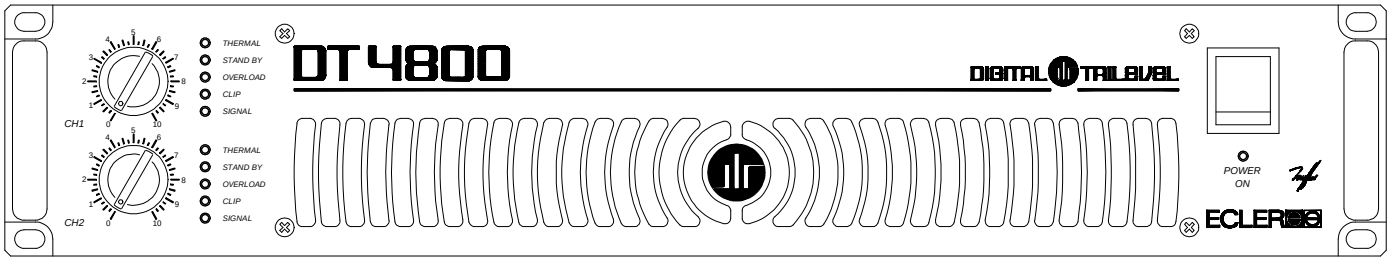
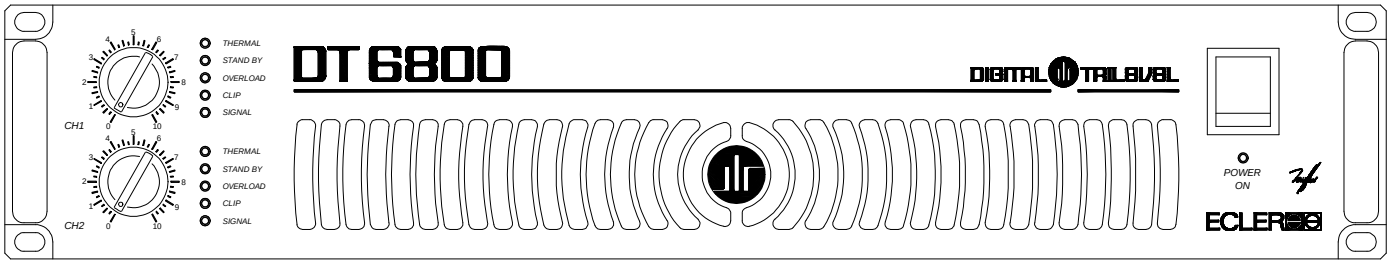
DT4800
DT6800
SERVICE MANUAL





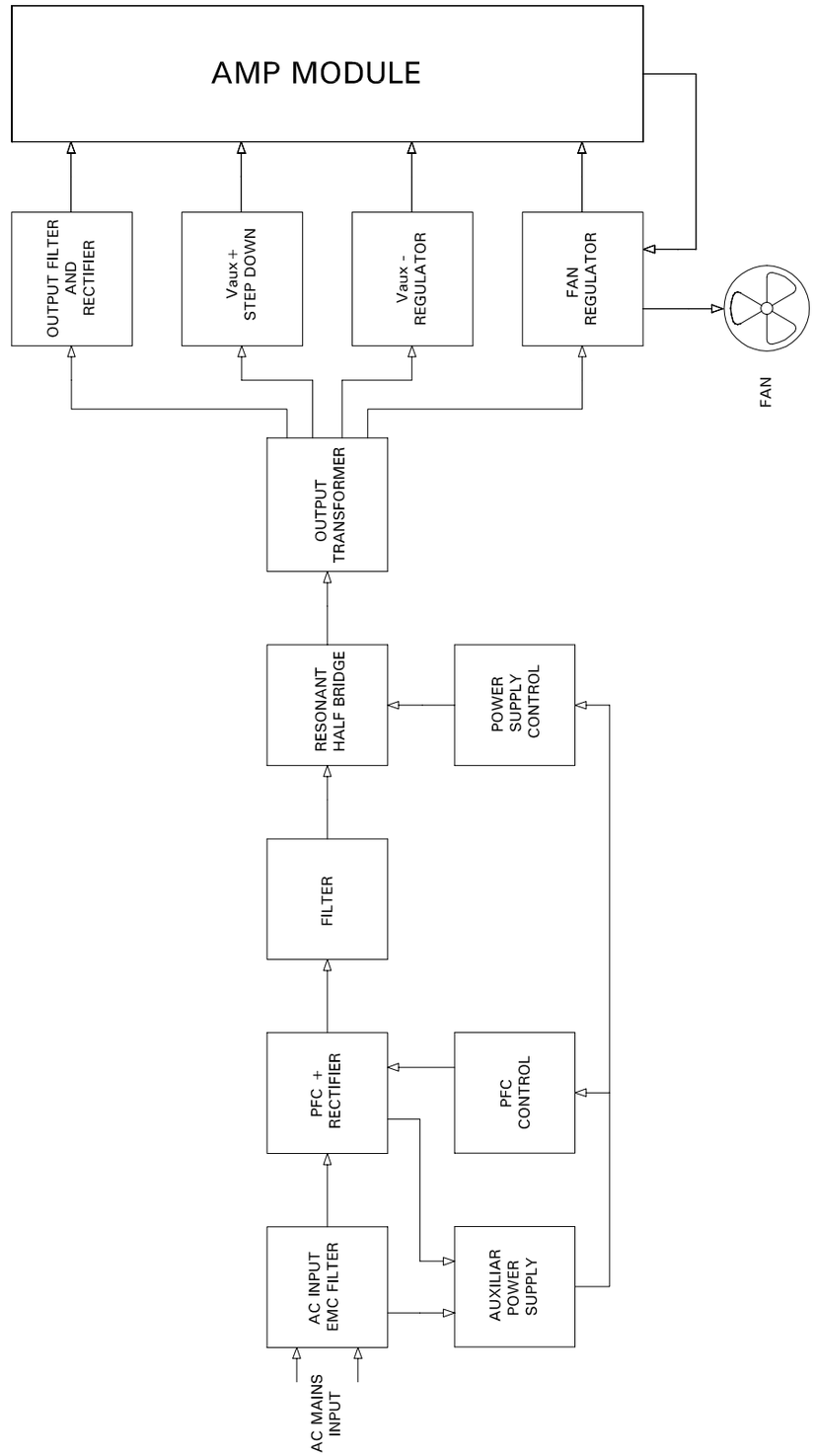
ECLER

AUDIO CREATIVE POWER

SERVICE MANUAL DT4800 / DT6800

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- FUNCTIONING DESCRIPTION
- SCHEMATICS
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- TECHNICAL CHARACTERISTICS
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- MECHANICAL DIAGRAM
- PACKING DIAGRAM



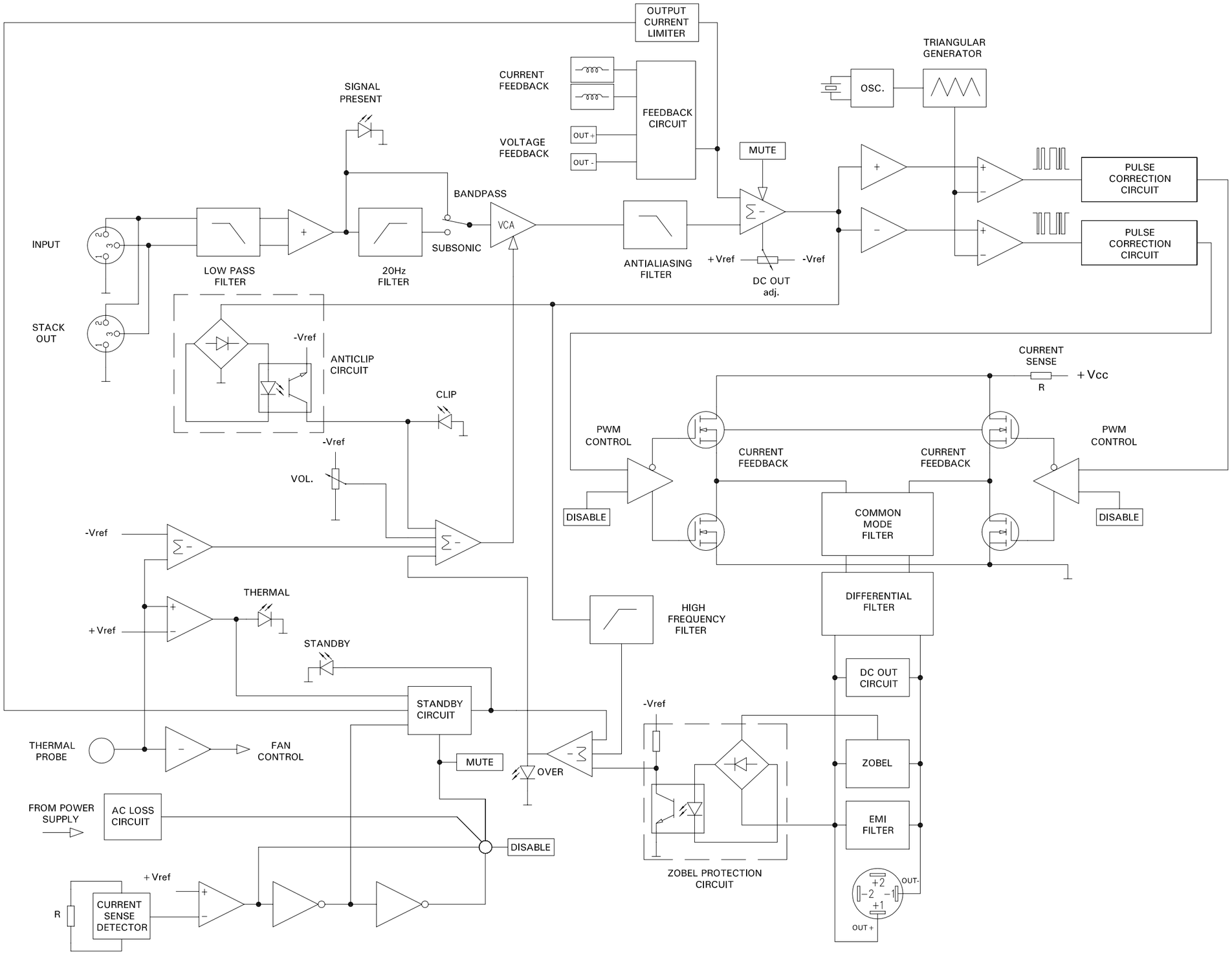
ECLEREE

drawn: Joan Queralt | date: 040315 | project: EP05-02 | product: DT6800/4800

approved:

number: 10.0666 | version 01.00

title: POWER SUPPLY BLOCK DIAGRAM



ECLEREE	drawn: Joan Queralt	date: 040305	project: EP05-02	product: DT6800/4800
number: 10.0667 version 01.03	approved:	title: POWER MODULE BLOCK DIAGRAM		

POWER SUPPLY.

All of the explanations written in this document will be based on the schematics shown on Figure 1. As it is not intended to generate a deep and precise description of its performance, due to the complexity of the circuitry, this document will explain briefly the basic principles on which this circuitry is based.

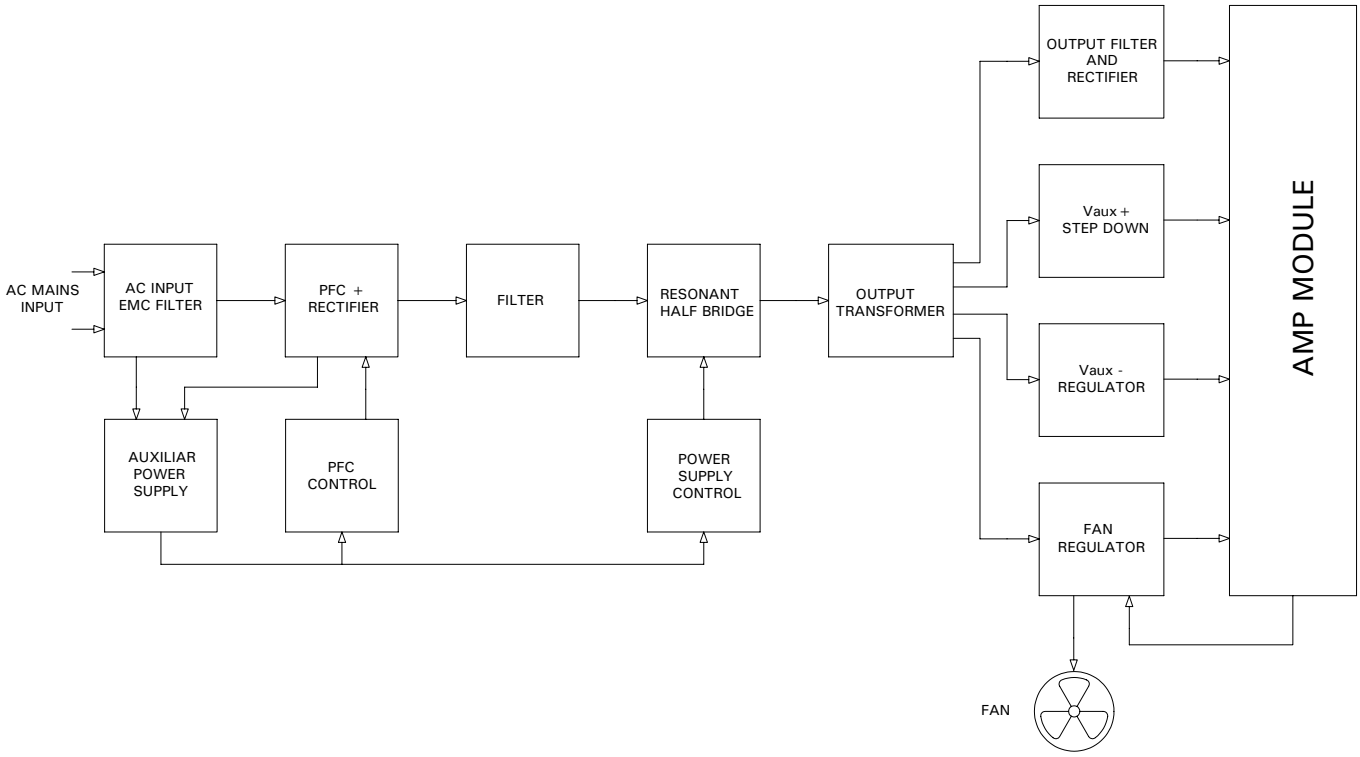


Figure 1

AC INPUT EMC FILTER.

The first element found is a mains supply filter, made of a double-π structure. This is intended to avoid RF signal leakage (EMC) from the unit to other equipment, connected to a common mains supply. The use of this kind of filters is quite usual in order to accomplish European CE-label recommendations. It is a classical filter type, including two toroidal cores, and both X- and Y-type capacitors.

RECTIFIER, PFC AND FILTER.

These blocks are used to obtain a corrected Power consumption Factor value (phi). This technique is used to reduce dramatically the harmonic contents of common domestic mains signals before it reaches the power supply itself. The PFC (Power Factor Corrector) reshapes its output mains waveform and produces a clear and smooth sine wave, in phase with the waveform delivered through the mains supply. When this happens, the unit taps power showing an external Power Factor (phi) almost equal to 1, thus essentially resistive. The corrector is based on a "boost" circuit, which results to be the most appropriate for this kind of active Power Factor Correction systems. By including a PFC in the power supply, the mains wiring used can be thinner (less #AWG), the efficiency ratio increases, and it also becomes easier to meet the European CE-label requirements.

PFC CONTROL.

Essentially, the controller consists on an analogical driver (a multiplier) which multiplies the rectified input mains waveform with an error-related voltage value, obtained from the output of the PFC circuit. The system tries constantly to match phases between the consumed mains current sine wave and the mains voltage waveform.

AUXILIARY POWER SUPPLY.

This circuit delivers an additional power source to the control circuitry, which is needed once the PFC starts to run. It is build around a 7815-type voltage regulator, fed from a voltage multiplier which is connected to a secondary winging of the PFC's toroidal inductor. This supply has also to provide power to the Resonant Half Bridge control circuit, which is explained next.

RESONANT HALF BRIDGE.

Resonant power supplies are conventionally shaped power supply structures (in this case, a half-bridged supply), but in which particularly the internal current and voltages are both tuned with the supply's own running frequency, this is, it's resonance rate. In our case, the supply resonance is driven by a serial RLC circuit. As the current and voltage flowing through R, L and C are in resonance, the switching losses are forced to be minimal. The inductor of the RLC-cell is in fact the primary coil of the supply's output transformer. By this way, also the power loss at the semiconductors is very small, thus reducing most of the circuitry's EMI radiations.

OUTPUT TRANSFORMER.

Behind this point, the power supply can be considered like a conventional one. From the output transformer's both secondary coils, one delivering high power and the other low voltage signals, all of the voltages required by the system will be obtained, once their waveforms are rectified, filtered and stabilized when needed, using the most appropriate circuitry for each function. In fact, this latest is the main target of our power supply.

POWER CIRCUITRY.

All of the explanations written in this document will be based on the schematics shown on Figure 1. As it is not intended to generate a deep and precise description of its performance, due to the complexity of the circuitry, this document will explain briefly the basic principles on which this circuitry is based.

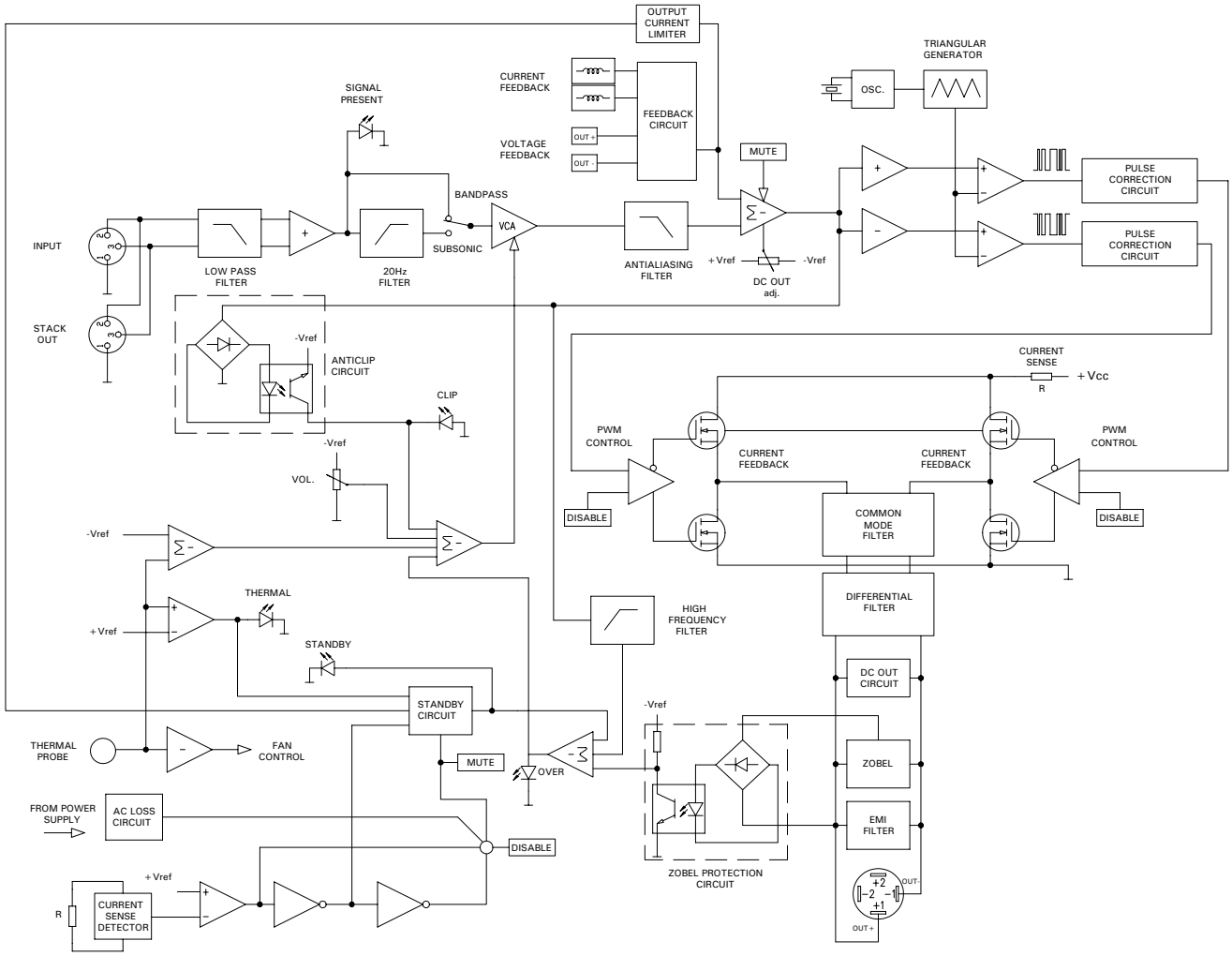


Figure 1

INPUT STAGES.

Our usual balanced input stage is used, with a stacking output split, a low-pass filter to avoid RF-noise humming on input signals, and a sub-sonic cut-off filter, internally ON-OFF switchable, which allows to reject signals below the 20Hz constant cut off frequency.

ANTI-ALIASING FILTER.

The anti-aliasing filter, like on every digital equipment, is intended to allow signal processing of input signal bandwidths just up to a half the system's sample rate ($BW_{input} < {}^1/_2 \cdot SR$), to avoid A/D conversion errors. Our system has an input signal bandwidth of 35KHz, so the anti-aliasing cut-off frequency is slightly above this value.

THE PULSE WIDTH MODULATOR (PDM).

The amplifier runs on a 250KHz switching rate. This frequency is obtained from a 8MHz xtal, whose oscillation frequency is passed through a frequency divider, in order to bring it back to a 500KHz. This allows to generate the 250KHz sawtooth wave, which will be the carrier signal used by the PWM modulators.

The sawtooth waveform is obtained by processing this 500KHz square signal through an integrator circuit, which produces a 250KHz $4V_{pp}$ sawtooth wave.

As the modulator used operates in BD-mode, this module has two PWM modulators, which compare the same sawtooth carrier with each their own input signal, the modulating *audio*+ and *audio*- signals, which in fact are the same but in phase opposition, obtained by processing the module's main input signal.

Each of this comparator is bound to a half power stage, and has two output nodes, Q and Q', which are the signals used to drive both upper and lower MoSFET's. The driving signals have a dead transition time, and operate between a maximum and a minimum pulse width, in order to always avoid both upper and lower MoSFET's to be conducting at the same time in one single branch.

As already told, the power stage is build using a bridged structure, this is, each branch has two half-bridges, and the module's loading impedance hangs between their outputs. This structure allows us to use an asymmetric power supply, which will have to deliver just a half of the voltage needed if the same power level would have to be obtained from each half-bridge module. Each half-bridge delivers a powerful PWM-signal, which, once it is filtered, generates two opposed-phase low frequency AC signals.

OUTPUT FILTERS AND DC-PROTECTION.

The output filters, together with the DC-Out protection circuitry, are made of this elements:

- A Differential mode filter.
- A Common mode filter.
- An EMI enhancement filter.
- A Zobel network-type compensating circuitry.
- The DC-Out protection circuitry.

The Differential mode-configured filter is used to clean high-frequency voltage from the output signal. It is made of two capacitors and two induction coils. Such a filter is placed on each of the half-bridge branches connected to the loudspeakers. Using this filters, the 250KHz carrier signal is rejected, and only clear audio signal reaches the loudspeakers.

The common mode-configured filter is also made of a capacitor and an inductor, and is used to eliminate the carrier wave leakages from each output, as this noise signal has the same polarity on each half-bridge output when referred to signal ground (0V).

The EMI-enhancement filter is placed nearby the final Speakon-type output connection. This has to be done in order to avoid any kind of RF signal generated inside the unit to be radiated into the environment.

The DC-Out protection circuitry is the same as the used in our analogue power amplifiers. In case this circuit detects DC-levels, or very low frequencies (below 10Hz) with more than 30V amplitude between the unit's OUT+ and OUT- outputs, a TRIAC shorts the output poles, avoiding the loudspeakers from being damaged by DC-signals.

FEEDBACK.

In order to ensure the stability of this modules, the correct feedback type has to be chosen. When referring to PWM amplifiers, this feedback networks are more critical than those used in analogue amplifiers. In our case, a double feedback system is being used: sampling the amplifier's output voltage after filtering, and the current flowing through one of the differential filter coils.

The improvement obtained by using this second type of current-based feedback loop consists in the possibility to reduce the output's LC filter from a second to a first order type of filter.

MUTE CIRCUITRY.

The Mute circuitry modifies the feedback system in order to improve stability when the unit is turned on, this is, when the output modules suddenly receive the pulse trains, just after the amplifier's warm-up cycle. The mute circuitry damps the feedback's adding amplifier gain for a while, lasting a little bit more than the main unit's standby cycle.

PROTECTIONS.

There are two main types of protections used in this modules: those who act when a dangerous event is detected, and those who prevent from troubles by sampling the amplifier's output voltage and power.

Included in the first type of protections, there are:

- Protection against current overflow.
- Overheat protection.
- Run-up Protection (Standby cycle)
- Turnoff protection (AC Loss)

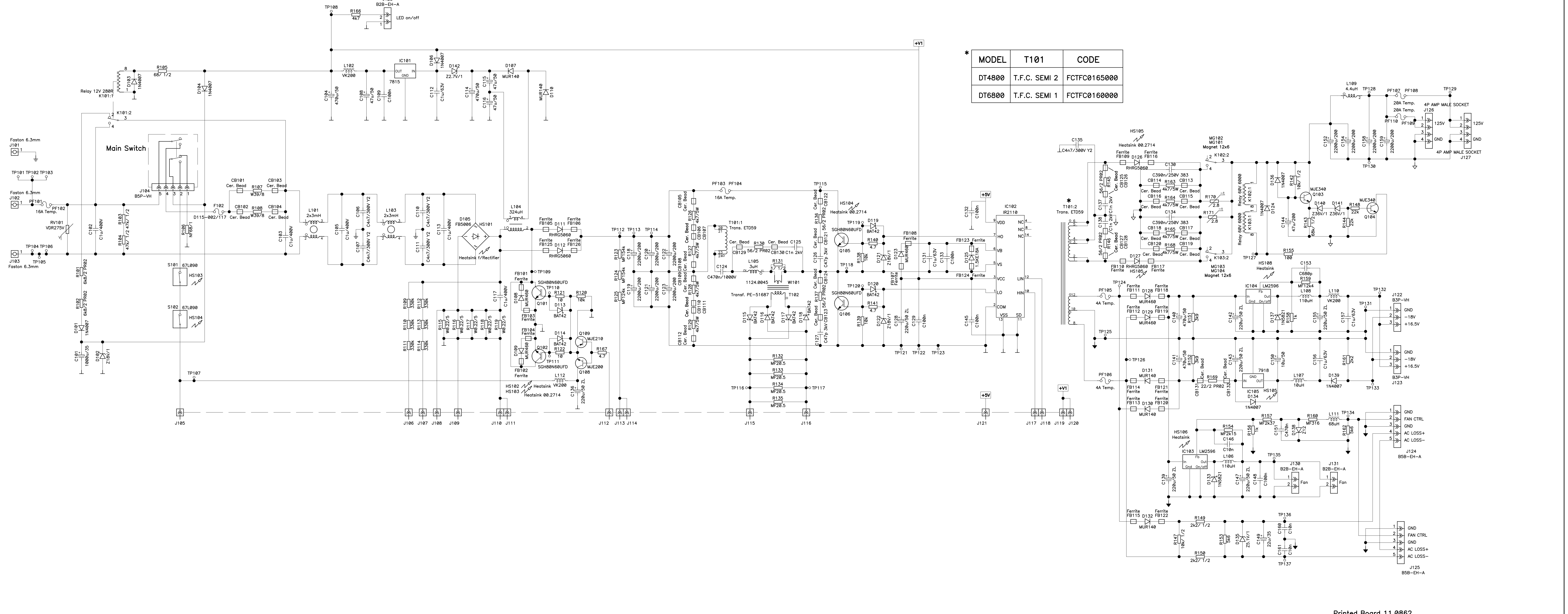
The second type of protections include:

- Anti-clipping protections.
- Temperature-controlled power damping system.
- Power damping, depending on the voltage measured on the Zobel-network's resistors.
- Cooling fan speed controlled by temperature.
- Progressive power increment after standby cycle.

All of the systems included in the first group act on the DISABLE control signal, as this signal cuts off the upper MoSFET's driving signal, on both half-bridges. See the system's block diagram.

The current overflow protection samples the current delivered by the power supply, using a shunted sensor. When exceeding the safety limits, the voltage obtained from this sensor trigs the current detector, which activates the DISABLE signal.

The second group of protections work all by correcting the VCA circuitry control voltage. However, a special mention should be done on two of them. First of all, the unit's power damping as a function of the output frequency, in order to avoid the appearance of excessive voltage and to keep the system stabilized even when the amplifier is clipping. This is obtained by using a low-pass filter with a 3,5KHz -6dB cutoff frequency. Secondly, the power level controlled by the voltage on the Zobel network's resistor. This is used to avoid this resistor from burning, even when the amplifier is processing high frequency signals for longer periods of time.



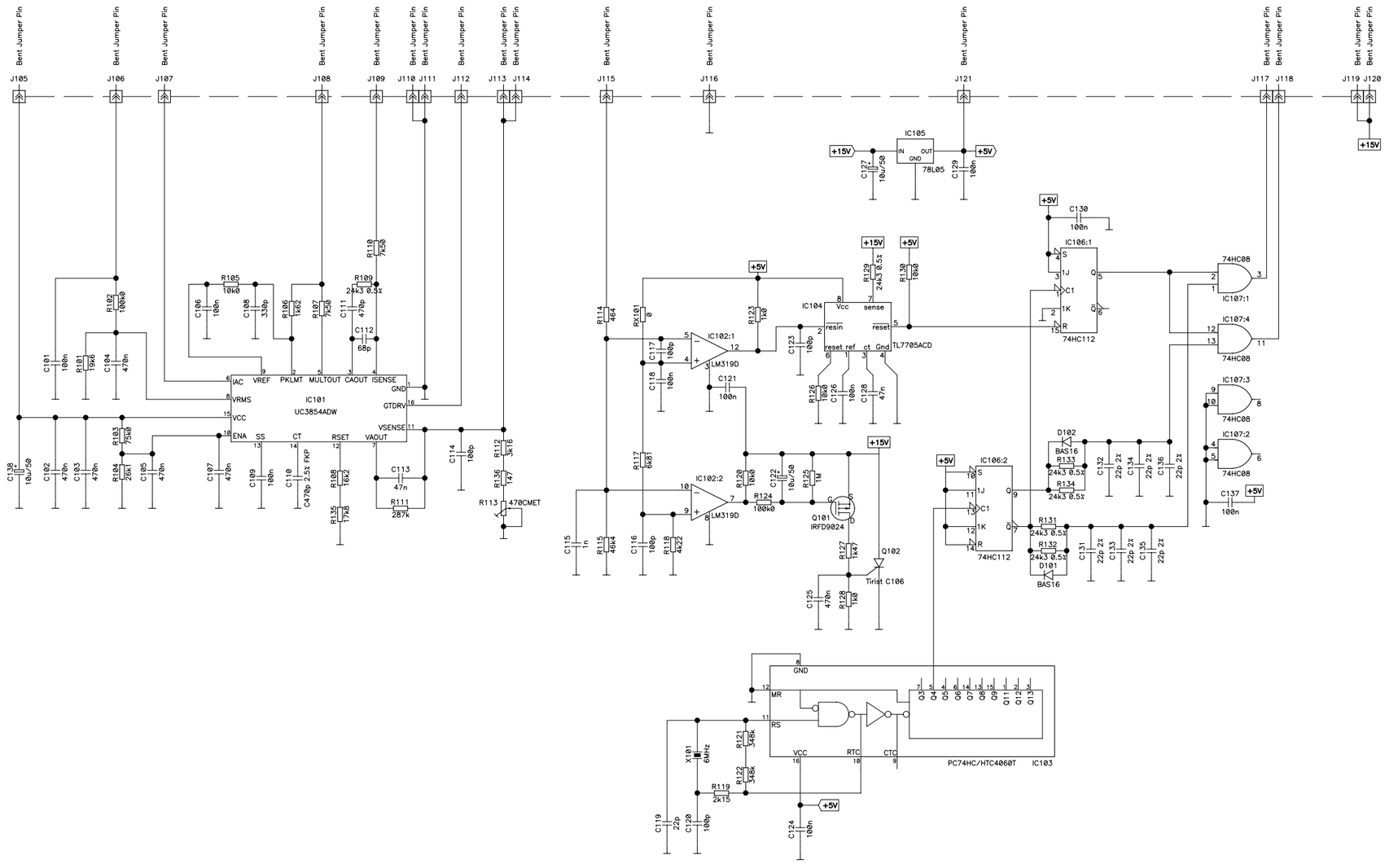
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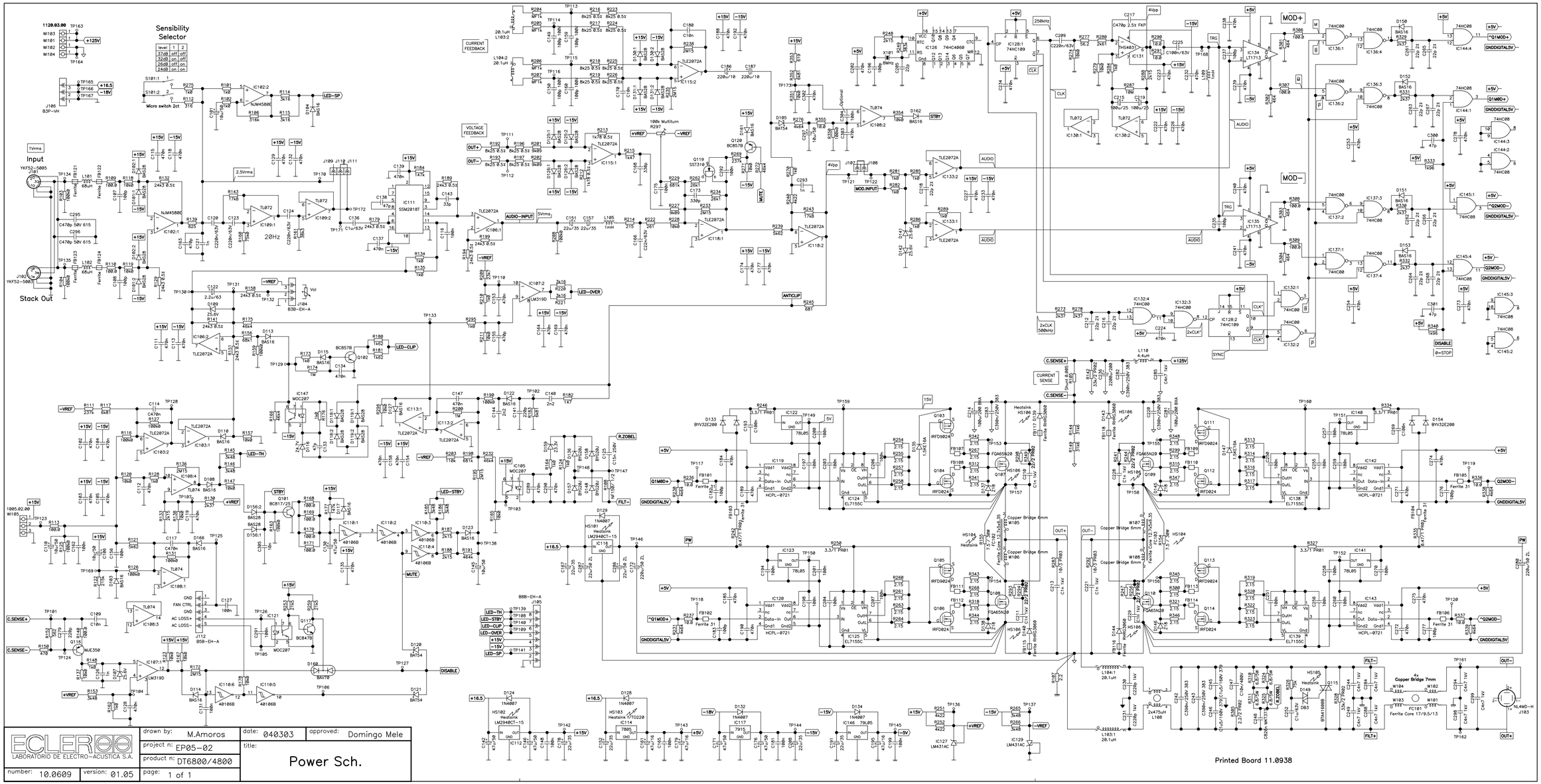
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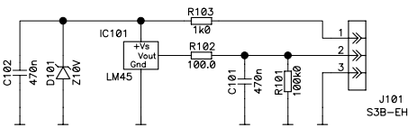
drawn by: M.Amoros	date: 040304	approved: J.M. Mas	
project n: EP05-02	title: Switching Power Supply		
product n: DT6800/4800			
number: 10.0553	version: 01.06	page: 1 of 1	



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M.Amoros	date: 010531	approved: J.M. Mas
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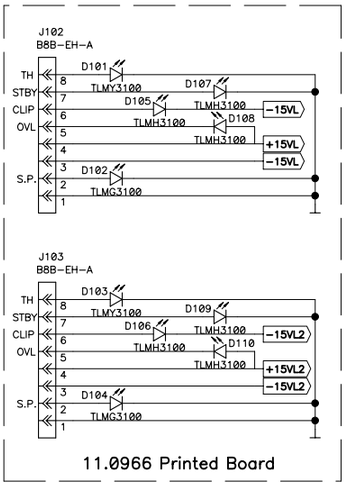


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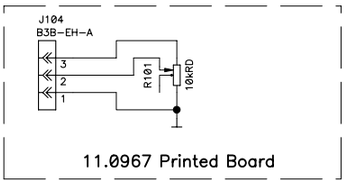


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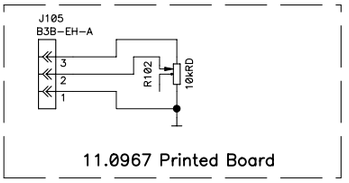
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number: 10.0669	version: 01.00	page: 1 of 1		



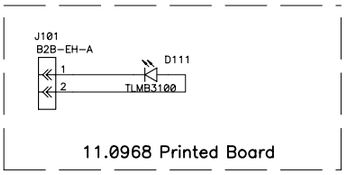
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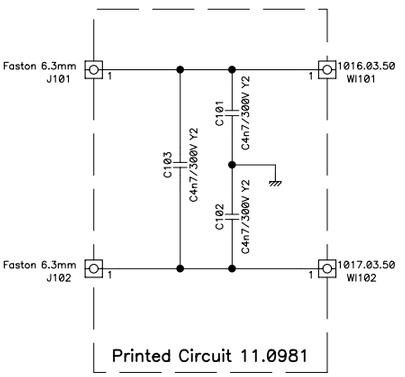
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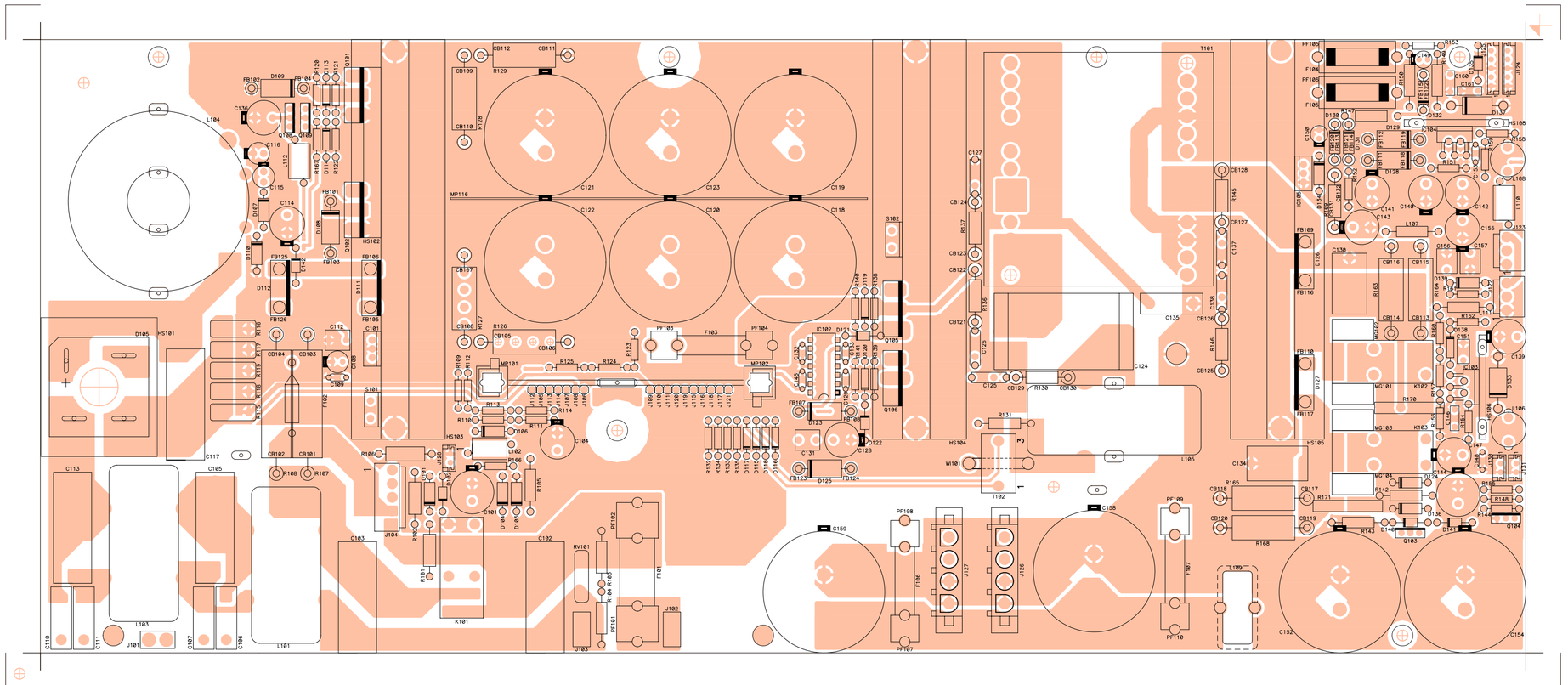
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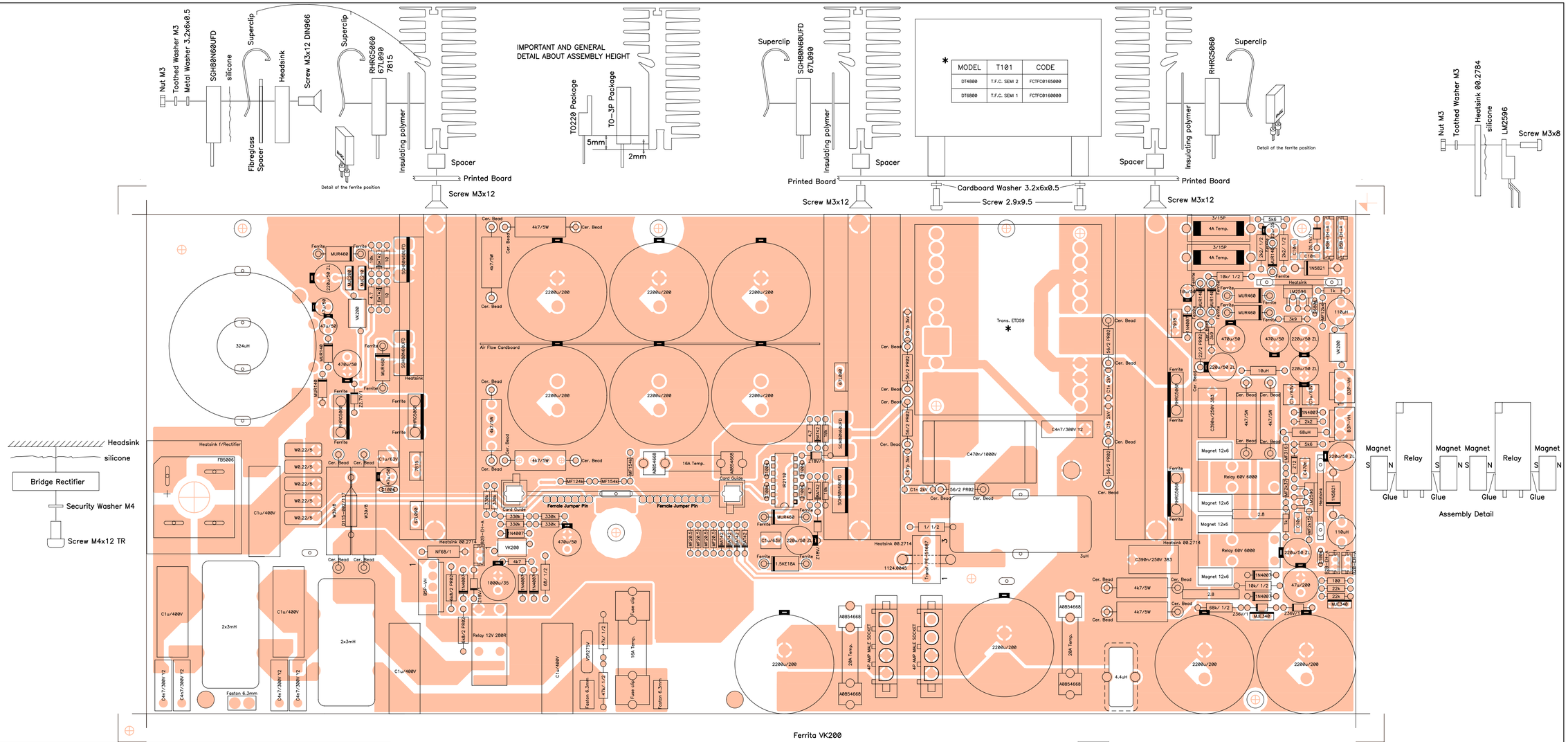
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number: 10.0650	version: 01.02	page: 1 of 1		



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		project n: EP05-01	title: Mains Filter	
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number: 10.0659	version: 01.01	page: 1 of 1		



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drawn by: M. Amoros	date: 040304	approved: J.M. Mas	title: Switching Power Supply



MODEL	T101	CODE
DT4800	T.F.C. SEMI 2	FCTFC0165000
DT6800	T.F.C. SEMI 1	FCTFC0160000

IMPORTANT NOTE: Apply Glue between components as shown in specific drawing

ECLER
LABORATORIO DE ELECTRO-ACUSTICA S.A.

related to: circuit no: 11.0862-07.01 schema no: 10.0553-01.06 insertion file no:		side: Component view: Value	
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drawn by: M. Amoros	date: 040304	product n: DT6800/4800	
		approved: J.M. Mas	

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FCCC15004700	C4n7/300V Y2	C107
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FCCDK2001000	C1u/63V	C112
FCCDH7010100	C1u/400V	C113
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FCDD10027000	Z2.7V/1	D142
FCFUS8040000	16A Temp.	F101
FCFUSTER0000	D115-002/117	F102
FCFUS6040000	16A Temp.	F103
FCFUS5020000	4A Temp.	F104
FCFUS5020000	4A Temp.	F105
FCFUS6045000	20A Temp.	F106
FCFUS6045000	20A Temp.	F107
FCFER4322000	Ferrite	FB101
FCFER4322000	Ferrite	FB102
FCFER4322000	Ferrite	FB103
FCFER4322000	Ferrite	FB104
FCFER4322000	Ferrite	FB105
FCFER4322000	Ferrite	FB106
FCFER4322000	Ferrite	FB107
FCFER4322000	Ferrite	FB108
FCFER4322000	Ferrite	FB109
FCFER4322000	Ferrite	FB110
FCFER4322000	Ferrite	FB111
FCFER4322000	Ferrite	FB112
FCFER4322000	Ferrite	FB113
FCFER4322000	Ferrite	FB114
FCFER4322000	Ferrite	FB115
FCFER4322000	Ferrite	FB116
FCFER4322000	Ferrite	FB117
FCFER4322000	Ferrite	FB118
FCFER4322000	Ferrite	FB119
FCFER4322000	Ferrite	FB120
FCFER4322000	Ferrite	FB121
FCFER4322000	Ferrite	FB122
FCFER4322000	Ferrite	FB123
FCFER4322000	Ferrite	FB124
FCFER4322000	Ferrite	FB125

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT6800)

Code	Description	Reference
FCFER4322000	Ferrite	FB126
FCRAD1151500	Heatsink f/Rectifier	HS101
FCRAD2706000	Heatsink	HS102
FCRAD0500000	Heatsink 00.2714	HS103
FCRAD0500000	Heatsink 00.2714	HS104
FCRAD0500000	Heatsink 00.2714	HS105
FP0278400000	Heatsink	HS106
FP0278400000	Heatsink	HS108
FCREG7815000	7815	IC101
FCIC21100000	IR2110	IC102
FCREG2596000	LM2596	IC103
FCREG2596000	LM2596	IC104
FCREG7918000	7918	IC105
FCTIRKON0000	Insulating polymer	IN101
FCTIRKON0000	Insulating polymer	IN102
FCTIRKON0000	Insulating polymer	IN103
FCTERMF63000	Faston 6.3mm	J101
FCTERMF63000	Faston 6.3mm	J102
FCTERMF63000	Faston 6.3mm	J103
FCCTJ1005000	B5P-VH	J104
FCTERM007000	Female Jumper Pin	J105
FCTERM007000	Female Jumper Pin	J106
FCTERM007000	Female Jumper Pin	J107
FCTERM007000	Female Jumper Pin	J108
FCTERM007000	Female Jumper Pin	J109
FCTERM007000	Female Jumper Pin	J110
FCTERM007000	Female Jumper Pin	J111
FCTERM007000	Female Jumper Pin	J112
FCTERM007000	Female Jumper Pin	J113
FCTERM007000	Female Jumper Pin	J114
FCTERM007000	Female Jumper Pin	J115
FCTERM007000	Female Jumper Pin	J116
FCTERM007000	Female Jumper Pin	J117
FCTERM007000	Female Jumper Pin	J118
FCTERM007000	Female Jumper Pin	J119
FCTERM007000	Female Jumper Pin	J120
FCTERM007000	Female Jumper Pin	J121
FCCTJ1003000	B3P-VH	J122
FCCTJ1003000	B3P-VH	J123
FCCTM0005000	B5B-EH-A	J124
FCCTM0005000	B5B-EH-A	J125
FCCTAMP04000	4P AMP MALE SOCKET	J126
FCCTAMP04000	4P AMP MALE SOCKET	J127
FCCTM0002000	B2B-EH-A	J128
FCCTM0002000	B2B-EH-A	J130
FCCTM0002000	B2B-EH-A	J131
FCREL1007300	Relay 12V 280R	K101
FCREL1060000	Relay 60V 6000	K102
FCREL1060000	Relay 60V 6000	K103
FCBB00300000	2x3mH	L101
FCFERVK20000	VK200	L102
FCBB00300000	2x3mH	L103
FCBB00330000	183uH	L104
FCBB00320000	3uH	L105
FCBB00360000	110uH	L106
FCCHK0010000	10uH	L107

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT6800)

Code	Description	Reference
FCBB00360000	110uH	L108
FCBB00310000	4.4uH	L109
FCFERVK20000	VK200	L110
FCCHK0068000	68uH	L111
FCFERVK20000	VK200	L112
FCIMAN000000	Magnet 12x6	MG101
FCIMAN000000	Magnet 12x6	MG102
FCIMAN000000	Magnet 12x6	MG103
FCIMAN000000	Magnet 12x6	MG104
FCGUIACI0000	Card Guide	MP101
FCGUIACI0000	Card Guide	MP102
FCBRID50L000	Wrap-it-ties T50L	MP103
FCBRID50L000	Wrap-it-ties T50L	MP104
FCBRID50L000	Wrap-it-ties T50L	MP105
FCPINZAM1000	Superclip 5k	MP106
FCPINZAM1000	Superclip 5k	MP107
FCPINZAM1000	Superclip 5k	MP108
FCPINZAM1000	Superclip 5k	MP109
FCPINZAM1000	Superclip 5k	MP110
FCPINZAM1000	Superclip 5k	MP111
FCPINZAM1000	Superclip 5k	MP112
FCPINZAM1000	Superclip 5k	MP113
FCPINZAM1000	Superclip 5k	MP118
FCPINZAM1000	Superclip 5k	MP119
FCAISLPR0100	Air Flow Cardboard	MP116
FCSEPFI03000	Fibreglass Spacer	MP117
FCTUE0030000	Nut M3	NV102
FCTUE0030000	Nut M3	NV103
FCTUE0030000	Nut M3	NV104
FCTUE0030000	Nut M3	NV105
FCPORF020000	Fuse clip	PF101
FCPORF020000	Fuse clip	PF102
FCPORF010000	A0854668	PF103
FCPORF010000	A0854668	PF104
FCPORF315000	3/15P	PF105
FCPORF315000	3/15P	PF106
FCPORF010000	A0854668	PF107
FCPORF010000	A0854668	PF108
FCPORF010000	A0854668	PF109
FCPORF010000	A0854668	PF110
FCTR80N60000	SGH80N60UFD	Q101
FCTR80N60000	SGH80N60UFD	Q102
FCTR34000000	MJE340	Q103
FCTR34000000	MJE340	Q104
FCTR80N60000	SGH80N60UFD	Q105
FCTR80N60000	SGH80N60UFD	Q106
FCTR20000000	MJE200	Q108
FCTR21000000	MJE210	Q109
FCRP54680000	6k8/2 PR02	R101
FCRP54680000	6k8/2 PR02	R102
FCRC25470000	47k/ 1/2	R103
FCRC25470000	47k/ 1/2	R104
FCRC22680000	68/ 1/2	R105
FCRF42680000	NF68/1	R106
FCRY00030000	W39/8	R107
FCRY00030000	W39/8	R108

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT6800)

Code	Description	Reference
FCRC06330000	330k	R109
FCRC06330000	330k	R110
FCRC06330000	330k	R111
FCRC06330000	330k	R112
FCRC06330000	330k	R113
FCRC06330000	330k	R114
FCRY00010000	W0.22/5	R115
FCRY00010000	W0.22/5	R116
FCRY00010000	W0.22/5	R117
FCRY00010000	W0.22/5	R118
FCRY00010000	W0.22/5	R119
FCRC05100000	10k	R120
FCRC02100000	10	R121
FCRC02100000	10	R122
FCRB06154000	MF154k	R123
FCRB06154000	MF154k	R124
FCRB06124000	MF124k	R125
FCRY00040000	4k7/5W	R126
FCRY00040000	4k7/5W	R127
FCRY00040000	4k7/5W	R128
FCRY00040000	4k7/5W	R129
FCRP52560000	56/2 PR02	R130
FCRC21100000	1/ 1/2	R131
FCRB02205000	MF20.5	R132
FCRB02205000	MF20.5	R133
FCRB02205000	MF20.5	R134
FCRB02205000	MF20.5	R135
FCRP52560000	56/2 PR02	R136
FCRP52560000	56/2 PR02	R137
FCRC05100000	10k	R138
FCRC05100000	10k	R139
FCRC01470000	4.7	R140
FCRC01470000	4.7	R141
FCRC25100000	10k/ 1/2	R142
FCRC25680000	68k/ 1/2	R143
FCRC05220000	22k	R144
FCRP52560000	56/2 PR02	R145
FCRP52560000	56/2 PR02	R146
FCRC25100000	10k/ 1/2	R147
FCRC05220000	22k	R148
FCRC24220000	2k2/ 1/2	R149
FCRC24220000	2k2/ 1/2	R150
FCRC04390000	3k9	R151
FCRC04390000	3k9	R152
FCRC04560000	5k6	R153
FCRB04215000	MF2k15	R154
FCRC03100000	100	R155
FCRC04100000	1k	R156
FCRB04237000	MF2k37	R157
FCRC04100000	1k	R158
FCRB05124000	MF12k4	R159
FCRB03316000	MF316	R160
FCRC04220000	2k2	R161
FCRC04560000	5k6	R162
FCRY00040000	4k7/5W	R163
FCRY00040000	4k7/5W	R164

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT6800)

Code	Description	Reference
FCRY00040000	4k7/5W	R165
FCRC04470000	4k7	R166
FCRC01470000	4.7	R167
FCRY00040000	4k7/5W	R168
FCRP52220000	22/2 PR02	R169
FCPTC0028000	2.8	R170
FCPTC0028000	2.8	R171
FCVDR0275000	VDR275V	RV101
FCINTTER1000	67L090	S101
FCINTTER1000	67L090	S102
FCT380401200	Screw M4x12 TR	SC100
FCT750300800	Screw M3x8	SC102
FCT750300800	Screw M3x8	SC103
FCT350301200	Screw M3x12	SC104
FCT350301200	Screw M3x12	SC105
FCT350301200	Screw M3x12	SC106
FCT350301200	Screw M3x12	SC107
FCT350301200	Screw M3x12	SC108
FCT350301200	Screw M3x12	SC109
FCT350301200	Screw M3x12	SC110
FCT350301200	Screw M3x12	SC111
FCT400290900	Screw 2.9x9.5	SC112
FCT400290900	Screw 2.9x9.5	SC113
FCSEPPM00000	Plastic Spacer f/board ct.	SP101
FCSEPPM00000	Plastic Spacer f/board ct.	SP102
FCSEPPM00000	Plastic Spacer f/board ct.	SP103
FCSEPPM00000	Plastic Spacer f/board ct.	SP104
FCSEPPM00000	Plastic Spacer f/board ct.	SP105
FCSEPPM00000	Plastic Spacer f/board ct.	SP106
FCTFC0160000	Trans. ETD59	T101
FCTFC5168700	Transf. PE-51687	T102
FCARDE030000	Toothed Washer f/M3	WA102
FCARDE030000	Toothed Washer f/M3	WA103
FCARM3200000	Metal Washer 3.2x6x0.5	WA104
FCARM3200000	Metal Washer 3.2x6x0.5	WA105
FCARDE030000	Toothed Washer f/M3	WA106
FCARDE030000	Toothed Washer f/M3	WA107
FCARS4000000	Security washer M4	WA108
FCARC3200000	Cardboard Washer 3.2x6x0.5	WA109
FCARC3200000	Cardboard Washer 3.2x6x0.5	WA110
FC0F12404500	1124.0045	WI101

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT4800)

Code	Description	Reference
FCCE21100000	1000u/35	C101
FCCDH7010100	C1u/400V	C102
FCCDH7010100	C1u/400V	C103
FCCE25470000	470u/50	C104
FCCDH7010100	C1u/400V	C105
FCCC15004700	C4n7/300V Y2	C106
FCCC15004700	C4n7/300V Y2	C107
FCCE25047000	47u/50	C108
FCCC15101000	C100n	C109
FCCC15004700	C4n7/300V Y2	C110
FCCC15004700	C4n7/300V Y2	C111
FCCDK2001000	C1u/63V	C112
FCCDH7010100	C1u/400V	C113
FCCE25470000	470u/50	C114
FCCE25047000	47u/50	C115
FCCE25047000	47u/50	C116
FCCDH7010100	C1u/400V	C117
FCCE36022000	2200u/200	C118
FCCE36022000	2200u/200	C119
FCCE36022000	2200u/200	C120
FCCE36022000	2200u/200	C121
FCCE36022000	2200u/200	C122
FCCE36022000	2200u/200	C123
FCCDL5470000	C470n/1000V	C124
FCCCD5100000	C1n 2kV	C125
FCCCD4710000	C47p 3kV	C126
FCCCD4710000	C47p 3kV	C127
FCCE25220100	220u/50 ZL	C128
FCCC15101000	C100n	C129
FCCDM5390000	C390n/250V 383	C130
FCCDK2001000	C1u/63V	C131
FCCC15101000	C100n	C132
FCCC15101000	C100n	C133
FCCDM5390000	C390n/250V 383	C134
FCCC15004700	C4n7/300V Y2	C135
FCCE25220100	220u/50 ZL	C136
FCCCD5100000	C1n 2kV	C137
FCCCD5100000	C1n 2kV	C138
FCCE25220100	220u/50 ZL	C139
FCCE25470000	470u/50	C140
FCCE25470000	470u/50	C141
FCCE25220100	220u/50 ZL	C142
FCCE25220100	220u/50 ZL	C143
FCCE35004700	47u/200	C144
FCCC15101000	C100n	C145
FCCDK1010000	C10n	C146
FCCE25220100	220u/50 ZL	C147
FCCC15101000	C100n	C148
FCCE20022000	22u/35	C149
FCCE25010000	10u/50	C150
FCCDK1470000	C470n	C151
FCCE36022000	2200u/200	C152
FCCC12680000	C680p	C153
FCCE36022000	2200u/200	C154
FCCE25220100	220u/50 ZL	C155
FCCDK2001000	C1u/63V	C156

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT4800)

Code	Description	Reference
FCCDK2001000	C1u/63V	C157
FCCE36022000	2200u/200	C158
FCCE36022000	2200u/200	C159
FCCDK1010000	C10n	C160
FCCDK1010000	C10n	C161
FCPERL255000	Cer. Bead	CB101
FCPERL255000	Cer. Bead	CB102
FCPERL255000	Cer. Bead	CB103
FCPERL255000	Cer. Bead	CB104
FCPERL255000	Cer. Bead	CB105
FCPERL255000	Cer. Bead	CB106
FCPERL255000	Cer. Bead	CB107
FCPERL255000	Cer. Bead	CB108
FCPERL255000	Cer. Bead	CB109
FCPERL255000	Cer. Bead	CB110
FCPERL255000	Cer. Bead	CB111
FCPERL255000	Cer. Bead	CB112
FCPERL255000	Cer. Bead	CB113
FCPERL255000	Cer. Bead	CB114
FCPERL255000	Cer. Bead	CB115
FCPERL255000	Cer. Bead	CB116
FCPERL255000	Cer. Bead	CB117
FCPERL255000	Cer. Bead	CB118
FCPERL255000	Cer. Bead	CB119
FCPERL255000	Cer. Bead	CB120
FCPERL255000	Cer. Bead	CB121
FCPERL255000	Cer. Bead	CB122
FCPERL255000	Cer. Bead	CB123
FCPERL255000	Cer. Bead	CB124
FCPERL255000	Cer. Bead	CB125
FCPERL255000	Cer. Bead	CB126
FCPERL255000	Cer. Bead	CB127
FCPERL255000	Cer. Bead	CB128
FCPERL255000	Cer. Bead	CB129
FCPERL255000	Cer. Bead	CB130
FCPERL255000	Cer. Bead	CB131
FCPERL255000	Cer. Bead	CB132
FCCI00862000	Printed Board 11.0862	CI101
FCDD14007000	1N4007	D101
FCDD10180000	Z18V/1	D102
FCDD14007000	1N4007	D103
FCDD14007000	1N4007	D104
FCREC5006000	FB5006	D105
FCDD14007000	1N4007	D106
FCDDMUR14000	MUR140	D107
FCDDMUR44000	MUR460	D108
FCDDMUR44000	MUR460	D109
FCDDMUR14000	MUR140	D110
FCDD50600000	RHRG5060	D111
FCDD50600000	RHRG5060	D112
FCDDBAT42000	BAT42	D113
FCDDBAT42000	BAT42	D114
FCDDBAT42000	BAT42	D115
FCDDBAT42000	BAT42	D116
FCDDBAT42000	BAT42	D117
FCDDBAT42000	BAT42	D118

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT4800)

Code	Description	Reference
FCDDBAT42000	BAT42	D119
FCDDBAT42000	BAT42	D120
FCDD10180000	Z18V/1	D121
FCDD10180000	Z18V/1	D122
FCDDMUR44000	MUR460	D123
FCDD14007000	1N4007	D124
FCDDKE180000	1.5KE18A	D125
FCDD50600000	RHRG5060	D126
FCDD50600000	RHRG5060	D127
FCDDMUR44000	MUR460	D128
FCDDMUR44000	MUR460	D129
FCDDMUR14000	MUR140	D130
FCDDMUR14000	MUR140	D131
FCDDMUR14000	MUR140	D132
FCDD1N582100	1N5821	D133
FCDD14007000	1N4007	D134
FCDD10051000	Z5.1V/1	D135
FCDD14007000	1N4007	D136
FCDD1N582100	1N5821	D137
FCDD04120000	Z12	D138
FCDD14007000	1N4007	D139
FCDD10360000	Z36V/1	D140
FCDD10360000	Z36V/1	D141
FCDD10027000	Z2.7V/1	D142
FCFUS8040000	16A Temp.	F101
FCFUSTER0000	D115-002/117	F102
FCFUS6040000	16A Temp.	F103
FCFUS5020000	4A Temp.	F104
FCFUS5020000	4A Temp.	F105
FCFUS6045000	20A Temp.	F106
FCFUS6045000	20A Temp.	F107
FCFER4322000	Ferrite	FB101
FCFER4322000	Ferrite	FB102
FCFER4322000	Ferrite	FB103
FCFER4322000	Ferrite	FB104
FCFER4322000	Ferrite	FB105
FCFER4322000	Ferrite	FB106
FCFER4322000	Ferrite	FB107
FCFER4322000	Ferrite	FB108
FCFER4322000	Ferrite	FB109
FCFER4322000	Ferrite	FB110
FCFER4322000	Ferrite	FB111
FCFER4322000	Ferrite	FB112
FCFER4322000	Ferrite	FB113
FCFER4322000	Ferrite	FB114
FCFER4322000	Ferrite	FB115
FCFER4322000	Ferrite	FB116
FCFER4322000	Ferrite	FB117
FCFER4322000	Ferrite	FB118
FCFER4322000	Ferrite	FB119
FCFER4322000	Ferrite	FB120
FCFER4322000	Ferrite	FB121
FCFER4322000	Ferrite	FB122
FCFER4322000	Ferrite	FB123
FCFER4322000	Ferrite	FB124
FCFER4322000	Ferrite	FB125

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT4800)

Code	Description	Reference
FCFER4322000	Ferrite	FB126
FCRAD1151500	Heatsink f/Rectifier	HS101
FCRAD2706000	Heatsink	HS102
FCRAD0500000	Heatsink 00.2714	HS103
FCRAD0500000	Heatsink 00.2714	HS104
FCRAD0500000	Heatsink 00.2714	HS105
FP0278400000	Heatsink	HS106
FP0278400000	Heatsink	HS108
FCREG7815000	7815	IC101
FCIC21100000	IR2110	IC102
FCREG2596000	LM2596	IC103
FCREG2596000	LM2596	IC104
FCREG7918000	7918	IC105
FCTIRKON0000	Insulating polymer	IN101
FCTIRKON0000	Insulating polymer	IN102
FCTIRKON0000	Insulating polymer	IN103
FCTERMF63000	Faston 6.3mm	J101
FCTERMF63000	Faston 6.3mm	J102
FCTERMF63000	Faston 6.3mm	J103
FCCTJ1005000	B5P-VH	J104
FCTERM007000	Female Jumper Pin	J105
FCTERM007000	Female Jumper Pin	J106
FCTERM007000	Female Jumper Pin	J107
FCTERM007000	Female Jumper Pin	J108
FCTERM007000	Female Jumper Pin	J109
FCTERM007000	Female Jumper Pin	J110
FCTERM007000	Female Jumper Pin	J111
FCTERM007000	Female Jumper Pin	J112
FCTERM007000	Female Jumper Pin	J113
FCTERM007000	Female Jumper Pin	J114
FCTERM007000	Female Jumper Pin	J115
FCTERM007000	Female Jumper Pin	J116
FCTERM007000	Female Jumper Pin	J117
FCTERM007000	Female Jumper Pin	J118
FCTERM007000	Female Jumper Pin	J119
FCTERM007000	Female Jumper Pin	J120
FCTERM007000	Female Jumper Pin	J121
FCCTJ1003000	B3P-VH	J122
FCCTJ1003000	B3P-VH	J123
FCCTM0005000	B5B-EH-A	J124
FCCTM0005000	B5B-EH-A	J125
FCCTAMP04000	4P AMP MALE SOCKET	J126
FCCTAMP04000	4P AMP MALE SOCKET	J127
FCCTM0002000	B2B-EH-A	J128
FCCTM0002000	B2B-EH-A	J130
FCCTM0002000	B2B-EH-A	J131
FCREL1007300	Relay 12V 280R	K101
FCREL1060000	Relay 60V 6000	K102
FCREL1060000	Relay 60V 6000	K103
FCBB00300000	2x3mH	L101
FCFERVK20000	VK200	L102
FCBB00300000	2x3mH	L103
FCBB00330000	183uH	L104
FCBB00320000	3uH	L105
FCBB00360000	110uH	L106
FCCHK0010000	10uH	L107

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT4800)

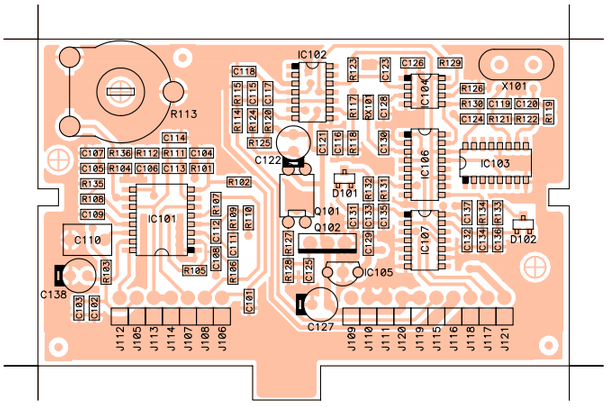
Code	Description	Reference
FCBB00360000	110uH	L108
FCBB00310000	4.4uH	L109
FCFERVK20000	VK200	L110
FCCHK0068000	68uH	L111
FCFERVK20000	VK200	L112
FCIMAN000000	Magnet 12x6	MG101
FCIMAN000000	Magnet 12x6	MG102
FCIMAN000000	Magnet 12x6	MG103
FCIMAN000000	Magnet 12x6	MG104
FCGUIACI0000	Card Guide	MP101
FCGUIACI0000	Card Guide	MP102
FCBRID50L000	Wrap-it-ties T50L	MP103
FCBRID50L000	Wrap-it-ties T50L	MP104
FCBRID50L000	Wrap-it-ties T50L	MP105
FCPINZAM1000	Superclip 5k	MP106
FCPINZAM1000	Superclip 5k	MP107
FCPINZAM1000	Superclip 5k	MP108
FCPINZAM1000	Superclip 5k	MP109
FCPINZAM1000	Superclip 5k	MP110
FCPINZAM1000	Superclip 5k	MP111
FCPINZAM1000	Superclip 5k	MP112
FCPINZAM1000	Superclip 5k	MP113
FCPINZAM1000	Superclip 5k	MP118
FCPINZAM1000	Superclip 5k	MP119
FCAISLPR0100	Air Flow Cardboard	MP116
FCSEPFI03000	Fibreglass Spacer	MP117
FCTUE0030000	Nut M3	NV102
FCTUE0030000	Nut M3	NV103
FCTUE0030000	Nut M3	NV104
FCTUE0030000	Nut M3	NV105
FCPORF020000	Fuse clip	PF101
FCPORF020000	Fuse clip	PF102
FCPORF010000	A0854668	PF103
FCPORF010000	A0854668	PF104
FCPORF315000	3/15P	PF105
FCPORF315000	3/15P	PF106
FCPORF010000	A0854668	PF107
FCPORF010000	A0854668	PF108
FCPORF010000	A0854668	PF109
FCPORF010000	A0854668	PF110
FCTR80N60000	SGH80N60UFD	Q101
FCTR80N60000	SGH80N60UFD	Q102
FCTR34000000	MJE340	Q103
FCTR34000000	MJE340	Q104
FCTR80N60000	SGH80N60UFD	Q105
FCTR80N60000	SGH80N60UFD	Q106
FCTR20000000	MJE200	Q108
FCTR21000000	MJE210	Q109
FCRP54680000	6k8/2 PR02	R101
FCRP54680000	6k8/2 PR02	R102
FCRC25470000	47k/ 1/2	R103
FCRC25470000	47k/ 1/2	R104
FCRC22680000	68/ 1/2	R105
FCRF42680000	NF68/1	R106
FCRY00030000	W39/8	R107
FCRY00030000	W39/8	R108

PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT4800)

Code	Description	Reference
FCRC06330000	330k	R109
FCRC06330000	330k	R110
FCRC06330000	330k	R111
FCRC06330000	330k	R112
FCRC06330000	330k	R113
FCRC06330000	330k	R114
FCRY00010000	W0.22/5	R115
FCRY00010000	W0.22/5	R116
FCRY00010000	W0.22/5	R117
FCRY00010000	W0.22/5	R118
FCRY00010000	W0.22/5	R119
FCRC05100000	10k	R120
FCRC02100000	10	R121
FCRC02100000	10	R122
FCRB06154000	MF154k	R123
FCRB06154000	MF154k	R124
FCRB06124000	MF124k	R125
FCRY00040000	4k7/5W	R126
FCRY00040000	4k7/5W	R127
FCRY00040000	4k7/5W	R128
FCRY00040000	4k7/5W	R129
FCRP52560000	56/2 PR02	R130
FCRC21100000	1/ 1/2	R131
FCRB02205000	MF20.5	R132
FCRB02205000	MF20.5	R133
FCRB02205000	MF20.5	R134
FCRB02205000	MF20.5	R135
FCRP52560000	56/2 PR02	R136
FCRP52560000	56/2 PR02	R137
FCRC05100000	10k	R138
FCRC05100000	10k	R139
FCRC01470000	4.7	R140
FCRC01470000	4.7	R141
FCRC25100000	10k/ 1/2	R142
FCRC25680000	68k/ 1/2	R143
FCRC05220000	22k	R144
FCRP52560000	56/2 PR02	R145
FCRP52560000	56/2 PR02	R146
FCRC25100000	10k/ 1/2	R147
FCRC05220000	22k	R148
FCRC24220000	2k2/ 1/2	R149
FCRC24220000	2k2/ 1/2	R150
FCRC04390000	3k9	R151
FCRC04390000	3k9	R152
FCRC04560000	5k6	R153
FCRB04215000	MF2k15	R154
FCRC03100000	100	R155
FCRC04100000	1k	R156
FCRB04237000	MF2k37	R157
FCRC04100000	1k	R158
FCRB05124000	MF12k4	R159
FCRB03316000	MF316	R160
FCRC04220000	2k2	R161
FCRC04560000	5k6	R162
FCRY00040000	4k7/5W	R163
FCRY00040000	4k7/5W	R164

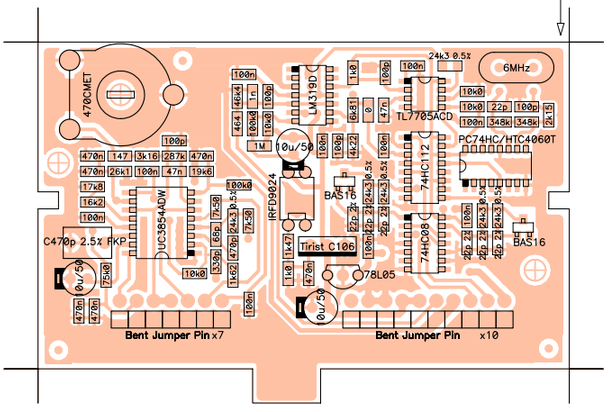
PARTS LIST: PRINTED CIRCUIT 11.0862.07.01 (DT4800)

Code	Description	Reference
FCRY00040000	4k7/5W	R165
FCRC04470000	4k7	R166
FCRC01470000	4.7	R167
FCRY00040000	4k7/5W	R168
FCRP52220000	22/2 PR02	R169
FCPTC0028000	2.8	R170
FCPTC0028000	2.8	R171
FCVDR0275000	VDR275V	RV101
FCINTTER1000	67L090	S101
FCINTTER1000	67L090	S102
FCT380401200	Screw M4x12 TR	SC100
FCT750300800	Screw M3x8	SC102
FCT750300800	Screw M3x8	SC103
FCT350301200	Screw M3x12	SC104
FCT350301200	Screw M3x12	SC105
FCT350301200	Screw M3x12	SC106
FCT350301200	Screw M3x12	SC107
FCT350301200	Screw M3x12	SC108
FCT350301200	Screw M3x12	SC109
FCT350301200	Screw M3x12	SC110
FCT350301200	Screw M3x12	SC111
FCT400290900	Screw 2.9x9.5	SC112
FCT400290900	Screw 2.9x9.5	SC113
FCSEPPM00000	Plastic Spacer f/board ct.	SP101
FCSEPPM00000	Plastic Spacer f/board ct.	SP102
FCSEPPM00000	Plastic Spacer f/board ct.	SP103
FCSEPPM00000	Plastic Spacer f/board ct.	SP104
FCSEPPM00000	Plastic Spacer f/board ct.	SP105
FCSEPPM00000	Plastic Spacer f/board ct.	SP106
FCTFC0165000	Trans. ETD59	T101
FCTFC5168700	Transf. PE-51687	T102
FCARDE030000	Toothed Washer f/M3	WA102
FCARDE030000	Toothed Washer f/M3	WA103
FCARM3200000	Metal Washer 3.2x6x0.5	WA104
FCARM3200000	Metal Washer 3.2x6x0.5	WA105
FCARDE030000	Toothed Washer f/M3	WA106
FCARDE030000	Toothed Washer f/M3	WA107
FCARS4000000	Security washer M4	WA108
FCARC3200000	Cardboard Washer 3.2x6x0.5	WA109
FCARC3200000	Cardboard Washer 3.2x6x0.5	WA110
FC0F12404500	1124.0045	WI101



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.		related to: circuit no: 11.0875-04.00 schema no: 10.0561-01.03 insertion file no: 81.0085-01.00	side: Component view: Reference	
number: 33.0740	version: 01.02	project n: EP05-02	title: Control Ct.	
drawn by: M. Amoros	date: 020205	product n: DT6800/4800 approved: J M. Mas		

Note: Metal frame of quartz crystal must be solded to the printed board



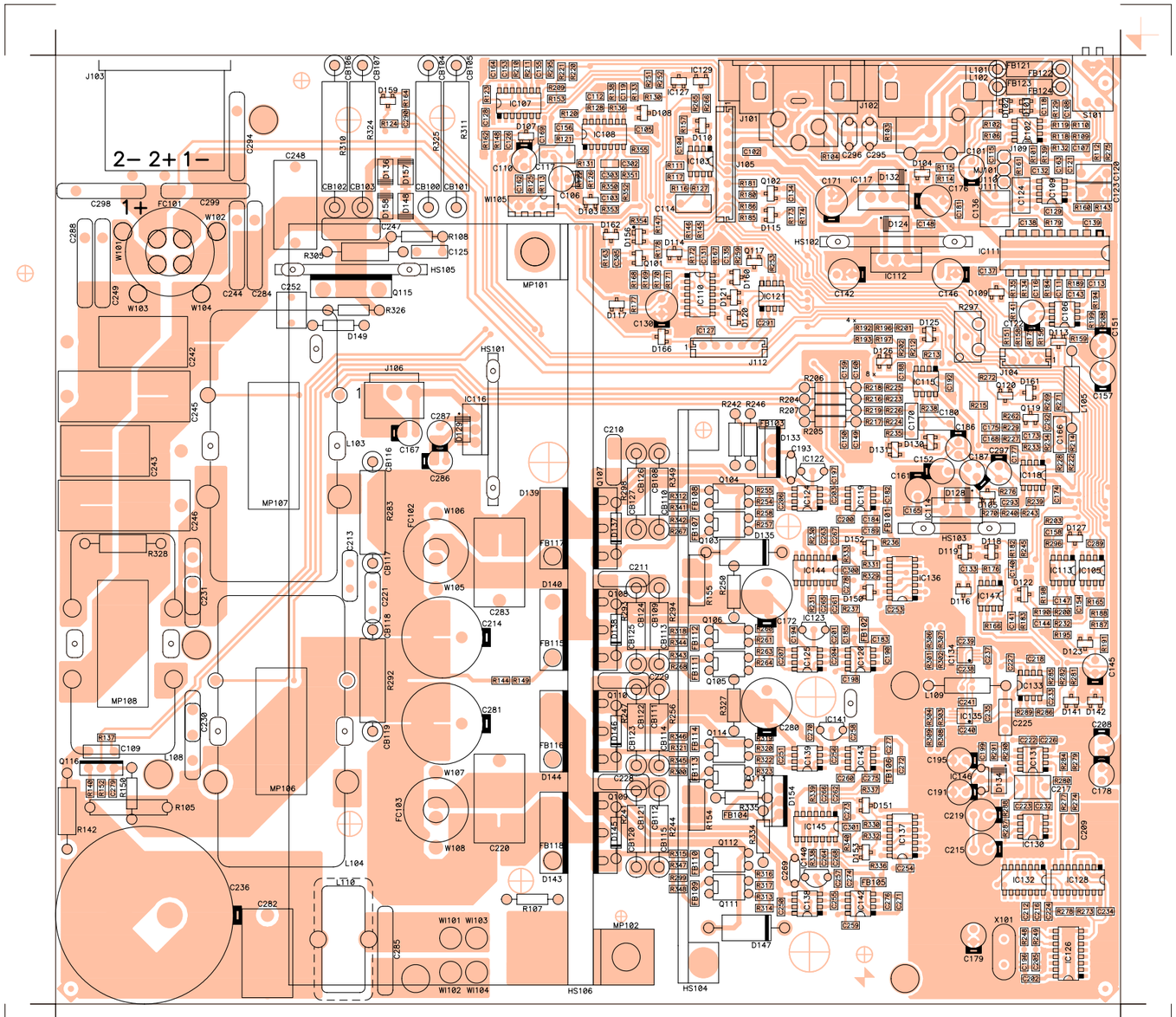
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number: 33.0741 / version: 01.02	project n: EP05-02	title: Control Ct.	
drawn by: M. Amoros / date: 020205	product n: DT6800/4800		
	approved: J M. Mas		

PARTS LIST: PRINTED CIRCUIT 11.0875.04.00

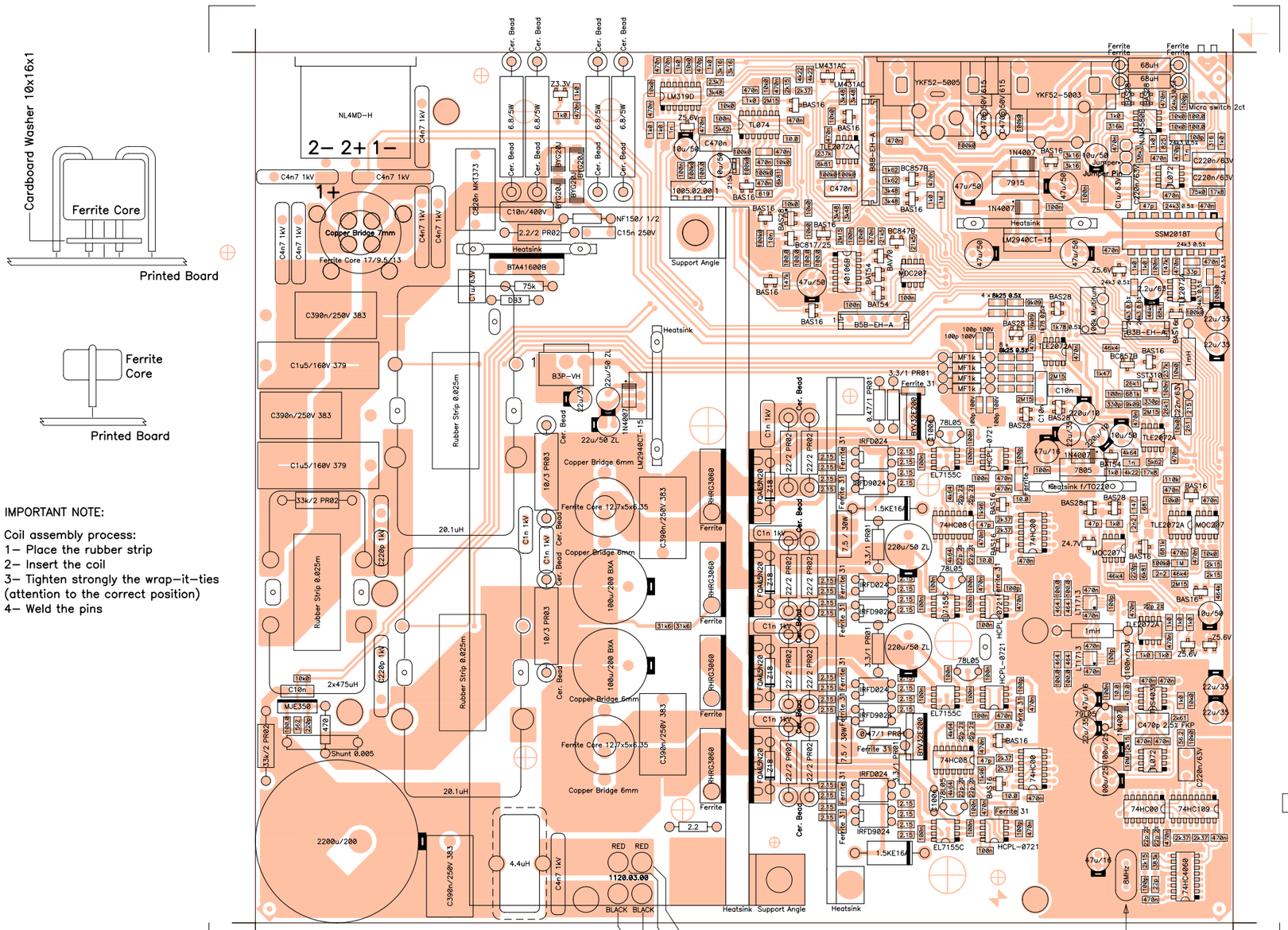
Code	Description	Reference
FCXCD4100000	100n	C101
FCXCD4470000	470n	C102
FCXCD4470000	470n	C103
FCXCD4470000	470n	C104
FCXCD4470000	470n	C105
FCXCD4100000	100n	C106
FCXCD4470000	470n	C107
FCXCD2330000	330p	C108
FCXCD4100000	100n	C109
FCCCD4730000	C470p 2.5% FKP	C110
FCXCD2470000	470p	C111
FCXCD1680000	68p	C112
FCXCD4047000	47n	C113
FCXCD2100000	100p	C114
FCXCD4001000	1n	C115
FCXCD2100000	100p	C116
FCXCD2100000	100p	C117
FCXCD4100000	100n	C118
FCXCD1220000	22p	C119
FCXCD2100000	100p	C120
FCXCD4100000	100n	C121
FCCE25010000	10u/50	C122
FCXCD2100000	100p	C123
FCXCD4100000	100n	C124
FCXCD4470000	470n	C125
FCXCD4100000	100n	C126
FCCE25010000	10u/50	C127
FCXCD4047000	47n	C128
FCXCD4100000	100n	C129
FCXCD4100000	100n	C130
FCXCN1220100	22p 2%	C131
FCXCN1220100	22p 2%	C132
FCXCN1220100	22p 2%	C133
FCXCN1220100	22p 2%	C134
FCXCN1220100	22p 2%	C135
FCXCN1220100	22p 2%	C136
FCXCD4100000	100n	C137
FCCE25010000	10u/50	C138
FCCI00875000	Printed Board 11.0875	CI101
FCXDDBAS1600	BAS16	D101
FCXDDBAS1600	BAS16	D102
FCIC38540000	UC3854ADW	IC101
FCIC31900000	LM319D	IC102
FCIC74406000	PC74HC/HTC4060T	IC103
FCIC77050000	TL7705ACD	IC104
FCREG78L0500	78L05	IC105
FCIC74112000	74HC112	IC106
FCIC74080000	74HC08	IC107
FCTERM050000	Bent Jumper Pin	J105
FCTERM050000	Bent Jumper Pin	J106
FCTERM050000	Bent Jumper Pin	J107
FCTERM050000	Bent Jumper Pin	J108
FCTERM050000	Bent Jumper Pin	J109
FCTERM050000	Bent Jumper Pin	J110
FCTERM050000	Bent Jumper Pin	J111
FCTERM050000	Bent Jumper Pin	J112

PARTS LIST: PRINTED CIRCUIT 11.0875.04.00

Code	Description	Reference
FCTERM050000	Bent Jumper Pin	J113
FCTERM050000	Bent Jumper Pin	J114
FCTERM050000	Bent Jumper Pin	J115
FCTERM050000	Bent Jumper Pin	J116
FCTERM050000	Bent Jumper Pin	J117
FCTERM050000	Bent Jumper Pin	J118
FCTERM050000	Bent Jumper Pin	J119
FCTERM050000	Bent Jumper Pin	J120
FCTERM050000	Bent Jumper Pin	J121
FCTR90240000	IRFD9024	Q101
FCTIRI001060	Tirist C106	Q102
FCXR54196000	19k6	R101
FCXR55100000	100k0	R102
FCXR54750000	75k0	R103
FCXR54261000	26k1	R104
FCXR54100000	10k0	R105
FCXR53162000	1k62	R106
FCXR53750000	7k50	R107
FCXR54162000	16k2	R108
FCXR64243000	24k3 0.5%	R109
FCXR53750000	7k50	R110
FCXR55287000	287k	R111
FCXR53316000	3k16	R112
FCRJP3500000	470CMET	R113
FCXR52464000	464	R114
FCXR54464000	46k4	R115
FCXR53681000	6k81	R117
FCXR53422000	4k22	R118
FCXR53215000	2k15	R119
FCXR54100000	10k0	R120
FCXR55348000	348k	R121
FCXR55348000	348k	R122
FCXR53100000	1k0	R123
FCXR55100000	100k0	R124
FCXR56100000	1M	R125
FCXR54100000	10k0	R126
FCXR53147000	1k47	R127
FCXR53100000	1k0	R128
FCXR64243000	24k3 0.5%	R129
FCXR54100000	10k0	R130
FCXR64243000	24k3 0.5%	R131
FCXR64243000	24k3 0.5%	R132
FCXR64243000	24k3 0.5%	R133
FCXR64243000	24k3 0.5%	R134
FCXR54178000	17k8	R135
FCXR52147000	147	R136
FCXR50000000	0	RX101
FCCRIS006000	6MHz	X101

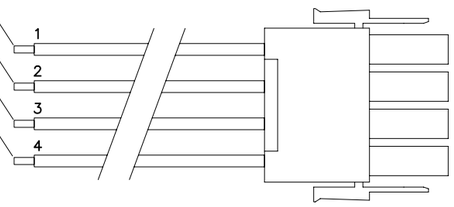


ECLER — LABORATORIO DE ELECTRO−ACUSTICA S.A.		related to: circuit no: 11.0938−05.02 schema no: 10.0609−01.05 insertion file no: 81.0084−01.02	side: Component view: Reference
		project n: EP05−02	title: Power Ct.
number: 33.0759	version: 01.05	product n: DT6800/4800	
drawn by: M. Amoros	date: 040303	approved: Domingo Mele	



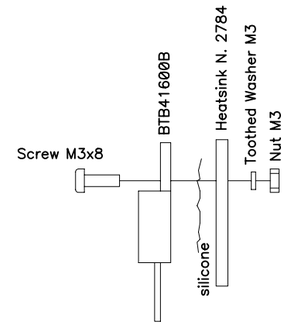
IMPORTANT NOTE:

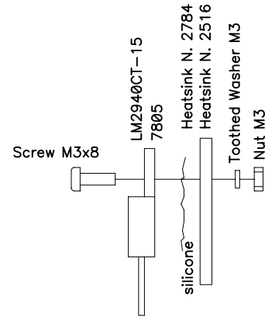
Coil assembly process:
1- Place the rubber strip
2- Insert the coil
3- Tighten strongly the wrap-it-ties (attention to the correct position)
4- Weld the pins

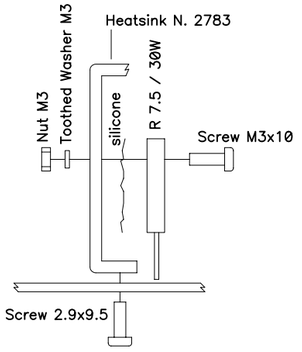


Note: Metal frame of quartz crystal must be solded to the printed board

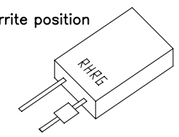
IMPORTANT NOTE: Apply Glue between components as shown in specific drawing

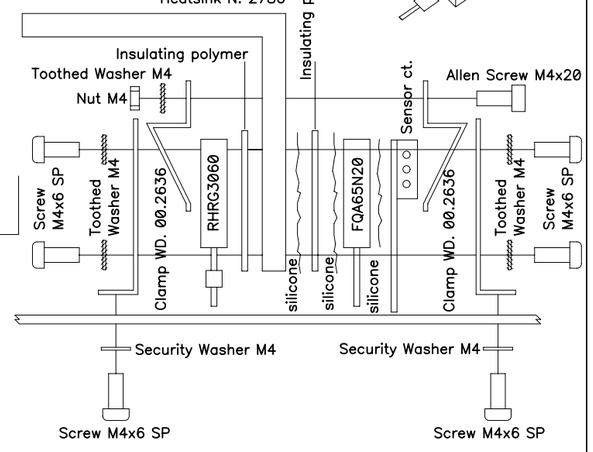






Detail of the ferrite position





ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0938-05.02 schema no: 10.0609-01.05 insertion file no: 81.0084-01.02	side: Component view: Value	
number: 33.0760	version: 01.05	project n: EP05-02	title: Power Ct.
drawn by: M. Amoros	date: 040303	product n: DT6800/4800	
		approved: Domingo Mele	

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCCE25010000	10u/50	C101
FCXCD4470000	470n	C102
FCXCD4470000	470n	C103
FCXCD4470000	470n	C104
FCXCD4470000	470n	C105
FCCE25010000	10u/50	C106
FCXCD2100000	100p	C107
FCXCD2100000	100p	C108
FCCDK1010000	C10n	C109
FCCE25010000	10u/50	C110
FCXCD4470000	470n	C111
FCXCD4470000	470n	C112
FCXCD4470000	470n	C113
FCCDK1470000	C470n	C114
FCXCD4470000	470n	C115
FCXCD4100000	100n	C116
FCCDK1470000	C470n	C117
FCXCD4470000	470n	C118
FCXCD4470000	470n	C119
FCCDK1220000	C220n/63V	C120
FCXCD4001000	1n	C121
FCCE30002200	2.2u/63	C122
FCCDK1220000	C220n/63V	C123
FCCDK1220000	C220n/63V	C124
FCCDK1015100	C15n 250V	C125
FCXCD4001000	1n	C126
FCXCD4100000	100n	C127
FCXCD4470000	470n	C128
FCXCD4470000	470n	C129
FCCE25047000	47u/50	C130
FCXCD4100000	100n	C131
FCXCD4470000	470n	C132
FCXCD1470000	47p	C133
FCXCD4470000	470n	C134
FCXCD4470000	470n	C135
FCCDK2001000	C1u/63V	C136
FCXCD4470000	470n	C137
FCXCD1470000	47p	C138
FCXCD4470000	470n	C139
FCXCD4002200	2n2	C140
FCXCD2220000	220p	C141
FCCE25047000	47u/50	C142
FCXCD1330000	33p	C143
FCXCD4002200	2n2	C144
FCCE25010000	10u/50	C145
FCCE25047000	47u/50	C146
FCXCD4470000	470n	C147
FCXCD4100000	100n	C148
FCXCE2100000	100p 100V	C149
FCXCE2100000	100p 100V	C150
FCCE20022000	22u/35	C151
FCCE20022000	22u/35	C152
FCXCD4470000	470n	C153
FCXCD4470000	470n	C154
FCXCD2470000	470p	C155
FCXCD4100000	100n	C156

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCCE20022000	22u/35	C157
FCXCD4470000	470n	C158
FCXCE2100000	100p 100V	C159
FCXCE2100000	100p 100V	C160
FCCE10000000	47u/16	C161
FCXCD4100000	100n	C162
FCXCD2470000	470p	C163
FCXCD4470000	470n	C164
FCXCD4100000	100n	C165
FCCDK1022000	C22n/63V	C166
FCCE20022000	22u/35	C167
FCXCD2330000	330p	C168
FCXCD4470000	470n	C169
FCCDK1010000	C10n	C170
FCCE25047000	47u/50	C171
FCCE25220100	220u/50 ZL	C172
FCXCD2330000	330p	C173
FCXCD4470000	470n	C174
FCXCD4100000	100n	C175
FCCE25047000	47u/50	C176
FCXCD4470000	470n	C177
FCCE20022000	22u/35	C178
FCCE10000000	47u/16	C179
FCCDK1010000	C10n	C180
FCXCD4100000	100n	C181
FCXCD2100000	100p	C182
FCXCD2100000	100p	C183
FCXCD4470000	470n	C184
FCXCD4470000	470n	C185
FCCE05000000	220u/10	C186
FCCE05000000	220u/10	C187
FCXCD4470000	470n	C188
FCXCD4470000	470n	C189
FCXCD4470000	470n	C190
FCCE20022000	22u/35	C191
FCXCD4470000	470n	C192
FCCC15101000	C100n	C193
FCXCD4100000	100n	C194
FCCE10000000	47u/16	C195
FCXCD2100000	100p	C196
FCXCD4100000	100n	C197
FCXCD4100000	100n	C198
FCXCD4100000	100n	C199
FCXCD4100000	100n	C200
FCXCD4100000	100n	C201
FCXCD4470000	470n	C202
FCXCD4100000	100n	C203
FCXCD4100000	100n	C204
FCXCD1220000	22p	C205
FCXCD4100000	100n	C206
FCXCD4100000	100n	C207
FCCE20022000	22u/35	C208
FCCDK1220000	C220n/63V	C209
FCCCD5100100	C1n 1kV	C210
FCCCD5100100	C1n 1kV	C211
FCXCN1220100	22p 2%	C212

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCCCD5100100	C1n 1kV	C213
FCCE36001000	100u/200 BXA	C214
FCCE15100000	100u/25	C215
FCXCN1220100	22p 2%	C216
FCCCD4730000	C470p 2.5% FKP	C217
FCXCN1220100	22p 2%	C218
FCCE15100000	100u/25	C219
FCCDM5390000	C390n/250V 383	C220
FCCCD5100100	C1n 1kV	C221
FCXCD4470000	470n	C222
FCXCD4470000	470n	C223
FCXCD4470000	470n	C224
FCCDK1100000	C100n/63V	C225
FCXCD4470000	470n	C226
FCXCD4470000	470n	C227
FCCCD5100100	C1n 1kV	C228
FCCCD5100100	C1n 1kV	C229
FCCCD2230000	C220p 1kV	C230
FCCCD2230000	C220p 1kV	C231
FCXCD4470000	470n	C232
FCXCD4470000	470n	C233
FCXCD4470000	470n	C234
FCXCD2100000	100p	C235
FCCE36022000	2200u/200	C236
FCXCD2100000	100p	C237
FCXCD4470000	470n	C238
FCXCD4470000	470n	C239
FCXCD4470000	470n	C240
FCXCD4470000	470n	C241
FCCDM5390000	C390n/250V 383	C242
FCCDM5390000	C390n/250V 383	C243
FCCCD5470100	C4n7 1kV	C244
FCCDL6150000	C1u5/160V 379	C245
FCCDL6150000	C1u5/160V 379	C246
FCCDH7101100	C10n/400V	C247
FCCDK5820000	C820n MKT373	C248
FCCCD5470100	C4n7 1kV	C249
FCXCD4100000	100n	C250
FCXCD4100000	100n	C251
FCCDK2001000	C1u/63V	C252
FCXCD4470000	470n	C253
FCXCD4470000	470n	C254
FCXCD4100000	100n	C255
FCXCD4100000	100n	C256
FCXCD4100000	100n	C257
FCXCD4100000	100n	C258
FCXCD4100000	100n	C259
FCXCD4100000	100n	C260
FCXCN1220100	22p 2%	C261
FCXCN1220100	22p 2%	C262
FCXCN1220100	22p 2%	C263
FCXCN1220100	22p 2%	C264
FCXCN1220100	22p 2%	C265
FCXCN1220100	22p 2%	C266
FCXCN1220100	22p 2%	C267
FCXCN1220100	22p 2%	C268

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCCC15101000	C100n	C269
FCXCD4100000	100n	C270
FCXCD4470000	470n	C271
FCXCD4470000	470n	C272
FCXCD4470000	470n	C273
FCXCD4470000	470n	C274
FCXCD4470000	470n	C275
FCXCD2100000	100p	C276
FCXCD2100000	100p	C277
FCXCD4470000	470n	C278
FCXCD2220000	220p	C279
FCCE25220100	220u/50 ZL	C280
FCCE36001000	100u/200 BXA	C281
FCCDM5390000	C390n/250V 383	C282
FCCDM5390000	C390n/250V 383	C283
FCCCD5470100	C4n7 1kV	C284
FCCCD5470100	C4n7 1kV	C285
FCCE25022000	22u/50 ZL	C286
FCCE25022000	22u/50 ZL	C287
FCCCD5470100	C4n7 1kV	C288
FCXCD4470000	470n	C289
FCXCD4470000	470n	C290
FCXCD4100000	100n	C291
FCXCD4100000	100n	C292
FCXCD4001000	1n	C293
FCCCD5470100	C4n7 1kV	C294
FCCCD4470100	C470p 50V 615	C295
FCCCD4470100	C470p 50V 615	C296
FCCE25010000	10u/50	C297
FCCCD5470100	C4n7 1kV	C298
FCCCD5470100	C4n7 1kV	C299
FCXCD1470000	47p	C300
FCXCD1470000	47p	C301
FCXCD4470000	470n	C302
FCXCD4470000	470n	C303
FCXCD4010000	10n	C305
FCPERL255000	Cer. Bead	CB100
FCPERL255000	Cer. Bead	CB101
FCPERL255000	Cer. Bead	CB102
FCPERL255000	Cer. Bead	CB103
FCPERL255000	Cer. Bead	CB104
FCPERL255000	Cer. Bead	CB105
FCPERL255000	Cer. Bead	CB106
FCPERL255000	Cer. Bead	CB107
FCPERL255000	Cer. Bead	CB108
FCPERL255000	Cer. Bead	CB109
FCPERL255000	Cer. Bead	CB110
FCPERL255000	Cer. Bead	CB111
FCPERL255000	Cer. Bead	CB112
FCPERL255000	Cer. Bead	CB113
FCPERL255000	Cer. Bead	CB114
FCPERL255000	Cer. Bead	CB115
FCPERL255000	Cer. Bead	CB116
FCPERL255000	Cer. Bead	CB117
FCPERL255000	Cer. Bead	CB118
FCPERL255000	Cer. Bead	CB119

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCPERL255000	Cer. Bead	CB120
FCPERL255000	Cer. Bead	CB121
FCPERL255000	Cer. Bead	CB122
FCPERL255000	Cer. Bead	CB123
FCPERL255000	Cer. Bead	CB124
FCPERL255000	Cer. Bead	CB125
FCPERL255000	Cer. Bead	CB126
FCPERL255000	Cer. Bead	CB127
FCCI00938000	Printed Board 11.0938	CI101
FCXDDBAS2800	BAS28	D101
FCXDDBAS2800	BAS28	D102
FCXDDBAS1600	BAS16	D103
FCXDDBAS1600	BAS16	D104
FCXDDBAT5400	BAT54	D105
FCXZ00005600	Z5.6V	D107
FCXDDBAS1600	BAS16	D108
FCXZ00005600	Z5.6V	D109
FCXDDBAS1600	BAS16	D110
FCXDDBAS1600	BAS16	D113
FCXDDBAS1600	BAS16	D114
FCXDDBAS1600	BAS16	D115
FCXZ00004700	Z4.7V	D116
FCXDDBAS1600	BAS16	D117
FCXDDBAS2800	BAS28	D118
FCXDDBAS2800	BAS28	D119
FCXDDBAT5400	BAT54	D120
FCXDDBAT5400	BAT54	D121
FCXDDBAS1600	BAS16	D122
FCXDDBAS1600	BAS16	D123
FCXDD4007000	1N4007	D124
FCXDDBAS2800	BAS28	D125
FCXDDBAS2800	BAS28	D126
FCXDDBAS1600	BAS16	D127
FCXDD4007000	1N4007	D128
FCXDD4007000	1N4007	D129
FCXDDBAS2800	BAS28	D130
FCXDDBAS2800	BAS28	D131
FCXDD4007000	1N4007	D132
FCDD32F20000	BYV32E200	D133
FCXDD4007000	1N4007	D134
FCDDKE160000	1.5KE16A	D135
FCXREC020000	BYG20J	D136
FCDD04180000	Z18	D137
FCDD04180000	Z18	D138
FCDD30600000	RHRG3060	D139
FCDD30600000	RHRG3060	D140
FCXZ00005600	Z5.6V	D141
FCXZ00005600	Z5.6V	D142
FCDD30600000	RHRG3060	D143
FCDD30600000	RHRG3060	D144
FCDD04180000	Z18	D145
FCDD04180000	Z18	D146
FCDDKE160000	1.5KE16A	D147
FCXREC020000	BYG20J	D148
FCDIDB300000	DB3	D149
FCXDDBAS1600	BAS16	D150

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCXDDBAS1600	BAS16	D151
FCXDDBAS1600	BAS16	D152
FCXDDBAS1600	BAS16	D153
FCDD32F20000	BYV32E200	D154
FCXDDBAS2800	BAS28	D156
FCXREC020000	BYG20J	D157
FCXREC020000	BYG20J	D158
FCXZ00003300	Z3.3V	D159
FCXDDBAV7000	BAV70	D160
FCXDDBAS1600	BAS16	D161
FCXDDBAS1600	BAS16	D162
FCXDDBAS1600	BAS16	D166
FCXFER010000	Ferrite 31	FB101
FCXFER010000	Ferrite 31	FB102
FCXFER010000	Ferrite 31	FB103
FCXFER010000	Ferrite 31	FB104
FCXFER010000	Ferrite 31	FB105
FCXFER010000	Ferrite 31	FB106
FCXFER010000	Ferrite 31	FB107
FCXFER010000	Ferrite 31	FB108
FCXFER010000	Ferrite 31	FB109
FCXFER010000	Ferrite 31	FB110
FCXFER010000	Ferrite 31	FB111
FCXFER010000	Ferrite 31	FB112
FCXFER010000	Ferrite 31	FB113
FCXFER010000	Ferrite 31	FB114
FCFER4322000	Ferrite	FB115
FCFER4322000	Ferrite	FB116
FCFER4322000	Ferrite	FB117
FCFER4322000	Ferrite	FB118
FCFER4322000	Ferrite	FB121
FCFER4322000	Ferrite	FB122
FCFER4322000	Ferrite	FB123
FCFER4322000	Ferrite	FB124
FCNUCL035000	Ferrite Core 17/9.5/13	FC101
FCNUCL030000	Ferrite Core 12.7x5x6.35	FC102
FCNUCL030000	Ferrite Core 12.7x5x6.35	FC103
FP0278400000	Heatsink	HS101
FP0278400000	Heatsink	HS102
FP0251600000	Heatsink f/TO220	HS103
FP0278300000	Heatsink	HS104
FP0278400000	Heatsink	HS105
FCRAD2786000	Heatsink	HS106
FCIC4580E000	NJM4580E	IC102
FCIC20722000	TLE2072A	IC103
FCOPT2070000	MOC207	IC105
FCIC20722000	TLE2072A	IC106
FCIC31900000	LM319D	IC107
FCIC07401000	TL074	IC108
FCIC07201000	TL072	IC109
FCIC40106000	40106B	IC110
FCIC20180000	SSM2018T	IC111
FCREG2940000	LM2940CT-15	IC112
FCIC20722000	TLE2072A	IC113
FCREG7805000	7805	IC114
FCIC20722000	TLE2072A	IC115

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCREG2940000	LM2940CT-15	IC116
FCREG7915000	7915	IC117
FCIC20722000	TLE2072A	IC118
FCIC72100000	HCPL-0721	IC119
FCIC72100000	HCPL-0721	IC120
FCOPT2070000	MOC207	IC121
FCREG78L0500	78L05	IC122
FCREG78L0500	78L05	IC123
FCIC71550000	EL7155C	IC124
FCIC71550000	EL7155C	IC125
FCIC74406000	74HC4060	IC126
FCIC43101000	LM431AC	IC127
FCIC74109000	74HC109	IC128
FCIC43101000	LM431AC	IC129
FCIC07201000	TL072	IC130
FCIC40311000	THS4031	IC131
FCIC74000000	74HC00	IC132
FCIC20722000	TLE2072A	IC133
FCIC17130000	LT1713	IC134
FCIC17130000	LT1713	IC135
FCIC74000000	74HC00	IC136
FCIC74000000	74HC00	IC137
FCIC71550000	EL7155C	IC138
FCIC71550000	EL7155C	IC139
FCREG78L0500	78L05	IC140
FCREG78L0500	78L05	IC141
FCIC72100000	HCPL-0721	IC142
FCIC72100000	HCPL-0721	IC143
FCIC74080000	74HC08	IC144
FCIC74080000	74HC08	IC145
FCREG79L0500	79L05	IC146
FCOPT2070000	MOC207	IC147
FCTIRKON0000	Insulating polymer	IN101
FCTIRKON0000	Insulating polymer	IN102
FCBASX090000	YKF52-5005	J101
FCBASX100000	YKF52-5003	J102
FCBASS012000	NL4MD-H	J103
FCCTM0003000	B3B-EH-A	J104
FCCTM0008000	B8B-EH-A	J105
FCCTJ1003000	B3P-VH	J106
FCTERM010000	Jumper Pin	J109
FCTERM010000	Jumper Pin	J110
FCTERM010000	Jumper Pin	J111
FCCTM0005000	B5B-EH-A	J112
FCCHK0068000	68uH	L101
FCCHK0068000	68uH	L102
FCBB00350000	20.1uH	L103
FCBB00350000	20.1uH	L104
FCCHK0100000	1mH	L105
FCBB00340000	2x475uH	L108
FCCHK0100000	1mH	L109
FCBB00310000	4.4uH	L110
FCMJ00010000	Jumper	MJ101
FP0278200000	Support Angle	MP101
FP0278200000	Support Angle	MP102
FCBRID50L000	Wrap-it-ties T50L	MP103

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCBRID50L000	Wrap-it-ties T50L	MP104
FCBRID50L000	Wrap-it-ties T50L	MP105
FCTIRACAU000	Rubber Strip 0.025m	MP106
FCTIRACAU000	Rubber Strip 0.025m	MP107
FCTIRACAU000	Rubber Strip 0.025m	MP108
FCPINZAM0000	Clamp WD. 00.2636	MP109
FCPINZAM0000	Clamp WD. 00.2636	MP110
FCTUE0030000	Nut M3	NV101
FCTUE0030000	Nut M3	NV102
FCTUE0040000	Nut M4	NV103
FCTUE0040000	Nut M4	NV104
FCTUE0040000	Nut M4	NV105
FCTUE0030000	Nut M3	NV106
FCTUE0030000	Nut M3	NV107
FCTUE0030000	Nut M3	NV108
FCXTT0817000	BC817/25	Q101
FCXTT0857000	BC857B	Q102
FCTR90240000	IRFD9024	Q103
FCTR02400000	IRFD024	Q104
FCTR90240000	IRFD9024	Q105
FCTR02400000	IRFD024	Q106
FCTR65N20000	FQA65N20	Q107
FCTR65N20000	FQA65N20	Q108
FCTR65N20000	FQA65N20	Q109
FCTR65N20000	FQA65N20	Q110
FCTR90240000	IRFD9024	Q111
FCTR02400000	IRFD024	Q112
FCTR90240000	IRFD9024	Q113
FCTR02400000	IRFD024	Q114
FCTI41600000	BTA41600B	Q115
FCTR35000000	MJE350	Q116
FCXTT0847000	BC847B	Q117
FCTRX0310000	SST310	Q119
FCXTT0857000	BC857B	Q120
FCXR53100000	1k0	R101
FCXR53100000	1k0	R102
FCXR55100000	100k0	R103
FCXR55100000	100k0	R104
FCSHU0005000	Shunt 0.005	R105
FCXR55316000	316k	R106
FCRC01220000	2.2	R107
FCRF23150000	NF150/ 1/2	R108
FCXR52100000	100.0	R109
FCXR52100000	100.0	R110
FCXR55237000	237k	R111
FCXR52316000	316	R112
FCXR52100000	100.0	R113
FCXR53316000	3k16	R114
FCXR53316000	3k16	R115
FCXR55100000	100k0	R116
FCXR53681000	6k81	R117
FCXR54100000	10k0	R118
FCXR54100000	10k0	R119
FCXR54100000	10k0	R120
FCXR53562000	5k62	R121
FCXR55215000	215k	R122

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCXR54100000	10k0	R123
FCXR53100000	1k0	R124
FCXR55100000	100k0	R125
FCXR55100000	100k0	R126
FCXR55100000	100k0	R127
FCXR53100000	1k0	R128
FCXR64243000	24k3 0.5%	R129
FCXR53237000	2k37	R130
FCXR55100000	100k0	R131
FCXR64243000	24k3 0.5%	R132
FCXR53215000	2k15	R133
FCXR53100000	1k0	R134
FCXR53100000	1k0	R135
FCXR56215000	2M15	R136
FCXR54100000	10k0	R137
FCXR54100000	10k0	R138
FCXR52825000	825	R139
FCXR52100000	100.0	R140
FCXR64243000	24k3 0.5%	R141
FCRP55330000	33k/2 PR02	R142
FCXR54178000	17k8	R143
FCXR54316000	31k6	R144
FCXR53348000	3k48	R145
FCXR53348000	3k48	R146
FCXR54100000	10k0	R147
FCXR53100000	1k0	R148
FCXR54316000	31k6	R149
FCRC03470000	470	R150
FCXR64243000	24k3 0.5%	R151
FCXR52562000	562	R152
FCXR53348000	3k48	R153
FCRYE0175000	7.5 / 30W	R154
FCRYE0175000	7.5 / 30W	R155
FCXR54681000	68k1	R156
FCXR54100000	10k0	R157
FCXR64243000	24k3 0.5%	R158
FCXR55100000	100k0	R159
FCXR54750000	75k0	R160
FCXR54383000	38k3	R161
FCXR53100000	1k0	R162
FCXR55100000	100k0	R163
FCXR53100000	1k0	R164
FCXR54100000	10k0	R165
FCXR54464000	46k4	R166
FCXR54100000	10k0	R167
FCXR52100000	100.0	R168
FCXR52100000	100.0	R169
FCXR52100000	100.0	R170
FCXR52100000	100.0	R171
FCXR56215000	2M15	R172
FCXR53100000	1k0	R173
FCXR56100000	1M	R174
FCXR54464000	46k4	R175
FCXR53100000	1k0	R176
FCXR55147000	147k	R177
FCXR54100000	10k0	R178

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

Code	Description	Reference
FCXR64243000	24k3 0.5%	R179
FCXR53162000	1k62	R180
FCXR53162000	1k62	R181
FCXR52147000	147	R182
FCXR53681000	6k81	R183
FCXR55147000	147k	R184
FCXR53348000	3k48	R185
FCXR53348000	3k48	R186
FCXR53215000	2k15	R187
FCXR53215000	2k15	R188
FCXR64243000	24k3 0.5%	R189
FCXR55100000	100k0	R190
FCXR55464000	464k	R191
FCXR63825000	8k25 0.5%	R192
FCXR63825000	8k25 0.5%	R193
FCXR64243000	24k3 0.5%	R194
FCXR56215000	2M15	R195
FCXR63825000	8k25 0.5%	R196
FCXR63825000	8k25 0.5%	R197
FCXR55681000	681k	R198
FCXR64243000	24k3 0.5%	R199
FCXR56100000	1M	R200
FCXR53909000	9k09	R201
FCXR53909000	9k09	R202
FCXR55110000	110k	R203
FCRB04100000	MF1k	R204
FCRB04100000	MF1k	R205
FCRB04100000	MF1k	R206
FCRB04100000	MF1k	R207
FCXR55100000	100k0	R208
FCXR54237000	23k7	R209
FCXR53100000	1k0	R210
FCXR54100000	10k0	R211
FCXR63178000	1k78 0.5%	R212
FCXR63178000	1k78 0.5%	R213
FCXR52215000	215	R214
FCXR53147000	1k47	R215
FCXR63825000	8k25 0.5%	R216
FCXR63825000	8k25 0.5%	R217
FCXR63825000	8k25 0.5%	R218
FCXR63825000	8k25 0.5%	R219
FCXR53316000	3k16	R220
FCXR53316000	3k16	R221
FCXR52261000	261	R222
FCXR63825000	8k25 0.5%	R223
FCXR63825000	8k25 0.5%	R224
FCXR63825000	8k25 0.5%	R225
FCXR63825000	8k25 0.5%	R226
FCXR53909000	9k09	R227
FCXR54100000	10k0	R228
FCXR55681000	681k	R229
FCXR53464000	4k64	R230
FCXR53464000	4k64	R231
FCXR54464000	46k4	R232
FCXR56215000	2M15	R233
FCXR54261000	26k1	R234

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

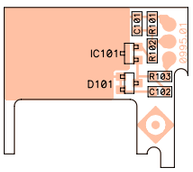
Code	Description	Reference
FCXR56215000	2M15	R235
FCXR51100000	10.0	R236
FCXR51100000	10.0	R237
FCXR56215000	2M15	R238
FCXR53562000	5k62	R239
FCXR53422000	4k22	R240
FCRP52220000	22/2 PR02	R241
FCRP40470000	0.47/1 PR01	R242
FCXR54178000	17k8	R243
FCRP52220000	22/2 PR02	R244
FCXR52681000	681	R245
FCRP41330000	3.3/1 PR01	R246
FCRP52220000	22/2 PR02	R247
FCXR53215000	2k15	R248
FCXR55383000	383k	R249
FCRP41330000	3.3/1 PR01	R250
FCXR53422000	4k22	R251
FCXR53422000	4k22	R252
FCXR54215000	21k5	R253
FCXR50215000	2.15	R254
FCXR50215000	2.15	R255
FCRP52220000	22/2 PR02	R256
FCXR50215000	2.15	R257
FCXR50215000	2.15	R258
FCXR54215000	21k5	R259
FCXR50215000	2.15	R260
FCXR50215000	2.15	R261
FCXR54261000	26k1	R262
FCXR50215000	2.15	R263
FCXR50215000	2.15	R264
FCXR53348000	3k48	R265
FCXR53348000	3k48	R266
FCXR50215000	2.15	R267
FCXR50215000	2.15	R268
FCXR55237000	237k	R269
FCXR53100000	1k0	R270
FCXR54100000	10k0	R271
FCXR54464000	46k4	R272
FCXR53237000	2k37	R273
FCXR54100000	10k0	R274
FCXR53100000	1k0	R275
FCXR53464000	4k64	R276
FCXR51562000	56.2	R277
FCXR53237000	2k37	R278
FCXR54100000	10k0	R279
FCXR53261000	2k61	R280
FCXR53100000	1k0	R281
FCXR53100000	1k0	R282
FCRP62100000	10/3 PR03	R283
FCXR53100000	1k0	R284
FCXR53100000	1k0	R285
FCXR53100000	1k0	R286
FCXR57100000	10M	R287
FCXR53215000	2k15	R288
FCXR53100000	1k0	R289
FCXR51100000	10.0	R290

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

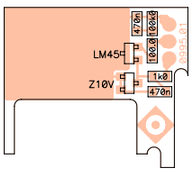
Code	Description	Reference
FCXR51100000	10.0	R291
FCRP62100000	10/3 PR03	R292
FCRP52220000	22/2 PR02	R293
FCRP52220000	22/2 PR02	R294
FCXR53100000	1k0	R295
FCXR54100000	10k0	R296
FCRJT0510000	100k Multiturn	R297
FCRP52220000	22/2 PR02	R298
FCXR50215000	2.15	R299
FCXR50215000	2.15	R300
FCXR52464000	464	R301
FCXR52464000	464	R302
FCXR52464000	464	R303
FCXR52464000	464	R304
FCRP51220000	2.2/2 PR02	R305
FCXR52100000	100.0	R306
FCXR52100000	100.0	R307
FCXR52100000	100.0	R308
FCXR52100000	100.0	R309
FCRY00025000	6.8/5W	R310
FCRY00025000	6.8/5W	R311
FCXR50215000	2.15	R312
FCXR50215000	2.15	R313
FCXR50215000	2.15	R314
FCXR50215000	2.15	R315
FCXR50215000	2.15	R316
FCXR50215000	2.15	R317
FCXR50215000	2.15	R318
FCXR50215000	2.15	R319
FCXR50215000	2.15	R320
FCXR50215000	2.15	R321
FCXR50215000	2.15	R322
FCXR50215000	2.15	R323
FCRY00025000	6.8/5W	R324
FCRY00025000	6.8/5W	R325
FCRC05750000	75k	R326
FCRP41330000	3.3/1 PR01	R327
FCRP55330000	33k/2 PR02	R328
FCXR53237000	2k37	R329
FCXR53237000	2k37	R330
FCXR53237000	2k37	R331
FCXR53237000	2k37	R332
FCXR53196000	1k96	R333
FCRP41330000	3.3/1 PR01	R334
FCRP40470000	0.47/1 PR01	R335
FCXR51100000	10.0	R336
FCXR51100000	10.0	R337
FCXR53464000	4k64	R338
FCXR53464000	4k64	R339
FCXR53196000	1k96	R340
FCXR50215000	2.15	R341
FCXR50215000	2.15	R342
FCXR50215000	2.15	R343
FCXR50215000	2.15	R344
FCXR50215000	2.15	R345
FCXR50215000	2.15	R346

PARTS LIST: PRINTED CIRCUIT 11.0938.05.02

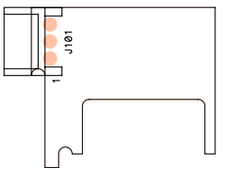
Code	Description	Reference
FCXR50215000	2.15	R347
FCXR50215000	2.15	R348
FCRP52220000	22/2 PR02	R349
FCXR55100000	100k0	R350
FCXR54100000	10k0	R351
FCXR53681000	6k81	R352
FCXR52619000	619	R353
FCXR54100000	10k0	R354
FCXR51100000	10.0	R355
FCINTMIC5000	Micro switch 2ct	S101
FCT750301000	Screw M3x10	SC101
FCT750301000	Screw M3x10	SC102
FCT804006100	Screw M4x6 SPAN	SC103
FCT804006100	Screw M4x6 SPAN	SC104
FCT804006100	Screw M4x6 SPAN	SC105
FCT804006100	Screw M4x6 SPAN	SC106
FCT804006100	Screw M4x6 SPAN	SC107
FCT804006100	Screw M4x6 SPAN	SC108
FCTALL420000	Screw M4x20	SC109
FCTALL420000	Screw M4x20	SC110
FCTALL420000	Screw M4x20	SC111
FCT750300800	Screw M3x8	SC112
FCT750300800	Screw M3x8	SC113
FCT750300800	Screw M3x8	SC114
FCT400290900	Screw 2.9x9.5	SC115
FCT400290900	Screw 2.9x9.5	SC116
FCPONTC01000	Copper Bridge 7mm	W101
FCPONTC01000	Copper Bridge 7mm	W102
FCPONTC01000	Copper Bridge 7mm	W103
FCPONTC01000	Copper Bridge 7mm	W104
FCPONTC02000	Copper Bridge 6mm	W105
FCPONTC02000	Copper Bridge 6mm	W106
FCPONTC02000	Copper Bridge 6mm	W107
FCPONTC02000	Copper Bridge 6mm	W108
FCARC9120000	Cardboard Washer 10x16x1	WA100
FCARDE030000	Toothed Washer f/M3	WA101
FCARDE030000	Toothed Washer f/M3	WA102
FCARDE040000	Toothed Washer f/M4	WA103
FCARDE040000	Toothed Washer f/M4	WA104
FCARDE040000	Toothed Washer f/M4	WA105
FCARDE040000	Toothed Washer f/M4	WA106
FCARS4000000	Security washer M4	WA107
FCARS4000000	Security washer M4	WA108
FCARDE040000	Toothed Washer f/M4	WA109
FCARDE040000	Toothed Washer f/M4	WA110
FCARDE040000	Toothed Washer f/M4	WA111
FCARDE030000	Toothed Washer f/M3	WA112
FCARDE030000	Toothed Washer f/M3	WA113
FCARDE030000	Toothed Washer f/M3	WA114
FC0H12030000	1120.03.00	WI101
FC4I00520000	1005.02.00	WI105
FCCRIS008000	8MHz	X101



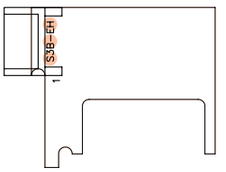
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		project n: EP05-02	title: Sensor Ct.	
number: 33.0872	version: 01.00	product n: DT6800/4800		
drawn by: M. Amoros	date: 031222	approved: Domingo Mele		



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0995-01.00 schema no: 10.0669-01.00 insertion file no: 81.0086-01.00	side: Component view: Value	
number: 33.0873 / version: 01.00	project n: EP05-02	title: Sensor Ct.	
drawn by: M. Amoros / date: 031222	product n: DT6800/4800		
	approved: Domingo Mele		



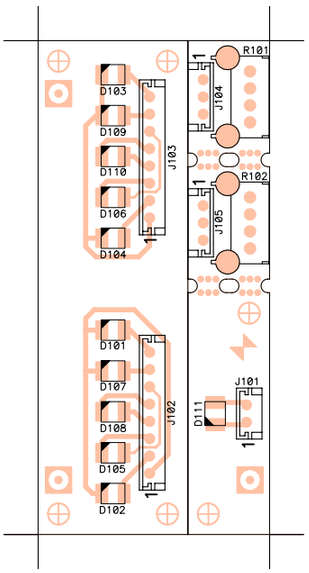
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	project n: EP05-02	title: Sensor Ct.	
number: 33.0874 / version: 01.00	product n: DT6800/4800		
drawn by: M. Amoros / date: 031222	approved: Domingo Mele		



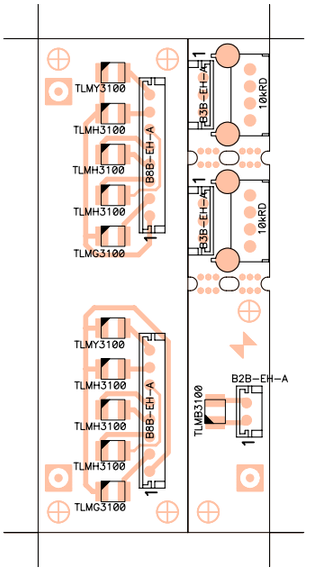
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		project n: EP05-02	title: Sensor Ct.	
number: 33.0875	version: 01.00	product n: DT6800/4800		
drawn by: M. Amoros	date: 031222	approved: Domingo Mele		

PARTS LIST: PRINTED CIRCUIT 11.0995.01.00

Code	Description	Reference
FCXCD4470000	470n	C101
FCXCD4470000	470n	C102
FCCI00995000	11.0995 Printed Board	CI101
FCXZ00010000	Z10V	D101
FCIC00450000	LM45	IC101
FCCTM1003000	S3B-EH	J101
FCXR55100000	100k0	R101
FCXR52100000	100.0	R102
FCXR53100000	1k0	R103



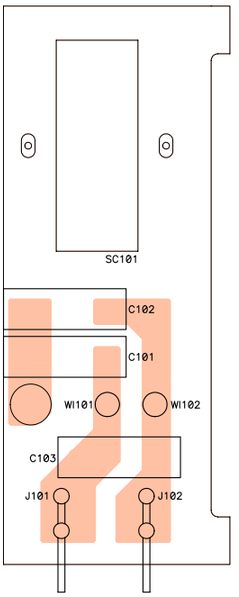
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number: 33.0839 / version: 01.01	project n: EP05-02	title: Leds&Potentiometers Ct.	
drawn by: M. Amoros / date: 030515	product n: DT6800/4800		
	approved: Domingo Mele		



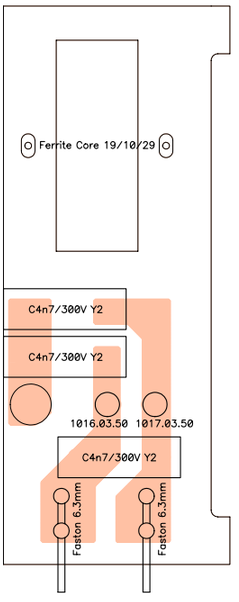
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number: 33.0840	version: 01.01	project n: EP05-02	title: Leds&Potentiometers Ct.
drawn by: M. Amoros	date: 030515	product n: DT6800/4800 approved: Domingo Mele	

PARTS LIST: PRINTED CIRCUIT 11.0969.02.00

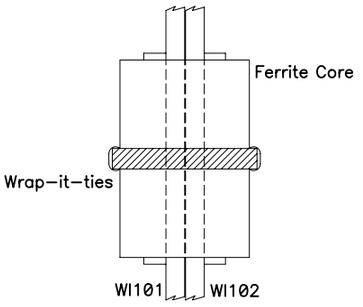
Code	Description	Reference
FCCI00969000	11.0969 Printed Board	CI104
FCLEDSMD2500	TLMY3100	D101
FCLEDSMD3000	TLMG3100	D102
FCLEDSMD2500	TLMY3100	D103
FCLEDSMD3000	TLMG3100	D104
FCLEDSMD2000	TLMH3100	D105
FCLEDSMD2000	TLMH3100	D106
FCLEDSMD2000	TLMH3100	D107
FCLEDSMD2000	TLMH3100	D108
FCLEDSMD2000	TLMH3100	D109
FCLEDSMD2000	TLMH3100	D110
FCLEDSMD3500	TLMB3100	D111
FCCTM0002000	B2B-EH-A	J101
FCCTM0008000	B8B-EH-A	J102
FCCTM0008000	B8B-EH-A	J103
FCCTM0003000	B3B-EH-A	J104
FCCTM0003000	B3B-EH-A	J105
FCPR11004000	10kRD	R101
FCPR11004000	10kRD	R102



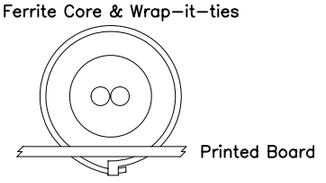
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.		related to: circuit no: 11.0981-02.01 schema no: 10.0659-01.01 insertion file no:	side: Component view: Reference	
		project n: EP05-02	title: Mains filter	
number: 33.0855	version: 01.02	product n: DT6800/4800		
drawn by: M. Amoros	date: 040304	approved: Domingo Mele		



Assembly Detail



Ferrite Core & Wrap-it-ties



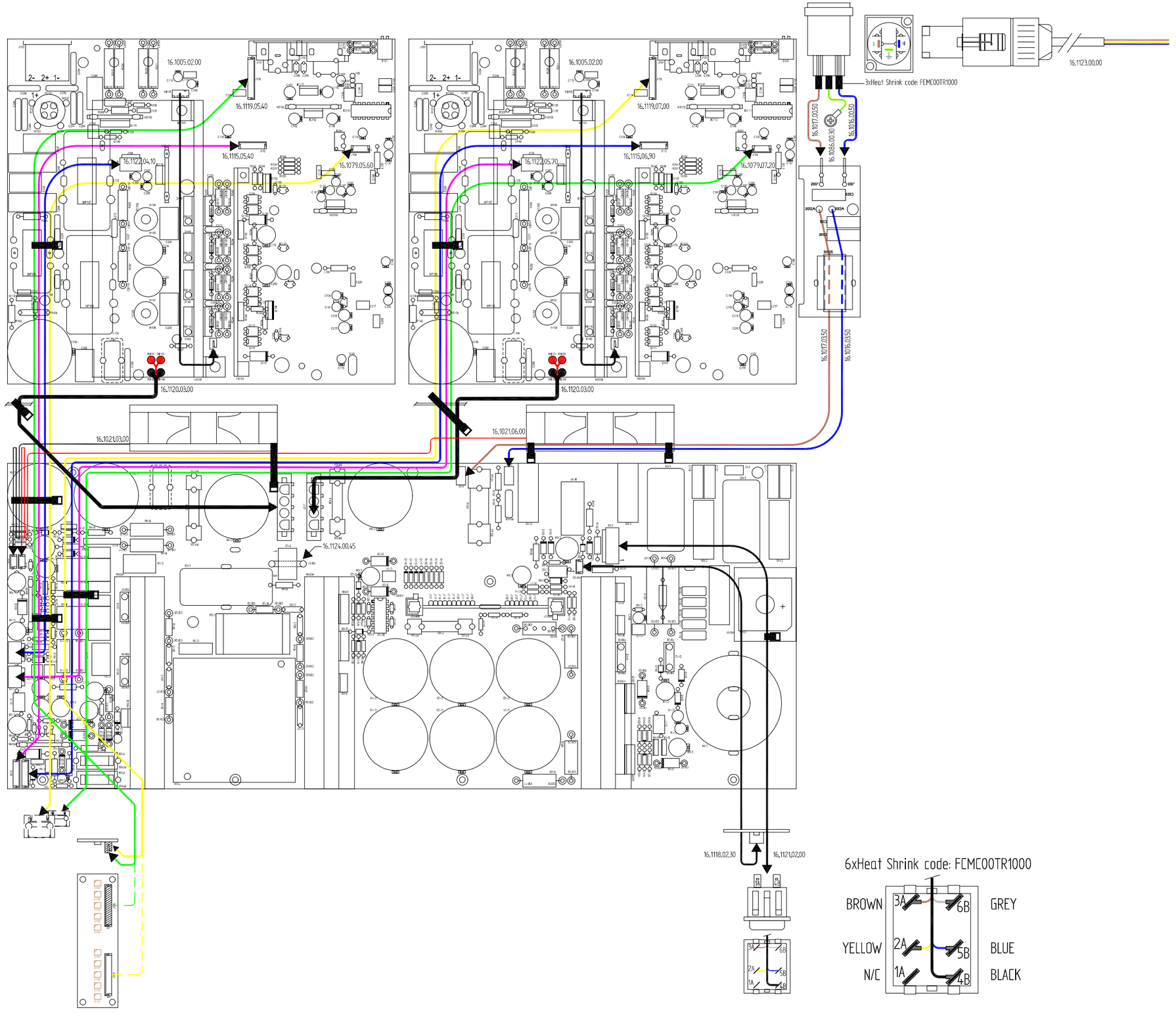
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.		related to: circuit no: 11.0981-02.01 schema no: 10.0659-01.01 insertion file no:	side: Component view: Value	
number: 33.0856	version: 01.02	project n: EP05-02	title: Mains filter	
drawn by: M. Amoros	date: 040304	product n: DT6800/4800 approved: Domingo Mele		

PARTS LIST: PRINTED CIRCUIT 11.0981.02.01

Code	Description	Reference
FCCC15004700	C4n7/300V Y2	C101
FCCC15004700	C4n7/300V Y2	C102
FCCC15004700	C4n7/300V Y2	C103
FCCI00981000	Printed Circuit 11.0981	CI101
FCTERM100000	Faston 6.3mm	J101
FCTERM100000	Faston 6.3mm	J102
FCNUCL036000	Ferrite Core 19/10/29	SC101
FCBRID18R000	Wrap-it-ties T18	WA100
FC2F01635000	1016.03.50	WI101
FC2F01735000	1017.03.50	WI102

MODEL	DT4800	DT6800
Maximum RMS Output Power per channel 0,3% THD, 1kHz*		
2Ω	2350W	3320W
4Ω	1320W	1794W
8Ω	700W	960W
Frequency response (-1dB / -3dB)	10Hz÷35KHz	
High pass filter (-3dB)	~20Hz	
THD+Noise @ 1kHz Full Pwr.	<0,05%	
Imd. Dist. 50Hz & 7kHz, 4:1	<0,03%	
TIM 100	<0,04%	
S+N/N 20Hz-20kHz @ 1W/4Ω	>85dB	
Damping factor 1kHz @ 8Ω	≥350	
Channel crosstalk @ 1kHz	>65dB	
Input connector	XLR3 balanced	
Input CMRR/ref. Max. PWR	>60dB	
Input Sensitivity / Impedance	0dBV/10kHz	
Signal present indicator	-40dB	
Output connectors	Speak-on	
Mains	230V AC	
Power consumption (max.Out)	2700 VA	3650 VA
Dimensions Panel	482.6x88mm	
Depth	458mm	
Weight	9.8 Kg.	

* Maximum RMS Output power remain constant even in heavy use situations and is independent to warm up time.



ECLER	drawn: J. Colomines	date: 040305	project: EP05-02	product: DT6800/4800
number: 31.0183 version 01.02	approved:	title:	WIRING DIAGRAM	

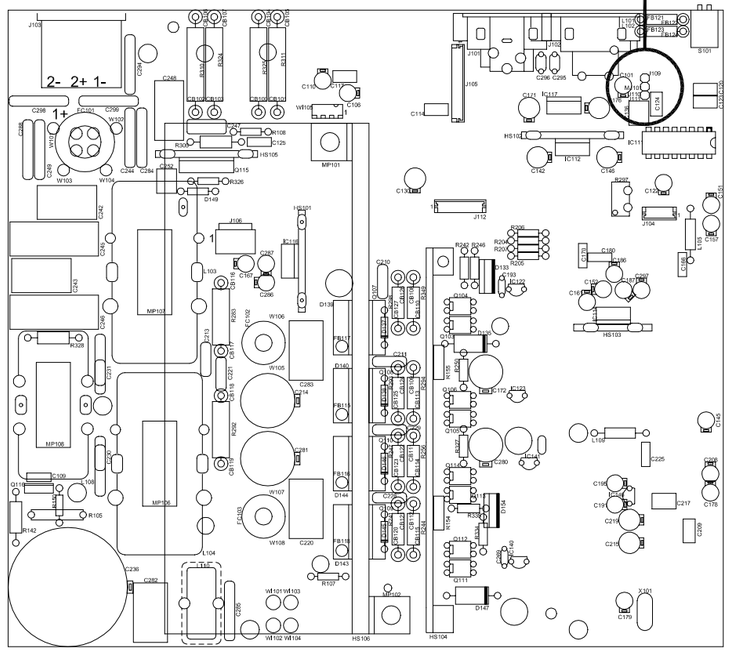
SUBSONIC FILTER

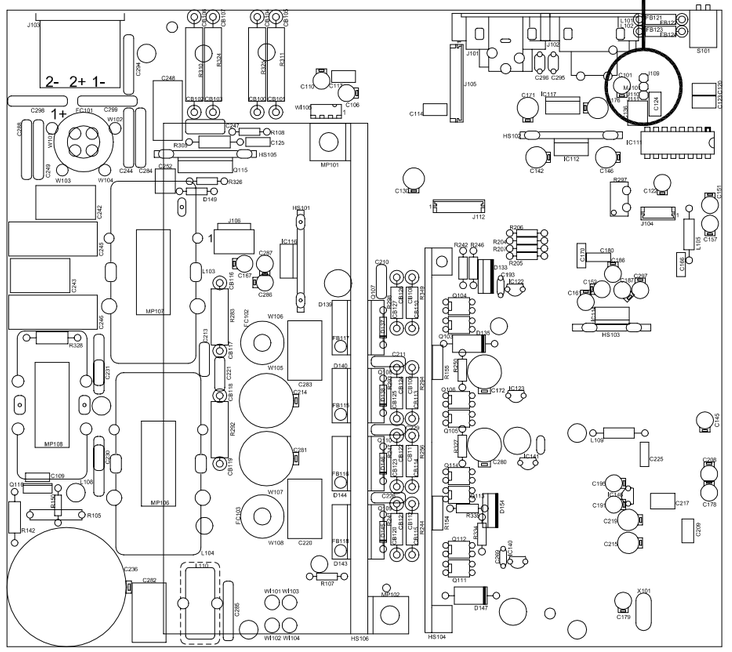
OFF

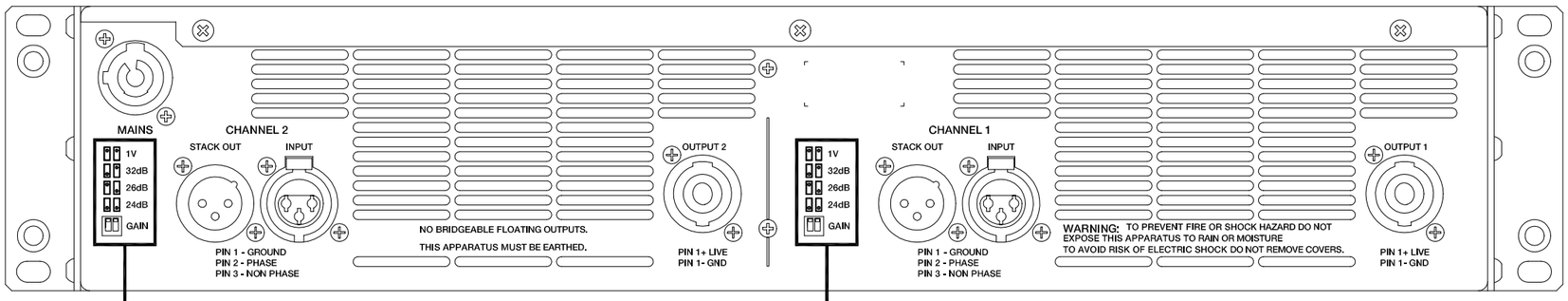
ON

J109
J110
J111

FACTORY ADJUSTED TO "ON" POSITION







FACTORY ADJUSTED TO "1V" POSITION

GAIN

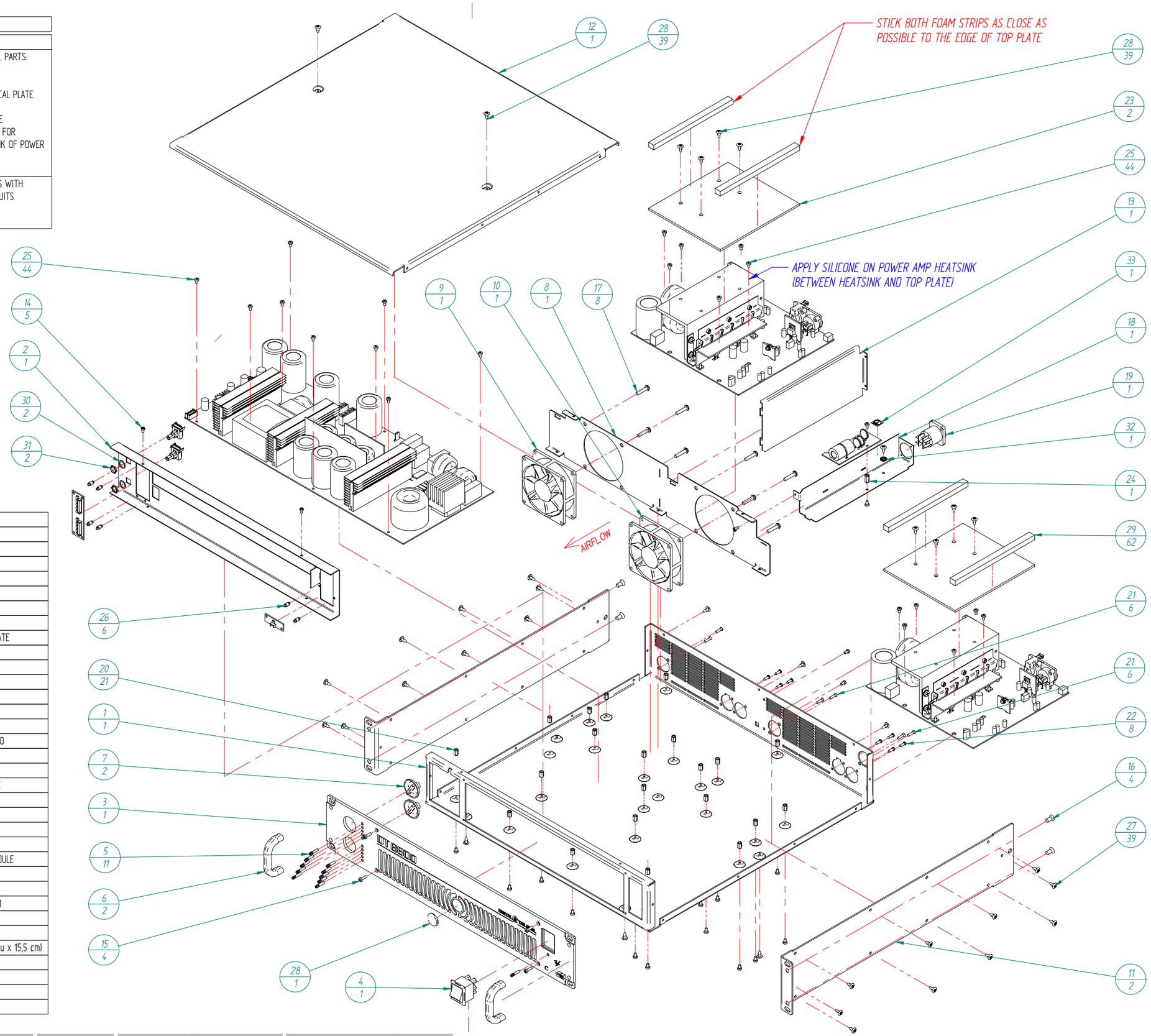
1V
32dB
26dB
24dB
GAIN

ECLER	drawn: J Colomines	date: 040305	project: EP05-02	product: DT6800/4800
number: 31.0185 version 01.01	approved:	title: CONFIGURATION DIAGRAM		

NOTES ABOUT MOST COMMON SCREWS USED IN THE ASSEMBLING:		
SCREW TYPE	CODE	USED IN:
4,2 x 9,5 B	FCT560420950	-ASSEMBLING OF MECHANICAL PARTS: -BASE CHASSIS -LEFT/RIGHT SIDE -FAN SUPPORT MECHANICAL PLATE -TOP COVER -FRONTAL SUPORT GRILLE -ASSEMBLING OF "TOP PLATE FOR HEATSINK"WITH THE HEATSINK OF POWER AMPLIFIER MODULES. -FIXING OF EARTH WIRE.
M3X5 COMBI	FCT8030C5000	-ASSEMBLING OF M3 SPACERS WITH: -POWER AMPLIFIER CIRCUITS -POWER SUPPLY CIRCUIT -MAINS FILTER CIRCUIT

NOTE:
1.-TO VIEW CABLES POSITION AND WIRING CHARACTERISTICS, SEE WIRING DIAGRAM NUMBER 31.0183

Nº	Qty	Code	Description
1	1	FP0274400000	BASE CHASSIS
2	1	FP0277500000	FRONTAL SUPPORT GRILLE
3	1	FP0277600000	FRONT PANEL
4	1	FCINTRED4000	MAINS SWITCH
5	11	FCGUIAL10000	LIGHT PIPE GUIDE VERTICAL
6	2	FCASAPWM1000	FRONTAL HANDLE
7	2	FRBOTRD24000	ROTARY KNOB D24
8	1	FP0274500000	FAN SUPPORT MECHANICAL PLATE
9	1	FRVEN080B000	FAN 80x80 12VDC CABLE=300
10	1	FRVEN080B200	FAN 80x80 12VDC CABLE=600
11	2	FP0277800000	LEFT/RIGHT SIDE
12	1	FP0277900000	TOP COVER
13	1	FP0278000000	REAR DIVISON PLATE
14	5	FCT850300500	SCREW M3x5 REDUCED HEAD
15	4	FCT803010000	SCREW DIN7985 M3x10 SPANLO
16	4	FCT200501000	SCREW DIN965 M5x10
17	8	FCT060512000	SCREW 5,1x20
18	1	FP0278100000	MAINS CABLE SHIELDING PLATE
19	1	FCBASP010000	POWERCON FEMALE SOCKET
20	21	FCSEP3080000	SPACER M3x8
21	6	FCT500291300	SCREW D7982 2,9x13
22	8	FCT400290900	SCREW 2,9x9,5 D7981F BLACK
23	2	FP0278500000	TOP PLATE FOR HEATSINK MODULE
24	1	FCSEP3110000	SPACER M3x11
25	44	FCT803005000	SCREW DIN 7985 M3x5 COMBI
26	6	FCSEPDLMSPM0	PLASTIC SPACER DLMSPM-3-01
27	39	FCT560420950	METAL SCREW 4,2x9,5 BLACK
28	1	FCLOGO300000	TRILEVEL LOGO
29	62	FCTIRACAU000	STICKER FOAM STRIP 10X8 (4 u x 15,5 cm)
30	2	FCARDEPOTE00	ROTARY POT. WASHER M9
31	2	FCTUPOT00000	ROTARY POT. NUT M9
32	1	FCARDE040000	TOOTHED WASHER M4
33	1	FCETIZTT0000	EARTH TAG



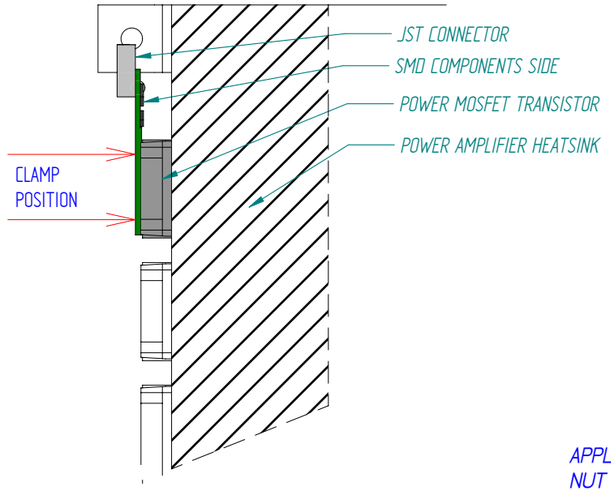
ECLEREE

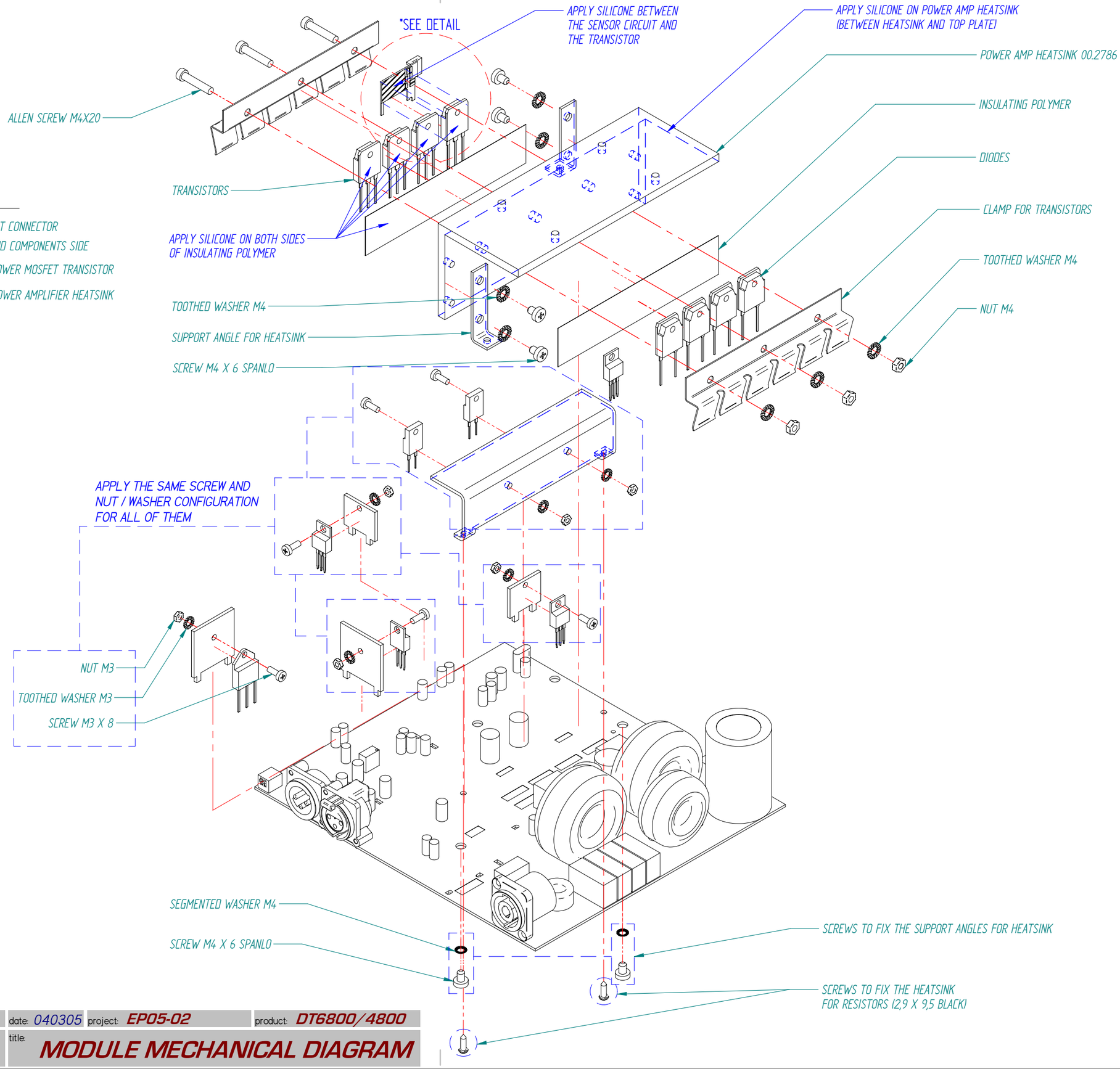
drawn: Jordi Folch | date: 040305 | project: EP05-02 | product: DT6800/4800

approved: | title: **MECHANICAL DIAGRAM**

number: 30.0194 | version 01.02

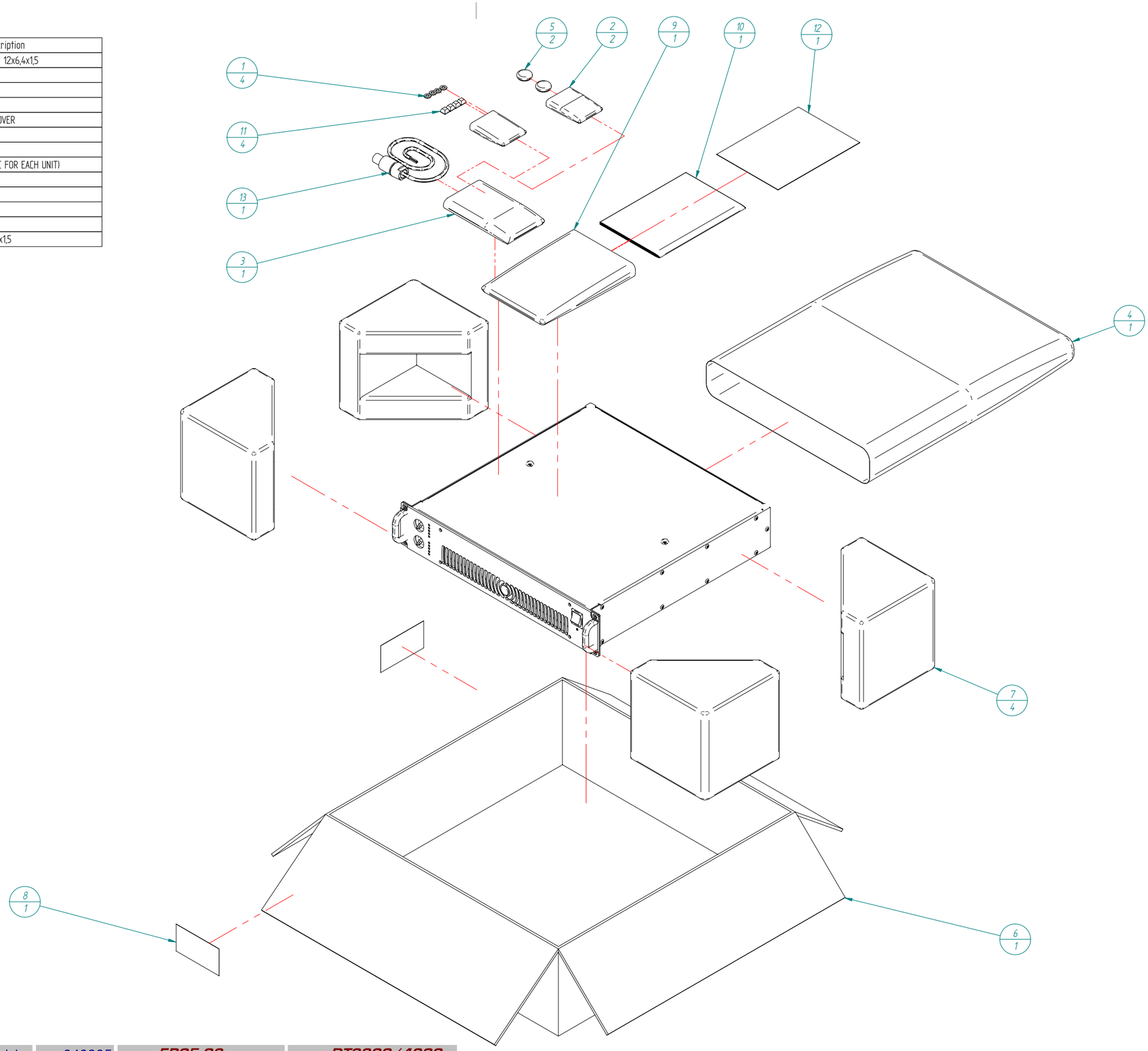
*DETAIL OF SENSOR CIRCUIT POSITION
(TOP VIEW)





ECLEREE	drawn: Jordi Folch	date: 040305	project: EP05-02	product: DT6800/4800
number: 30.0195 version 01.01	approved:	title: MODULE MECHANICAL DIAGRAM		

N°	Qty	Code	Description
1	4	FCARANY06000	WASHER M6 NYLON BLACK 12x6,4x1,5
2	2	FCBOL0010000	BAG 60x80
3	1	FCBOL0020000	PLASTIC BAG 120x180
4	1	FCBOLS020000	STANDARD BAG 75x65
5	2	FCBOTD240100	ROT. KNOB PROTECTION COVER
6	1	FCCAJSTA2100	PACKING CARDBOARD BOX
7	4	FCCANT116000	INTERIOR REINFORCEMENT
8	1	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
9	1	FCFUNMAN0000	USER MANUAL BAG
10	1	FCMANPWM0000	USER MANUAL DT6800
11	4	FCPIE1125500	RUBBER FOOT
12	1	FCTARJG00000	WARRANTY CARD
13	1	FRCONX050000	POWERCON MAINS CORD 3x1,5



ECLEREE

drawn: Jordi Folch | date: 040305 | project: EP05-02 | product: DT6800/4800

approved:

title: PACKING DIAGRAM

number: 32.0103 | version 01.01