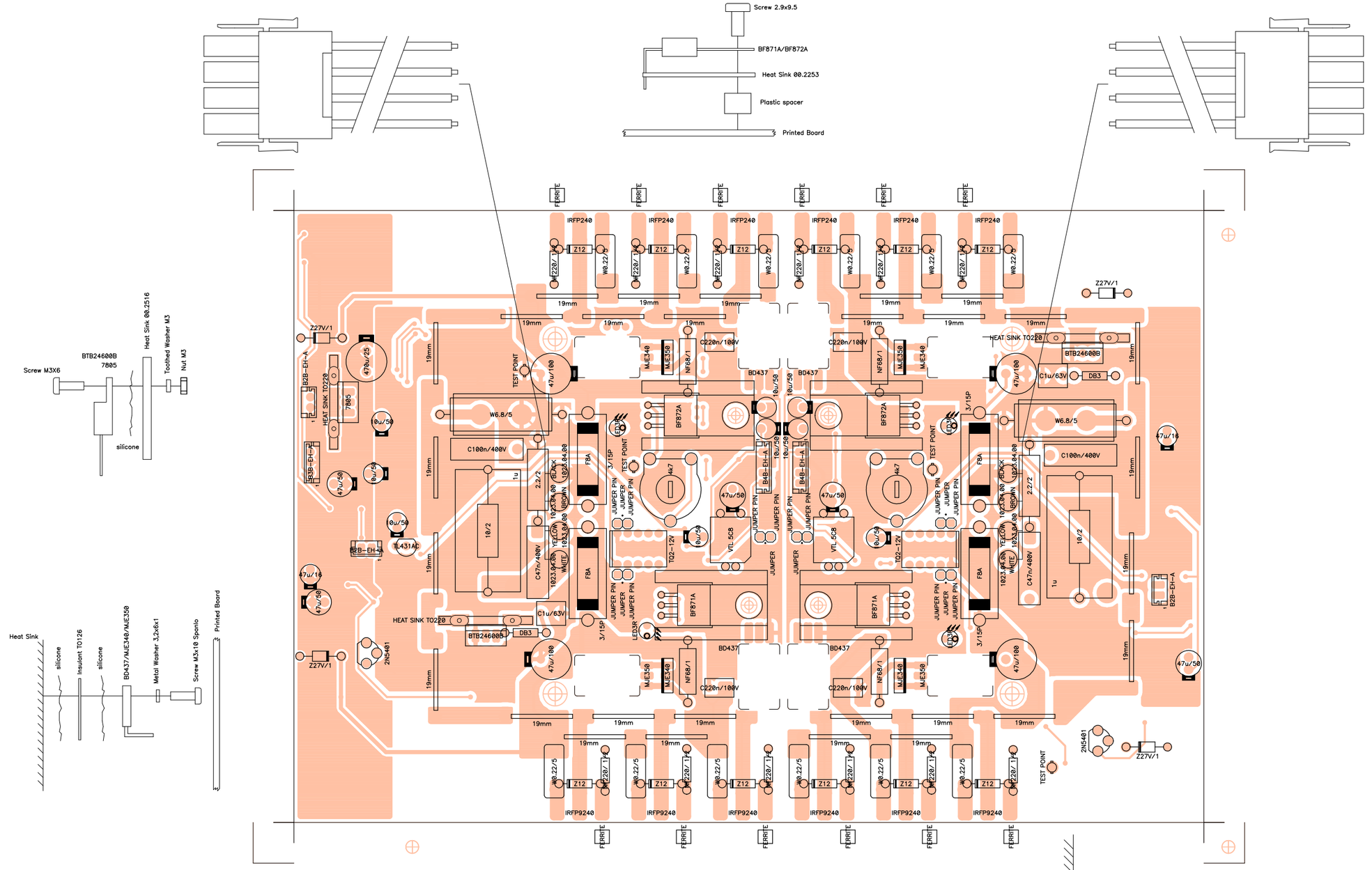
EP03-99B

PRINTED CIRCUIT 11.0775-01.01

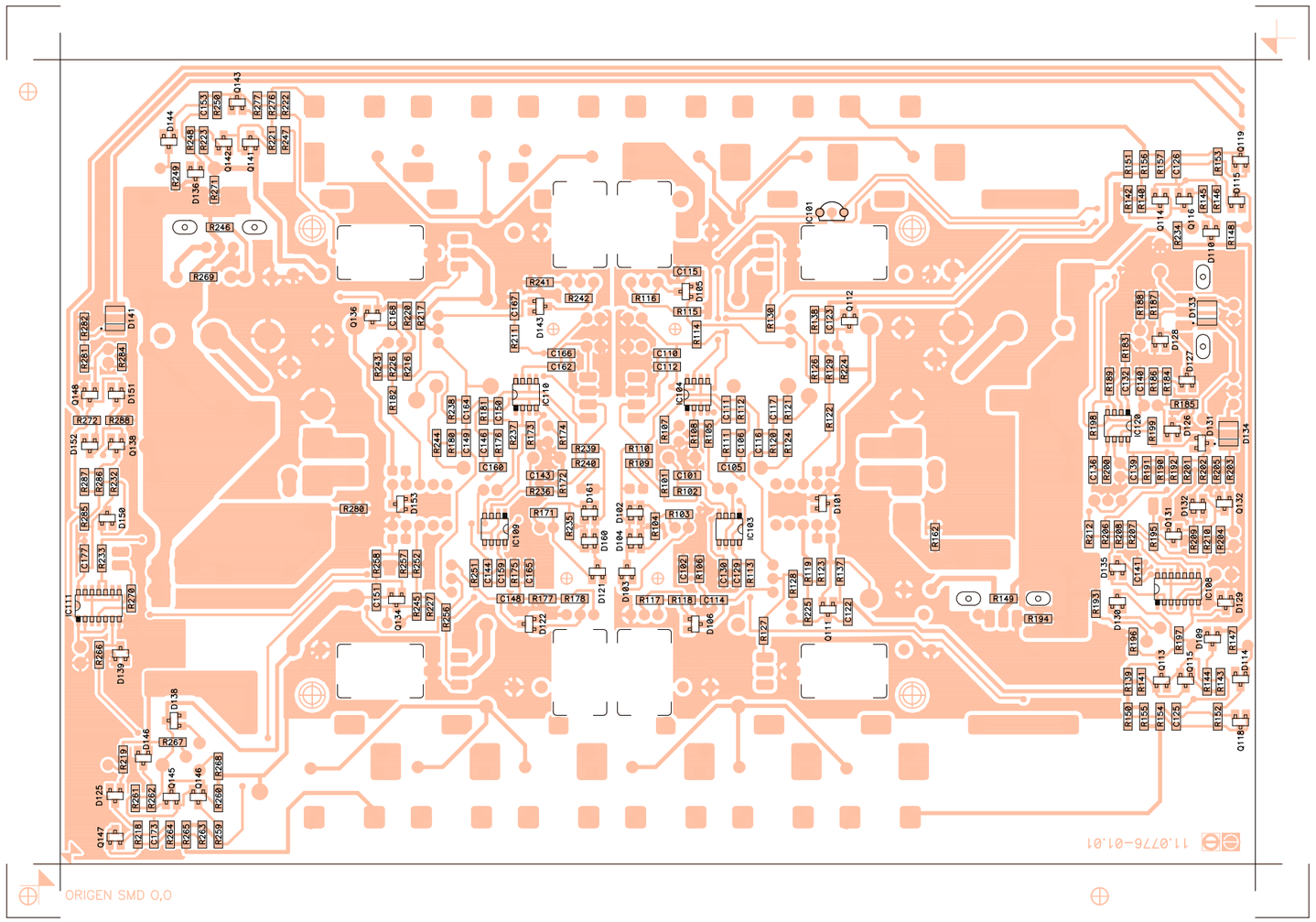
REFERENCE	VALUE	CODE
D101	LED3G	FCLED300VE
D102	LED3G	FCLED300VE
D103	LED3R	FCLED300RO
D104	UNFITTED	
D105	LED3R	FCLED300RO
D106	UNFITTED	
D107	LED3Y	FCLED300AM
R101	10kAx2	FCPR210040
R102	10kAx2	FCPR210040
W100	7.5mm	FCPONT0075
W101	12.5mm	FCPONT0125
W102	7.5mm	FCPONT0075
W103	7.5mm	FCPONT0075
WI101	1005.04.50	FC4I005450
WI102	1007.05.00	FC4K007500
WI103	1004.01.80	FC4G004180
WI104	1004.01.80	FC4G004180



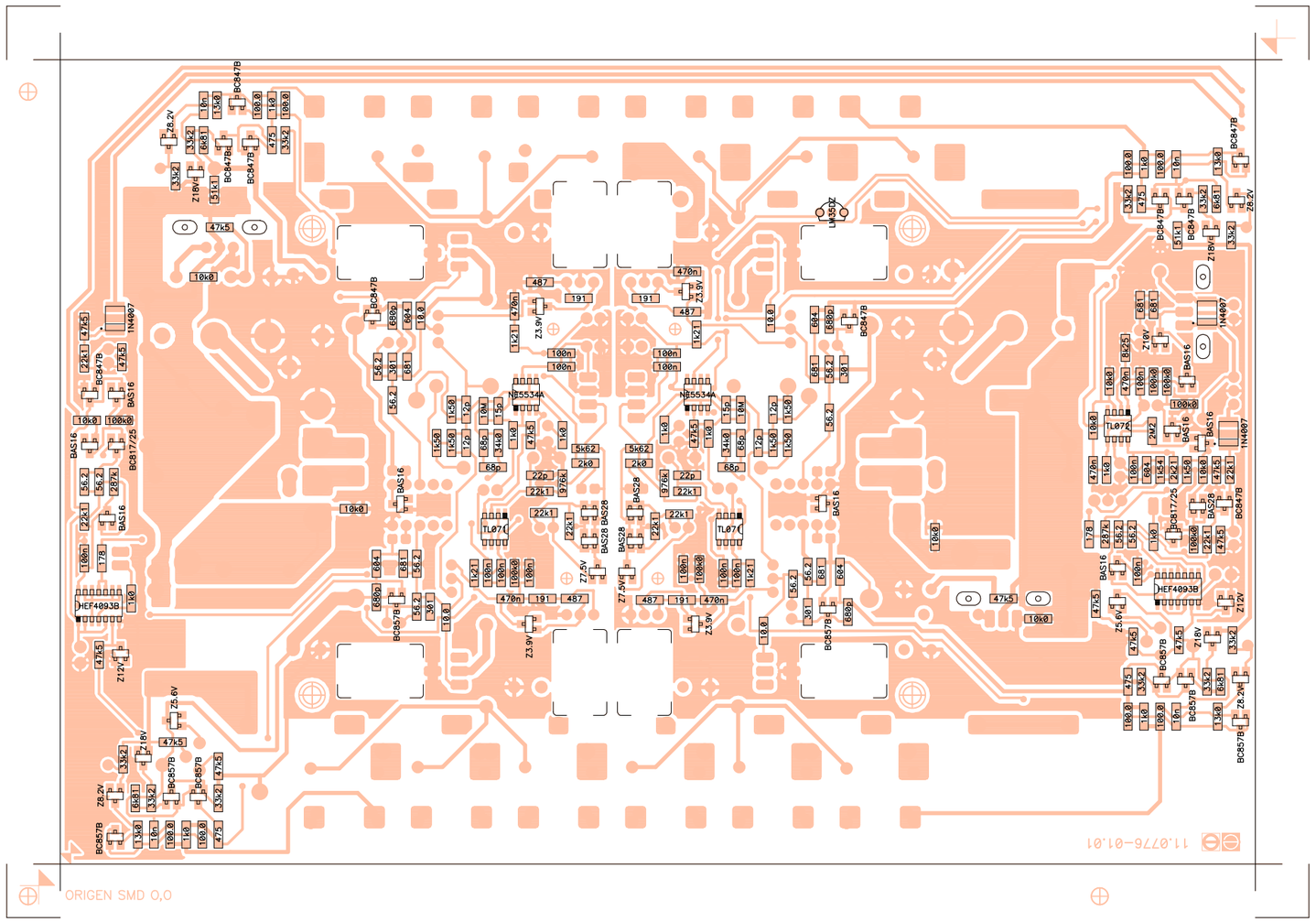
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0776-01.01 schema no: 10.0498-01.02 insertion file no: 81.0018-01.00		side: Component
			view: Reference
	drawn by: M. Amoros	date: 000320	approved by: Angel Sanuy
number: 33.0425	version: 01.01	title: EP03-99B Power Amp.	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0776-01.01 schema no: 10.0498-01.02 insertion file no: 81.0018-01.00		side: Component
			view: Value
	drawn by: M. Amoros	date: 000320	approved by: Angel Sanuy
number: 33.0426	version: 01.01	title: EP03-99B Power Amp.	



ECLER — LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0776-01.01 schema no: 10.0498-01.02 insertion file no: 81.0018-01.00		side: Solder
			view: Reference
	drawn by: M. Amoros	date: 000320	approved by: Angel Sanuy
number: 33.0427	version: 01.01	title: EP03-99B Power Amp.	



ECLER — LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0776-01.01 schema no: 10.0498-01.02 insertion file no: 81.0018-01.00		side: Solder
			view: Value
	drawn by: M. Amoros	date: 000320	approved by: Angel Sanuy
number: 33.0428	version: 01.01	title: EP03-99B Power Amp.	

PRINTED CIRCUIT 11.0776-01.01

REFERENCE	VALUE	CODE
C101	22p	FCXCN12200
C102	100n	FCXCN41000
C103	47u/50	FCCE250470
C104	10u/50	FCCE250100
C105	68p	FCXCN16800
C106	68p	FCXCN16800
C107	47u/100	FCCE350470
C108	47u/100	FCCE350470
C109	10u/50	FCCE250100
C110	100n	FCXCN41000
C111	15p	FCXCN11500
C112	100n	FCXCN41000
C113	10u/50	FCCE250100
C114	470n	FCXCN44700
C115	470n	FCXCN44700
C116	12p	FCXCN11200
C117	12p	FCXCN11200
C118	220n/100V	FCCDK52200
C119	220n/100V	FCCDK52200
C120	47u/50	FCCE250470
C122	680p	FCXCN26800
C123	680p	FCXCN26800
C124	1u/63V	FCCDK20010
C125	10n	FCXCN40100
C126	10n	FCXCN40100
C127	100n/400V	FCCDH71100
C128	47n/400V	FCCDH71047
C129	100n	FCXCN41000
C130	100n	FCXCN41000
C131	10u/50	FCCE250100
C132	470n	FCXCN44700
C133	10u/50	FCCE250100
C134	470u/25	FCCE154700
C135	10u/50	FCCE250100
C136	470n	FCXCN44700
C137	47u/16	FCCE100000
C138	47u/50	FCCE250470
C139	100n	FCXCN41000
C140	100n	FCXCN41000
C141	100n	FCXCN41000
C142	47u/100	FCCE350470
C143	22p	FCXCN12200
C144	100n	FCXCN41000
C145	10u/50	FCCE250100
C146	68p	FCXCN16800
C147	47u/50	FCCE250470
C148	470n	FCXCN44700
C149	12p	FCXCN11200
C150	15p	FCXCN11500
C151	680p	FCXCN26800
C152	1u/63V	FCCDK20010

REFERENCE	VALUE	CODE
C153	10n	FCXCN40100
C154	220n/100V	FCCDK52200
C156	47n/400V	FCCDH71047
C157	100n/400V	FCCDH71100
C158	47u/16	FCCE100000
C159	100n	FCXCN41000
C160	68p	FCXCN16800
C161	10u/50	FCCE250100
C162	100n	FCXCN41000
C163	10u/50	FCCE250100
C164	12p	FCXCN11200
C165	100n	FCXCN41000
C166	100n	FCXCN41000
C167	470n	FCXCN44700
C168	680p	FCXCN26800
C170	47u/100	FCCE350470
C172	220n/100V	FCCDK52200
C173	10n	FCXCN40100
C177	100n	FCXCN41000
C180	47u/50	FCCE250470
D101	BAS16	FCXDDBAS16
D102	BAS28	FCXDDBAS28
D103	Z7.5V	FCXZ000075
D104	BAS28	FCXDDBAS28
D105	Z3.9V	FCXZ000039
D106	Z3.9V	FCXZ000039
D107	Z12	FCDD041200
D108	Z12	FCDD041200
D109	Z18V	FCXZ000180
D110	Z18V	FCXZ000180
D111	Z27V/1	FCDD102700
D112	Z27V/1	FCDD102700
D113	DB3	FCDIDB3000
D114	Z8.2V	FCXZ000082
D115	Z8.2V	FCXZ000082
D116	Z12	FCDD041200
D117	Z12	FCDD041200
D118	Z12	FCDD041200
D119	Z12	FCDD041200
D120	LED3R	FCLED300RO
D121	Z7.5V	FCXZ000075
D122	Z3.9V	FCXZ000039
D123	Z12	FCDD041200
D124	DB3	FCDIDB3000
D125	Z8.2V	FCXZ000082
D126	BAS16	FCXDDBAS16
D127	BAS16	FCXDDBAS16
D128	Z10V	FCXZ000100
D129	Z12V	FCXZ000120
D130	Z5.6V	FCXZ000056
D131	BAS16	FCXDDBAS16
D132	BAS28	FCXDDBAS28
D133	1N4007	FCXDD40070
D134	1N4007	FCXDD40070
D135	BAS16	FCXDDBAS16
D136	Z18V	FCXZ000180
D137	Z27V/1	FCDD102700
D138	Z5.6V	FCXZ000056

REFERENCE	VALUE	CODE
D139	Z12V	FCXZ000120
D140	LED3R	FCLED300RO
D141	1N4007	FCXDD40070
D142	LED3R	FCLED300RO
D143	Z3.9V	FCXZ000039
D144	Z8.2V	FCXZ000082
D145	Z12	FCDD041200
D146	Z18V	FCXZ000180
D147	Z27V/1	FCDD102700
D148	LED3R	FCLED300RO
D150	BAS16	FCXDDBAS16
D151	BAS16	FCXDDBAS16
D152	BAS16	FCXDDBAS16
D153	BAS16	FCXDDBAS16
D155	Z12	FCDD041200
D156	Z12	FCDD041200
D157	Z12	FCDD041200
D158	Z12	FCDD041200
D160	BAS28	FCXDDBAS28
D161	BAS28	FCXDDBAS28
F101	F8A	FCFUS50350
F102	F8A	FCFUS50350
F103	F8A	FCFUS50350
F104	F8A	FCFUS50350
FB101	FERRITE	FCFER43220
FB102	FERRITE	FCFER43220
FB103	FERRITE	FCFER43220
FB104	FERRITE	FCFER43220
FB105	FERRITE	FCFER43220
FB106	FERRITE	FCFER43220
FB107	FERRITE	FCFER43220
FB108	FERRITE	FCFER43220
FB109	FERRITE	FCFER43220
FB110	FERRITE	FCFER43220
FB111	FERRITE	FCFER43220
FB112	FERRITE	FCFER43220
HS100	HEAT SINK TO220	FCMECTO220
HS101	HEAT SINK TO220	FCMECTO220
HS102	HEAT SINK TO220	FCMECTO220
HS103	HEAT SINK MODULE	FCRAD13810
HS104	HEAT SINK BF'S	FCMECPI130
HS105	HEAT SINK BF'S	FCMECPI130
HS106	HEAT SINK BF'S	FCMECPI130
HS107	HEAT SINK BF'S	FCMECPI130
IC101	LM35DZ	FCIC350000
IC102	VTL 5C8	FCOPTVTL50
IC103	TL071	FCIC071010
IC104	NE5534A	FCIC553410
IC105	VTL 5C8	FCOPTVTL50
IC106	7805	FCREG78050
IC107	TL431AC	FCIC431000
IC108	HEF4093B	FCIC409301
IC109	TL071	FCIC071010
IC110	NE5534A	FCIC553410
IC111	HEF4093B	FCIC409301
IC120	TL072	FCIC072010
IN100	INSULATING TO126	FCMICTO126
IN101	INSULATING TO126	FCMICTO126

REFERENCE	VALUE	CODE
IN102	INSULATING TO126	FCMICTO126
IN103	INSULATING TO126	FCMICTO126
IN104	INSULATING TO126	FCMICTO126
IN105	INSULATING TO126	FCMICTO126
IN106	INSULATING TO126	FCMICTO126
IN107	INSULATING TO126	FCMICTO126
J101	B4B-EH-A	FCCTM00040
J102	JUMPER	FCTERM0100
J103	JUMPER	FCTERM0100
J104	JUMPER	FCTERM0100
J105	JUMPER	FCTERM0100
J106	JUMPER	FCTERM0100
J107	JUMPER	FCTERM0100
J108	B2B-EH-A	FCCTM00020
J109	B2B-EH-A	FCCTM00020
J110	B3B-EH-A	FCCTM00030
J111	JUMPER	FCTERM0100
J113	B4B-EH-A	FCCTM00040
J114	B2B-EH-A	FCCTM00020
J115	JUMPER	FCTERM0100
J116	JUMPER	FCTERM0100
J117	JUMPER	FCTERM0100
J118	JUMPER	FCTERM0100
J119	JUMPER	FCTERM0100
K101	TQ2-12V	FCREL00300
K103	TQ2-12V	FCREL00300
L101	1uH	FCIND00100
L102	1uH	FCIND00100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MJ104	JUMPER	FCMJ000100
MJ105	JUMPER	FCMJ000100
MJ106	JUMPER	FCMJ000100
MP100	CLAMP	FCPINZAM00
MP101	CLAMP	FCPINZAM00
MP102	SARCON	FCTIRKON00
MP103	SARCON	FCTIRKON00
NV100	NUT M3	FCTUE00300
NV101	NUT M3	FCTUE00300
NV102	NUT M3	FCTUE00300
PF101	3/15P	FCPORF3150
PF102	3/15P	FCPORF3150
PF103	3/15P	FCPORF3150
PF104	3/15P	FCPORF3150
Q101	BD437	FCTR437000
Q102	BD437	FCTR437000
Q103	BF871A	FCTR871000
Q104	BF872A	FCTR872000
Q105	MJE340	FCTR340000
Q106	MJE350	FCTR350000
Q107	MJE340	FCTR340000
Q108	MJE350	FCTR350000
Q109	IRFP9240	FCTR243000
Q110	IRFP240	FCTR240000
Q111	BC857B	FCXTT08570
Q112	BC847B	FCXTT08470
Q113	BC857B	FCXTT08570

REFERENCE	VALUE	CODE
Q114	BC847B	FCXTT08470
Q115	BC857B	FCXTT08570
Q116	BC847B	FCXTT08470
Q117	BTB24600B	FCTI246000
Q118	BC857B	FCXTT08570
Q119	BC847B	FCXTT08470
Q120	IRFP9240	FCTR243000
Q121	IRFP240	FCTR240000
Q122	IRFP9240	FCTR243000
Q123	IRFP240	FCTR240000
Q124	BF871A	FCTR871000
Q125	BD437	FCTR437000
Q126	BF872A	FCTR872000
Q127	IRFP240	FCTR240000
Q128	MJE350	FCTR350000
Q129	MJE340	FCTR340000
Q130	2N5401	FCTR254010
Q131	BC817/25	FCXTT08170
Q132	BC847B	FCXTT08470
Q133	IRFP9240	FCTR243000
Q134	BC857B	FCXTT08570
Q135	BTB24600B	FCTI246000
Q136	BC847B	FCXTT08470
Q137	2N5401	FCTR254010
Q138	BC817/25	FCXTT08170
Q139	BD437	FCTR437000
Q140	MJE350	FCTR350000
Q141	BC847B	FCXTT08470
Q142	BC847B	FCXTT08470
Q143	BC847B	FCXTT08470
Q144	MJE340	FCTR340000
Q145	BC857B	FCXTT08570
Q146	BC857B	FCXTT08570
Q147	BC857B	FCXTT08570
Q148	BC847B	FCXTT08470
Q149	IRFP240	FCTR240000
Q150	IRFP9240	FCTR243000
Q151	IRFP9240	FCTR243000
Q152	IRFP240	FCTR240000
R101	976k	FCXR159760
R102	22k1	FCXR142210
R103	22k1	FCXR142210
R104	22k1	FCXR142210
R105	1k0	FCXR131000
R106	100k0	FCXR151000
R107	1k0	FCXR131000
R108	47k5	FCXR144750
R109	2k0	FCXR132000
R110	5k62	FCXR135620
R111	34k0	FCXR143400
R112	10M	FCXR071000
R113	1k21	FCXR131210
R114	1k21	FCXR131210
R115	487Ω	FCXR124870
R116	191Ω	FCXR121910
R117	487Ω	FCXR124870
R118	191Ω	FCXR121910
R119	56.2Ω	FCXR115620

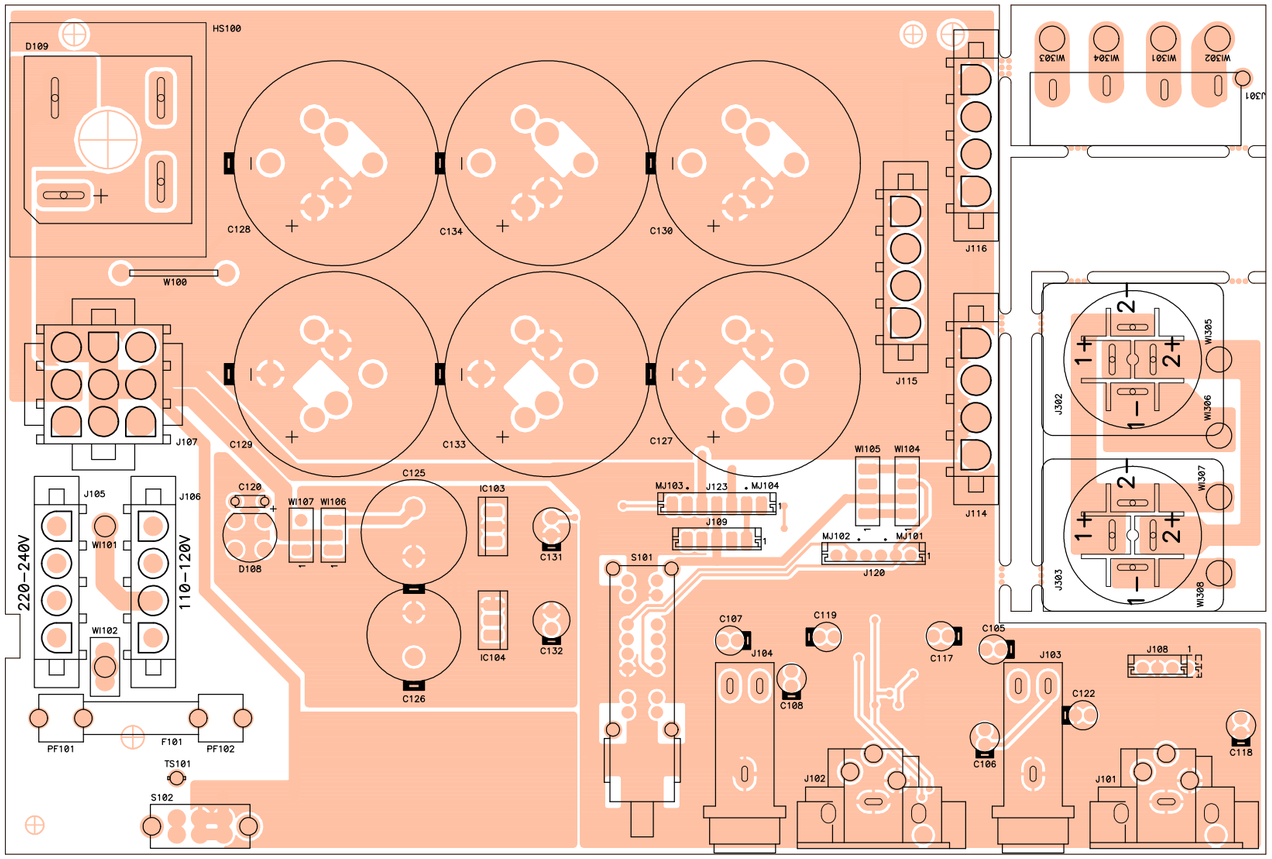
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R120	1k50	FCXR131500
R121	1k50	FCXR131500
R122	56.2Ω	FCXR115620
R123	681Ω	FCXR126810
R124	1k50	FCXR131500
R125	4k7	FCRJG44700
R126	681Ω	FCXR126810
R127	10Ω	FCXR111000
R128	56.2Ω	FCXR115620
R129	56.2Ω	FCXR115620
R130	10Ω	FCXR111000
R131	NF68Ω/1	FCRF426800
R132	NF68Ω/1	FCRF426800
R133	NF220Ω/ 1/2	FCRF232200
R134	NF220Ω/ 1/2	FCRF232200
R135	W0.22Ω/5	FCRY000100
R136	W0.22Ω/5	FCRY000100
R137	604Ω	FCXR126040
R138	604Ω	FCXR126040
R139	475Ω	FCXR124750
R140	475Ω	FCXR124750
R141	33k2	FCXR143320
R142	33k2	FCXR143320
R143	6k81	FCXR136810
R144	33k2	FCXR143320
R145	33k2	FCXR143320
R146	6k81	FCXR136810
R147	33k2	FCXR143320
R148	33k2	FCXR143320
R149	47k5	FCXR144750
R150	100Ω	FCXR121000
R151	100Ω	FCXR121000
R152	13k0	FCXR141300
R153	13k0	FCXR141300
R154	100Ω	FCXR121000
R155	1k0	FCXR131000
R156	1k0	FCXR131000
R157	100Ω	FCXR121000
R159	W6.8Ω/5	FCRY000250
R160	10Ω	FCRC521000
R161	2.2Ω/2	FCRC512200
R162	10k0	FCXR141000
R163	NF220Ω/ 1/2	FCRF232200
R164	NF220Ω/ 1/2	FCRF232200
R165	W0.22Ω/5	FCRY000100
R166	W0.22Ω/5	FCRY000100
R167	NF220Ω/ 1/2	FCRF232200
R168	NF220Ω/ 1/2	FCRF232200
R169	W0.22Ω/5	FCRY000100
R170	W0.22Ω/5	FCRY000100
R171	22k1	FCXR142210
R172	976k	FCXR159760
R173	47k5	FCXR144750
R174	1k0	FCXR131000
R175	100k0	FCXR151000
R176	34k0	FCXR143400
R177	191Ω	FCXR121910
R178	487Ω	FCXR124870

REFERENCE	VALUE	CODE
R179	4k7	FCRJG44700
R180	1k50	FCXR131500
R181	10M	FCXR071000
R182	56.2Ω	FCXR115620
R183	8k25	FCXR138250
R184	100k0	FCXR151000
R185	100k0	FCXR151000
R186	100k0	FCXR151000
R187	681Ω	FCXR126810
R188	681Ω	FCXR126810
R189	10k0	FCXR141000
R190	1k54	FCXR131540
R191	604Ω	FCXR126040
R192	2k21	FCXR132210
R193	47k5	FCXR144750
R194	10k0	FCXR141000
R195	1k0	FCXR131000
R196	47k5	FCXR144750
R197	47k5	FCXR144750
R198	10k0	FCXR141000
R199	2M2	FCXR062200
R200	1k0	FCXR131000
R201	1k50	FCXR131500
R202	10k0	FCXR141000
R203	22k1	FCXR142210
R204	47k5	FCXR144750
R205	47k5	FCXR144750
R206	287k	FCXR152870
R207	56.2Ω	FCXR115620
R208	56.2Ω	FCXR115620
R209	100k0	FCXR151000
R210	22k1	FCXR142210
R211	1k21	FCXR131210
R212	178Ω	FCXR121780
R213	NF220Ω/ 1/2	FCRF232200
R214	NF68Ω/1	FCRF426800
R215	W0.22Ω/5	FCRY000100
R216	681Ω	FCXR126810
R217	10Ω	FCXR111000
R218	13k0	FCXR141300
R219	33k2	FCXR143320
R220	604Ω	FCXR126040
R221	475Ω	FCXR124750
R222	100Ω	FCXR121000
R223	6k81	FCXR136810
R224	301Ω	FCXR123010
R225	301Ω	FCXR123010
R226	301Ω	FCXR123010
R227	301Ω	FCXR123010
R228	10Ω/2	FCRC521000
R229	W6.8Ω/5	FCRY000250
R231	2.2Ω/2	FCRC512200
R232	287k	FCXR152870
R233	178Ω	FCXR121780
R234	51k1	FCXR145110
R235	22k1	FCXR142210
R236	22k1	FCXR142210
R237	1k0	FCXR131000

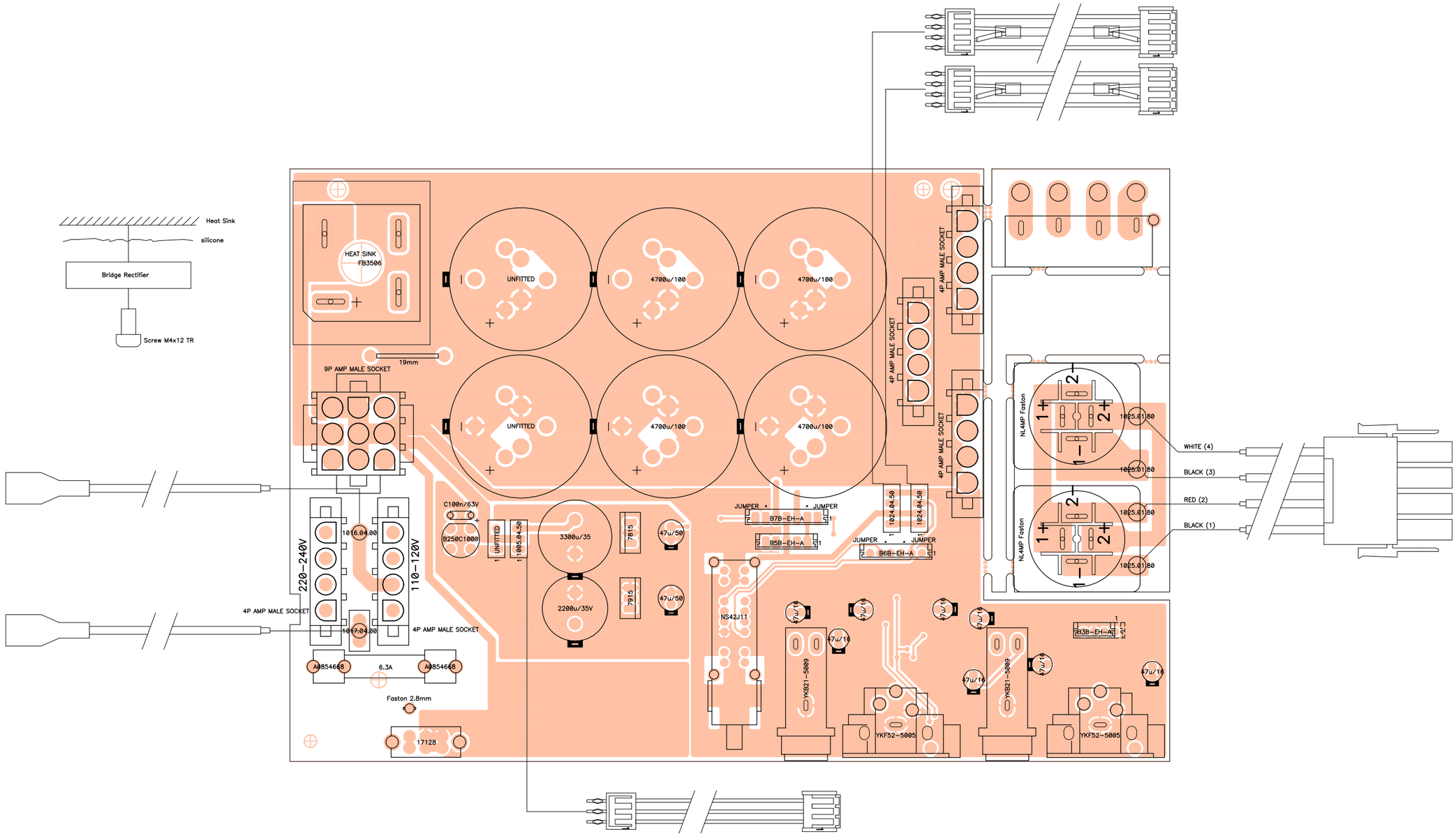
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R238	1k50	FCXR131500
R239	5k62	FCXR135620
R240	2k0	FCXR132000
R241	487Ω	FCXR124870
R242	191Ω	FCXR121910
R243	56.2Ω	FCXR115620
R244	1k50	FCXR131500
R245	56.2Ω	FCXR115620
R246	47k5	FCXR144750
R247	33k2	FCXR143320
R248	33k2	FCXR143320
R249	33k2	FCXR143320
R250	13k0	FCXR141300
R251	1k21	FCXR131210
R252	56.2Ω	FCXR115620
R253	NF220Ω/ 1/2	FCRF232200
R254	NF68Ω/1	FCRF426800
R255	W0.22Ω/5	FCRY000100
R256	10Ω	FCXR111000
R257	681Ω	FCXR126810
R258	604Ω	FCXR126040
R259	475Ω	FCXR124750
R260	33k2	FCXR143320
R261	6k81	FCXR136810
R262	33k2	FCXR143320
R263	100Ω	FCXR121000
R264	100Ω	FCXR121000
R265	1k0	FCXR131000
R266	47k5	FCXR144750
R267	47k5	FCXR144750
R268	47k5	FCXR144750
R269	10k0	FCXR141000
R270	1k0	FCXR131000
R271	51k1	FCXR145110
R272	10k0	FCXR141000
R276	1k0	FCXR131000
R277	100Ω	FCXR121000
R280	10k0	FCXR141000
R281	22k1	FCXR142210
R282	47k5	FCXR144750
R284	47k5	FCXR144750
R285	22k1	FCXR142210
R286	56.2Ω	FCXR115620
R287	56.2Ω	FCXR115620
R288	100k0	FCXR151000
R291	W0.22Ω/5	FCRY000100
R292	NF220Ω/ 1/2	FCRF232200
R293	NF220Ω/ 1/2	FCRF232200
R294	W0.22Ω/5	FCRY000100
R295	NF220Ω/ 1/2	FCRF232200
R296	NF220Ω/ 1/2	FCRF232200
R297	W0.22Ω/5	FCRY000100
R298	W0.22Ω/5	FCRY000100
SC100	SCREW M4x6	FCT8040061
SC101	SCREW M4x6	FCT8040061
SC102	SCREW M4x6	FCT8040061
SC103	SCREW M4x6	FCT8040061
SC104	SPACER	FCSEPPM000

REFERENCE	VALUE	CODE
SC105	SPACER	FCSEPPM000
SC106	SPACER	FCSEPPM000
SC107	SPACER	FCSEPPM000
SC108	SCREW 2.9x9.5	FCT7002909
SC109	SCREW 2.9x9.5	FCT7002909
SC110	SCREW 2.9x9.5	FCT7002909
SC111	SCREW 2.9x9.5	FCT7002909
SC112	SCREW M3x6	FCT7503006
SC113	SCREW M3x6	FCT7503006
SC114	SCREW M3x6	FCT7503006
SC115	SCREW M3x10	FCT8030100
SC116	SCREW M3x10	FCT8030100
SC117	SCREW M3x10	FCT8030100
SC118	SCREW M3x10	FCT8030100
SC119	SCREW M3x10	FCT8030100
SC120	SCREW M3x10	FCT8030100
SC121	SCREW M3x10	FCT8030100
SC122	SCREW M3x10	FCT8030100
SC123	SPACER	FCSEPPM000
SC124	SCREW M3x10	FCT8030100
SC125	SPACER	FCSEPPM000
SC126	SPACER	FCSEPPM000
SC127	SPACER	FCSEPPM000
SC128	SPACER M3x10	FCT8030100
SC129	SPACER M3x10	FCT8030100
SC130	SPACER M3x10	FCT8030100
TS101	TEST POINT	FCTERMSOL0
TS102	TEST POINT	FCTERMSOL0
TS103	TEST POINT	FCTERMSOL0
TS104	TEST POINT	FCTERMSOL0
W100	19mm	FCMECPON19
W101	19mm	FCMECPON19
W102	19mm	FCMECPON19
W103	19mm	FCMECPON19
W104	19mm	FCMECPON19
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	19mm	FCMECPON19
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	19mm	FCMECPON19
W111	19mm	FCMECPON19
W112	19mm	FCMECPON19
W113	19mm	FCMECPON19
W114	19mm	FCMECPON19
W115	19mm	FCMECPON19
W116	19mm	FCMECPON19
W117	19mm	FCMECPON19
W118	19mm	FCMECPON19
W119	19mm	FCMECPON19
W120	19mm	FCMECPON19
W121	19mm	FCMECPON19
W122	19mm	FCMECPON19
W123	19mm	FCMECPON19
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W127	19mm	FCMECPON19

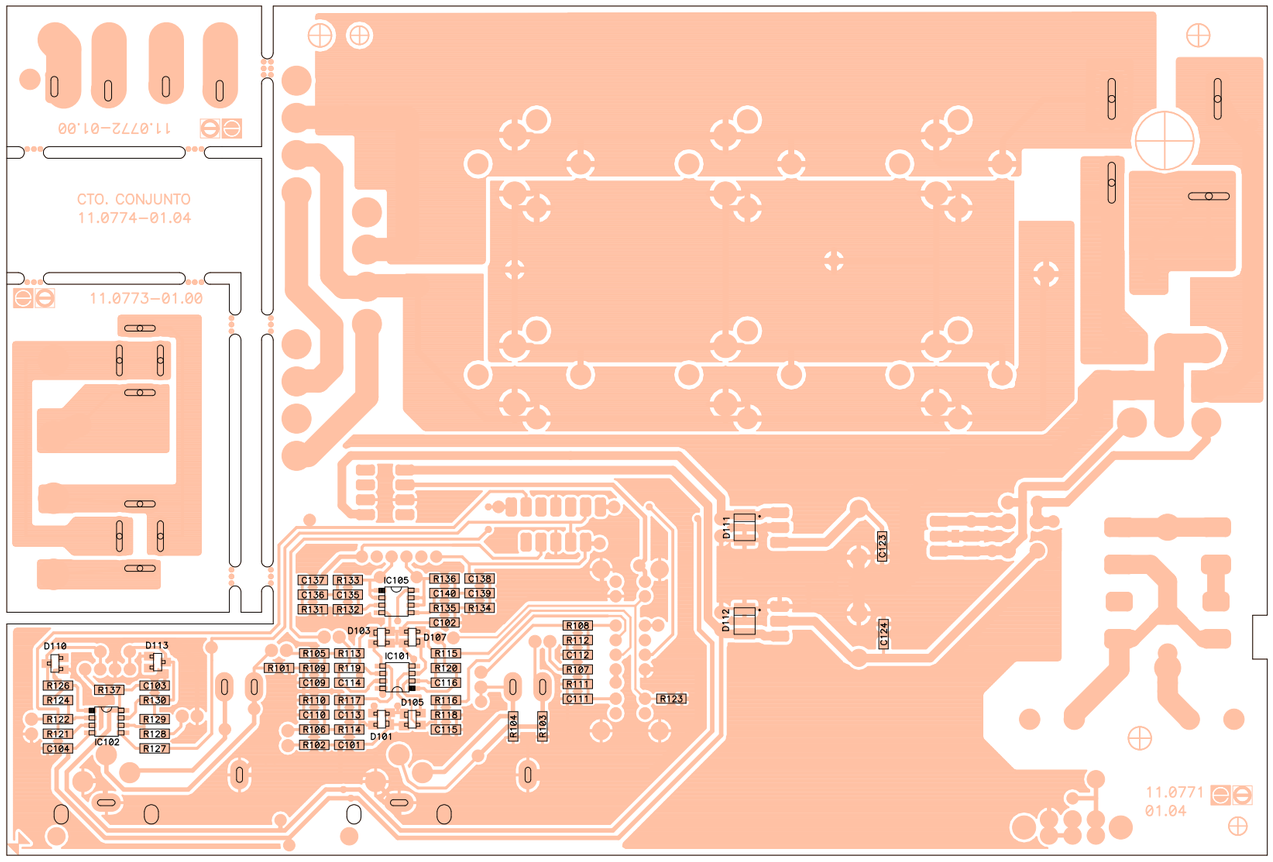
REFERENCE	VALUE	CODE
W128	19mm	FCMECPON19
WA103	TOOTHED WASHER	FCARDE0300
WA104	TOOTHED WASHER	FCARDE0300
WA105	TOOTHED WASHER	FCARDE0300
WA106	WASHER 3.2x6x1	FCARM32010
WA107	WASHER 3.2x6x1	FCARM32010
WA108	WASHER 3.2x6x1	FCARM32010
WA109	WASHER 3.2x6x1	FCARM32010
WA110	WASHER 3.2x6x1	FCARM32010
WA111	WASHER 3.2x6x1	FCARM32010
WA112	WASHER 3.2x6x1	FCARM32010
WA113	WASHER 3.2x6x1	FCARM32010
WI101 TO WI104	1023.04.00	FC0H023400
WI105 TO WI108	1023.04.00	FC0H023400



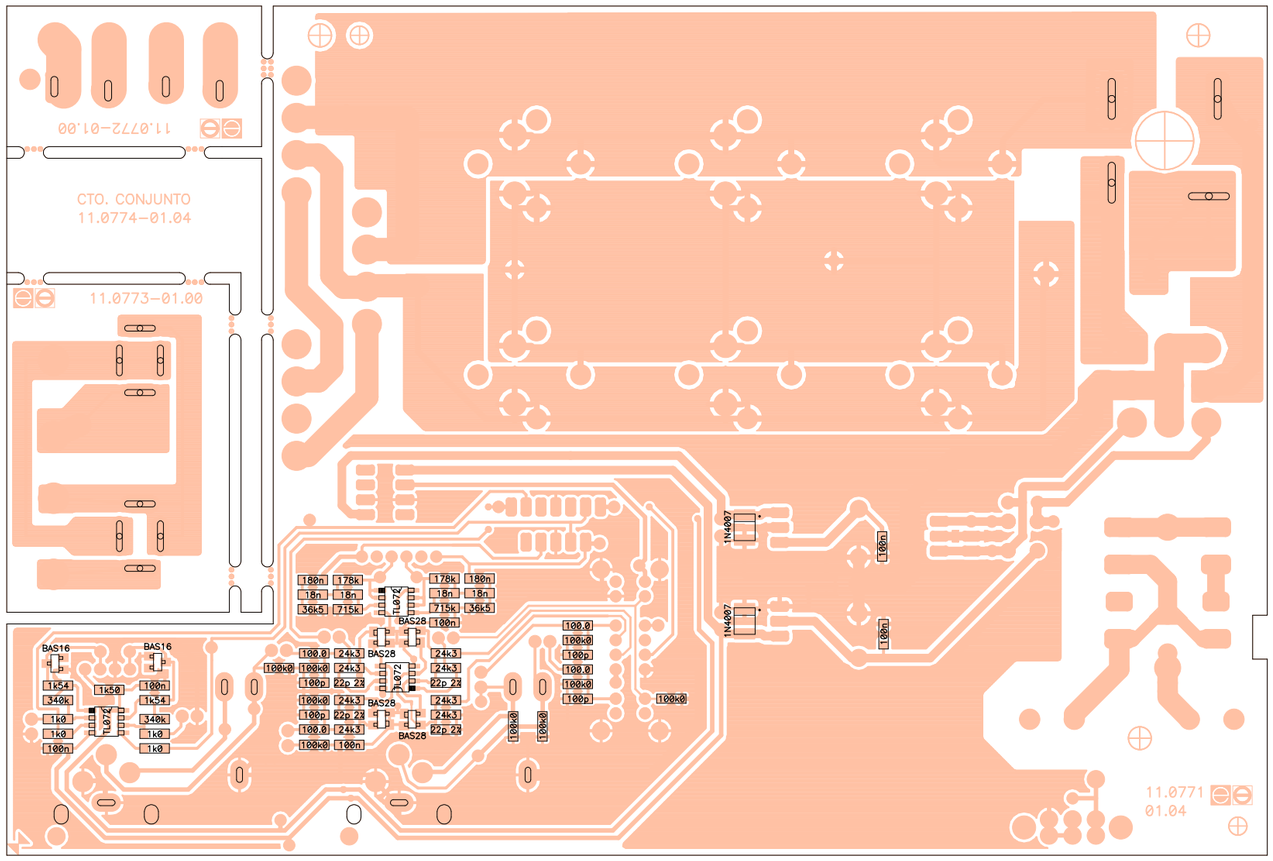
ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0774–01.04 schema no: 10.0496–01.04 insertion file no:		side: Component view: Reference
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0429 / version: 01.02	title: EP03–99B Ins–Power Supply & Outs		



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.04 schema no: 10.0496-01.04 insertion file no:		side: Component view: Value
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0430	version: 01.02	title: EP03-99B Ins-Power Supply & Outs	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.04 schema no: 10.0496-01.04 insertion file no: 81.0016-01.01		side: Solder
			view: Reference
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0431 version: 01.02	title: EP03-99B Ins-Power Supply & Outs		



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.04 schema no: 10.0496-01.04 insertion file no: 81.0016-01.01		side: Solder
			view: Value
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0432	version: 01.02	title: EP03-99B Ins-Power Supply & Outs	

ECLER

author: Queralt
approved:

date: 020430
model:

num: 40.0053 version: 01.01

PARTS LIST

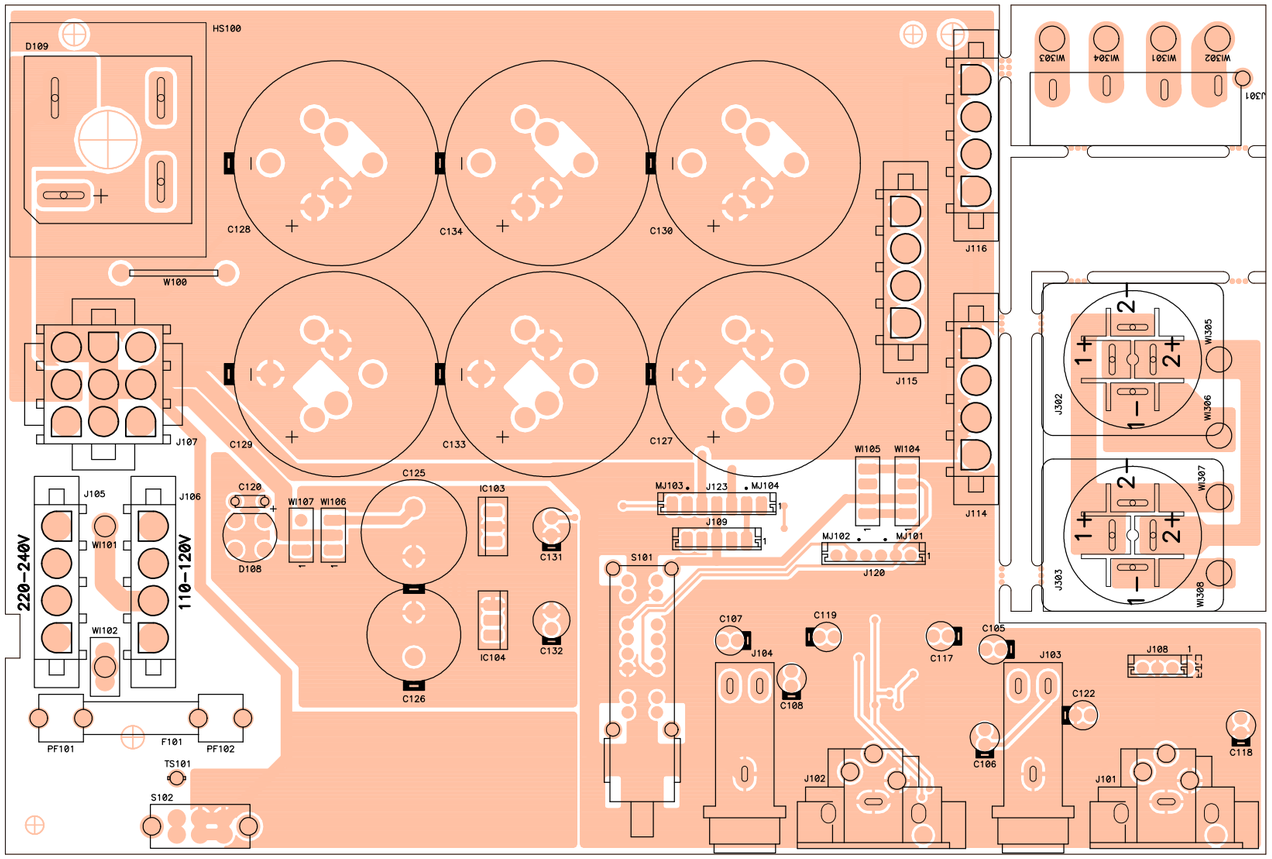
EP03-99B

PRINTED CIRCUIT 11.0774-01.04

REFERENCE	VALUE	CODE
C101	100n	FCXCN41000
C102	100n	FCXCN41000
C103	100n	FCXCN41000
C104	100n	FCXCN41000
C105	47u/16	FCCE100000
C106	47u/16	FCCE100000
C107	47u/16	FCCE100000
C108	47u/16	FCCE100000
C109	100p	FCXCN21000
C110	100p	FCXCN21000
C111	100p	FCXCN21000
C112	100p	FCXCN21000
C113	22p 2%	FCXCN12201
C114	22p 2%	FCXCN12201
C115	22p 2%	FCXCN12201
C116	22p 2%	FCXCN12201
C117	47u/16	FCCE100000
C118	47u/16	FCCE100000
C119	47u/16	FCCE100000
C120	C100n/63V	FCCDK11000
C122	47u/16	FCCE100000
C123	100n	FCXCN41000
C124	100n	FCXCN41000
C125	3300u/35	FCCE213300
C126	2200u/35V	FCCE212200
C127	4700u/100	FCCE331525
C128	UNFITTED	
C129	UNFITTED	
C130	4700u/100	FCCE331525
C131	47u/50	FCCE250470
C132	47u/50	FCCE250470
C133	4700u/100	FCCE331525
C134	4700u/100	FCCE331525
C135	18n	FCXCN40180
C136	18n	FCXCN40180
C137	180n	FCXCN41800
C138	180n	FCXCN41800
C139	18n	FCXCN40180
C140	18n	FCXCN40180
D101	BAS28	FCXDDBAS28
D103	BAS28	FCXDDBAS28
D105	BAS28	FCXDDBAS28
D107	BAS28	FCXDDBAS28
D108	B250C1000	FCREC25100
D109	FB3506	FCREC35060
D110	BAS16	FCXDDBAS16
D111	1N4007	FCXDD40070
D112	1N4007	FCXDD40070
D113	BAS16	FCXDDBAS16
F101	T6.3A	FCFUS60500
HS100	HEAT SINK	FCRAD11515
IC101	TL072	FCIC072010

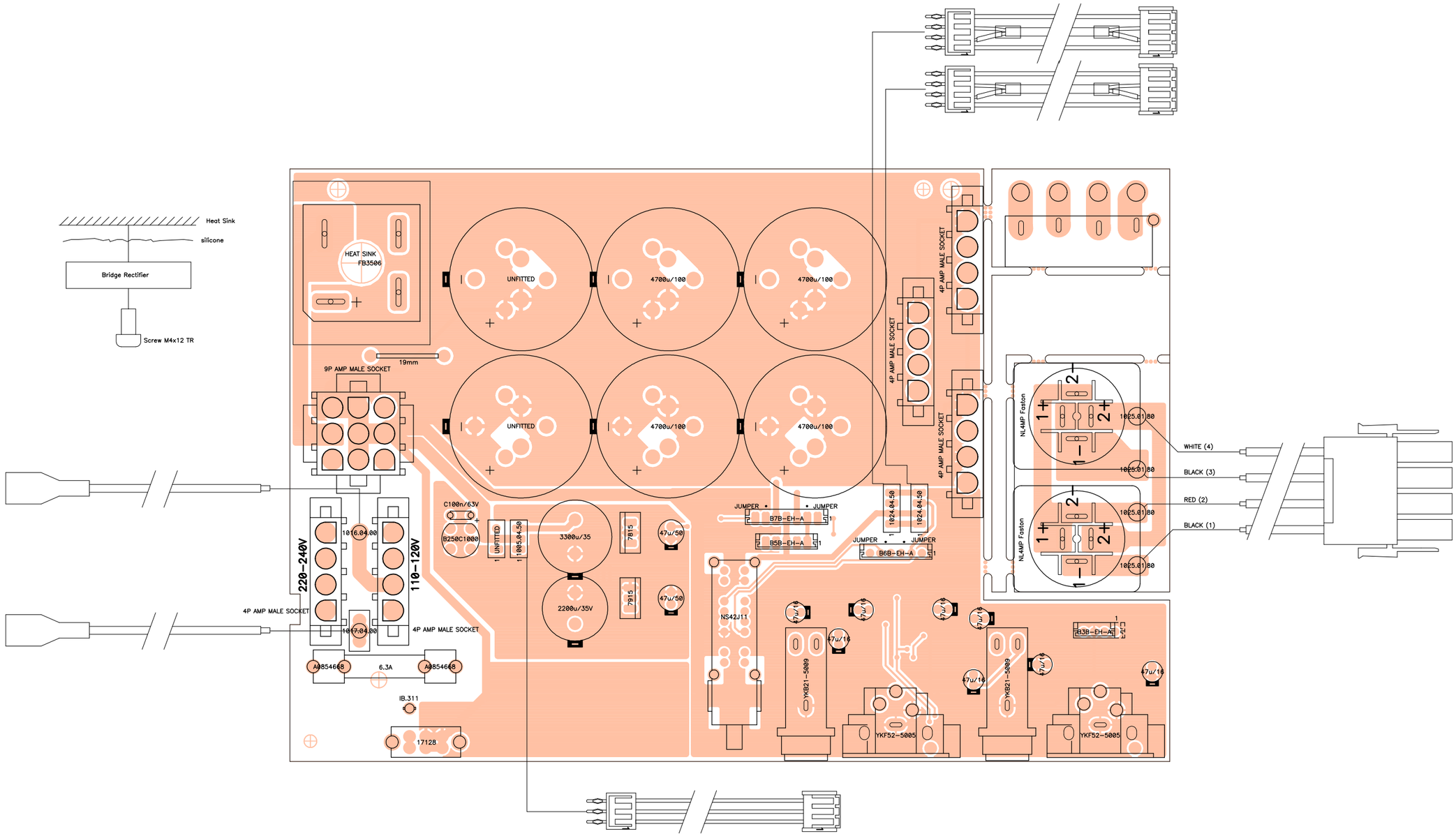
REFERENCE	VALUE	CODE
IC102	TL072	FCIC072010
IC103	7815	FCREG78150
IC104	7915	FCREG79150
IC105	TL072	FCIC072010
J101	YKF52-5005	FCBASX0900
J102	YKF52-5005	FCBASX0900
J103	YKB21-5009	FCBASJ0200
J104	YKB21-5009	FCBASJ0200
J105	BASE 4pins MALE	FCCTAMP040
J106	BASE 4pins MALE	FCCTAMP040
J107	BASE 9pins MALE	FCCTAMP090
J108	B3B-EH-A	FCCTM00030
J109	B5B-EH-A	FCCTM00050
J110	FASTON 6.3mm	FCTERMF630
J114	BASE 4pins MALE	FCCTAMP040
J115	BASE 4pins MALE	FCCTAMP040
J116	BASE 4pins MALE	FCCTAMP040
J120	B6B-EH-A	FCCTM00060
J123	B7B-EH-A	FCCTM00070
J302	NL4MP Faston	FCBASS0100
J303	NL4MP Faston	FCBASS0100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MJ104	JUMPER	FCMJ000100
PF101	A0854668	FCPORF0100
PF102	A0854668	FCPORF0100
R101	100k0	FCXR151000
R102	100k0	FCXR151000
R103	100k0	FCXR151000
R104	100k0	FCXR151000
R105	100.0Ω	FCXR121000
R106	100.0Ω	FCXR121000
R107	100.0Ω	FCXR121000
R108	100.0Ω	FCXR121000
R109	100k0	FCXR151000
R110	100k0	FCXR151000
R111	100k0	FCXR151000
R112	100k0	FCXR151000
R113	24k3	FCXR242430
R114	24k3	FCXR242430
R115	24k3	FCXR242430
R116	24k3	FCXR242430
R117	24k3	FCXR242430
R118	24k3	FCXR242430
R119	24k3	FCXR242430
R120	24k3	FCXR242430
R121	1k0	FCXR131000
R122	1k0	FCXR131000
R123	100k0	FCXR151000
R124	340k	FCXR153400
R126	1k54	FCXR131540
R127	1k0	FCXR131000
R128	1k0	FCXR131000
R129	340k	FCXR153400
R130	1k54	FCXR131540
R131	36k5	FCXR143650
R132	715k	FCXR157150

REFERENCE	VALUE	CODE
R133	178k	FCXR151780
R134	36k5	FCXR143650
R135	715k	FCXR157150
R136	178k	FCXR151780
R137	1k50	FCXR131500
S101	NS42J11	FCINTAP080
S102	17128	FCINTD4000
SC100	SCREW M4x12	FCT3804012
TS101	T-120	FCTERMF280
W100	19mm	FCMECPON19
WI101	1016.04.00	FC2F016400
WI102	1017.04.00	FC2F017400
WI104	1024.04.50	FC6J024450
WI105	1024.04.50	FC6J024450
WI106	1005.04.50	FC4I005450
WI107	UNFITTED	
WI305 TO WI308	1025.01.80	FC0H025180



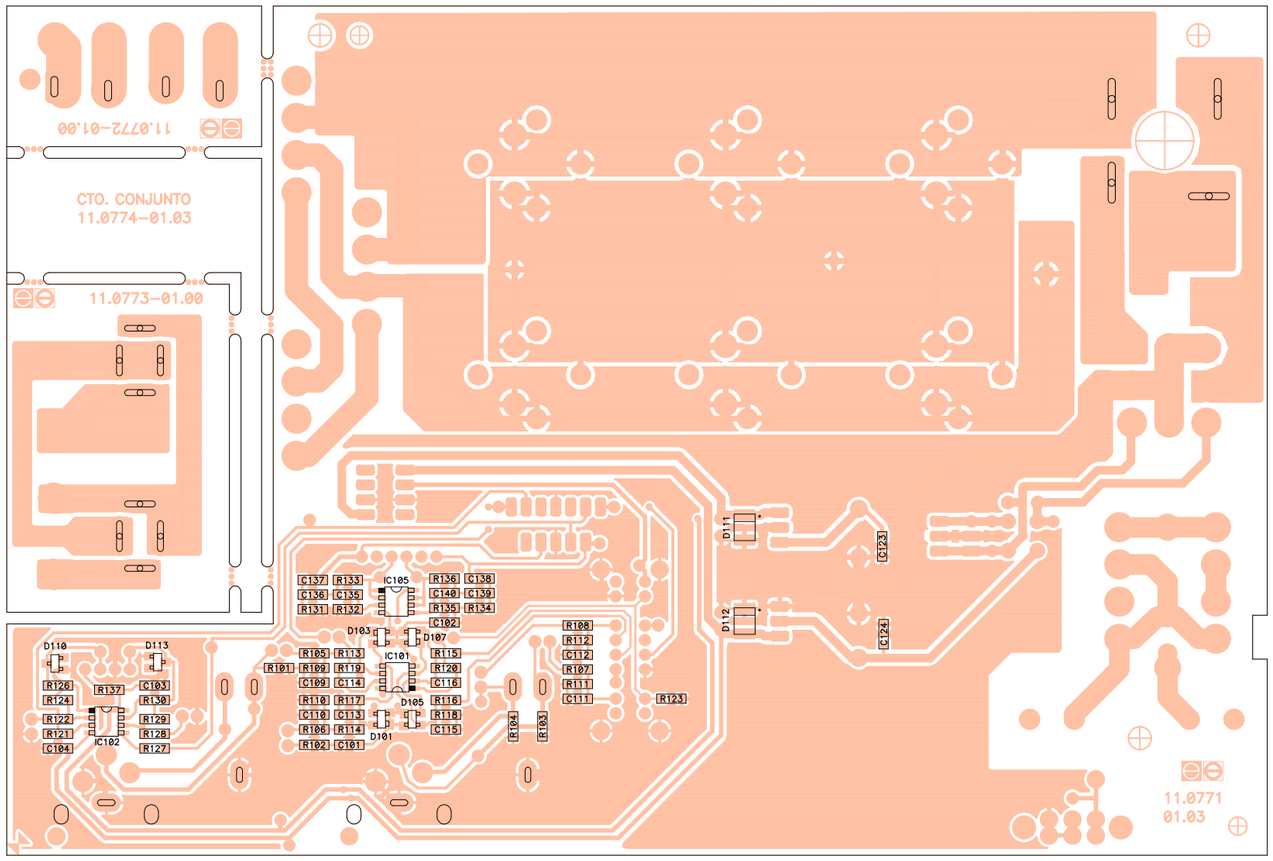
OLD VERSION

ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0774–01.03 schema no: 10.0496–01.03 insertion file no:		side: Component
			view: Reference
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0429	version: 01.01	title: EP03–99B Ins–Power Supply & Outs	



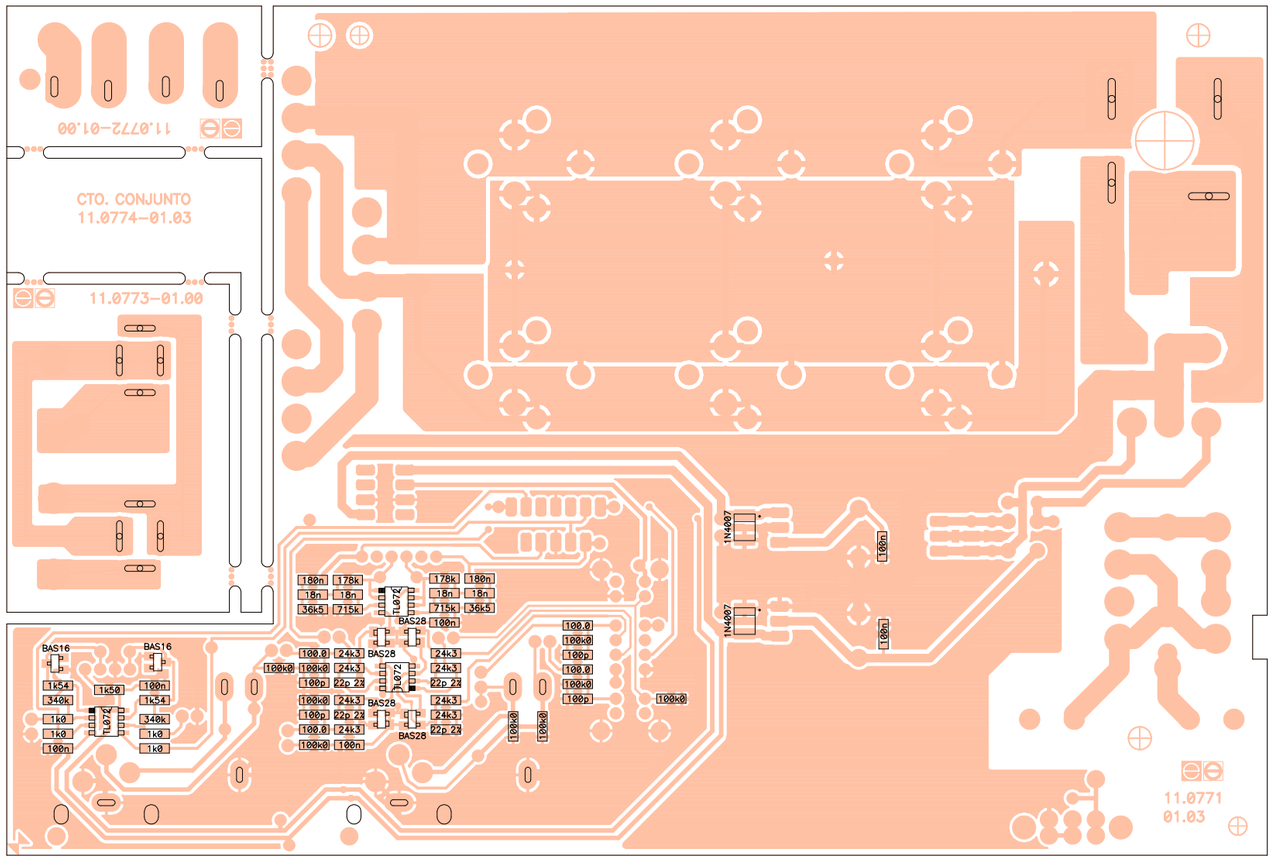
OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.03 schema no: 10.0496-01.03 insertion file no:		side: Component
			view: Value
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0430	version: 01.01	title: EP03-99B Ins-Power Supply & Outs	



OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.03 schema no: 10.0496-01.03 insertion file no: 81.0016-01.01		side: Solder
			view: Reference
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0431	version: 01.01	title: EP03-99B Ins-Power Supply & Outs	



OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0774-01.03 schema no: 10.0496-01.03 insertion file no: 81.0016-01.01		side: Solder
			view: Value
	drawn by: M. Amoros	date: 000317	approved by: Angel Sanuy
number: 33.0432	version: 01.01	title: EP03-99B Ins-Power Supply & Outs	

ECLER

author: Queralt
approved:

date: 000913
model:

num: 40.0053 version: 01.00

PARTS LIST

EP03-99B

PRINTED CIRCUIT 11.0774-01.03

REFERENCE	VALUE	CODE
C101	100n	FCXCN41000
C102	100n	FCXCN41000
C103	100n	FCXCN41000
C104	100n	FCXCN41000
C105	47u/16	FCCE100000
C106	47u/16	FCCE100000
C107	47u/16	FCCE100000
C108	47u/16	FCCE100000
C109	100p	FCXCN21000
C110	100p	FCXCN21000
C111	100p	FCXCN21000
C112	100p	FCXCN21000
C113	22p 2%	FCXCN12201
C114	22p 2%	FCXCN12201
C115	22p 2%	FCXCN12201
C116	22p 2%	FCXCN12201
C117	47u/16	FCCE100000
C118	47u/16	FCCE100000
C119	47u/16	FCCE100000
C120	C100n/63V	FCCDK11000
C122	47u/16	FCCE100000
C123	100n	FCXCN41000
C124	100n	FCXCN41000
C125	3300u/35	FCCE213300
C126	2200u/35V	FCCE212200
C127	4700u/100	FCCE331525
C128	UNFITTED	
C129	UNFITTED	
C130	4700u/100	FCCE331525
C131	47u/50	FCCE250470
C132	47u/50	FCCE250470
C133	4700u/100	FCCE331525
C134	4700u/100	FCCE331525
C135	18n	FCXCN40180
C136	18n	FCXCN40180
C137	180n	FCXCN41800
C138	180n	FCXCN41800
C139	18n	FCXCN40180
C140	18n	FCXCN40180
D101	BAS28	FCXDDBAS28
D103	BAS28	FCXDDBAS28
D105	BAS28	FCXDDBAS28
D107	BAS28	FCXDDBAS28
D108	B250C1000	FCREC25100
D109	FB3506	FCREC35060
D110	BAS16	FCXDDBAS16
D111	1N4007	FCXDD40070
D112	1N4007	FCXDD40070
D113	BAS16	FCXDDBAS16
F101	T6.3A	FCFUS60500
HS100	HEAT SINK	FCRAD11515
IC101	TL072	FCIC072010

OLD VERSION

REFERENCE	VALUE	CODE
IC102	TL072	FCIC072010
IC103	7815	FCREG78150
IC104	7915	FCREG79150
IC105	TL072	FCIC072010
J101	YKF52-5005	FCBASX0900
J102	YKF52-5005	FCBASX0900
J103	YKB21-5009	FCBASJ0200
J104	YKB21-5009	FCBASJ0200
J105	BASE 4pins MALE	FCCTAMP040
J106	BASE 4pins MALE	FCCTAMP040
J107	BASE 9pins MALE	FCCTAMP090
J108	B3B-EH-A	FCCTM00030
J109	B5B-EH-A	FCCTM00050
J110	FASTON 6.3mm	FCTERMF630
J114	BASE 4pins MALE	FCCTAMP040
J115	BASE 4pins MALE	FCCTAMP040
J116	BASE 4pins MALE	FCCTAMP040
J120	B6B-EH-A	FCCTM00060
J123	B7B-EH-A	FCCTM00070
J302	NL4MP Faston	FCBASS0100
J303	NL4MP Faston	FCBASS0100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MJ104	JUMPER	FCMJ000100
PF101	A0854668	FCPORF0100
PF102	A0854668	FCPORF0100
R101	100k0	FCXR151000
R102	100k0	FCXR151000
R103	100k0	FCXR151000
R104	100k0	FCXR151000
R105	100.0Ω	FCXR121000
R106	100.0Ω	FCXR121000
R107	100.0Ω	FCXR121000
R108	100.0Ω	FCXR121000
R109	100k0	FCXR151000
R110	100k0	FCXR151000
R111	100k0	FCXR151000
R112	100k0	FCXR151000
R113	24k3	FCXR242430
R114	24k3	FCXR242430
R115	24k3	FCXR242430
R116	24k3	FCXR242430
R117	24k3	FCXR242430
R118	24k3	FCXR242430
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R121	1k0	FCXR131000
R122	1k0	FCXR131000
R123	100k0	FCXR151000
R124	340k	FCXR153400
R126	1k54	FCXR131540
R127	1k0	FCXR131000
R128	1k0	FCXR131000
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R130	1k54	FCXR131540
R131	36k5	FCXR143650
R132	715k	FCXR157150

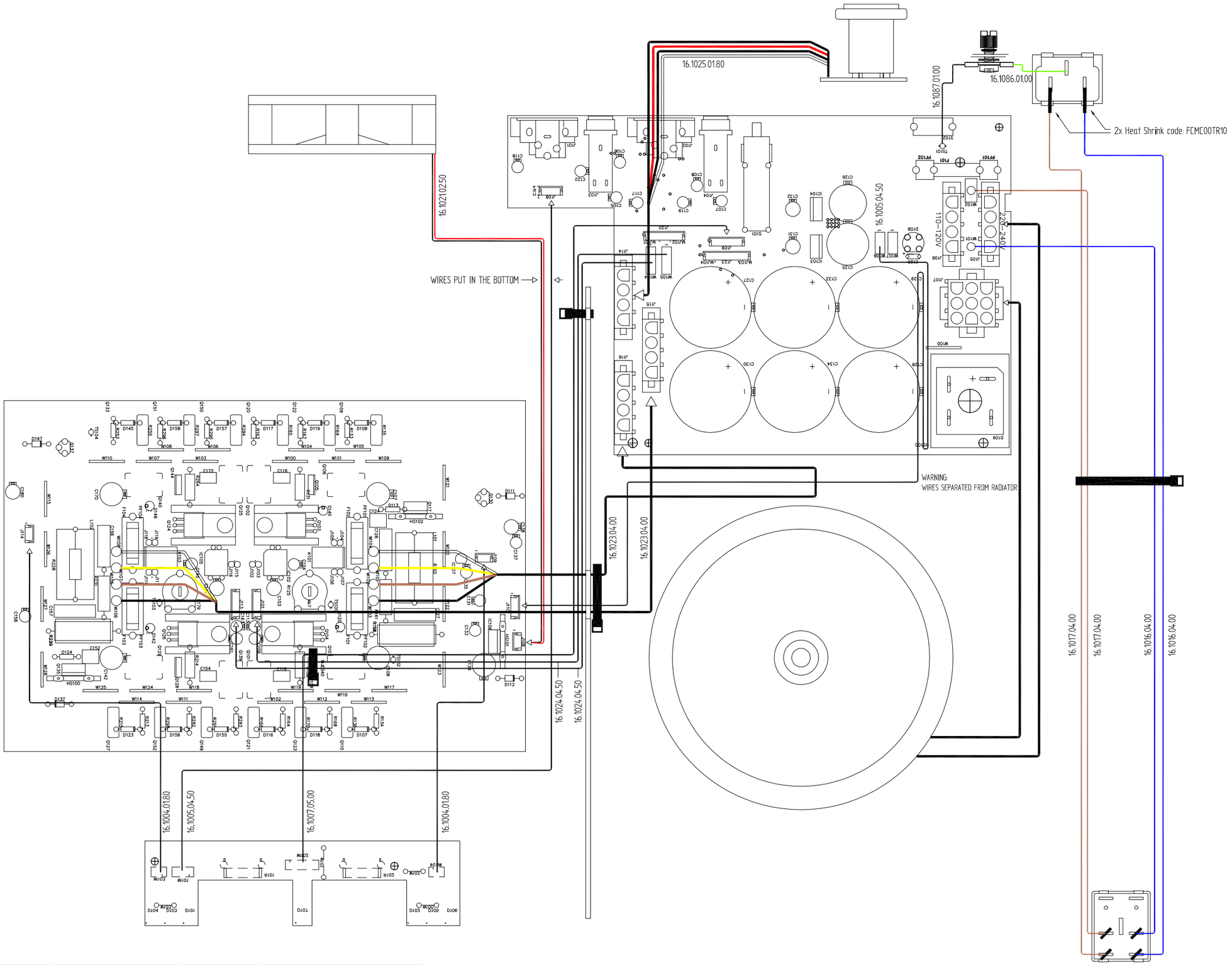
OLD VERSION

REFERENCE	VALUE	CODE
R133	178k	FCXR151780
R134	36k5	FCXR143650
R135	715k	FCXR157150
R136	178k	FCXR151780
R137	1k50	FCXR131500
S101	NS42J11	FCINTAP080
S102	17128	FCINTD4000
SC100	SCREW M4x12	FCT3804012
TS101	IB.311	FCTERMSOL0
W100	19mm	FCMECPON19
WI101	1016.04.00	FC2F016400
WI102	1017.04.00	FC2F017400
WI104	1024.04.50	FC6J024450
WI105	1024.04.50	FC6J024450
WI106	1005.04.50	FC4I005450
WI107	UNFITTED	
WI305 TO WI308	1025.01.80	FC0H025180

OLD VERSION

ECLER	author: J.Colomines	date: 010627	TECHNICAL CHARACTERISTICS
num: 53.0007 version: 01.02	approved:	title:	EP03-99B

POWER 20-20kHz 1% THD	
4Ω Stereo	275 WRMS
8Ω Stereo	180 WRMS
8Ω Bridged	550 WRMS
POWER 1kHz 0.1% THD	
4Ω Stereo	250 WRMS
8Ω Stereo	165 WRMS
8Ω Bridged	500 WRMS
Peak Power 2Ω/1kHz	0.98Kw
Frequency response (-1dB)	7Hz-50kHz
High pass filter (-3dB)	25Hz/Butt./18dB/oct.
THD+Noise @ 1kHz Full Pwr.	<0.03%
Imd. Dist. 50Hz & 7kHz, 4:1	<0.05%
TIM 100	<0.01%
S+N/N 20Hz-20kHz @ 1W/4Ω	>85dB
Damping factor 1kHz @ 8Ω	>300
Slew Rate	±60V/μs
Channel crosstalk @ 1kHz	>70dB
Input connector	XLR3 balanced
Input CMRR/ref. Max. PWR)	>60dB @ 1kHz
Input Sensitivity / Impedance	0dBV/>22kΩ
Signal present indicator	-40dB
Output connectors	Speak-on
Clip indicators	-1.5dB real clip
Anticlip limiter	1% & 5% aprox.
Mains Depending on your country	See characteristics in the back of the unit.
Power consumption (max. Out)	830VA
Dimensions	Panel 482.6x88 mm
	Depth 410 mm
Weight	12.950kg

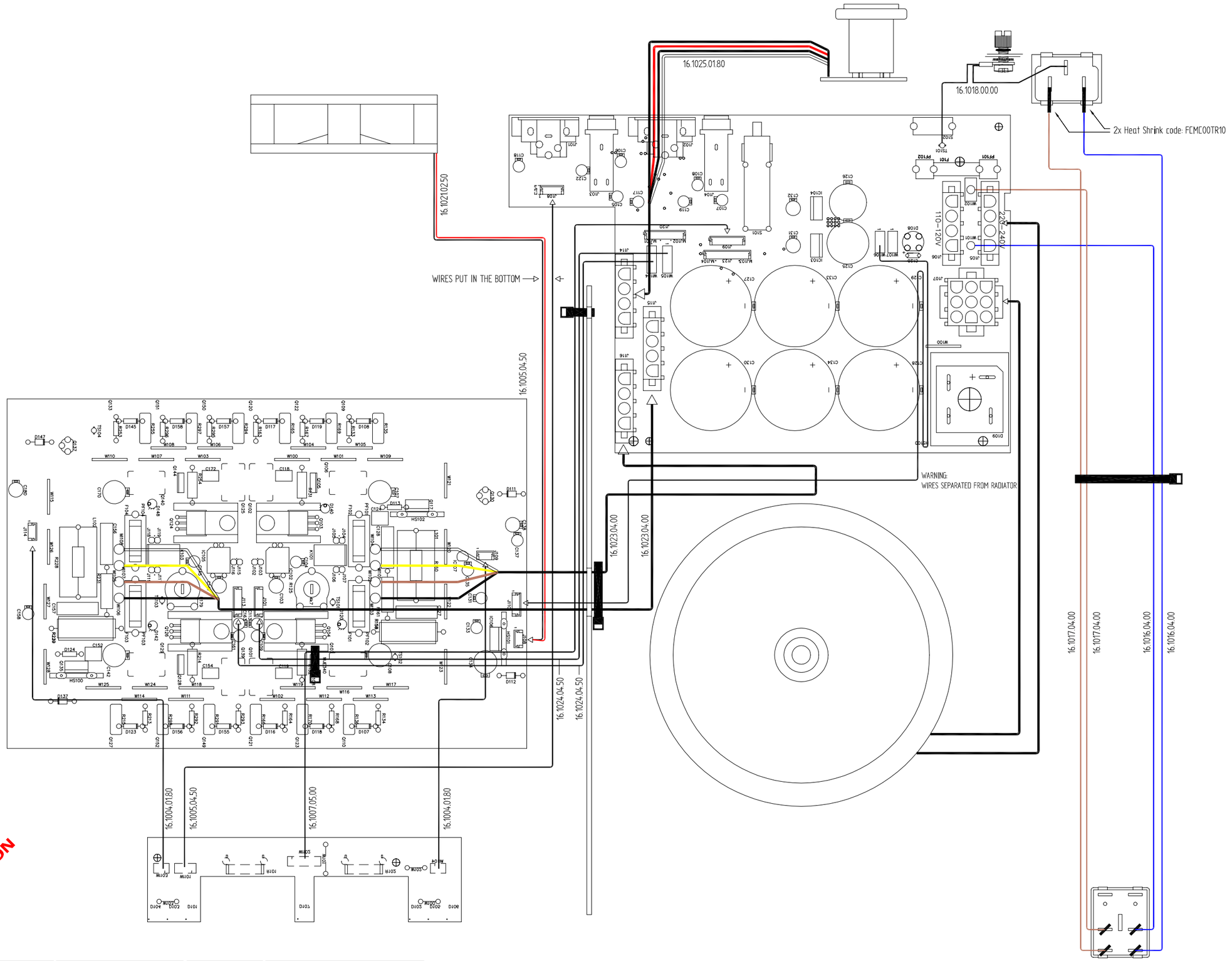


ECLEREE

drawn by: J. Colomines | date: 010412 | approved by: Josep M. Sans

number: 31.0110 | version: 01.03

title: **WIRING DIAGRAM EP03-99B**

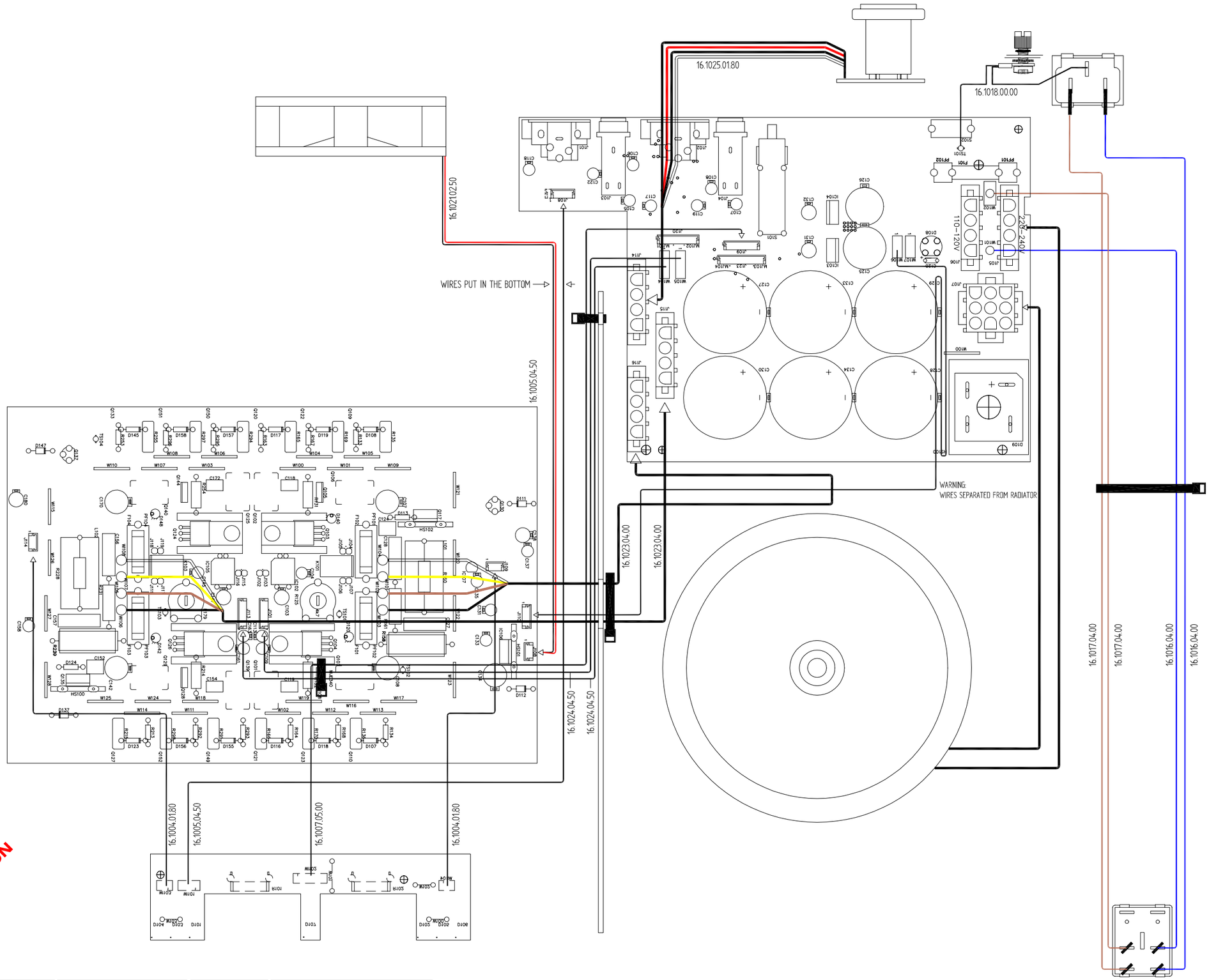


ECLEREE

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

number: 31.0110 | version 01.02

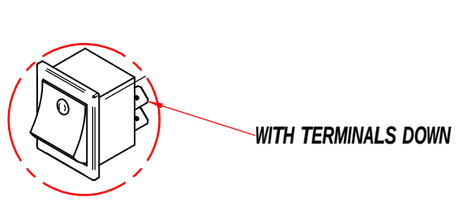
title: **WIRING DIAGRAM EP03-99B**



ECLEREE	drawn by: J. Colomines	date: 000428	approved by: Josep M. Sans
number: 31.0110	version 01.01	title: WIRING DIAGRAM EP03-99B	

Nº	Qty	ECLER Code	Description
1	1	FCMECPM120	BASE CHASSIS
2	1	FCMECPM110	LED CIRCUIT MEC. SUPORT
3	1	FCMECPM141	FRONT PANEL
4	2	FCMECPM180	FRONTAL HANDLE
5	1	FCMECPM190	MODULE SUPPORT PLATE 260MM
6	1	FCRAD13810	HEATSINK 260MM
7	1	FCVEN08000	FAN 80x80 12VDC
8	1	FCMECPM100	MECHANICAL REINFORCEMENT
9	2	FCMECPM170	LEFT/RIGHT SIDE
10	1	FCREJ08000	FAN GRILLE 80x80
11	1	FCMECPM130	TOP COVER
12	23	FCT8040060	SCREW M4x6 SPANLO BLACK
13	6	FCT8030055	SCREW D965 M3x5 BLACK
14	4	FCTALL4081	SCREW M4x8 ALLEN B
15	1	FCINTRED30	MAINS SWITCH W/LIGHT
16	2	FCARDEPOTE	ROT. POT. WASHER M9
17	2	FCTUPOT000	ROTARY POT. NUT M9
18	2	FCBOTD2400	ROTARY KNOB D24
19	3	FCSEPWLS06	PLASTIC SPACER 6MM
20	4	FCT0605120	SCREW 5.1x20
21	1	FCMECPM150	FILTERS PLATE
22	4	FCT4002909	SCREW 2,9x9,5 D7981F BLACK
23	8	FCT8503005	SCREW M3x5 REDUCED HEAD
24	5	FCARDE0400	TOOTHED WASHER M4
25	4	FCTUE00400	NUT M4
26	1	FCT3804012	SCREW M4x12 TRILOB.
27	1	FCARS40000	SEG. WASHER M4
28	1	FCBOR00300	GROUND TERMINAL
29*	1	FCTFT00510*	TRANSFORMER EP03-99B
30	1	GENERIC	SCREW M8 TRANSFORMER
31	1	FCARDE0800	TOOTHED WASHER M8
32	1	FCARM10500	WASHER 10,5X30X2,5M
33	1	GENERIC	TRANS. NUT M8
34	1	FC0C018000	GROUND CABLE
35	1	FCMECPM161	SPEAK ON PLATE
36	2	FCBASS0100	SPEAKON SOCKET 4C
37	1	FCMECPM165	SPEAKON MECHANICAL SUPPORT
38	4	FCT5002913	SCREW 2,9x13 D7982
39	1	FCBASRE500	MAINS SOCKET
40	1	GENERIC	TRANS. RUBBER DISC

** FOR 100V UNIT TRANSFORMER CODE FCTFT02500*



WITH TERMINALS DOWN

DETAIL A

ECLER

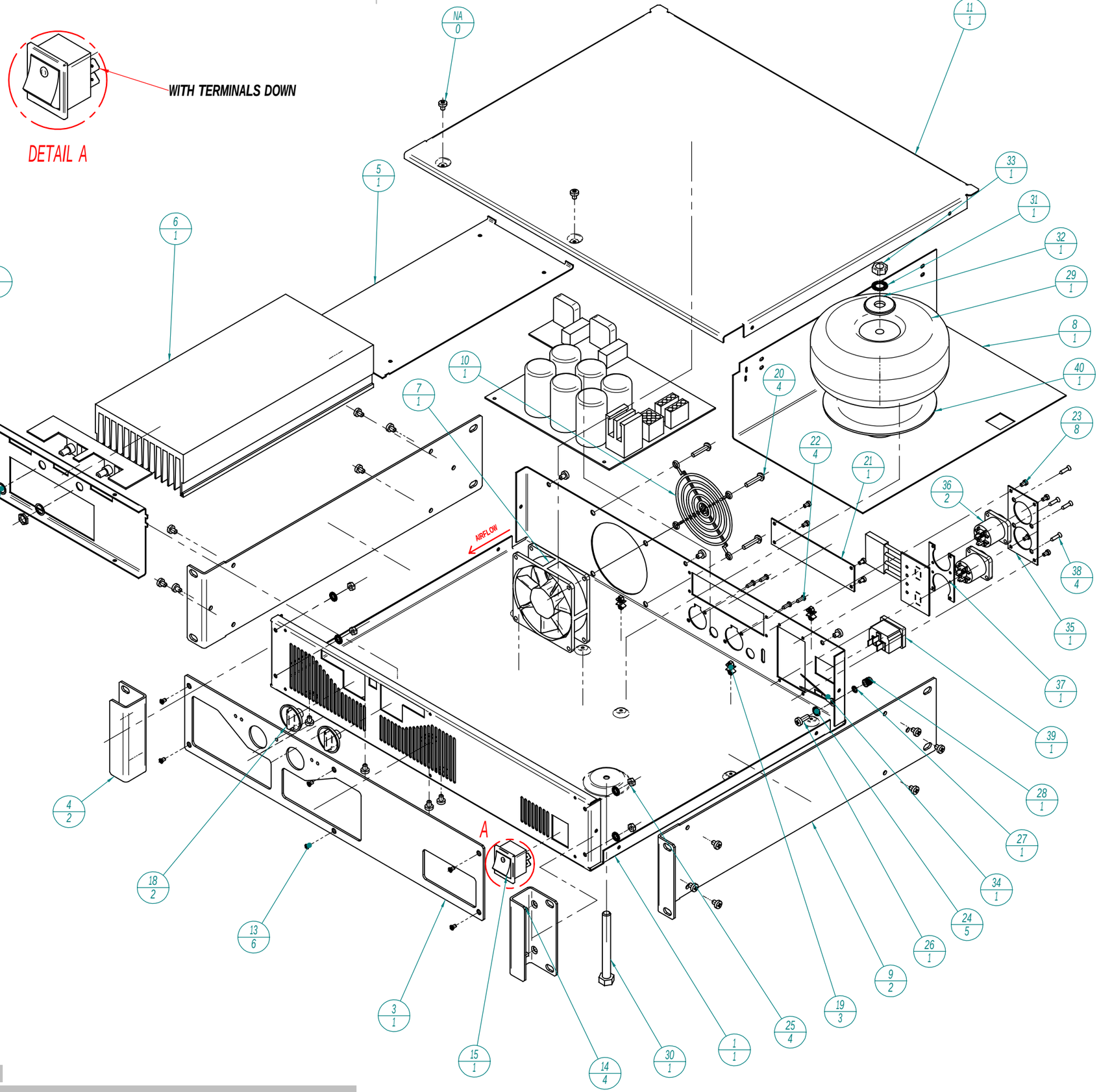
autor: *Jordi Folch* data: *011212*

aprovat:

número: *30.0114* versió: *01.05*

títol: **MECHANICAL DIAGRAM EP03-99B**

Nº	Qty	ECLER Code	Description
1	1	FCMECPM120	BASE CHASSIS
2	1	FCMECPM110	LED CIRCUIT MEC. SUPORT
3	1	FCMECPM141	FRONT PANEL
4	2	FCMECPM180	FRONTAL HANDLE
5	1	FCMECPM190	MODULE SUPPORT PLATE 260MM
6	1	FCRAD13810	HEATSINK 260MM
7	1	FCVEN08000	FAN 80x80 12VDC
8	1	FCMECPM100	MECHANICAL REINFORCEMENT
9	2	FCMECPM170	LEFT/RIGHT SIDE
10	1	FCREJ08000	FAN GRILLE 80x80
11	1	FCMECPM130	TOP COVER
12	23	FCT8040060	SCREW M4x6 SPANLO BLACK
13	6	FCT8030055	SCREW D965 M3x5 BLACK
14	4	FCTALL4081	SCREW M4x8 ALLEN B
15	1	FCINTRED30	MAINS SWITCH W/LIGHT
16	2	FCARDEPOTE	ROT. POT. WASHER M9
17	2	FCTUPOT000	ROTARY POT. NUT M9
18	2	FCBOTD2400	ROTARY KNOB D24
19	3	FCSEPWLS06	PLASTIC SPACER 6MM
20	4	FCT0605120	SCREW 5.1x20
21	1	FCMECPM150	FILTERS PLATE
22	4	FCT4002909	SCREW 2,9x9,5 D7981F BLACK
23	8	FCT8503005	SCREW M3x5 REDUCED HEAD
24	5	FCARDE0400	TOOTHED WASHER M4
25	4	FCTUE00400	NUT M4
26	1	FCT3804012	SCREW M4x12 TRILOB.
27	1	FCARS40000	SEG. WASHER M4
28	1	FCBOR00300	GROUND TERMINAL
29	1	FCTFT00510	TRANSFORMER EP03-99B
30	1	GENERIC	SCREW M8 TRANSFORMER
31	1	FCARDE0800	TOOTHED WASHER M8
32	1	FCARM10500	WASHER 10,5X30X2,5M
33	1	GENERIC	TRANS. NUT M8
34	1	FC0C018000	GROUND CABLE
35	1	FCMECPM161	SPEAK ON PLATE
36	2	FCBASS0100	SPEAKON SOCKET 4C
37	1	FCMECPM165	SPEAKON MECHANICAL SUPPORT
38	4	FCT5002913	SCREW 2,9x13 D7982
39	1	FCBASRE500	MAINS SOCKET
40	1	GENERIC	TRANS. RUBBER DISC



OLD VERSION

ECLER

autor: Jordi Folch

data: 001024

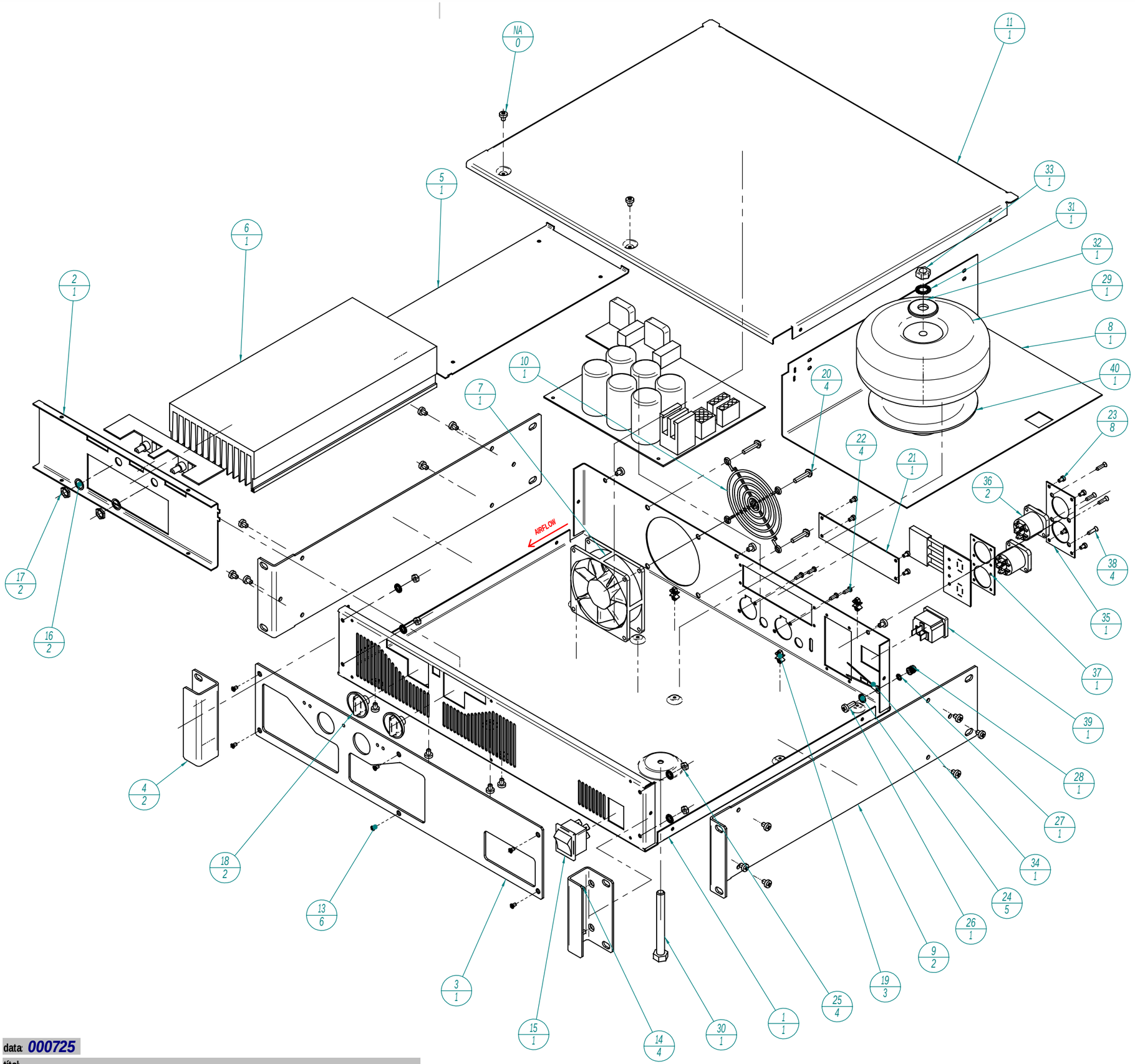
aprovat:

títol: MECHANICAL DIAGRAM EP03-99B

número: 30.0114

versió: 01.04

Nº	Qty	ECLER Code	Description
1	1	FCMECPM120	BASE CHASSIS
2	1	FCMECPM110	LED CIRCUIT MEC. SUPORT
3	1	FCMECPM141	FRONT PANEL
4	2	FCMECPM180	FRONTAL HANDLE
5	1	FCMECPM190	MODULE SUPPORT PLATE 260MM
6	1	FCRAD13810	HEATSINK 260MM
7	1	FCVEN08000	FAN 80x80 12VDC
8	1	FCMECPM100	MECHANICAL REINFORCEMENT
9	2	FCMECPM170	LEFT/RIGHT SIDE
10	1	FCREJ08000	FAN GRILLE 80x80
11	1	FCMECPM130	TOP COVER
12	23	FCT8040060	SCREW M4x6 SPANLO BLACK
13	6	FCT8030055	SCREW D965 M3x5 BLACK
14	4	FCTALL4081	SCREW M4x8 ALLEN B
15	1	FCINTRED25	MAINS SWITCH
16	2	FCARDEPOTE	ROT. POT. WASHER M9
17	2	FCTUPOT000	ROTARY POT. NUT M9
18	2	FCBOTD2400	ROTARY KNOB D24
19	3	FCSEPWLS06	PLASTIC SPACER 6MM
20	4	FCT0605120	SCREW 5,1x20
21	1	FCMECPM150	FILTERS PLATE
22	4	FCT4002909	SCREW 2,9x9,5 D7981F BLACK
23	8	FCT8503005	SCREW M3x5 REDUCED HEAD
24	5	FCARDE0400	TOOTHED WASHER M4
25	4	FCTUE00400	NUT M4
26	1	FCT3804012	SCREW M4x12 TRILOB.
27	1	FCARS40000	SEG. WASHER M4
28	1	FCBOR00300	GROUND TERMINAL
29	1	FCTFT00510	TRANSFORMER EP03-99B
30	1	GENERIC	SCREW M8 TRANSFORMER
31	1	FCARDE0800	TOOTHED WASHER M8
32	1	FCARM10500	WASHER 10,5X30X2,5M
33	1	GENERIC	TRANS. NUT M8
34	1	FC0C018000	GROUND CABLE
35	1	FCMECPM161	SPEAK ON PLATE
36	2	FCBASS0100	SPEAKON SOCKET 4C
37	1	FCMECPM165	SPEAKON MECHANICAL SUPPORT
38	4	FCT5002913	SCREW 2,9x13 D7982
39	1	FCBASRE500	MAINS SOCKET
40	1	GENERIC	TRANS. RUBBER DISC



OLD VERSION

ECLER

autor: Jordi Folch

data: 000725

aprovat:

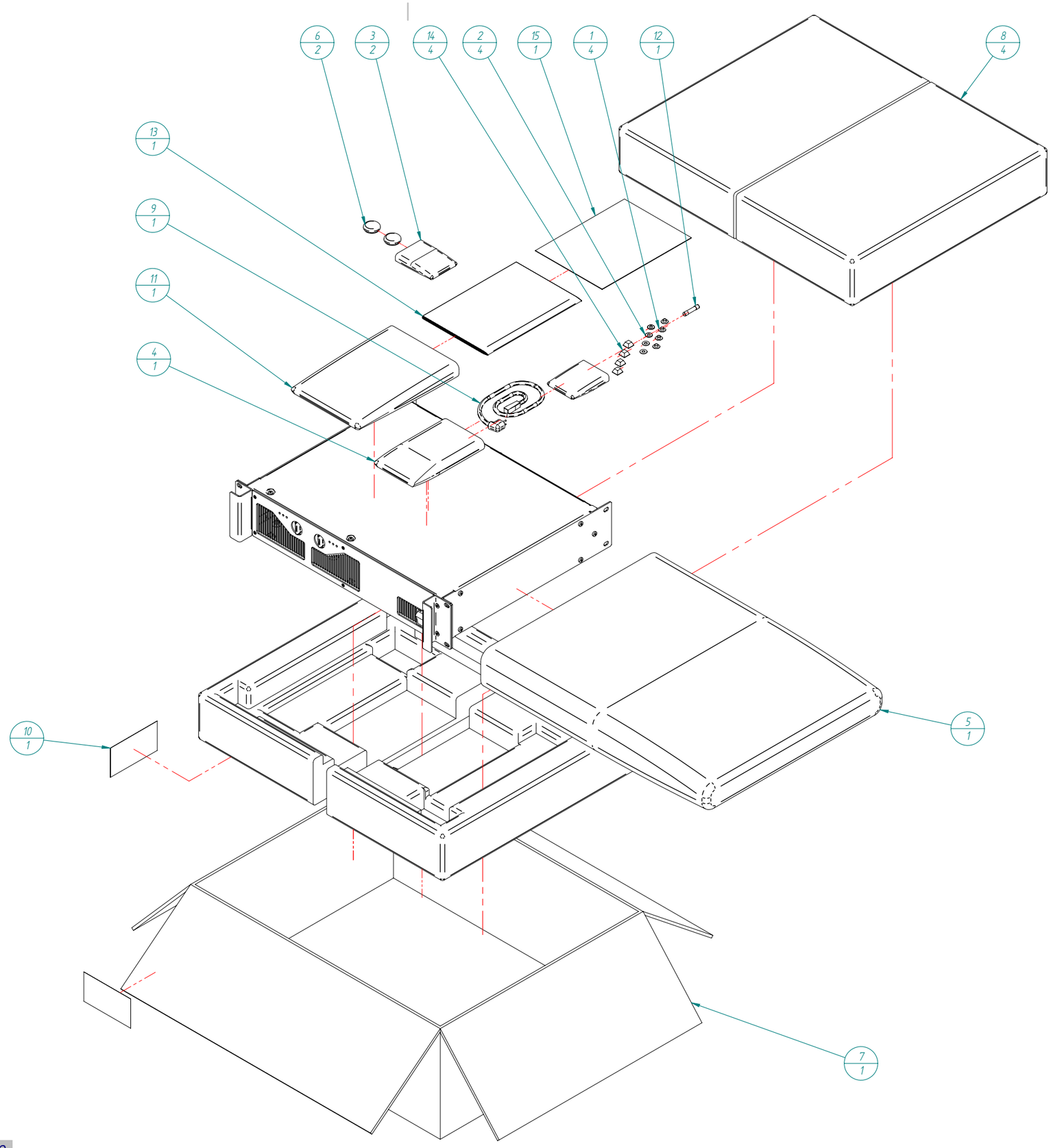
títol: MECHANICAL DIAGRAM EP03-99B

número: 30.0114

versió: 01.03

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	2	FCBOTD240100	ROT. KNOB PROTECTION COVER
7	1	FCCAJSTA0100	BOX STANDARD 1
8	4	FCCANT118000	INTERIOR REINFORCEMENT
9	1	FCCONX017500	MAINS CABLE 3x1
10	1	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
11	1	FCFUNMAN0000	USER MANUAL BAG
12*	1 *	FCFUS6050000 *	FUSE 6,3A *
13	1	FCMANPAML000	USER MANUAL APA
14	4	FCPIE1125500	RUBBER FOOT
15	1	FCTARJG00000	WARRANTY CARD

* *FOR 100VAC UNITS, USE FUSE TYPE:*
FCFUS6010000 FUSE 10A 6X32



ECLER

autor: Jordi Folch

data: 040210

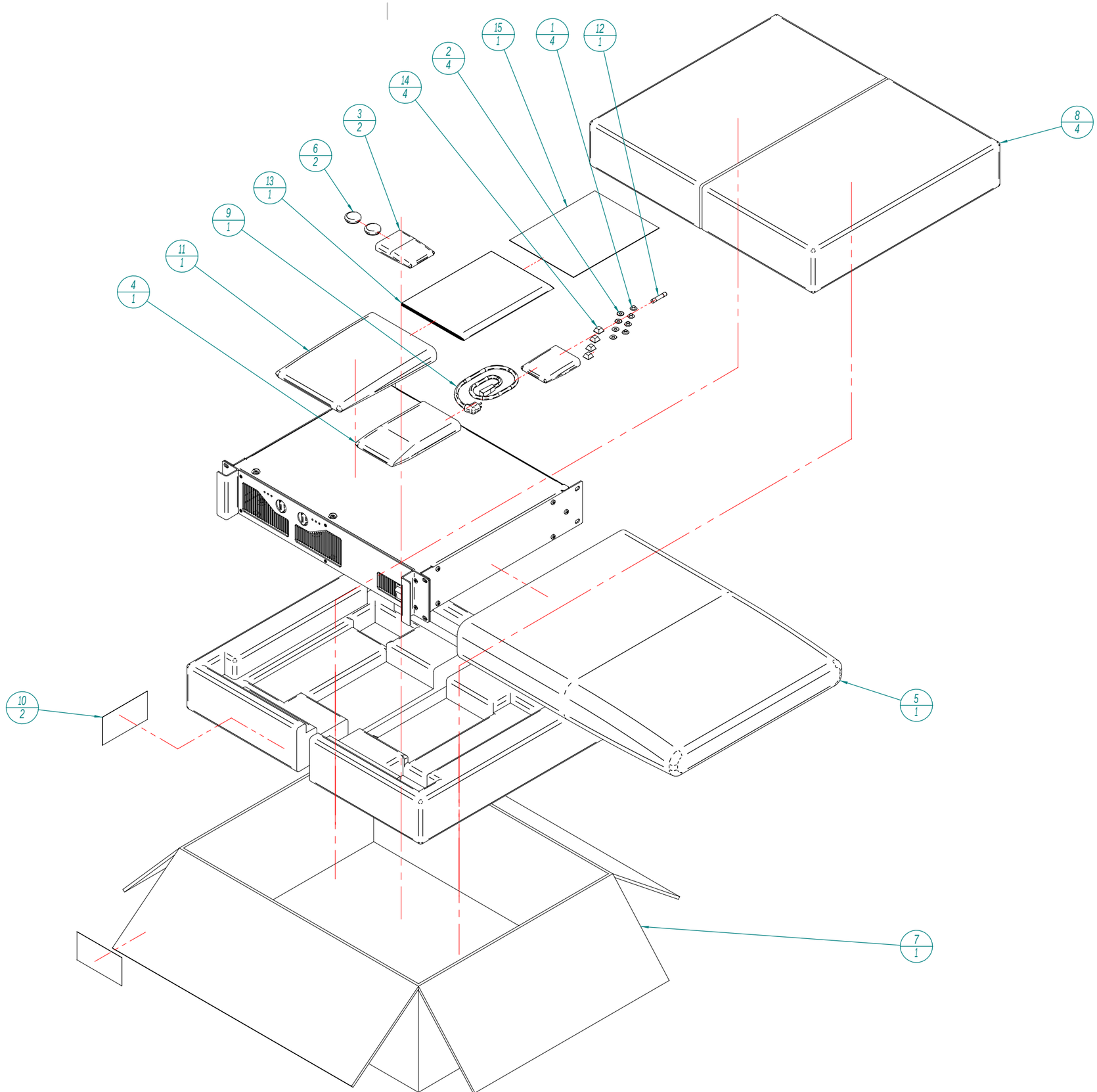
aprovat:

títol: **PACKING DIAGRAM EP03-99B**

número: 32.0044 versió: 01.04

Nº	Qty	ECLER Code	Description
1	4	FCARAT3000	SCREW INSULATOR
2	4	FCARN50000	WASHER 5X11,5X0,8
3	2	FCBOL00100	BAG 60x80
4	1	FCBOL00200	PLASTIC BAG 120x180
5	1	FCBOLS0200	STANDARD BAG 75x65
6	2	FCBOTD2401	ROT. KNOB PROTECTION COVER
7	1	FCCAJSTA01	BOX STANDARD 1
8	4	FCCANT1180	INTERIOR REINFORCEMENT
9	1	FCCONX0175	MAINS CABLE 3x1
10	2	FCETICAJA0	UNIT INFORMATION LABEL
11	1	FCFUNMAN00	USER MANUAL BAG
12*	1 *	FCFUS60500*	FUSE 6,3A*
13	1	FCMANPAML0	USER MANUAL APA
14	4	FCPIE11255	RUBBER FOOT
15	1	FCTARJG000	WARRANTY CARD

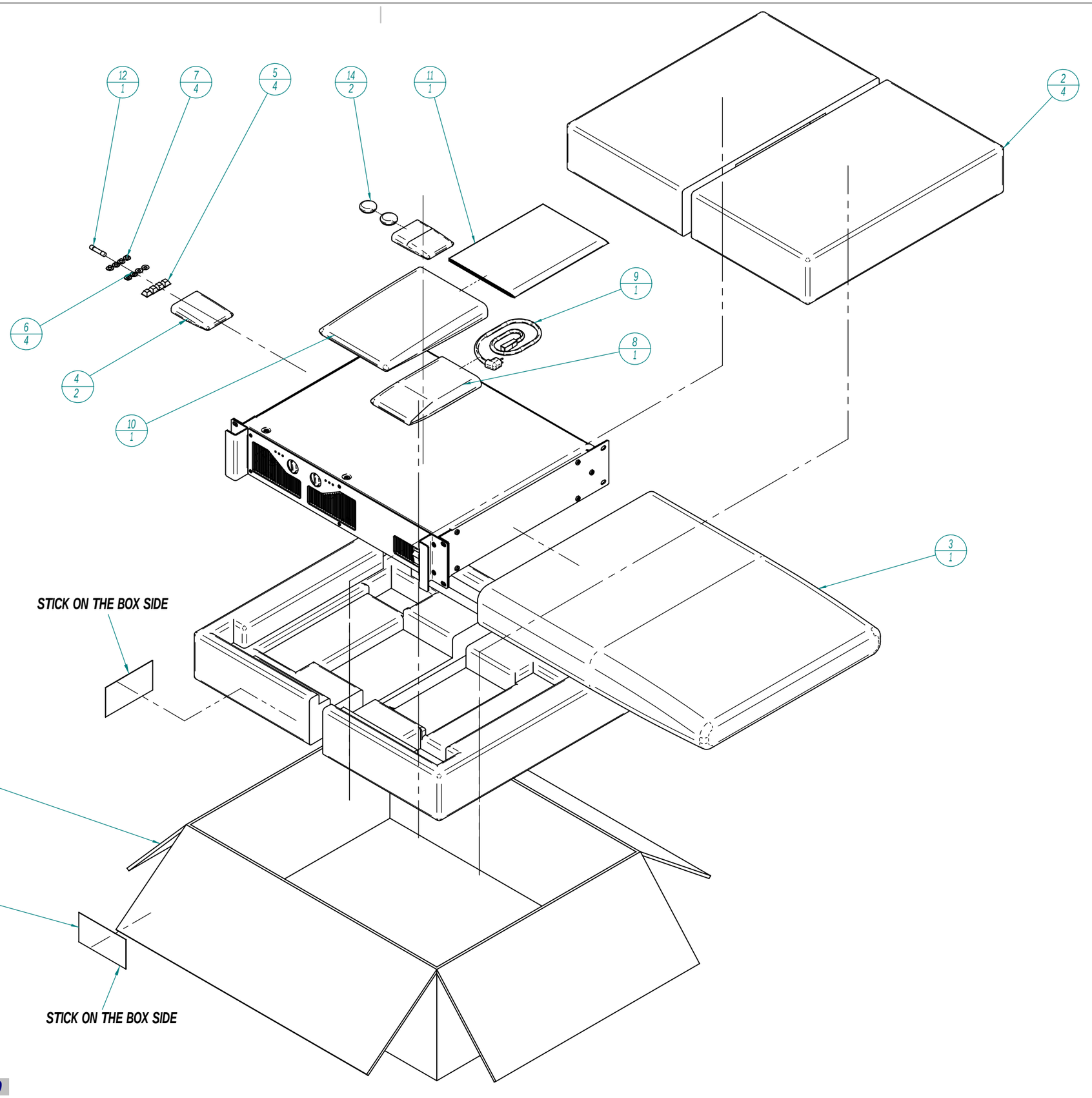
** FOR 100VAC UNITS, USE FUSE TYPE:*
FCFUS60100 FUSE 10A 6X32



OLD VERSION

ECLER	autor: Jordi Folch	data: 020318
número: 32.0044 versió: 01.03	aprovat:	títol: PACKING DIAGRAM EP03-99B

Nº	Qty	ECLER Code	Description
1	1	FCCAJSTA01	BOX STANDARD 1
2	4	FCCANT1180	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	FCMANPAMLO	USER MANUAL APA
12	1	FCFUS60500	FUSE 6,3A 6X32
13	2	FCETICAJA0	UNIT INFORMATION LABEL
14	2	FCBOTD2401	ROT. KNOB PROTECTION COVER



OLD VERSION

ECLER

autor: Jordi Folch

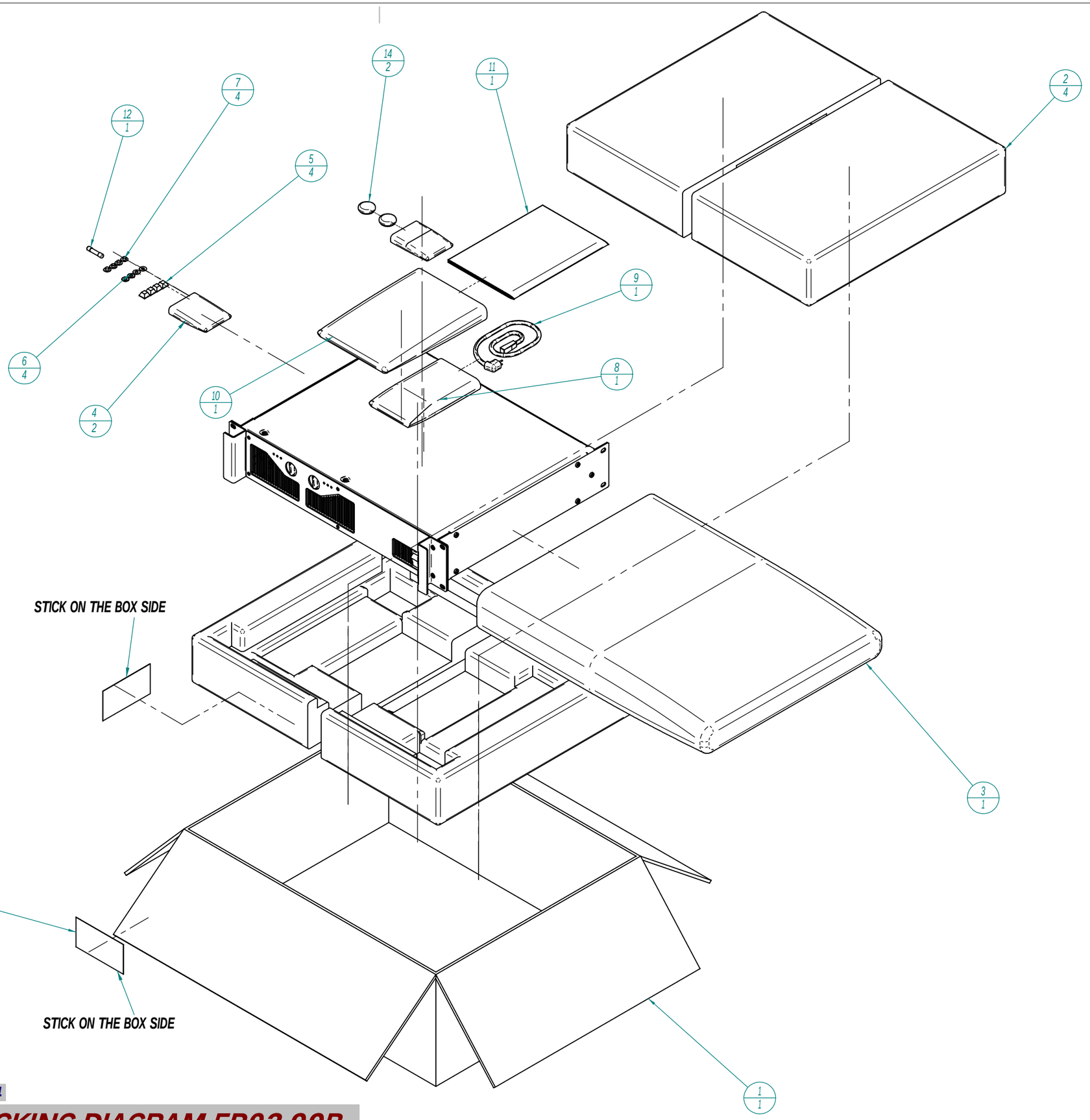
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aprovat:

títol: PACKING DIAGRAM EP03-99B

número: 32.0044 versió: 01.02

Nº	Qty	ECLER Code	Description
1	1	FCCAJSTA01	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	FCMANPAMLO	USER MANUAL APA
12	1	FCFUS60500	FUSE 6,3A 6X32
13	2	FCETICAJA0	UNIT INFORMATION LABEL
14	2	FCBOTD2401	ROT. KNOB PROTECTION COVER



OLD VERSION

ECLER

autor: Jordi Folch

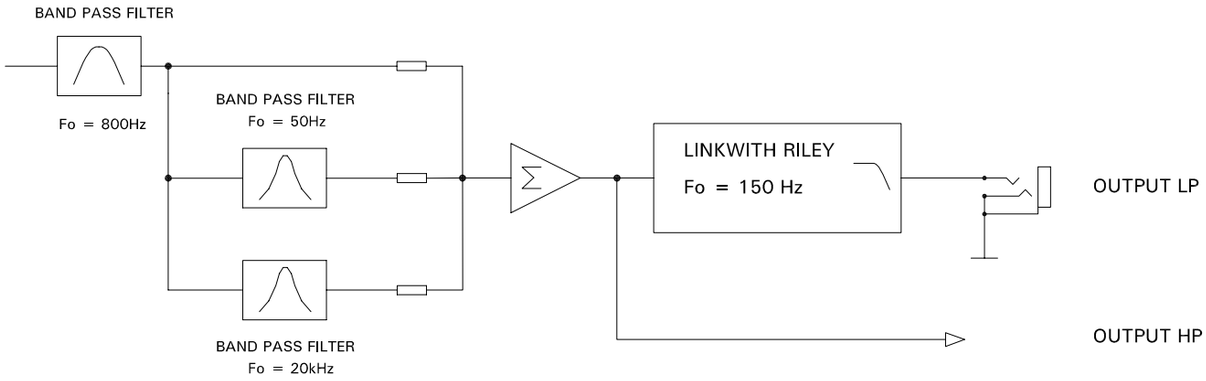
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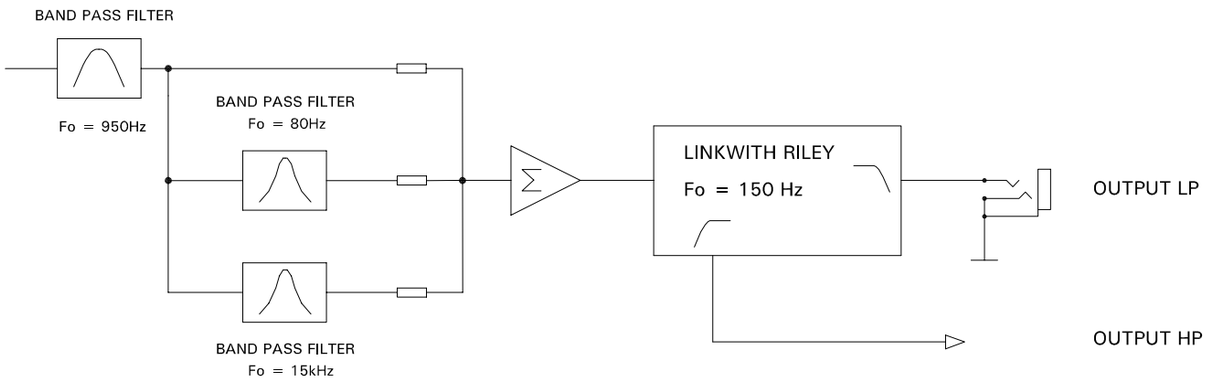
títol: PACKING DIAGRAM EP03-99B

número: 32.0044 versió: 01.01

TAWA 215



TAWA 112



ECLEREE	drawn: Joan Queralt	date: 010216	project: F01-00	product: TAWA112/115
number: 10.0552 version 01.00	approved:	title: BLOCK DIAGRAM		

PRELIMINARY:

- Connect the verifier's mains plug, the power *ON* indicator LED should light up.
- Connect TAWA 112 or TAWA 215 to the verifier through the 7-wired bus and both jack-type connectors (right R, left L).
- Release the HIGH-LOW switch.
- Connect the signal generator to the RCA-type input, and apply a 0dB level 150Hz input signal.
- Connect the millivoltmeter-oscilloscope set to the unit's RCA-type output.

VERIFICATION of TAWA 112

- HIGH-level outputs :
- 150 Hz -6dB
- 400 Hz -1dB
- 1kHz -2dB
- 10 kHz 2,5dB
- 50 kHz 0dB

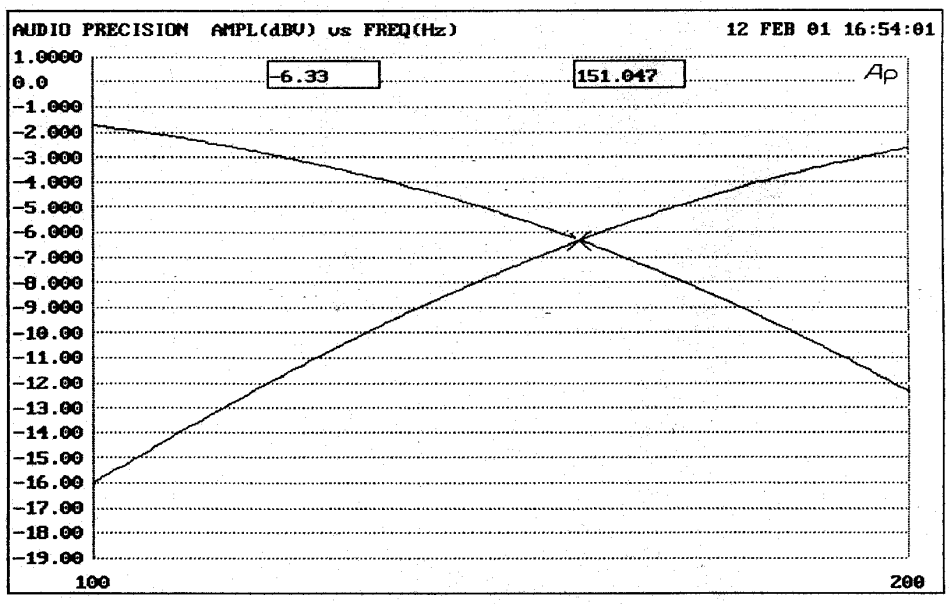
- LOW-level outputs :
- Press and lock the HIGH-LOW pushbutton.
- 20 Hz 0dB
- 60 Hz 1dB
- 75 Hz 2dB
- 150 Hz -6dB
- Check that when the ST-MONO labelled pushbutton is pressed, the right-channel output signal is cutted off.

VERIFICATION of TAWA 215

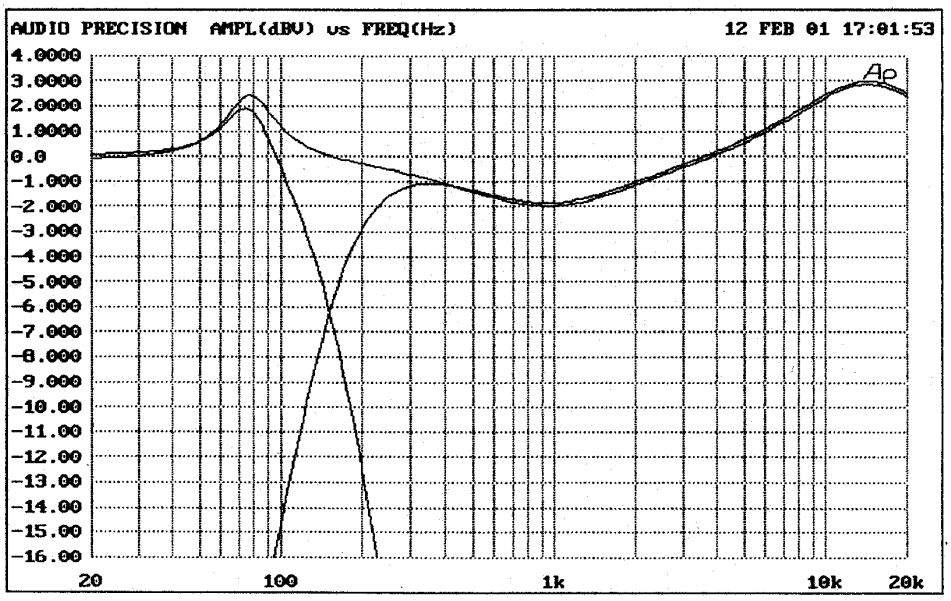
- HIGH-level outputs :
- 20 Hz 0,5dB
- 50 Hz 2dB
- 200 Hz -1dB
- 1kHz -4dB
- 10kHz 2dB

- LOW-level outputs :
- Press and lock the HIGH-LOW pushbutton.
- 20 Hz 0,5dB
- 50 Hz 2dB
- 150 Hz -6dB
- Check that when the ST-MONO labelled pushbutton is pressed, the right-channel output signal is cutted off.

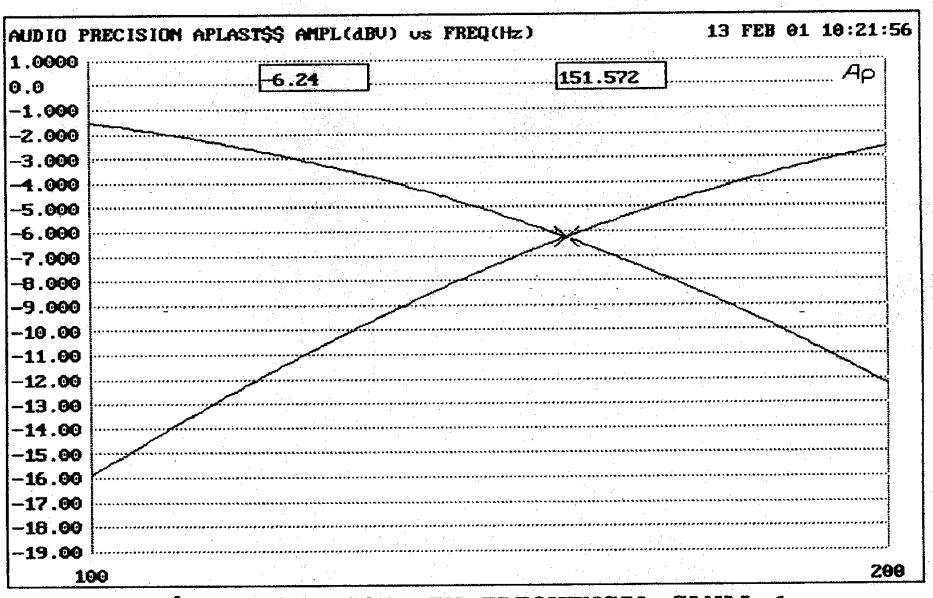
- Note : To make the circuit's operation easier to understand, some frequency response curves from the described filters are enclosed.



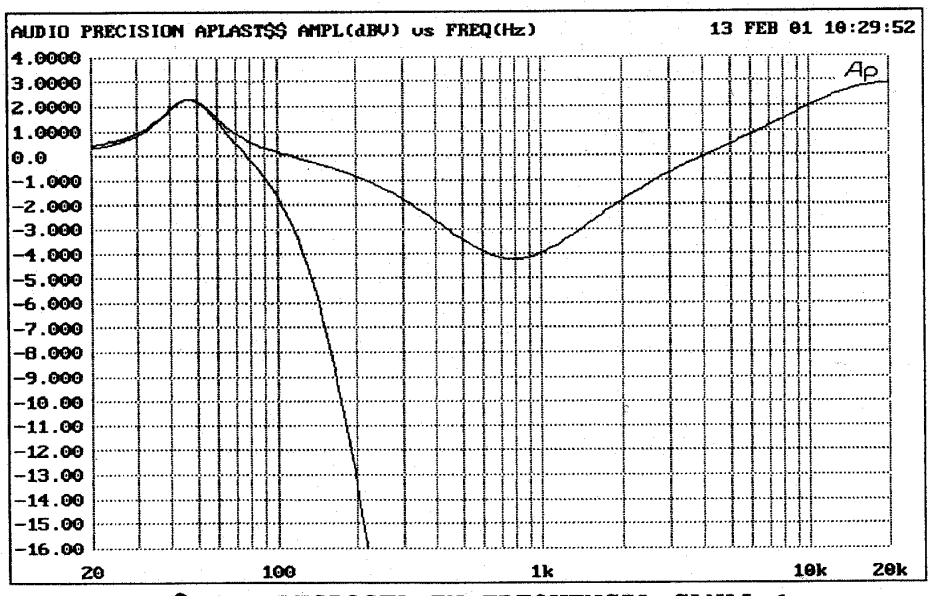
TAWA 112 - RESPOSTA EN FREQUENCIA
INPUT 0 dBV (ENTRADA LINKWITH RILEY)
OUTPUT SORTIDA LINKWITH RILEY



TAWA 112 - RESPOSTA EN FREQUENCIA CANAL 1
INPUT 0 dBV
OUTPUT SORTIDA:SUMADOR FILTRES
LOW PASS
HIGH PASS

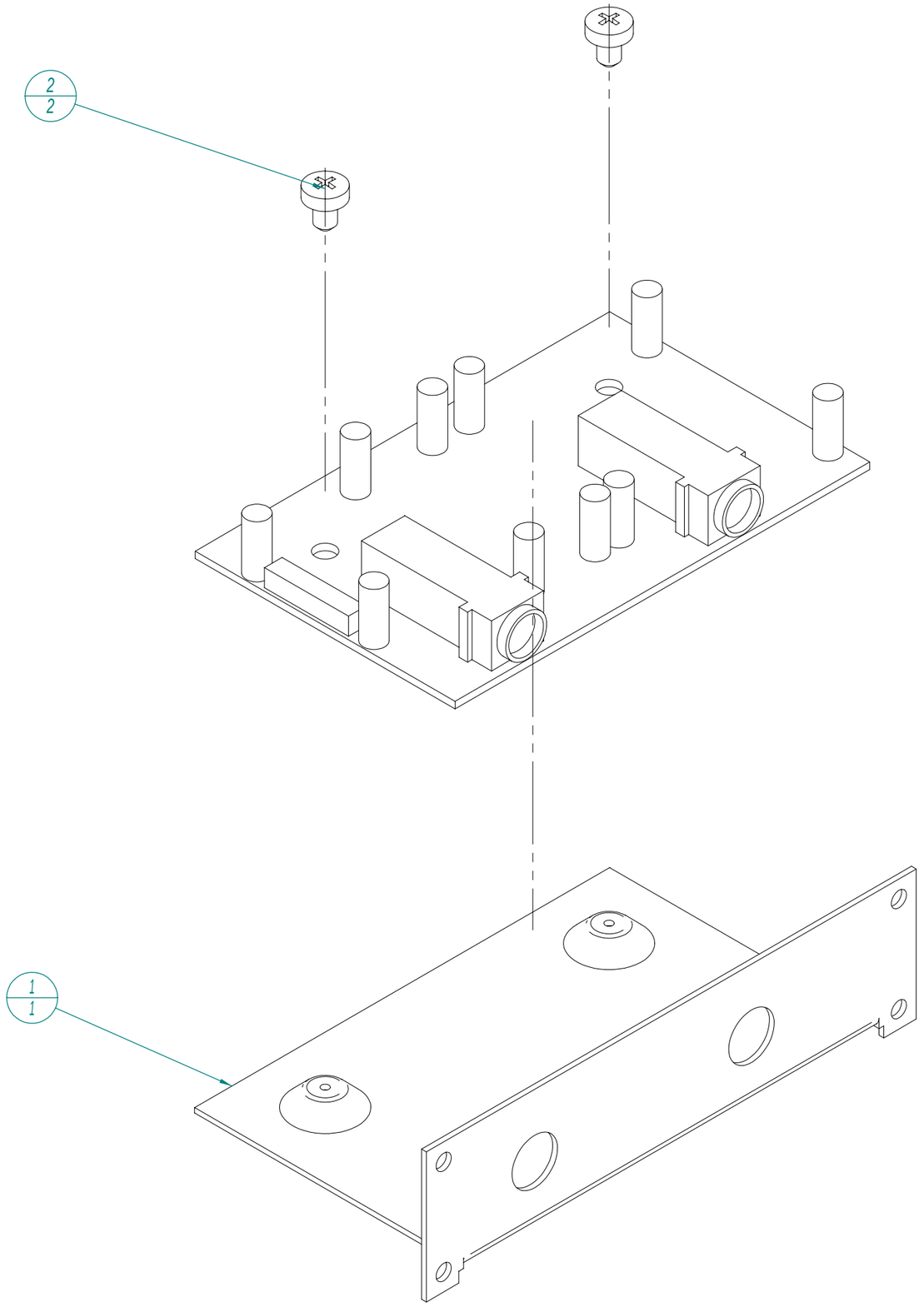


TAWA 215 - RESPOSTA EN FREQUENCIA CANAL 1
INPUT 0 dBV (entrada linkwith-rilley)
OUTPUT SORTIDA: HIGH PASS



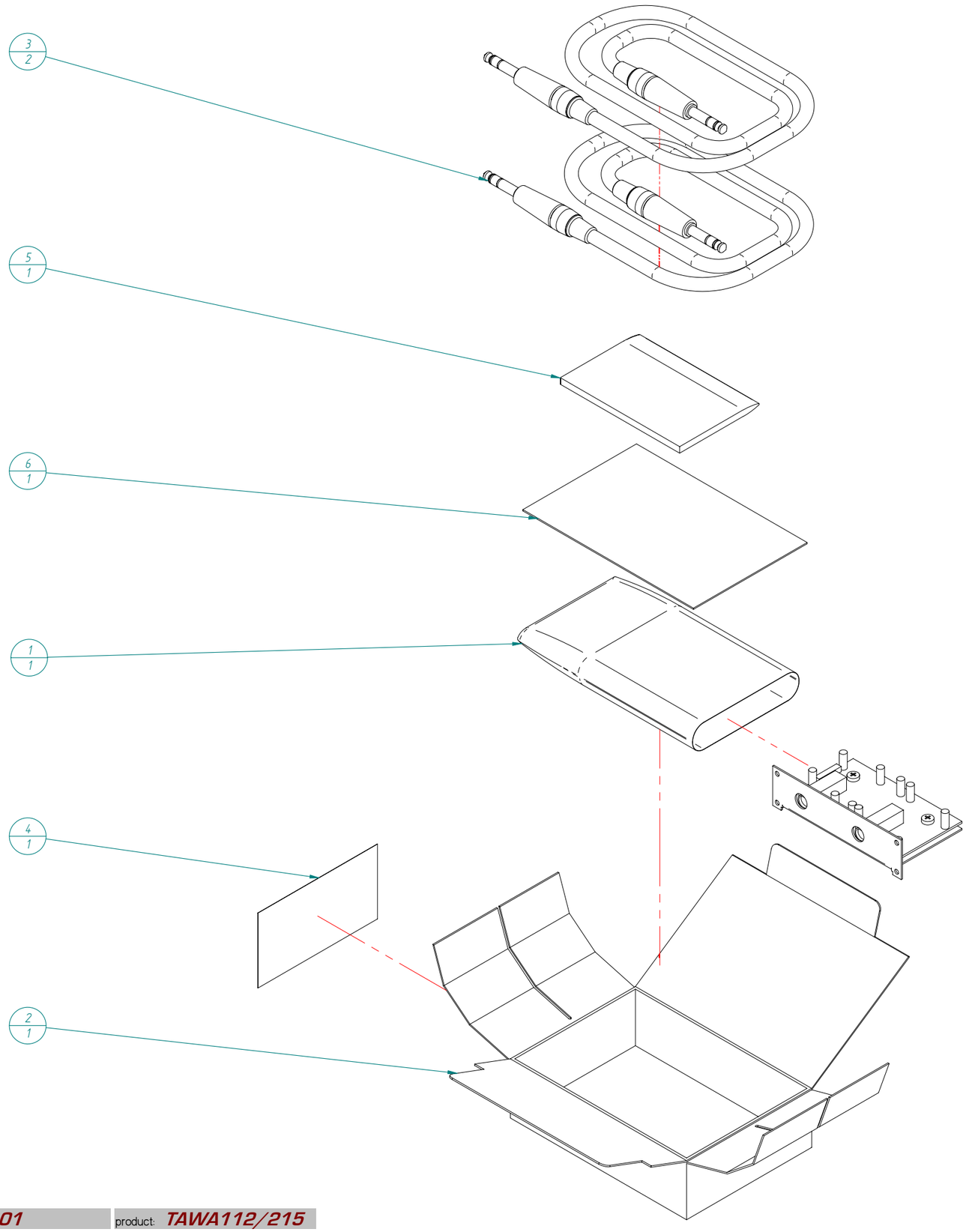
TAWA 215 - RESPOSTA EN FREQUENCIA CANAL 1
INPUT 0 dBV
OUTPUT SORTIDA: HIGH PASS
LOW PASS

Nº	Qty	ECLER Code	Description
1	1	FCMECT2649	BASE CHASSIS F01-00
2	2	FCT8040060	SCREW M4x6 SPANLO BLACK



ECLER	drawn: Jordi Folch	date: 010214	project: F01-01	product: TAWA112/215
number: 30.0151 version 01.00	approved:	title: MECHANICAL DIAGRAM		

Nº	Qty	ECLER Code	Description
1	1	FCBOL0020000	PLASTIC BAG 120x180
2	1	FCCAJST30000	PACKING CARDBOARD BOX
3	2	FCCONXJ10000	AERIAL 350mm JACK-JACK CABLE
4	1	FCET10951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
5	1	FCMANTAWA000	USER MANUAL
6	1	FCTARJG00000	WARRANTY CARD



ECLER

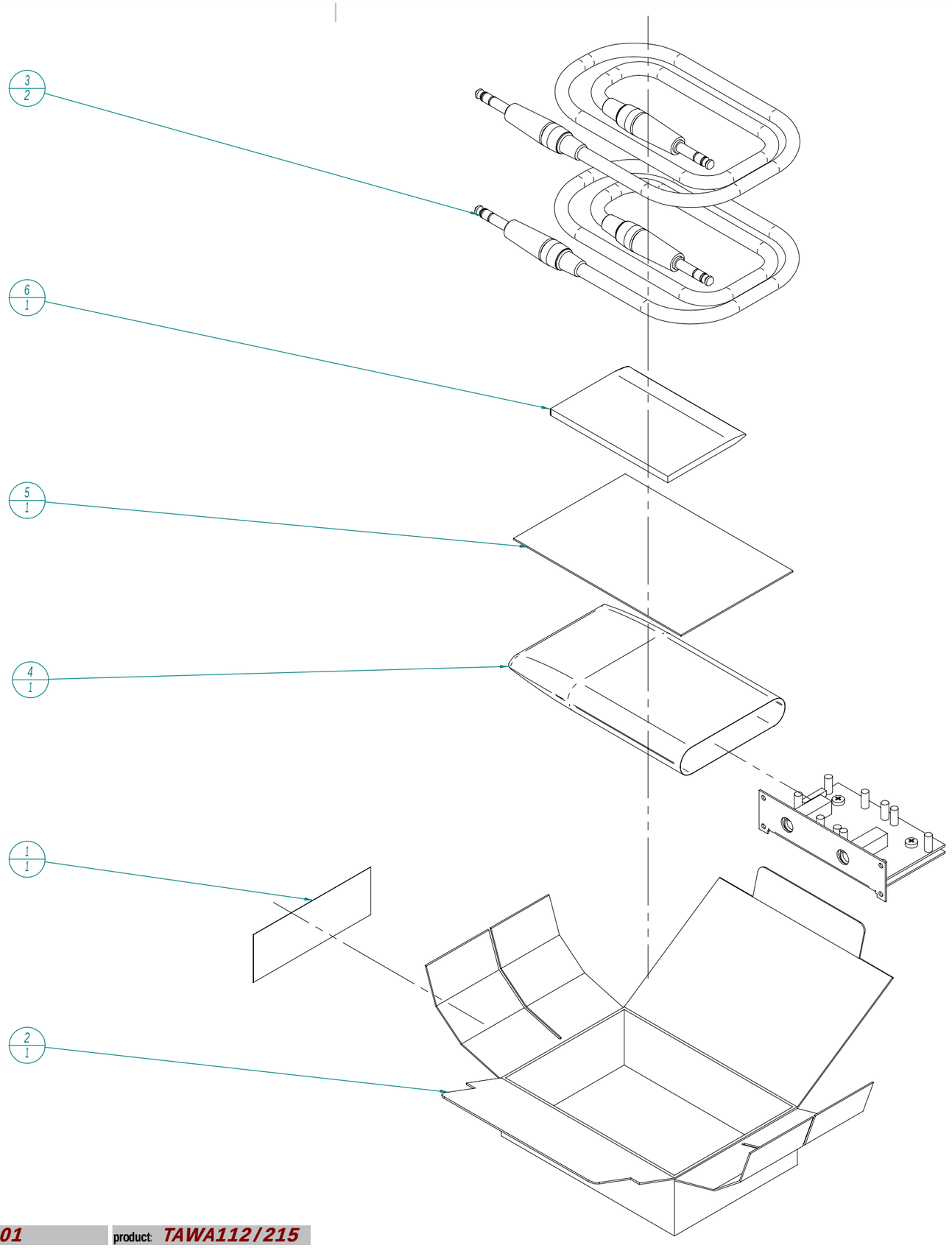
drawn: Jordi Folch | date: 040210 | project: F01-01 | product: TAWA112/215

approved:

title: PACKING DIAGRAM

number: 32.0069 | version 01.01

Nº	Qty	ECLER Code	Description
1	1	FCETICAJA1	STICKER 105x37
2	1	FCCAJST300	PACKING CARDBOARD BOX
3	2	GENERIC	AERIAL 350mm JACK-JACK CABLE
4	1	FCBOL00200	PLASTIC BAG 120x180
5	1	FCTARJG000	WARRANTY CARD
6	1	FCMANTAWA0	USER MANUAL



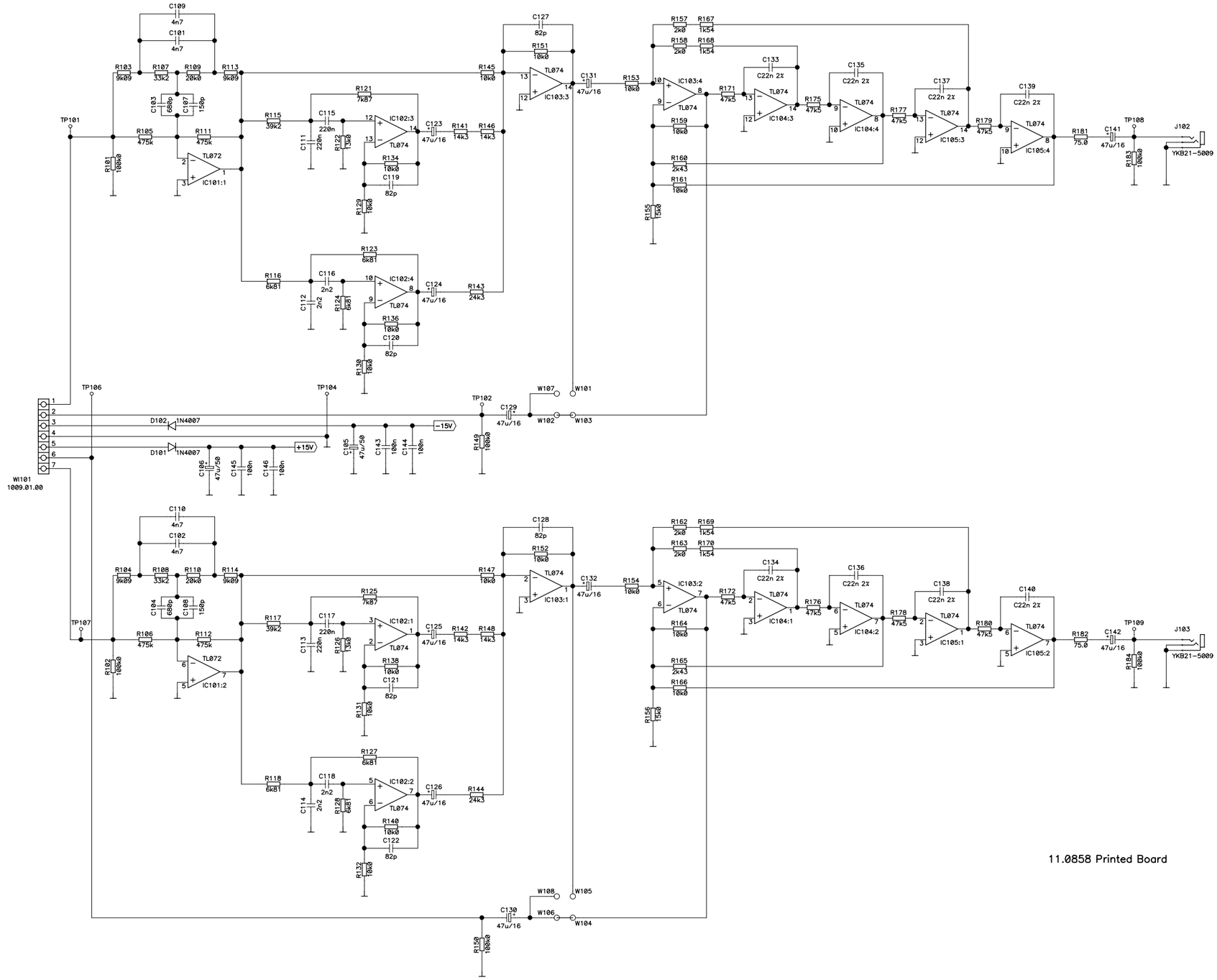
OLD VERSION

ECLER

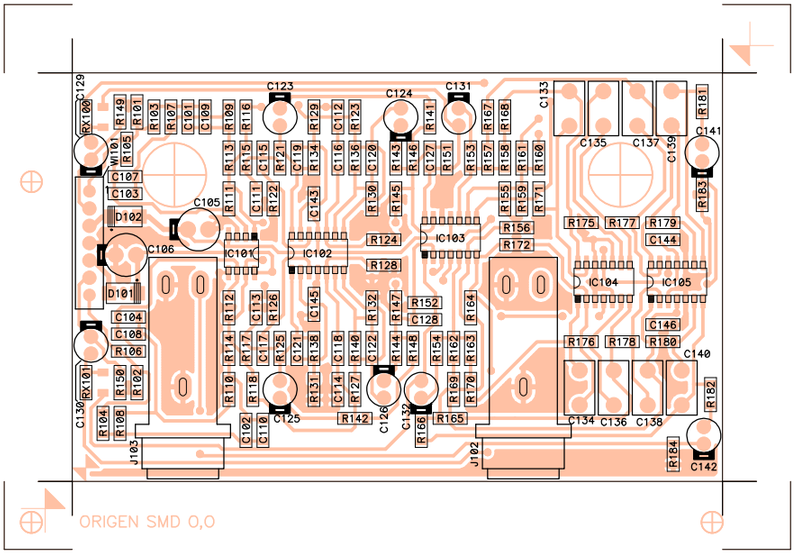
drawn: Jordi Folch | date: 010214 | project: F01-01 | product: TAWA112/215

approved: | title: PACKING DIAGRAM

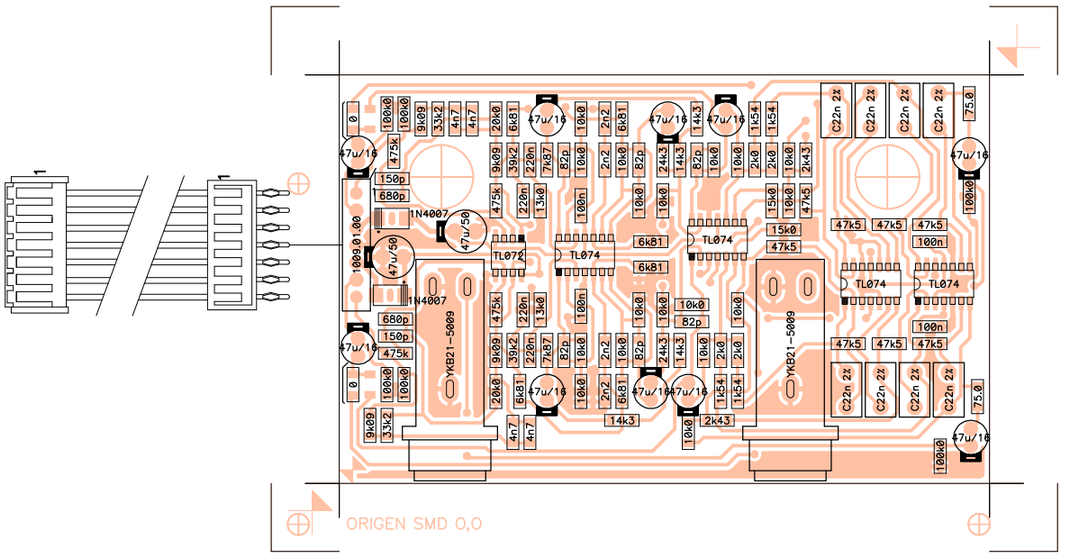
number: 32.0069 | version 01.00



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 010122	approved: Domingo Mele
	project n: F01-01A	title: Overall Sch.	
	product n: TAWA112		
number: 10.0549	version: 01.02	page: 1 of 1	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0858-02.00 schema no: 10.0549-01.02 insertion file no: 81.0049-01.02	side: Component view: Reference	
number: 33.0606	version: 01.02	project n: F01-01A	title: Filters Ct.
drawn by: M. Amoros	date: 010123	product n: TAWA112 approved: Domingo Mele	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.		related to: circuit no: 11.0858-02.00 schema no: 10.0549-01.02 insertion file no: 81.0049-01.02	side: Component view: Value	
number: 33.0607	version: 01.02	project n: F01-01A	title: Filters Ct.	
drawn by: M. Amoros	date: 010123	product n: TAWA112 approved: Domingo Mele		

PARTS LIST: PRINTED CIRCUIT 11.0858.02.00 (TAWA112)

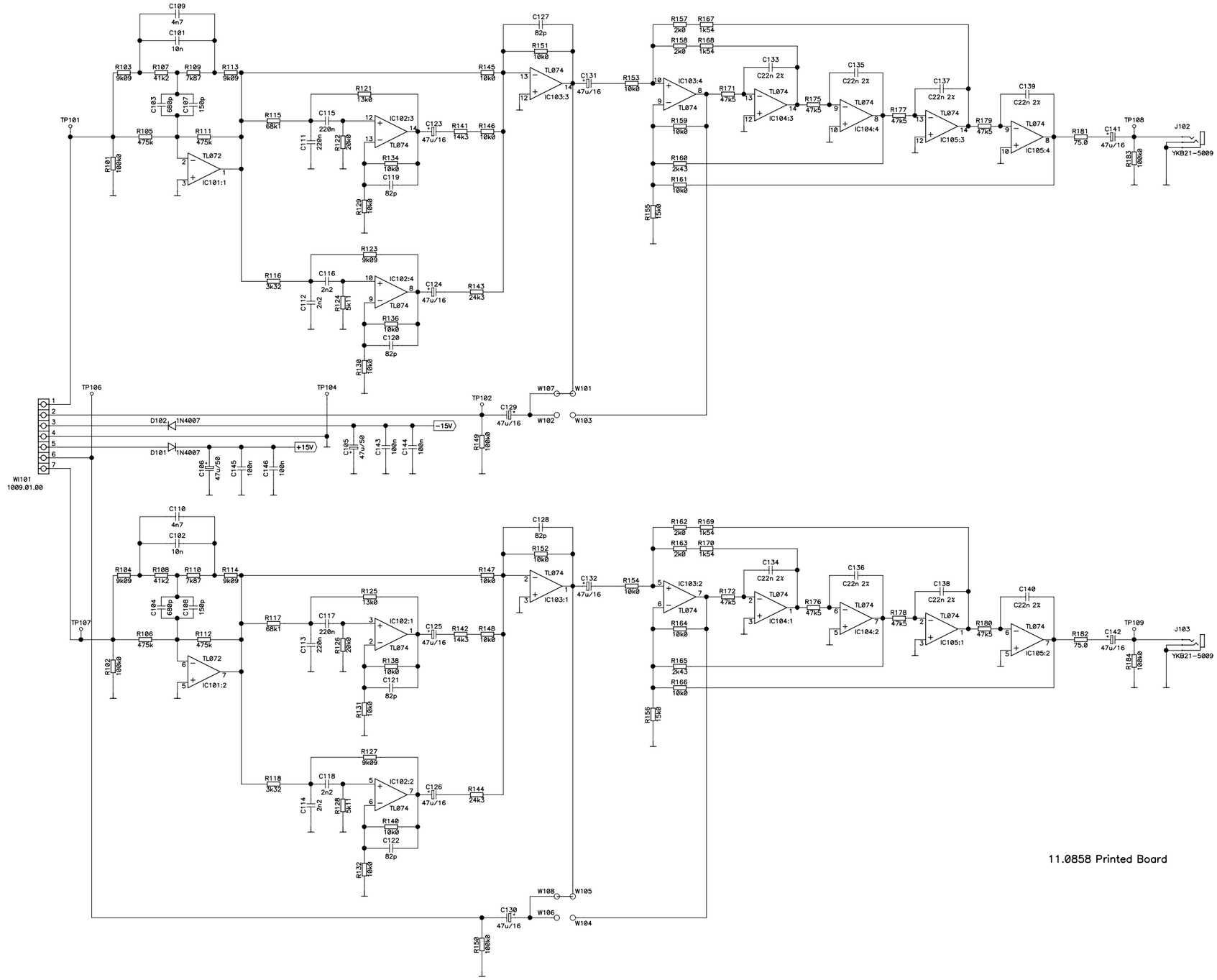
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FCXCN40047	4n7	C101
FCXCN40047	4n7	C102
FCXCN26800	680p	C103
FCXCN26800	680p	C104
FCCE250470	47u/50	C105
FCCE250470	47u/50	C106
FCXCN21500	150p	C107
FCXCN21500	150p	C108
FCXCN40047	4n7	C109
FCXCN40047	4n7	C110
FCXCN42200	220n	C111
FCXCN40022	2n2	C112
FCXCN42200	220n	C113
FCXCN40022	2n2	C114
FCXCN42200	220n	C115
FCXCN40022	2n2	C116
FCXCN42200	220n	C117
FCXCN40022	2n2	C118
FCXCN18200	82p	C119
FCXCN18200	82p	C120
FCXCN18200	82p	C121
FCXCN18200	82p	C122
FCCE100000	47u/16	C123
FCCE100000	47u/16	C124
FCCE100000	47u/16	C125
FCCE100000	47u/16	C126
FCXCN18200	82p	C127
FCXCN18200	82p	C128
FCCE100000	47u/16	C129
FCCE100000	47u/16	C130
FCCE100000	47u/16	C131
FCCE100000	47u/16	C132
FCCDN02200	C22n 2%	C133
FCCDN02200	C22n 2%	C134
FCCDN02200	C22n 2%	C135
FCCDN02200	C22n 2%	C136
FCCDN02200	C22n 2%	C137
FCCDN02200	C22n 2%	C138
FCCDN02200	C22n 2%	C139
FCCDN02200	C22n 2%	C140
FCCE100000	47u/16	C141
FCCE100000	47u/16	C142
FCXCN41000	100n	C143
FCXCN41000	100n	C144
FCXCN41000	100n	C145
FCXCN41000	100n	C146
FCXDD40070	1N4007	D101
FCXDD40070	1N4007	D102
FCCITW0858	11.0858 Printed Board	CI101
FCIC072010	TL072	IC101
FCIC074010	TL074	IC102
FCIC074010	TL074	IC103
FCIC074010	TL074	IC104
FCIC074010	TL074	IC105
FCBASJ0200	YKB21-5009	J102
FCBASJ0200	YKB21-5009	J103

PARTS LIST: PRINTED CIRCUIT 11.0858.02.00 (TAWA112)

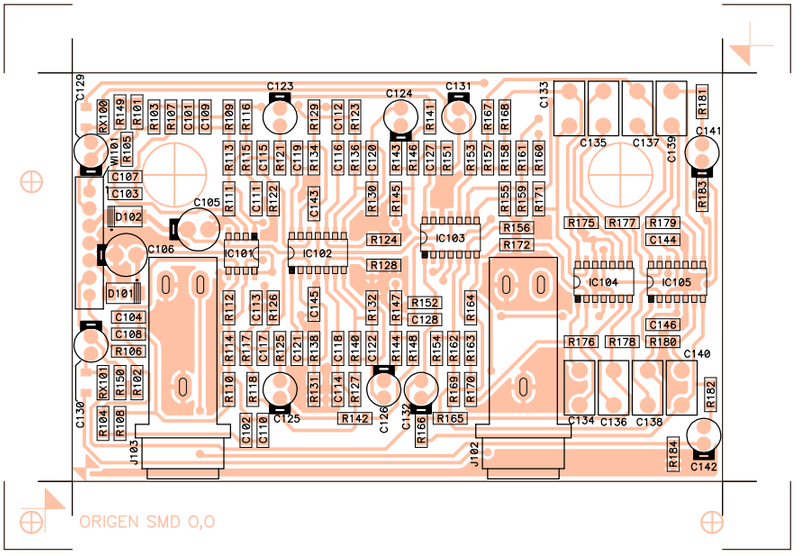
Code	Description	Reference
FCXR151000	100k0	R101
FCXR151000	100k0	R102
FCXR139090	9k09	R103
FCXR139090	9k09	R104
FCXR154750	475k	R105
FCXR154750	475k	R106
FCXR143320	33k2	R107
FCXR143320	33k2	R108
FCXR142000	20k0	R109
FCXR142000	20k0	R110
FCXR154750	475k	R111
FCXR154750	475k	R112
FCXR139090	9k09	R113
FCXR139090	9k09	R114
FCXR143920	39k2	R115
FCXR136810	6k81	R116
FCXR143920	39k2	R117
FCXR136810	6k81	R118
FCXR137870	7k87	R121
FCXR141300	13k0	R122
FCXR136810	6k81	R123
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FCXR141000	10k0	R130
FCXR141000	10k0	R131
FCXR141000	10k0	R132
FCXR141000	10k0	R134
FCXR141000	10k0	R136
FCXR141000	10k0	R138
FCXR141000	10k0	R140
FCXR141430	14k3	R141
FCXR141430	14k3	R142
FCXR142430	24k3	R143
FCXR142430	24k3	R144
FCXR141000	10k0	R145
FCXR141430	14k3	R146
FCXR141000	10k0	R147
FCXR141430	14k3	R148
FCXR151000	100k0	R149
FCXR151000	100k0	R150
FCXR141000	10k0	R151
FCXR141000	10k0	R152
FCXR141000	10k0	R153
FCXR141000	10k0	R154
FCXR141500	15k0	R155
FCXR141500	15k0	R156
FCXR132000	2k0	R157
FCXR132000	2k0	R158
FCXR141000	10k0	R159
FCXR132430	2k43	R160
FCXR141000	10k0	R161
FCXR132000	2k0	R162

PARTS LIST: PRINTED CIRCUIT 11.0858.02.00 (TAWA112)

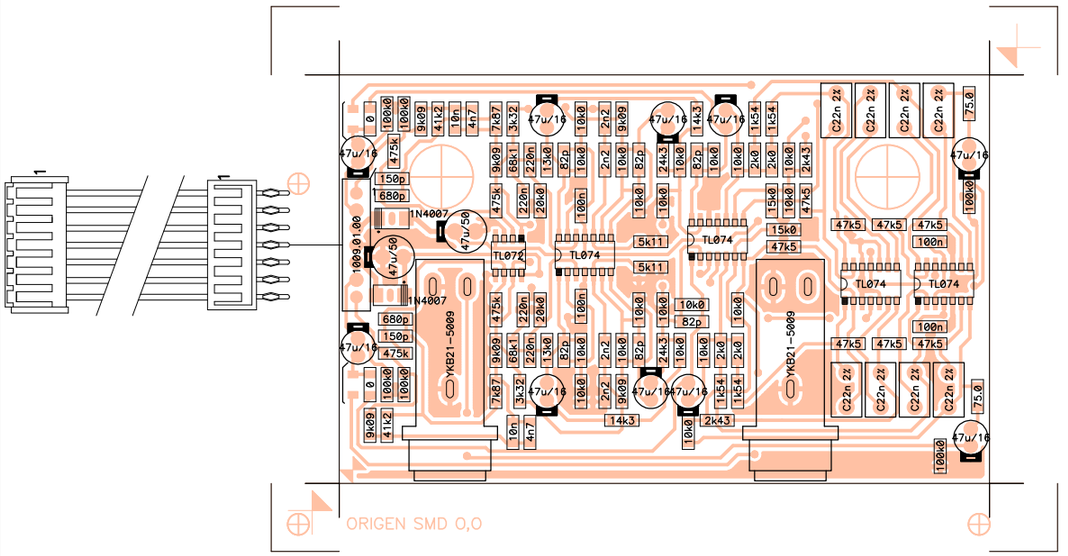
Code	Description	Reference
FCXR132000	2k0	R163
FCXR141000	10k0	R164
FCXR132430	2k43	R165
FCXR141000	10k0	R166
FCXR131540	1k54	R167
FCXR131540	1k54	R168
FCXR131540	1k54	R169
FCXR131540	1k54	R170
FCXR144750	47k5	R171
FCXR144750	47k5	R172
FCXR144750	47k5	R175
FCXR144750	47k5	R176
FCXR144750	47k5	R177
FCXR144750	47k5	R178
FCXR144750	47k5	R179
FCXR144750	47k5	R180
FCXR117500	75.0	R181
FCXR117500	75.0	R182
FCXR151000	100k0	R183
FCXR151000	100k0	R184
FCXR000000	0	RX100
FCXR000000	0	RX101
FC4M009100	1009.01.00	WI101



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 010122	approved: Domingo Mele
	project n: F01-01B	title: Overall Sch.	
	product n: TAWA215		
number: 10.0550	version: 01.02	page: 1 of 1	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.		related to: circuit no: 11.0858-02.00 schema no: 10.0550-01.02 insertion file no: 81.0051-01.02	side: Component view: Reference	
		project n: F01-01B	title: Filters Ct.	
number: 33.0610	version: 01.02	product n: TAWA215		
drawn by: M. Amoros	date: 010123	approved: Domingo Mele		



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0858-02.00 schema no: 10.0550-01.02 insertion file no: 81.0051-01.02	side: Component view: Value	
number: 33.0611	version: 01.02	project n: F01-01B	title: Filters Ct.
drawn by: M. Amoros	date: 010123	product n: TAWA215 approved: Domingo Mele	

PARTS LIST: PRINTED CIRCUIT 11.0858.02.00 (TAWA215)

Code	Description	Reference
FCXCN40100	10n	C101
FCXCN40100	10n	C102
FCXCN26800	680p	C103
FCXCN26800	680p	C104
FCCE250470	47u/50	C105
FCCE250470	47u/50	C106
FCXCN21500	150p	C107
FCXCN21500	150p	C108
FCXCN40047	4n7	C109
FCXCN40047	4n7	C110
FCXCN42200	220n	C111
FCXCN40022	2n2	C112
FCXCN42200	220n	C113
FCXCN40022	2n2	C114
FCXCN42200	220n	C115
FCXCN40022	2n2	C116
FCXCN42200	220n	C117
FCXCN40022	2n2	C118
FCXCN18200	82p	C119
FCXCN18200	82p	C120
FCXCN18200	82p	C121
FCXCN18200	82p	C122
FCCE100000	47u/16	C123
FCCE100000	47u/16	C124
FCCE100000	47u/16	C125
FCCE100000	47u/16	C126
FCXCN18200	82p	C127
FCXCN18200	82p	C128
FCCE100000	47u/16	C129
FCCE100000	47u/16	C130
FCCE100000	47u/16	C131
FCCE100000	47u/16	C132
FCCDN02200	C22n 2%	C133
FCCDN02200	C22n 2%	C134
FCCDN02200	C22n 2%	C135
FCCDN02200	C22n 2%	C136
FCCDN02200	C22n 2%	C137
FCCDN02200	C22n 2%	C138
FCCDN02200	C22n 2%	C139
FCCDN02200	C22n 2%	C140
FCCE100000	47u/16	C141
FCCE100000	47u/16	C142
FCXCN41000	100n	C143
FCXCN41000	100n	C144
FCXCN41000	100n	C145
FCXCN41000	100n	C146
FCCITW0858	11.0858 Printed Board	CI101
FCXDD40070	1N4007	D101
FCXDD40070	1N4007	D102
FCIC072010	TL072	IC101
FCIC074010	TL074	IC102
FCIC074010	TL074	IC103
FCIC074010	TL074	IC104
FCIC074010	TL074	IC105
FCBASJ0200	YKB21-5009	J102
FCBASJ0200	YKB21-5009	J103

PARTS LIST: PRINTED CIRCUIT 11.0858.02.00 (TAWA215)

Code	Description	Reference
FCXR151000	100k0	R101
FCXR151000	100k0	R102
FCXR139090	9k09	R103
FCXR139090	9k09	R104
FCXR154750	475k	R105
FCXR154750	475k	R106
FCXR144120	41k2	R107
FCXR144120	41k2	R108
FCXR137870	7k87	R109
FCXR137870	7k87	R110
FCXR154750	475k	R111
FCXR154750	475k	R112
FCXR139090	9k09	R113
FCXR139090	9k09	R114
FCXR146810	68k1	R115
FCXR133320	3k32	R116
FCXR146810	68k1	R117
FCXR133320	3k32	R118
FCXR141300	13k0	R121
FCXR142000	20k0	R122
FCXR139090	9k09	R123
FCXR135110	5k11	R124
FCXR141300	13k0	R125
FCXR142000	20k0	R126
FCXR139090	9k09	R127
FCXR135110	5k11	R128
FCXR141000	10k0	R129
FCXR141000	10k0	R130
FCXR141000	10k0	R131
FCXR141000	10k0	R132
FCXR141000	10k0	R134
FCXR141000	10k0	R136
FCXR141000	10k0	R138
FCXR141000	10k0	R140
FCXR141430	14k3	R141
FCXR141430	14k3	R142
FCXR142430	24k3	R143
FCXR142430	24k3	R144
FCXR141000	10k0	R145
FCXR141000	10k0	R146
FCXR141000	10k0	R147
FCXR141000	10k0	R148
FCXR151000	100k0	R149
FCXR151000	100k0	R150
FCXR141000	10k0	R151
FCXR141000	10k0	R152
FCXR141000	10k0	R153
FCXR141000	10k0	R154
FCXR141500	15k0	R155
FCXR141500	15k0	R156
FCXR132000	2k0	R157
FCXR132000	2k0	R158
FCXR141000	10k0	R159
FCXR132430	2k43	R160
FCXR141000	10k0	R161
FCXR132000	2k0	R162

PARTS LIST: PRINTED CIRCUIT 11.0858.02.00 (TAWA215)

Code	Description	Reference
FCXR132000	2k0	R163
FCXR141000	10k0	R164
FCXR132430	2k43	R165
FCXR141000	10k0	R166
FCXR131540	1k54	R167
FCXR131540	1k54	R168
FCXR131540	1k54	R169
FCXR131540	1k54	R170
FCXR144750	47k5	R171
FCXR144750	47k5	R172
FCXR144750	47k5	R175
FCXR144750	47k5	R176
FCXR144750	47k5	R177
FCXR144750	47k5	R178
FCXR144750	47k5	R179
FCXR144750	47k5	R180
FCXR117500	75.0	R181
FCXR117500	75.0	R182
FCXR151000	100k0	R183
FCXR151000	100k0	R184
FCXR000000	0	RX100
FCXR000000	0	RX101
FC4M009100	1009.01.00	WI101