



MT 180 A

Active,
processor controlled,
2-way system

SERVICE MANUAL *MANUALE DI SERVIZIO*

2003

MT 180 A

ACTIVE, PROCESSOR CONTROLLED, 2-WAY SYSTEM



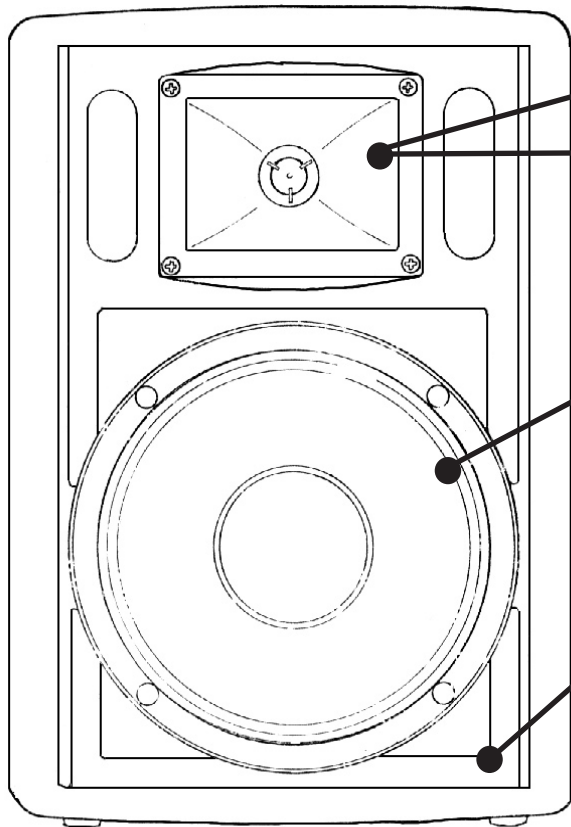
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Circuiti assemblati

SPARE PARTS PARTI DI RICAMBIO



A300555

1" horn loaded driver

Driver da 1" caricato a tromba

A300641

Diaphragm

Membrana

A300149

8" High efficiency Loudspeaker 8ohm

Altoparlante 8" ad alta efficienza 8ohm

B011801

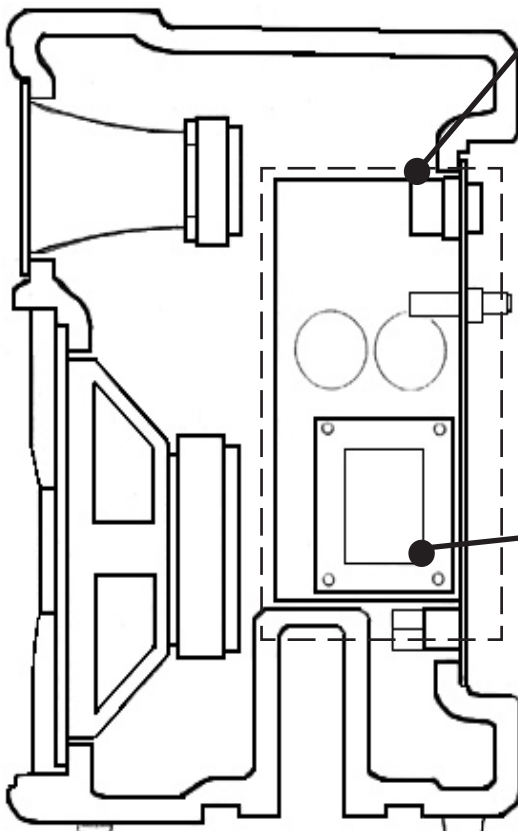
Perforated steel grid

Griglia di protezione in acciaio

D520180

Amplifier chassis

Telaio amplificatore



B14MTAF

PC MTBF Mosfet support

CS MTBF Supporto mosfet

D001801

PC MTBYR2 preamplifier + filter

CS MTBYR2 Preamplificatore + filtro

D001802

PC MTBW XLR + Jacks

CS MTBW XLR + Jack

D001803

PC MTBTR6 Transformer & power supply

CS MTBTR6 Trasformatore e alimentazione

B005180

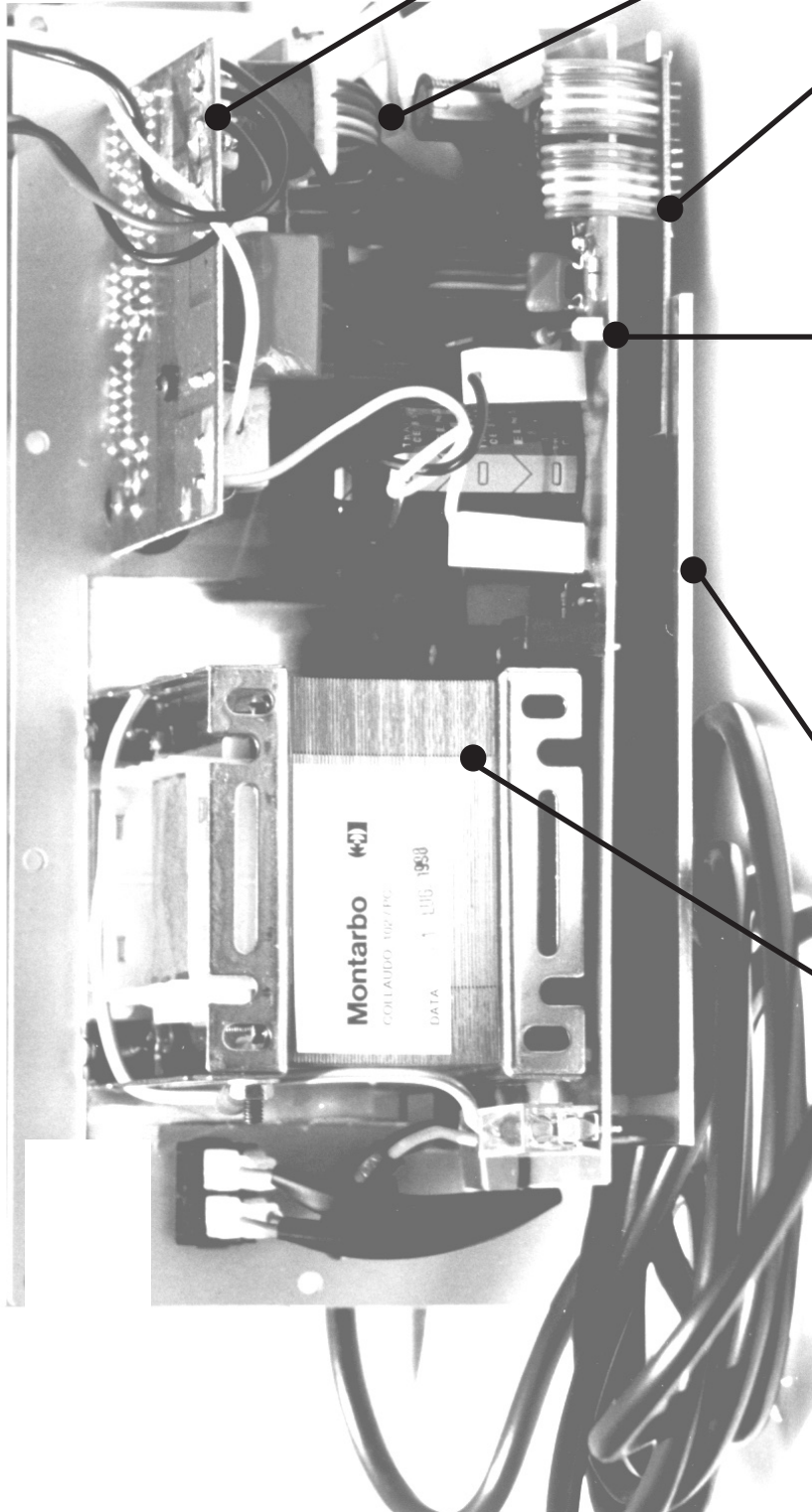
Transformer

Trasformatore

SPARE PARTS
PARTI DI RICAMBIO

D520180

AMPLIFIER CHASSIS
TELAIO AMPLIFICATO



D001801

PC MTBYR2 preamplifier +
filter
*CS MTBYR2 Preamplificatore
+ filtro*

D001802

PC MTBW XLR + Jacks
CS MTBW XLR + Jack

B14MTAF

PC MTBF Mosfet support
CS MTBF Supporto mosfet
A500127 Mosfet IRFP240
A500128 Mosfet IRFP9240

D001803

PC MTBTR6 Transformer and
power supply
*CS MTBTR6 Trasformatore e
alimentazione*

B011802

Heat sink
Radiatore

B005180

Transformer
Trasformatore

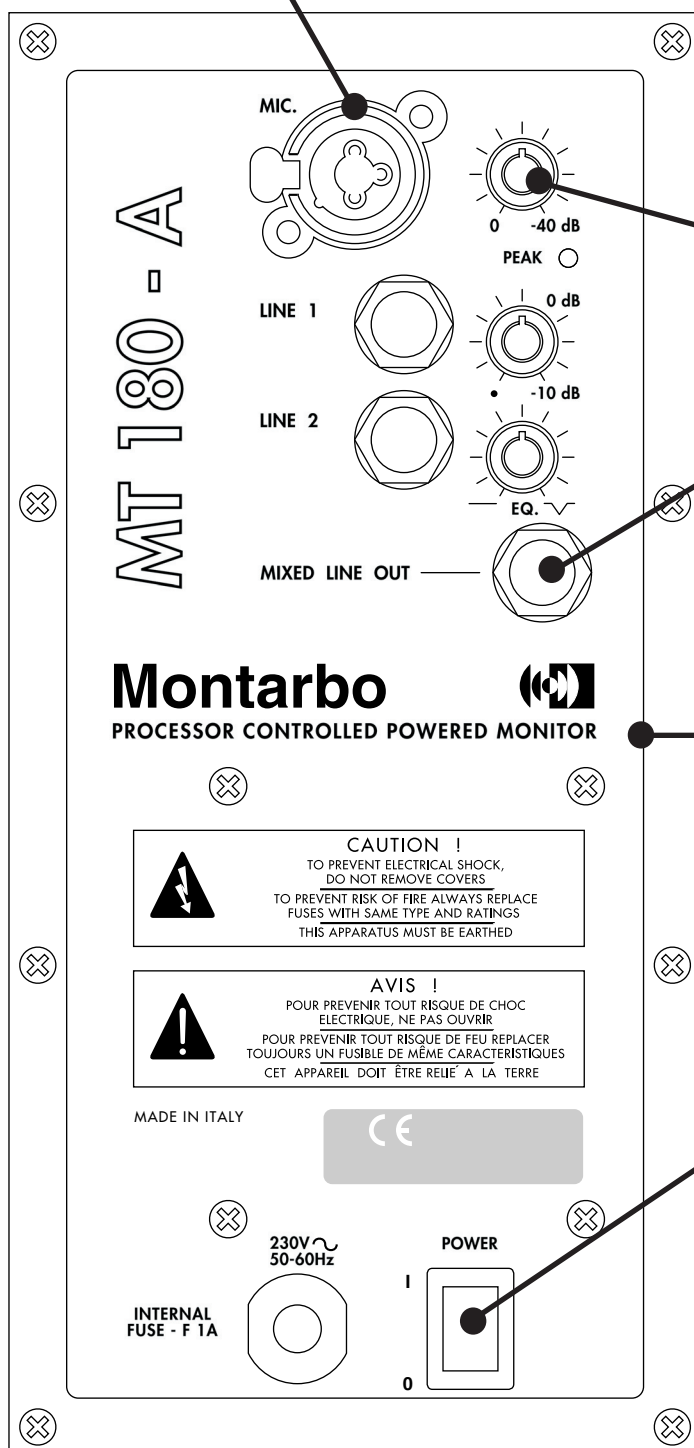
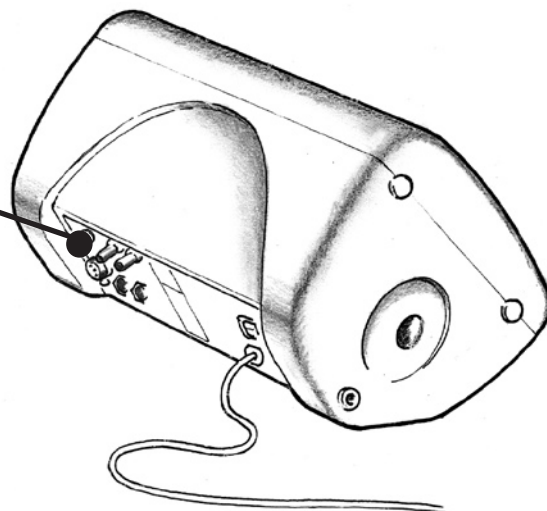
SPARE PARTS PARTI DI RICAMBIO

D520180

AMPLIFIER CHASSIS
TELAIO AMPLIFICATO

A603004

Xlr socket
Presà xlr+jack



A608036

Black knob
Manopola nera

A603267

Jack
Presà jack

B021803

Silk-screen panel
Pannello serigrafato

A900007

Red switch
Interruttore bip. rosso

A600010

1A fuse
Fusibile 1A

TECHNICAL SPECIFICATIONS

DATI TECNICI

Speaker system

- Components:

- bass frequencies

Nominal diameter
Nominal impedance
Power capacity
Net weight
Thiele & Small Parameters
fs
Re
Qms
Qes
Qts
Vas
B.I
SD
Mms

2-way bass reflex

custom designed

8" loudspeaker

8"
8ohm
150W
3,4 Kg

80Hz
5,8 ohm
2,51
0,35
0,31
11,16 dm³
13,75T/m
213,82cm²
22,3gr

- high frequencies

Throat diameter:
Nominal impedance:
DC resistance:
Power capacity:
Crossover:
Voice coil diameter:
Overall diameter:
Depth:
Net weight:

1" horn loaded driver

1"
8 ohm
5,5 ohm
125 W
2500Hz; 12dB/oct
25mm
70mm
114mm
748 gr

- Impedance

- Frequency response

8 ohm

60Hz ÷ 19,5kHz

- bass: 60Hz ÷ 2500 Hz

- mid/high: 2500Hz ÷ 19,5kHz

- Sensitivity (1W / 1m)

97 dB

- Max SPL

119 dB

Built-in power amplifier

- Max. output power

MosFet - A/B class

120 Watts continuous

200 Watts peak

- Frequency response

10Hz ÷ 40kHz ±1dB

- Input impedance

10Kohm

- Input sensitivity

0dB (775 mV)

- Noise referred to input

-110dB (A weighted)

- Power supply

230V AC 50÷60Hz

Connections

Combined XLR and 1/4" jack (Neutrik Combo®) for the micro input; 1/4" jacks for the line inputs and for the mixed output.

Construction

Rotationally moulded high density polyethylene. Steel protection grille. Stand adaptor.

Dimensions (w x h x d):

26,5 x 38 x 26 cm

Weight:

9,5 Kg

Sistema acustico

- Componenti:

- basse frequenze

Diametro
Impedenza nominale
Potenza nominale
Peso netto
Parametri Thiele & Small
fs
Re
Qms
Qes
Qts
Vas
B.I
SD
Mms

bass reflex a 2 vie

costruito nostre specifiche

8" altoparlante

8"
8ohm
150W
3,4 Kg

80Hz
5,8 ohm
2,51
0,35
0,31
11,16 dm³
13,75T/m
213,82cm²
22,3gr

- alte frequenze

Diametro di gola:
Impedenza nominale:
DC resistenza:
Potenza nominale:
Crossover:
Diametro bobina:
Diametro:
Profondita`:
Peso netto:

driver 1" caricato a tromba

1"
8 ohm
5,5 ohm
125 W
2500Hz; 12dB/oct
25mm
70mm
114mm
748 gr

- Impedenza

8 ohm

- Risposta in frequenza

60Hz ÷ 19,5kHz

- bassi: 60Hz ÷ 2500 Hz

- medio/alti: 2500Hz ÷ 19,5kHz

- Sensibilita` (1W / 1m)

97 dB

- Max SPL

119 dB

Amplificatore

- Potenza max di uscita

MosFet - classe A/B

120 Watts continui

200 Watts di picco

- Risposta in frequenza

10Hz ÷ 40kHz ±1dB

- Impedenza di ingresso

10Kohm

- Sensibilita` di ingresso

0dB (775 mV)

- Rumore riferito all'ingresso

-110dB (A weighted)

- Alimentazione

230V AC 50÷60Hz

Conessioni

Presa combinata XLR e 1/4" jack (Neutrik Combo®) per ingresso micro, 1/4" jack per ingressi linea e uscita linea miscelata,

Costruzione e finiture

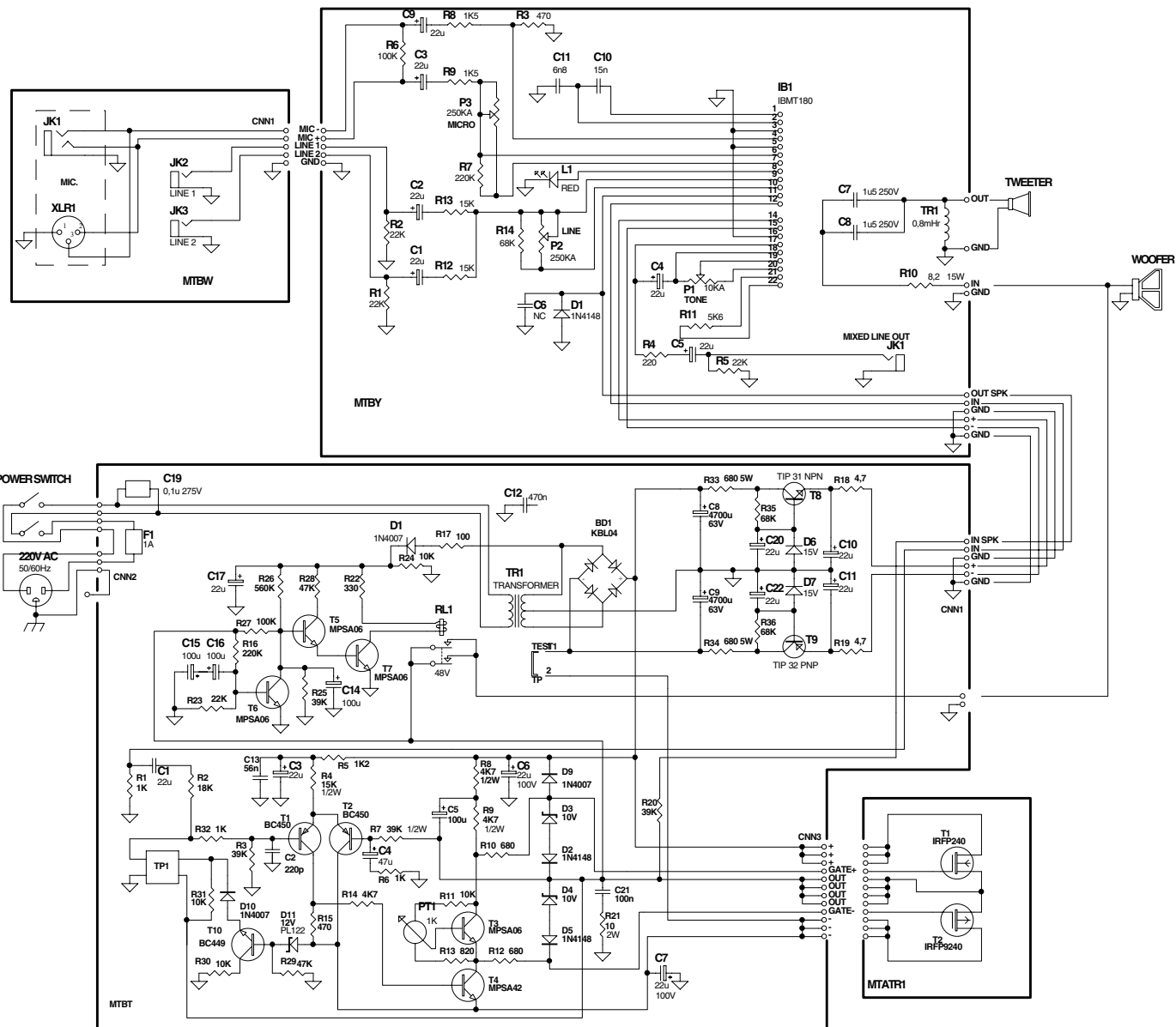
Polietilene ad alta densità. Griglia di protezione in acciaio. Adattatore per supporto cassa.

Dimensioni (l x h x p):

26,5 x 38 x 26 cm

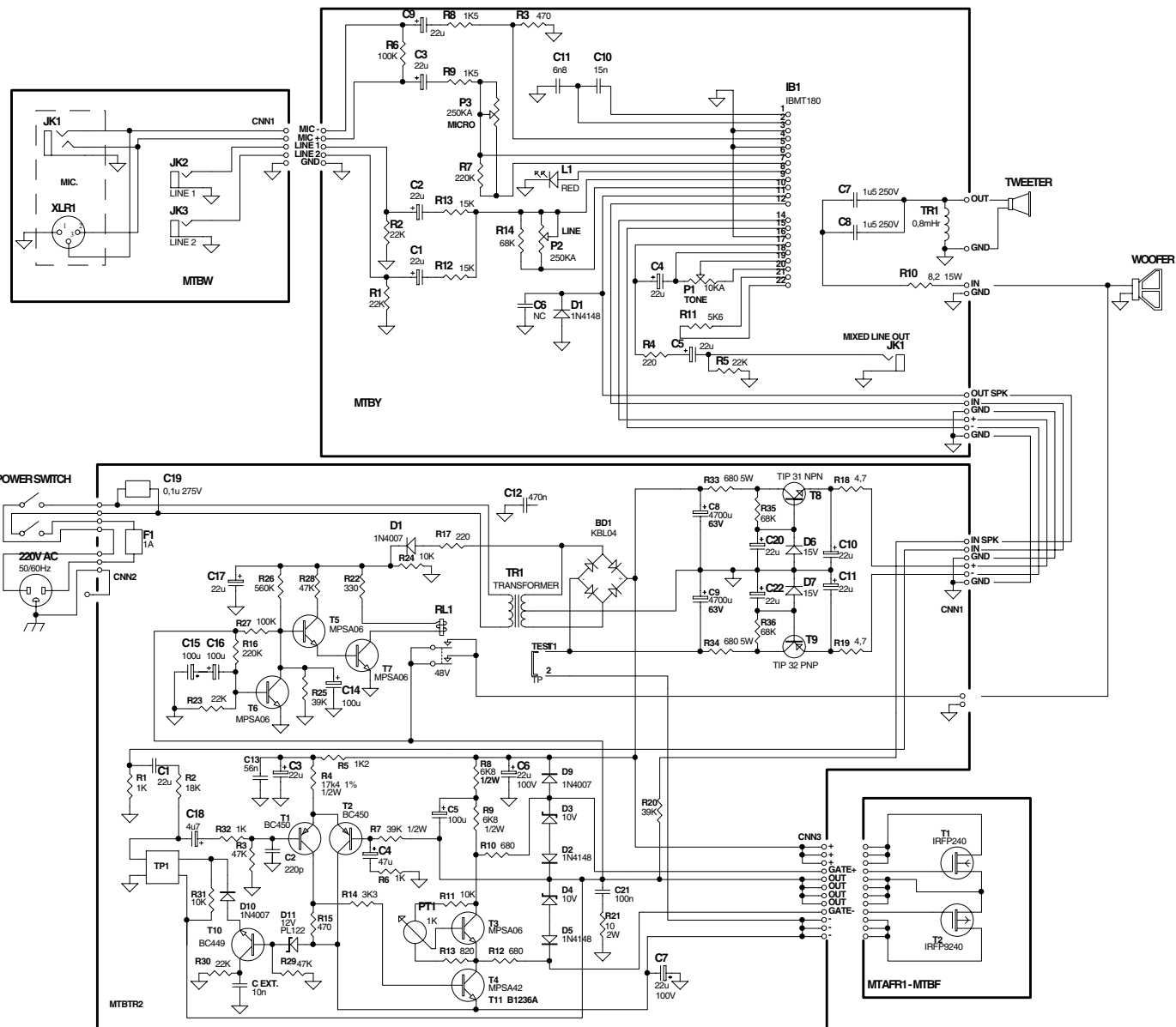
Peso:

9,5 Kg



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		ELETTRONICA MONTARBO VIA G. DI VITTORIO 13 CADRIANO DI GRANAROLO 40057 - BOLOGNA - ITALY		Montarbo 	
		MT180A - MONITOR - 1a versione			
	Size A2	FCSM No.	DWG No.	21.98	Rev 22.98
	Scale			Sheet 1 of 1	



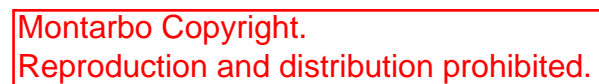
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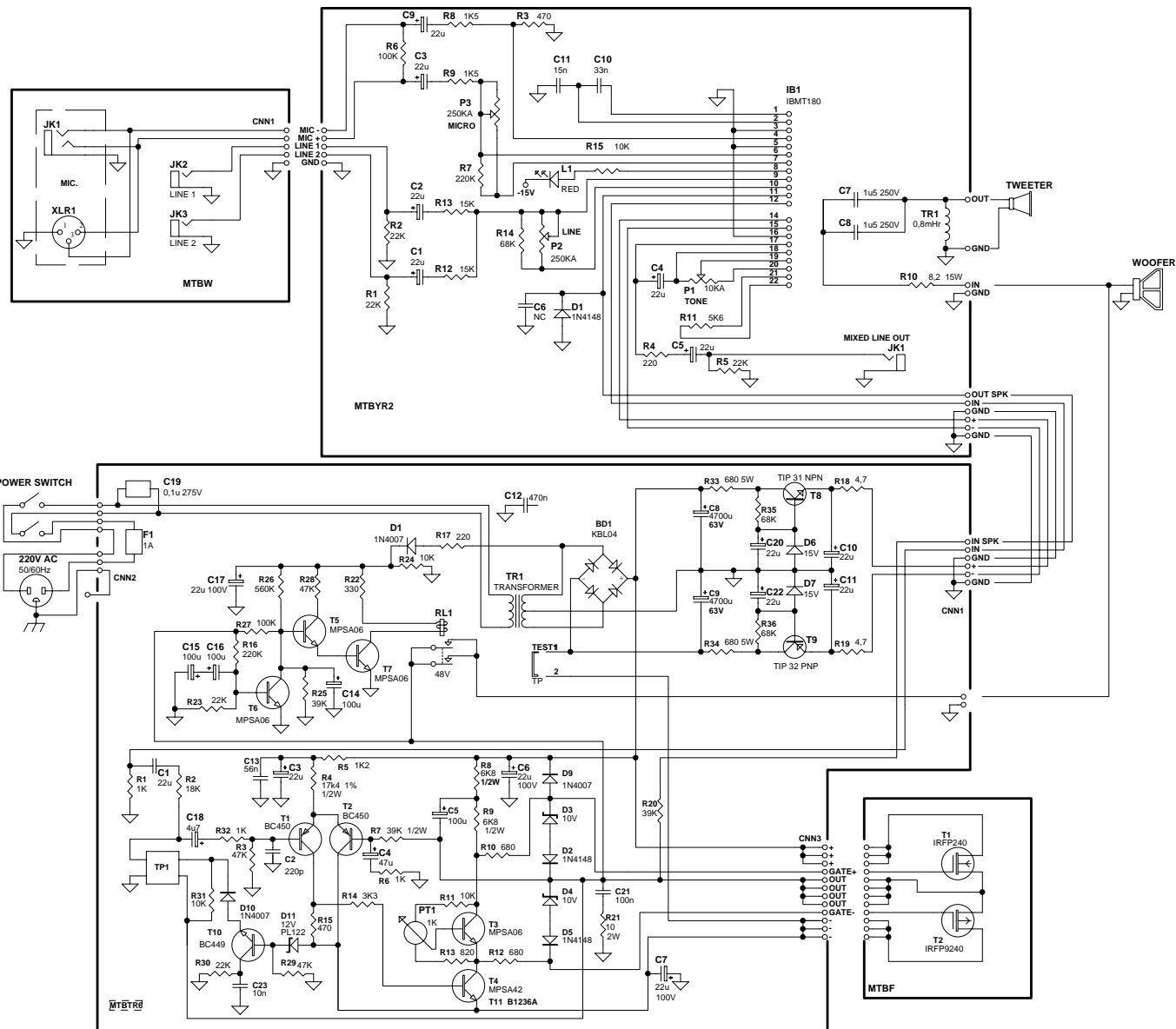
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CADRIANO DI GRANAROLO
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MT180A - MONITOR - 2a versione

Size	FCSM No.	DWG No.	Rev
A2			49.98
Scale		Sheet	1 of 1





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		MT180A - MONITOR - 4a versione			
	Size A2	FCSM No.	DWG No.		Rev 23.99
	Scale			Sheet 1 of 1	

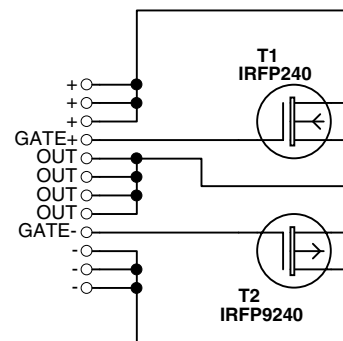
ASSEMBLED CIRCUIT BOARDS *CIRCUITI ASSEMBLATI*

-	MTAFR1	Mosfet support <i>Supporto mosfet</i>
-	MTBF	Mosfet support <i>Supporto mosfet</i>
D001803	MTBT	Power amplifier/ Power supply <i>Amplificatore/ Alimentazione</i>
D001803	MTBTR2	Power amplifier/ Power supply <i>Amplificatore/ Alimentazione</i>
D001803	MTBTR3/MTBTR4	Power amplifier/ Power supply <i>Amplificatore/ Alimentazione</i>
D001803	MTBTR5/MTBTR6	Power amplifier/ Power supply <i>Amplificatore/ Alimentazione</i>
D001801	MTBY/MTBYR1	Preamplifier/ Filter <i>Preamplificatore/ Filtro</i>
D001801	MTBYR2	Preamplifier/ Filter <i>Preamplificatore/ Filtro</i>
D001802	MTBW	MT180A jacks <i>Jack per MT180A</i>

SUPPORTO MOSFET

[illegible]

MTBT



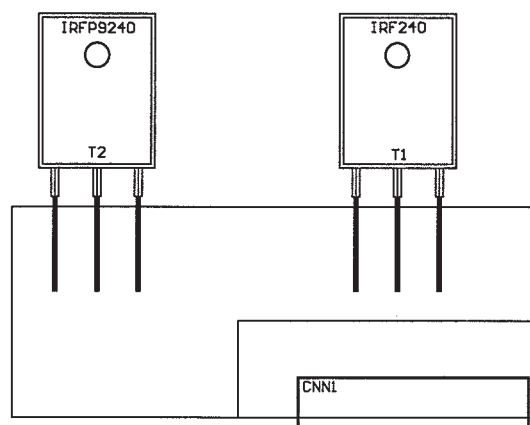
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CADRIANO DI GRANAROLO
40057 - BOLOGNA - ITALY

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MTAFR1 - MOSFET

Size A4	FCSM No.	DWG No.	Rev
Scale		Sheet 1 of 1	

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ITALY

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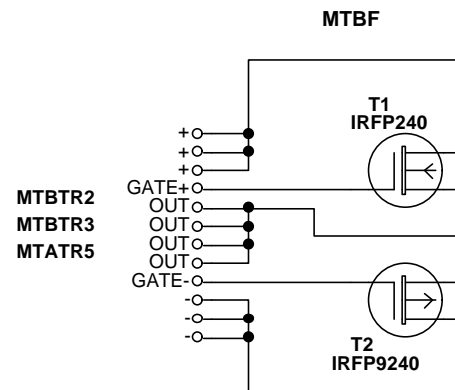
MTAFR1

-


Via G. Di Vittorio 13 tel. 051-766437 fax 051-765226 40057 - Cadriano di Granarolo Emilia Bologna

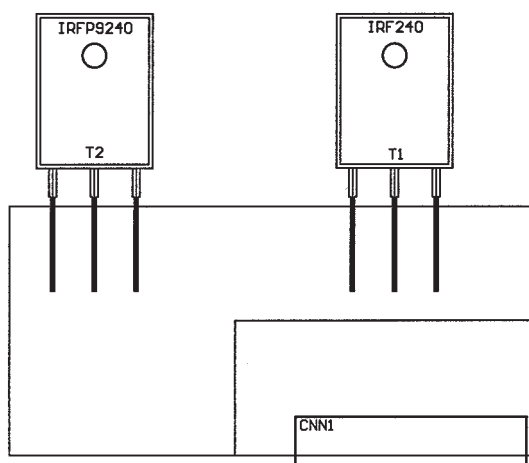
MOSFET SUPPORT
SUPPORTO MOSFET

[illegible]



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	MTBF - SUPP. MOSFET				
	Size A4	FCSM No.	DWG No.		Rev 29.98
	Scale			Sheet 1 of 1	



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MTBF

-

CSMTBT

POWER AMPLIFIER / POWER SUPPLY
AMPLIFICATORE / ALIMENTAZIONE1st version
1a versione

REFERENCE <i>REFERENZA</i>	CODE <i>CODICE</i>	DESCRIPTION <i>DESCRIZIONE</i>	QT.
R1 -R6 -R32	A110102	RESISTOR <i>RESIST. 1/4W 5% 1K</i>	3
R2	A110183	RESISTOR <i>RESIST. 1/4W 5% 18K</i>	1
R3 -R25 -R20	A110393	RESISTOR <i>RESIST. 1/4W 5% 39K</i>	3
R4	A100153	RESISTOR <i>RESIST. 1/2W 5% 15K</i>	1
R5	A110122	RESISTOR <i>RESIST. 1/4W 5% 1K2</i>	1
R7	A100393	RESISTOR <i>RESIST. 1/2W 5% 39K</i>	1
R8 -R9	A100472	RESISTOR <i>RESIST. 1/2W 5% 4K7</i>	2
R10 -R12	A110681	RESISTOR <i>RESIST. 1/4W 5% 680</i>	2
R11 -R24 -R31	A110103	RESISTOR <i>RESIST. 1/4W 5% 10K</i>	3
R13	A110821	RESISTOR <i>RESIST. 1/4W 5% 820</i>	1
R14	A110472	RESISTOR <i>RESIST. 1/4W 5% 4K7</i>	1
R15	A110471	RESISTOR <i>RESIST. 1/4W 5% 470</i>	1
R16	A110224	RESISTOR <i>RESIST. 1/4W 5% 220K</i>	1
R17	A110101	RESISTOR <i>RESIST. 1/4W 5% 100</i>	1
R18 -R19	A110478	RESISTOR <i>RESIST. 1/4W 5% 4,7</i>	2
R21	A140100	RESISTOR <i>RESIST. 2W 5% 10 PR37=PR02</i>	1
R22	A110331	RESISTOR <i>RESIST. 1/4W 5% 330</i>	1
R23 -R30	A110223	RESISTOR <i>RESIST. 1/4W 5% 22K</i>	2
R26	A110564	RESISTOR <i>RESIST. 1/4W 5% 560K</i>	1
R27	A110104	RESISTOR <i>RESIST. 1/4W 5% 100K</i>	1
R28 -R29	A110473	RESISTOR <i>RESIST. 1/4W 5% 47K</i>	2
R33 -R34	A140681	RESISTOR <i>RESIST. 2W 5% 680 PR37=PR02</i>	2
R35 -R36	A110683	RESISTOR <i>RESIST. 1/4W 5% 68K</i>	2
J1 -J2 -J3 -J4	A110000	RESISTOR <i>RESIST. 1/4W 5% 0</i>	4
C1 -C10 -C11 -C17 -C20 -C22	A244225	CAPACITOR <i>COND. EV 22 F 50V 5x11</i>	6
C2	A226221	CAPACITOR <i>COND. CR 220pF 100V 10% 05</i>	1
C3 -C6 -C7	A244226	CAPACITOR <i>COND. EV 22 F 100V 8x12</i>	3
C4	A243476	CAPACITOR <i>COND. EV 47 F 25V 6x11</i>	1
C5	A244231	CAPACITOR <i>COND. EV RSH 100 F 100F 13x20</i>	1
C8 -C9	A232480	CAPACITOR <i>COND. 4700 F 80V SNAP-IN</i>	2
C12	A216474	CAPACITOR <i>COND. PL 470nF 100V 10% 15</i>	1
C13	A217563	CAPACITOR <i>COND. PL 56nF 100V 5% 05</i>	1
C14 -C15 -C16	A244107	CAPACITOR <i>COND. EV 100 F 25V 8x12</i>	3
C19	A214105	FILTER <i>FILTRO R40-KI-3100-5001M</i>	1
C21	A216104	CAPACITOR <i>COND. PL 100nF 100V 10% 10</i>	1
PT1	A434102	POTENTIOMETER TRIMMER <i>TRIMMER PR REG. ORIZ. 1KA P10</i>	1
T1 -T2	A500123	TRANSISTOR <i>TRANSIST BC 450 A</i>	2
T3 -T5 -T6 -T7	A500053	TRANSISTOR <i>TRANSIST MPSA 06 NPN</i>	4
T4	A500098	TRANSISTOR <i>TRANSIST MPSA42</i>	1
T8	A500025	TRANSISTOR <i>TRANSIST TIP 31C</i>	1
T9	A500026	TRANSISTOR <i>TRANSIST TIP 32C</i>	1
T10	A500122	TRANSISTOR <i>TRANSIST BC 449 A</i>	1
D1 -D9 -D10	A510001	DIODE <i>DIODO 1N4007</i>	3
D2 -D5	A510003	DIODE <i>DIODO 1N4148</i>	2
D3 -D4	A510100	ZENER DIODE <i>ZENER 10V 1W</i>	2
D6 -D7	A510150	ZENER DIODE <i>ZENER 15V 1W</i>	2
D11	A510120	ZENER DIODE <i>ZENER 12V 1W</i>	1
F1	A600010	FUSE <i>FUSIBILE 1A</i>	1
F1	A600804	FUSE HOLDER <i>PORTAFUSIBILE C1010+ COPERCHIO</i>	1
BD1	A605008	BRIDGE DIODE <i>PONTE R KBL 04 2A 400V</i>	1
RL1	A605150	RELAY <i>RELE` M.I.SH 248 L.</i>	1
L1	A601499	RED LIGHT EMITTED DIODE <i>LED L-53SRC/C 5 HY-LUM C ROS</i>	1
TP1	A601552	PHOTORESISTOR <i>FOTORESISTENZA VT 90N1</i>	1
TP1	B005768	CAP (FOR WAVE TRAP) <i>CAPPUCCIO TRAPP 10x15 PVC</i>	1
TP1	B005769	CAP (FOR WAVE TRAP) <i>CAPPUCCIO TRAPP 7,2x10,5 P</i>	1
TR1	B005180	TRANSFORMER <i>TRASFORMATORE MT180A</i>	1
CNN1	A603716	FLAT CABLE <i>PIATT. PFS 0033 150mm 6C</i>	1
CNN2	A603360	TERMINAL <i>MORS. WMSM/03/09V1</i>	1
CNN3	A603714	FLAT CABLE <i>PIATT. PFS0129 40mm 6C 0300/1</i>	2
MTBT	B14MTBT	PRINTED CIRCUIT <i>CS MTBT TRASF. CON REG. x MT180</i>	1
-	A603701	TAG <i>PAGLIETTA x CS L979</i>	2
-	A603735	PCB SPADE TERMINATOR <i>FASTON MASC. CS TE342 08</i>	2
-	A603751	EYELET TERMINAL <i>CAPOC. OCCHIELLO BLU D5</i>	1
-	A606371	YELLOW/GREEN CABLE <i>CAVO D 1 GIALLO/VERDE</i>	mt 0,3
-	B0047R3	SPACER <i>DISTANZ. CS RLCBSRS-08-01</i>	2
-	B004700	CERAMIC SPACER <i>DISTANZ. CERAMICA</i>	4
-	B004717	SPACER <i>DISTANZ. ESAG. HS8-22</i>	1

D001803

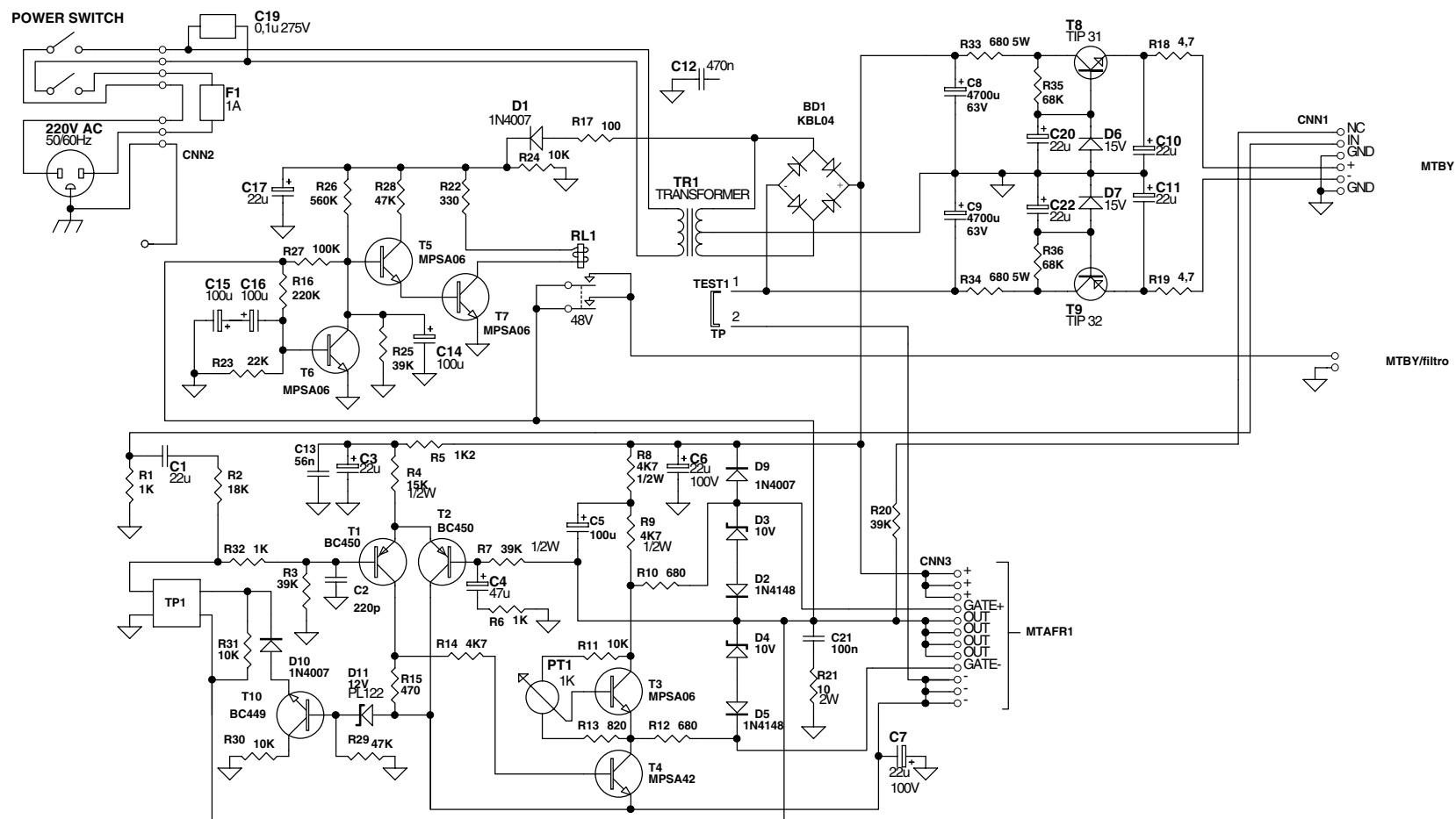
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CSMTBT


POWER AMPLIFIER / POWER SUPPLY
AMPLIFICATORE / ALIMENTAZIONE

1st version
1a versione

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		MTBT - AMPLIFICATORE / TRASFORMATORI			
	Size A3	FCSM No.	DWG No.		Rev
	Scale			Sheet 1 of 1	

CS MTBTR2 POWER AMPLIFIER / POWER SUPPLY
AMPLIFICATORE / ALIMENTAZIONE2nd version
2a versione

REFERENCE <i>REFERENZA</i>	CODE <i>CODICE</i>	DESCRIPTION <i>DESCRIZIONE</i>	QT.
R1 -R6 -R32	A110102	RESISTOR <i>RESIST. 1/4W 5% 1K</i>	3
R2	A110183	RESISTOR <i>RESIST. 1/4W 5% 18K</i>	1
R3 -R28 -R29	A110473	RESISTOR <i>RESIST. 1/4W 5% 47K</i>	3
R4	A111174	RESISTOR <i>RESIST. 1/4W 1% 17K4</i>	1
R5	A110122	RESISTOR <i>RESIST. 1/4W 5% 1K2</i>	1
R7	A100393	RESISTOR <i>RESIST. 1/2W 5% 39K</i>	1
R8 -R9	A100682	RESISTOR <i>RESIST. 1/2W 5% 6K8</i>	2
R10 -R12	A110681	RESISTOR <i>RESIST. 1/4W 5% 680</i>	2
R11 -R24 -R31	A110103	RESISTOR <i>RESIST. 1/4W 5% 10K</i>	3
R13	A110821	RESISTOR <i>RESIST. 1/4W 5% 820</i>	1
R14	A110332	RESISTOR <i>RESIST. 1/4W 5% 3K3</i>	1
R15	A110471	RESISTOR <i>RESIST. 1/4W 5% 470</i>	1
R16	A110224	RESISTOR <i>RESIST. 1/4W 5% 220K</i>	1
R17	A110221	RESISTOR <i>RESIST. 1/4W 5% 220</i>	1
R18 -R19	A110478	RESISTOR <i>RESIST. 1/4W 5% 4,7</i>	2
R20 -R25	A110393	RESISTOR <i>RESIST. 1/4W 5% 39K</i>	2
R21	A140100	RESISTOR <i>RESIST. 2W 5% 10 PR37=PR02</i>	1
R22	A110331	RESISTOR <i>RESIST. 1/4W 5% 330</i>	1
R23 -R30	A110223	RESISTOR <i>RESIST. 1/4W 5% 22K</i>	2
R26	A110564	RESISTOR <i>RESIST. 1/4W 5% 560K</i>	1
R27	A110104	RESISTOR <i>RESIST. 1/4W 5% 100K</i>	1
R33 -R34	A140681	RESISTOR <i>RESIST. 2W 5% 680 PR37=PR02</i>	2
R35 -R36	A110683	RESISTOR <i>RESIST. 1/4W 5% 68K</i>	2
J1 -J2 -J3 -J4	A110000	RESISTOR <i>RESIST. 1/4W 5% 0</i>	4
C1 -C10 -C11 -C20 -C22	A244225	CAPACITOR <i>COND. EV 22 F 50V 5x11</i>	5
C2	A226221	CAPACITOR <i>COND. CR 220pF 100V 10% 05</i>	1
C3 -C6 -C7	A244226	CAPACITOR <i>COND. EV 22 F 100V 8x12</i>	3
C4	A243476	CAPACITOR <i>COND. EV 47 F 25V 6x11</i>	1
C5	A244231	CAPACITOR <i>COND. EV RSH 100 F 100F 13x20</i>	1
C8 -C9	A232480	CAPACITOR <i>COND. 4700 F 80V SNAP-IN</i>	2
C12	A216474	CAPACITOR <i>COND. PL 470nF 100V 10% 15</i>	1
C13	A217563	CAPACITOR <i>COND. PL 56nF 100V 5% 05</i>	1
C14 -C15 -C16	A244107	CAPACITOR <i>COND. EV 100 F 25V 8x12</i>	3
C19	A214105	FILTER <i>FILTRO R40-KI-3100-5001M</i>	1
C21	A216104	CAPACITOR <i>COND. PL 100nF 100V 10% 10</i>	1
C EXT.	A216103	CAPACITOR <i>COND. PL 10nF 400V 10% 10</i>	1
PT1	A434102	POTENTIOMETER TRIMMER <i>TRIMMER PR REG. ORIZ. 1KA P10</i>	1
T1 -T2	A500123	TRANSISTOR <i>TRANSIST BC 450 A</i>	2
T3 -T5 -T6 -T7	A500053	TRANSISTOR <i>TRANSIST MPSA 06 NPN</i>	4
T4 (oppure T11 vedi codice)	A500098	TRANSISTOR <i>TRANSIST MPSA42</i>	1
T8	A500025	TRANSISTOR <i>TRANSIST TIP 31C</i>	1
T9	A500026	TRANSISTOR <i>TRANSIST TIP 32C</i>	1
T10	A500122	TRANSISTOR <i>TRANSIST BC 449 A</i>	1
T11 (oppure T4 vedi codice)	A500041	TRANSISTOR <i>TRANSIST 2SD1857A</i>	1
D1 -D9 -D10	A510001	DIODE <i>DIODO 1N4007</i>	3
D2 -D5	A510003	DIODE <i>DIODO 1N4148</i>	2
D3 -D4	A510100	ZENER DIODE <i>ZENER 10V 1W</i>	2
D6 -D7	A510150	ZENER DIODE <i>ZENER 15V 1W</i>	2
D11	A510120	ZENER DIODE <i>ZENER 12V 1W</i>	1
F1	A600010	FUSE <i>FUSIBILE 1A</i>	1
F1	A600804	FUSE HOLDER <i>PORTAFUSIBILE C1010+ COPERCHIO</i>	1
BD1	A605008	BRIDGE DIODES <i>PONTE R KBL 04 2A 400V</i>	1
RL1	A605150	RELAY <i>RELE' M.I.SH 248 L.</i>	1
L1	A601499	REDLIGHT EMITTED DIODE <i>LED L-53SRC/C 5 HY-LUM C ROS</i>	1
TP1	A601552	PHOTORESISTOR <i>FOTORESISTENZA VT 90N1</i>	1
TP1	B005768	CAP (FOR WAVE TRAP) <i>CAPPUCCIO TRAPP. 10x15 PVC</i>	1
TP1	B005769	CAP (FOR WAVE TRAP) <i>CAPPUCCIO TRAPP. 7,2x10,5 P</i>	1
TR1	B005180	TRANSFORMER <i>TRASFORMATORE MT180A</i>	1
CNN1	A603716	FLAT CABLE <i>PIATT. PFS 0033 150mm 6C</i>	1
CNN2	A603360	TERMINAL <i>MORS. WMSM/03/09V1</i>	1
CNN3	A603714	FLAT CABLE <i>PIATT. PFS0129 40mm 6C 0300/1</i>	2
MTBTR2	B14MTBT	PRINTED CIRCUIT <i>CS MTBTR2 TRASF. CON REG. x MT180</i>	1
-	A603701	TAG <i>PAGLIETTA x CS L979</i>	2
-	A603735	PCB SPADE TERMINATOR <i>FASTON MASC. CS TE342 08</i>	2
-	A603751	EYELET TERMINAL <i>CAPOC. OCCHIELLO BLU D5</i>	1
-	A606371	YELLOW/GREEN CABLE <i>CAVO D 1 GIALLO/VERDE</i>	mt 0,3
-	B0047R3	SPACER <i>DISTANZ. CS RLCBSRS-08-01</i>	2

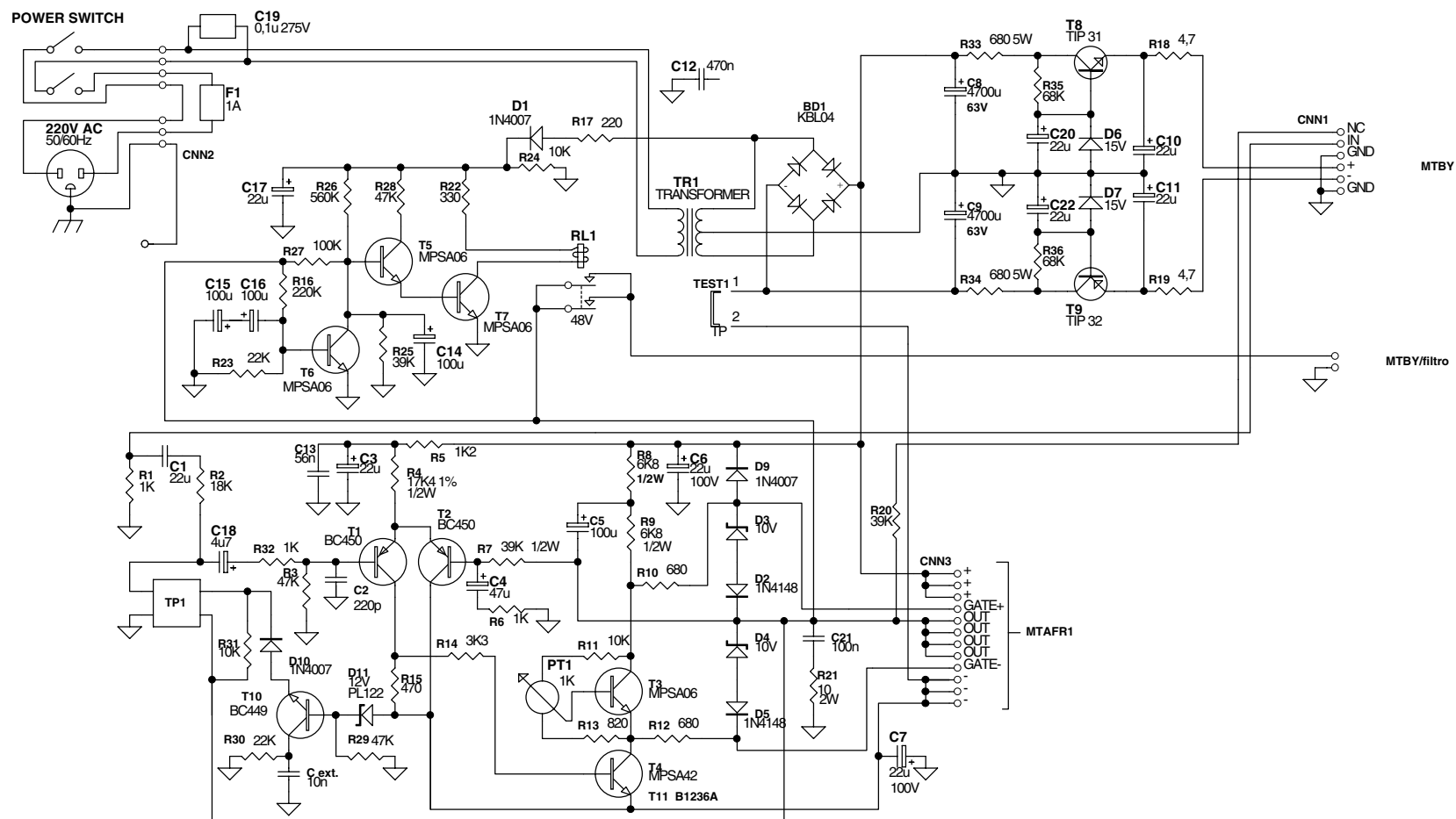
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CS MTBTR2 POWER AMPLIFIER / POWER SUPPLY
AMPLIFICATORE / ALIMENTAZIONE

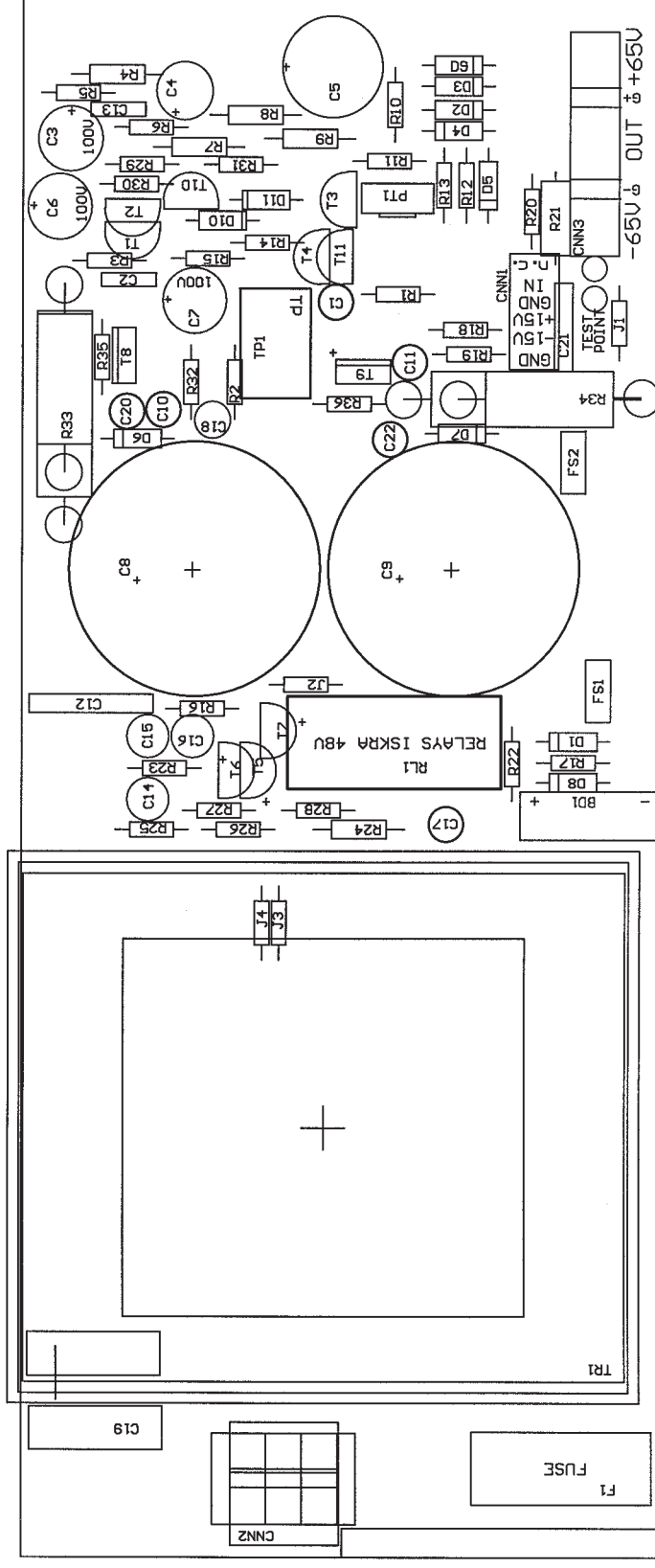
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		MTBTR2 - AMPLIFICATORE / TRASFORMATORI			
	Size A3	FCSM No.	DWG No.		Rev
	Scale			Sheet 1 of 1	



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CS MTBTR3/MTBTR4 POWER AMPLIFIER / POWER SUPPLY
AMPLIFICATORE / ALIMENTAZIONE3rd version
3a versione

REFERENCE <i>REFERENZA</i>	CODE <i>CODICE</i>	DESCRIPTION <i>DESCRIZIONE</i>	QT.
R1 -R6 -R32	A110102	RESISTOR <i>RESIST. 1/4W 5% 1K</i>	3
R2	A110183	RESISTOR <i>RESIST. 1/4W 5% 18K</i>	1
R3 -R28 -R29	A110473	RESISTOR <i>RESIST. 1/4W 5% 47K</i>	3
R4	A111174	RESISTOR <i>RESIST. 1/4W 1% 17K4</i>	1
R5	A110122	RESISTOR <i>RESIST. 1/4W 5% 1K2</i>	1
R7	A100393	RESISTOR <i>RESIST. 1/2W 5% 39K</i>	1
R8 -R9	A100682	RESISTOR <i>RESIST. 1/2W 5% 6K8</i>	2
R10 -R12	A110681	RESISTOR <i>RESIST. 1/4W 5% 680</i>	2
R11 -R24 -R31	A110103	RESISTOR <i>RESIST. 1/4W 5% 10K</i>	3
R13	A110821	RESISTOR <i>RESIST. 1/4W 5% 820</i>	1
R14	A110332	RESISTOR <i>RESIST. 1/4W 5% 3K3</i>	1
R15	A110471	RESISTOR <i>RESIST. 1/4W 5% 470</i>	1
R16	A110224	RESISTOR <i>RESIST. 1/4W 5% 220K</i>	1
R17	A110221	RESISTOR <i>RESIST. 1/4W 5% 220</i>	1
R18 -R19	A110478	RESISTOR <i>RESIST. 1/4W 5% 4,7</i>	2
R20 -R25	A110393	RESISTOR <i>RESIST. 1/4W 5% 39K</i>	2
R21	A140100	RESISTOR <i>RESIST. 2W 5% 10 PR37=PR02</i>	1
R22	A110331	RESISTOR <i>RESIST. 1/4W 5% 330</i>	1
R23 -R30	A110223	RESISTOR <i>RESIST. 1/4W 5% 22K</i>	2
R26	A110564	RESISTOR <i>RESIST. 1/4W 5% 560K</i>	1
R27	A110104	RESISTOR <i>RESIST. 1/4W 5% 100K</i>	1
R33 -R34	A140681	RESISTOR <i>RESIST. 2W 5% 680 PR37=PR02</i>	2
R35 -R36	A110683	RESISTOR <i>RESIST. 1/4W 5% 68K</i>	2
J1 -J2 -J3 -J4	A110000	RESISTOR <i>RESIST. 1/4W 5% 0</i>	4
C1 -C10 -C11 -C20 -C22	A244225	CAPACITOR <i>COND. EV 22 F 50V 5x11</i>	5
C2	A226221	CAPACITOR <i>COND. CR 220pF 100V 10% 05</i>	1
C3 -C6 -C7	A244226	CAPACITOR <i>COND. EV 22 F 100V 8x12</i>	3
C4	A243476	CAPACITOR <i>COND. EV 47 F 25V 6x11</i>	1
C5	A244231	CAPACITOR <i>COND. EV RSH 100 F 100F 13x20</i>	1
C8 -C9	A232480	CAPACITOR <i>COND. 4700 F 80V SNAP-IN</i>	2
C12	A216474	CAPACITOR <i>COND. PL 470nF 100V 10% 15</i>	1
C13	A217563	CAPACITOR <i>COND. PL 56nF 100V 5% 05</i>	1
C14 -C15 -C16	A244107	CAPACITOR <i>COND. EV 100 F 25V 8x12</i>	3
C19	A214105	FILTER <i>FILTRO R40-KI-3100-5001M</i>	1
C21	A216104	CAPACITOR <i>COND. PL 100nF 100V 10% 10</i>	1
C23	A216103	CAPACITOR <i>COND. PL 10nF 400V 10% 10</i>	1
PT1	A434102	POTENTIOMETER TRIMMER <i>TRIMMER PR REG. ORIZ. 1KA P10</i>	1
T1 -T2	A500003	TRANSISTOR <i>TRANSIST KTA1268</i>	2
T3 -T5 -T6 -T7	A500053	TRANSISTOR <i>TRANSIST MPSA 06 NPN</i>	4
T4 (oppure T11 vedi codice)	A500098	TRANSISTOR <i>TRANSIST MPSA42</i>	1
T8	A500025	TRANSISTOR <i>TRANSIST TIP 31C</i>	1
T9	A500026	TRANSISTOR <i>TRANSIST TIP 32C</i>	1
T10	A500122	TRANSISTOR <i>TRANSIST BC 449 A</i>	1
T11 (oppure T4 vedi codice)	A500041	TRANSISTOR <i>TRANSIST 2SD1857A</i>	1
D1 -D9 -D10	A510001	DIODE <i>DIODO 1N4007</i>	3
D2 -D5	A510003	DIODE <i>DIODO 1N4148</i>	2
D3 -D4	A510100	ZENER DIODE <i>ZENER 10V 1W</i>	2
D6 -D7	A510150	ZENER DIODE <i>ZENER 15V 1W</i>	2
D11	A510120	ZENER DIODE <i>ZENER 12V 1W</i>	1
F1	A600010	FUSE <i>FUSIBILE 1A</i>	1
F1	A600804	FUSE HOLDER <i>PORTAFUSIBILE C1010+ COPERCHIO</i>	1
BD1	A605008	BRIDGE DIODES <i>PONTE R KBL 04 2A 400V</i>	1
RL1	A605150	RELAY <i>RELE` M.I.SH 248 L.</i>	1
L1	A601499	REDLIGHT EMITTED DIODE <i>LED L-53SRC/C 5 HY-LUM C ROS</i>	1
TP1	A601552	PHOTORESISTOR <i>FOTORESISTENZA VT 90N1</i>	1
TP1	B005768	CAP (FOR WAVE TRAP) <i>CAPPUCCIO TRAPP. 10x15 PVC</i>	1
TP1	B005769	CAP (FOR WAVE TRAP) <i>CAPPUCCIO TRAPP. 7,2x10,5 P</i>	1
TR1	B005180	TRANSFORMER <i>TRASFORMATORE MT180A</i>	1
CNN1	A603716	FLAT CABLE <i>PIATT. PFS 0033 150mm 6C</i>	1
CNN2	A603360	TERMINAL <i>MORS. WMSM/03/09V1</i>	1
CNN3	A603714	FLAT CABLE <i>PIATT. PFS0129 40mm 6C 0300/1</i>	2
MTBTR3	B14MTBT	PRINTED CIRCUIT <i>CS MTBTR3 TRASF. CON REG. x MT180</i>	1
-	A603701	TAG <i>PAGLIETTA x CS L979</i>	2
-	A603735	PCB SPADE TERMINATOR <i>FASTON MASC. CS TE342 08</i>	2
-	A603751	EYELET TERMINAL <i>CAPOC. OCCHIELLO BLU D5</i>	1
-	A606356	YELLOW/GREEN CABLE <i>CAVO D 0,5 GIALLO/VERDE</i>	mt 0,3
-	B0047R3	SPACER <i>DISTANZ. CS RLCBSRS-08-01</i>	2

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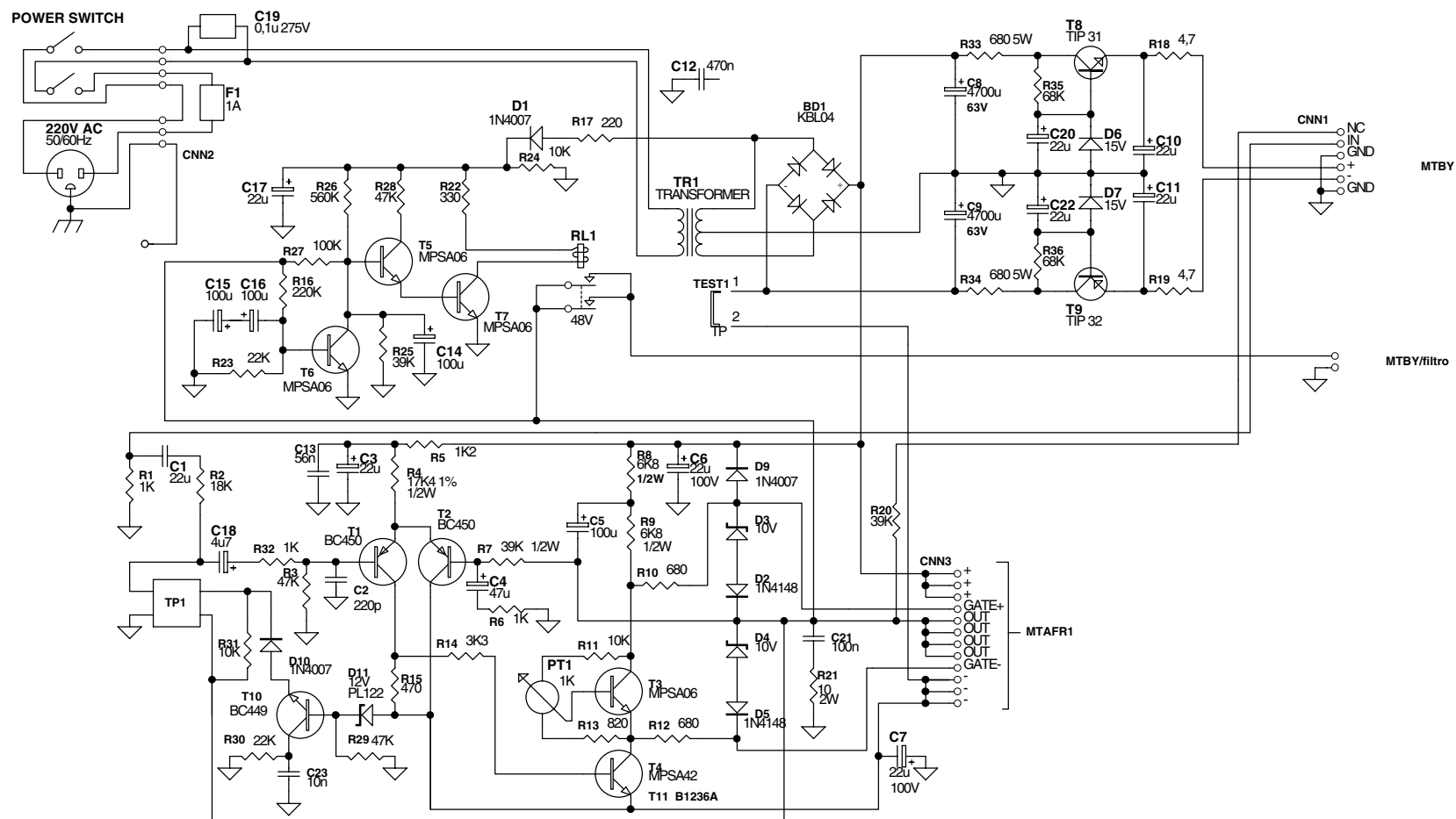
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CS MTBTR3/MTBTR4

POWER AMPLIFIER / POWER SUPPLY
AMPLIFICATORE / ALIMENTAZIONE

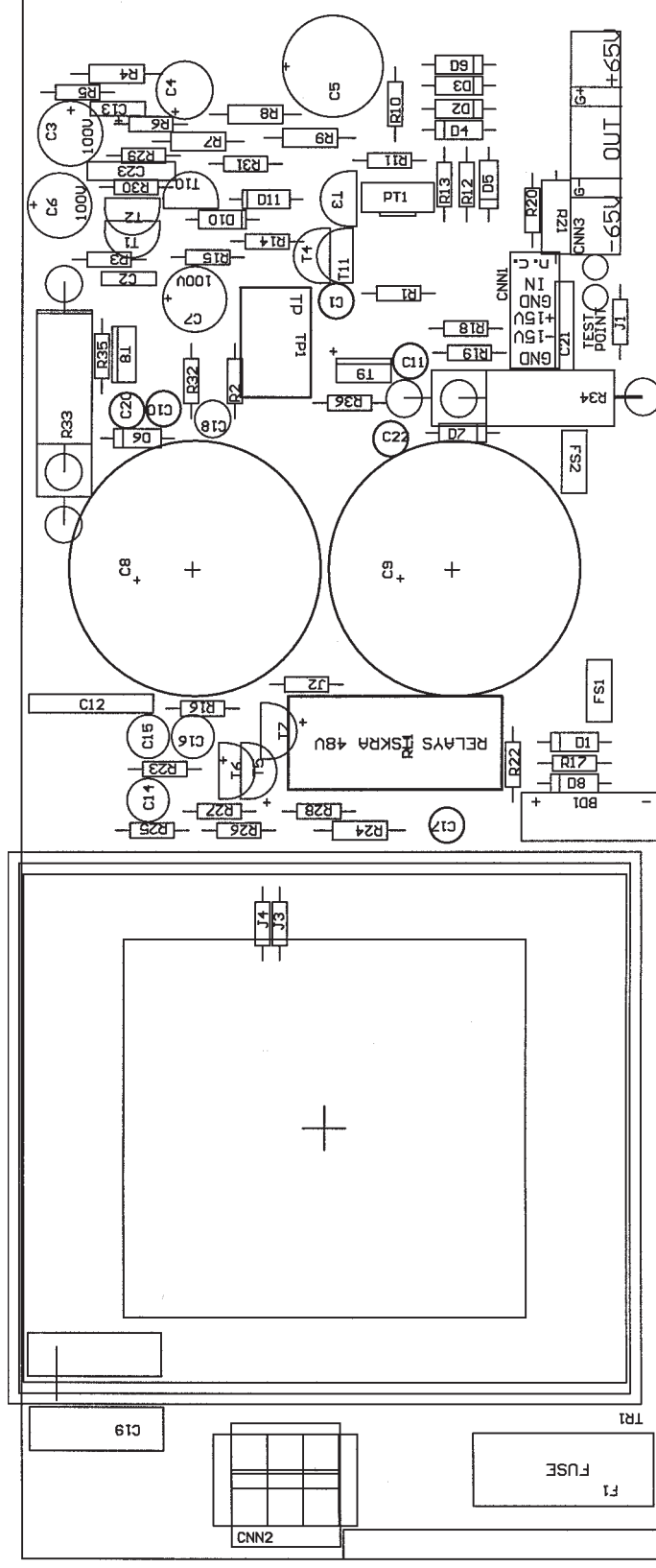
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		MTBTR3 - AMPLIFICATORE / TRASFORMATORI			
	Size A3	FCSM No.	DWG No.		Rev 21.9
	Scale			Sheet 1 of 1	



MODIFICATION RESERVEES - ANDERUNGEN VORBEHALTEN - CON RISERVA DI MODIFICHE - ALTERATIONS RESERVED - CON RESERVA DE MODIFICACION

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				archivio	

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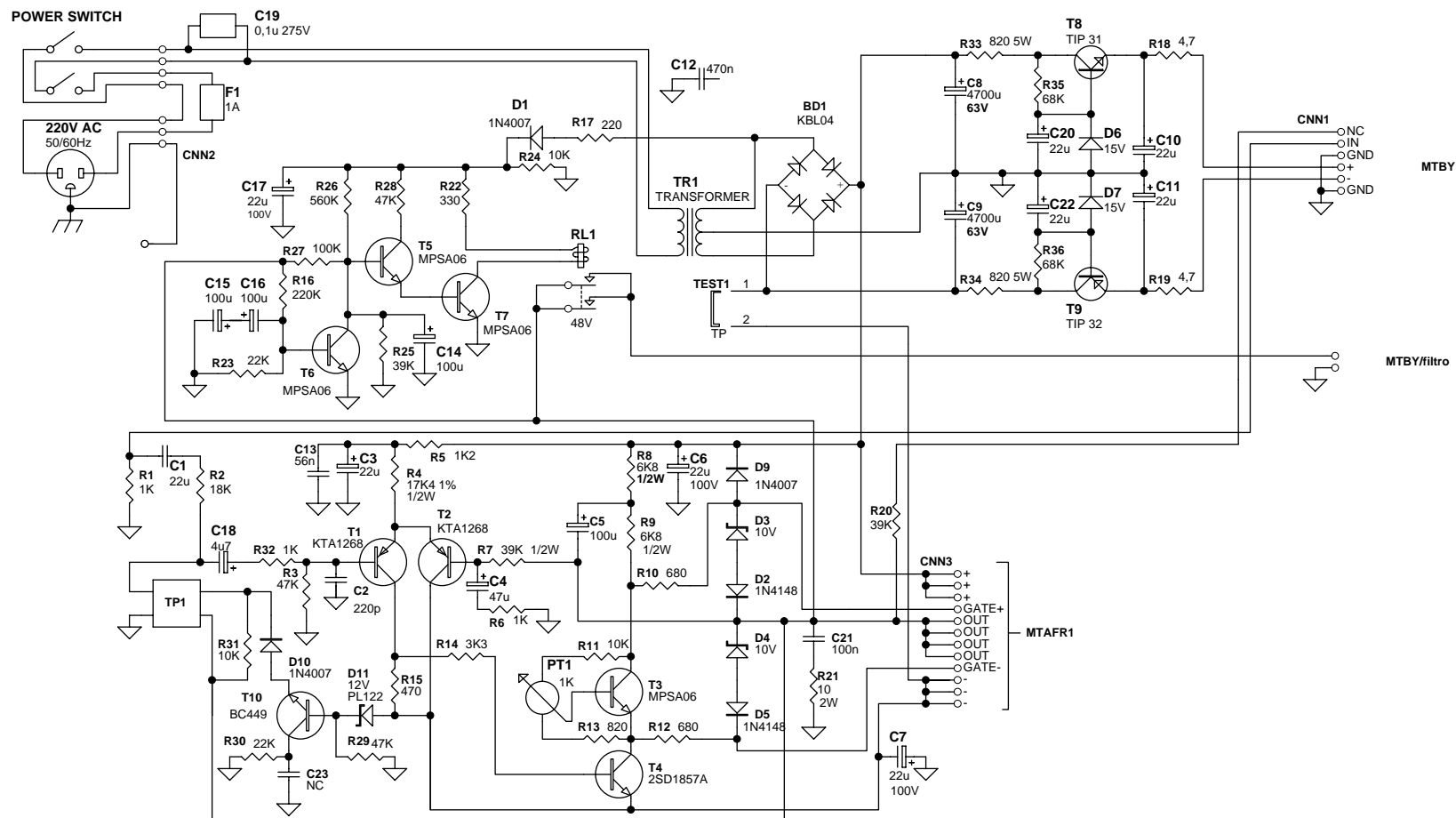
CS MTBTR5/MTBTR6 POWER AMPLIFIER / POWER SUPPLY

AMPLIFICATORE / ALIMENTAZIONE


REFERENCE <i>REFERENZA</i>	CODE CODICE	DESCRIPTION <i>DESCRIZIONE</i>		QT.
R1 -R6 -R32	A110102	RESISTOR	RESIST. 1/4W 5% 1K	3
R2	A110183	RESISTOR	RESIST. 1/4W 5% 18K	1
R3 -R28 -R29	A110473	RESISTOR	RESIST. 1/4W 5% 47K	3
R4	A111174	RESISTOR	RESIST. 1/4W 1% 17K4	1
R5	A110122	RESISTOR	RESIST. 1/4W 5% 1K2	1
R7	A100393	RESISTOR	RESIST. 1/2W 5% 39K	1
R8 -R9	A100682	RESISTOR	RESIST. 1/2W 5% 6K8	2
R10 -R12	A110681	RESISTOR	RESIST. 1/4W 5% 680	2
R11 -R24 -R31	A110103	RESISTOR	RESIST. 1/4W 5% 10K	3
R13	A110821	RESISTOR	RESIST. 1/4W 5% 820	1
R14	A110332	RESISTOR	RESIST. 1/4W 5% 3K3	1
R15	A110471	RESISTOR	RESIST. 1/4W 5% 470	1
R16	A110224	RESISTOR	RESIST. 1/4W 5% 220K	1
R17	A110221	RESISTOR	RESIST. 1/4W 5% 220	1
R18 -R19	A110478	RESISTOR	RESIST. 1/4W 5% 4,7	2
R20 -R25	A110393	RESISTOR	RESIST. 1/4W 5% 39K	2
R21	A140100	RESISTOR	RESIST. 2W 5% 10 PR37=PR02	1
R22	A110331	RESISTOR	RESIST. 1/4W 5% 330	1
R23 -R30	A110223	RESISTOR	RESIST. 1/4W 5% 22K	2
R26	A110564	RESISTOR	RESIST. 1/4W 5% 560K	1
R27	A110104	RESISTOR	RESIST. 1/4W 5% 100K	1
R33 -R34	A140681	RESISTOR	RESIST. 2W 5% 680 PR37=PR02	2
R35 -R36	A110683	RESISTOR	RESIST. 1/4W 5% 68K	2
J1 -J2 -J3 -J4	A110000	RESISTOR	RESIST. 1/4W 5% 0	4
C1 -C10 -C11 -C20 -C22	A2432AB	CAPACITOR	COND. RE2-50V 220MMA-T2 (22µF 50V)	5
C2	A226221	CAPACITOR	COND. CR 220pF 100V 10% 05	1
C3 -C6 -C7	A244226	CAPACITOR	COND. EV 22µF 100V 8X12	4
C4	A2433AD	CAPACITOR	COND. RE2-25V 470MMA-T2 (47µF 25V)	1
C5	A244231	CAPACITOR	COND. EV RSH 100 F 100F 13x20	1
C8 -C9	A232480	CAPACITOR	COND. 4700µF 80V SNAP-IN	2
C12	A216474	CAPACITOR	COND. PL 470nF 100V 10% 15	1
C13	A217563	CAPACITOR	COND. PL 56nF 100V 5% 05	1
C14 -C15 -C16	A2434AA	CAPACITOR	COND. RE3 25V 101MAA-T2 (100µF 25V)	3
C18	A2435AH	CAPACITOR	COND. R2B-50V 4R7M-T2 (4µ7F 50V NP)	1
C19	A214105	FILTER	FILTRO R40-KI-3100-5001M	1
C21	A216104	CAPACITOR	COND. PL 100nF 100V 10% 10	1
C23	A216103	CAPACITOR	COND. PL 10nF 400V 10% 10	1
PT1	A434102	POTENTIOMETER TRIMMER	TRIMMER PR REG. ORIZ. 1KA P10	1
T1 -T2	A500003	TRANSISTOR	TRANSIST KTA1268	2
T3 -T5 -T6 -T7	A500053	TRANSISTOR	TRANSIST MPSA 06 NPN	4
T4	-	NC		-
T8	A500025	TRANSISTOR	TRANSIST TIP 31C	1
T9	A500026	TRANSISTOR	TRANSIST TIP 32C	1
T10	A500122	TRANSISTOR	TRANSIST BC 449 A	1
T11	A500041	TRANSISTOR	TRANSIST 2SD1857A	1
D1 -D9 -D10	A510001	DIODE	DIODO 1N4007	3
D2 -D5	A510003	DIODE	DIODO 1N4148	2
D3 -D4	A510100	ZENER DIODE	ZENER 10V 1W	2
D6 -D7	A510150	ZENER DIODE	ZENER 15V 1W	2
D11	A510120	ZENER DIODE	ZENER 12V 1W	1
F1	A600010	FUSE	FUSIBILE 1A	1
F1	A600804	FUSE HOLDER	PORTAFUSIBILE C1010+ COPERCHIO	1
BD1	A605008	BRIDGE DIODES	PONTE R KBL 04 2A 400V	1
RL1	A605150	RELAY	RELE` M.I.SH 248 L.	1
L1	A601499	RED LIGHT EMITTED DIODE	LED L-53SRC/C 5 HY-LUM C ROS	1
TP1	A601552	PHOTORESISTOR	FOTORESISTENZA VT 90N1	1
TP1	B005768	CAP (FOR WAVE TRAP)	CAPPUCCIO TRAPP. 10x15 PVC	1
TP1	B005769	CAP (FOR WAVE TRAP)	CAPPUCCIO TRAPP. 7,2x10,5 P	1
TR1	B005180	TRANSFORMER	TRASFORMATORE MT180A	1
CNN1	A603716	FLAT CABLE	PIATT. PFS 0033 150mm 6C	1
CNN2	A603360	TERMINAL	MORS. WMSM/03/09V1	1
CNN3	A603714	FLAT CABLE	PIATT. PFS0129 40mm 6C 0300/1	2
MTBTR6	B14MTBT	PRINTED CIRCUIT	CS MTBTR6 TRASF. CON REG. x MT180	1
-	A603701	TAG	PAGLIETTA x CS L979	2
-	A603735	PCB SPADE TERMINATOR	FASTON MASC. CS TE342 08	2
-	A603751	EYELET TERMINAL	CAPOC. OCCHIELLO BLU D5	1
-	A606356	YELLOW/GREEN CABLE	CAVO D 0,5 GIALLO/VERDE	mt 0,3

POWER AMPLIFIER / POWER SUPPLY
AMPLIFICATORE / ALIMENTAZIONE

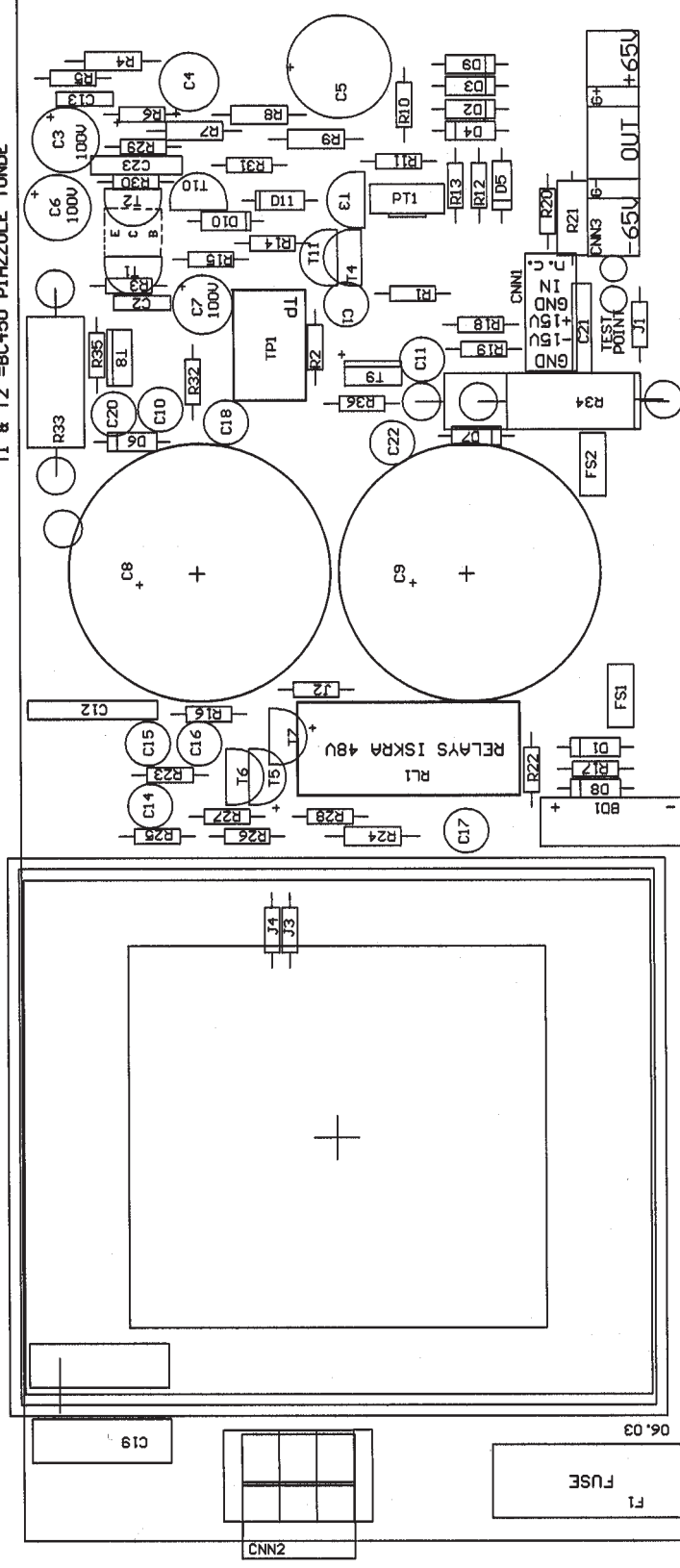
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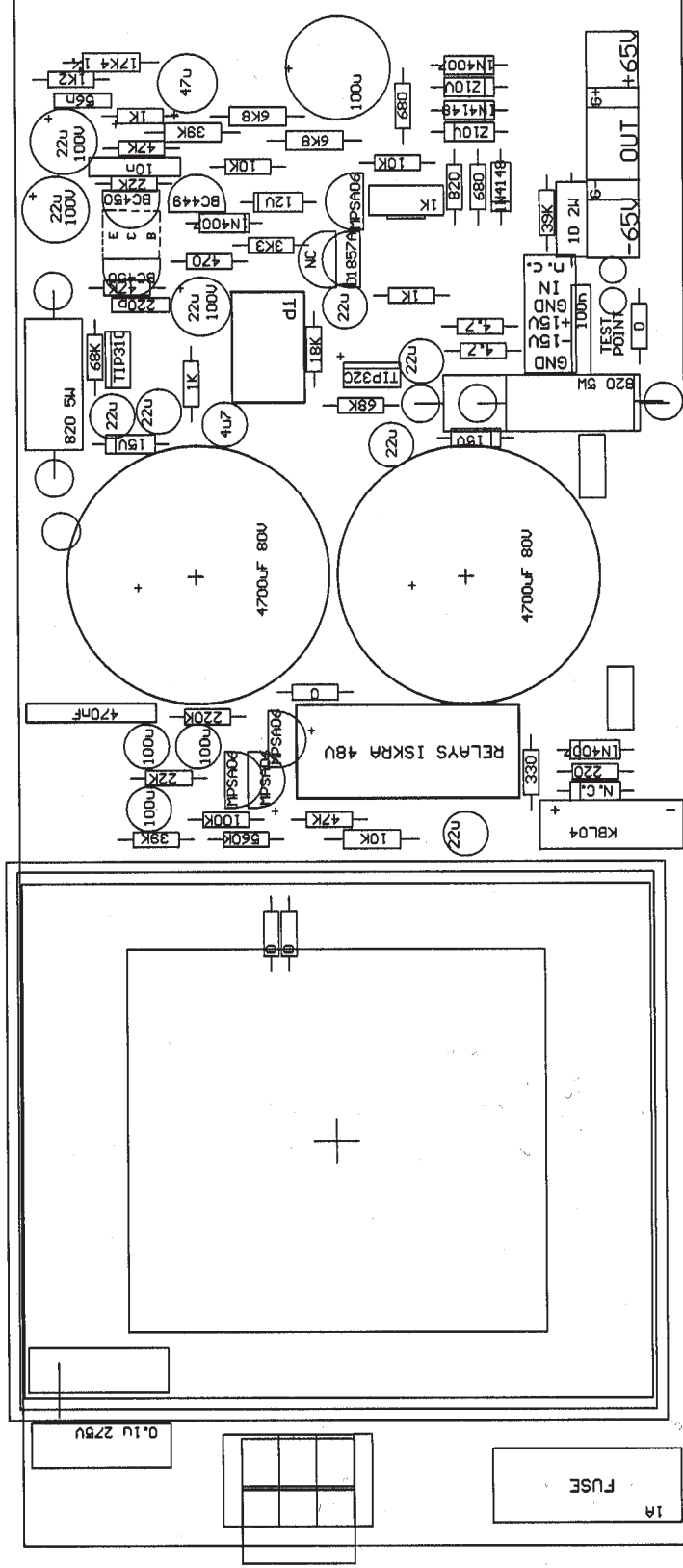
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		MTBTR5/R6 - AMPLIFICATORE / TRASFORMATORI				
	Size A3	FCSM No.	DWG No.			Rev 10.03
	Scale				Sheet 1 of 1	

T1 & T2 =AI2689R PIAZZOLE QUADRE
T1 & T2 =BC450 PIAZZOLE TONDE




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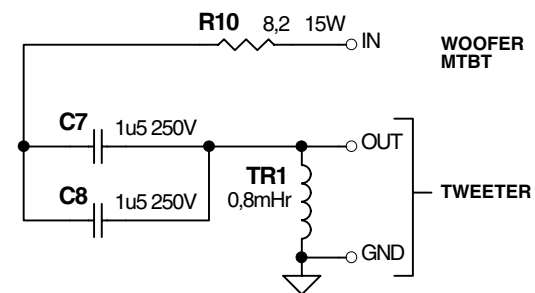
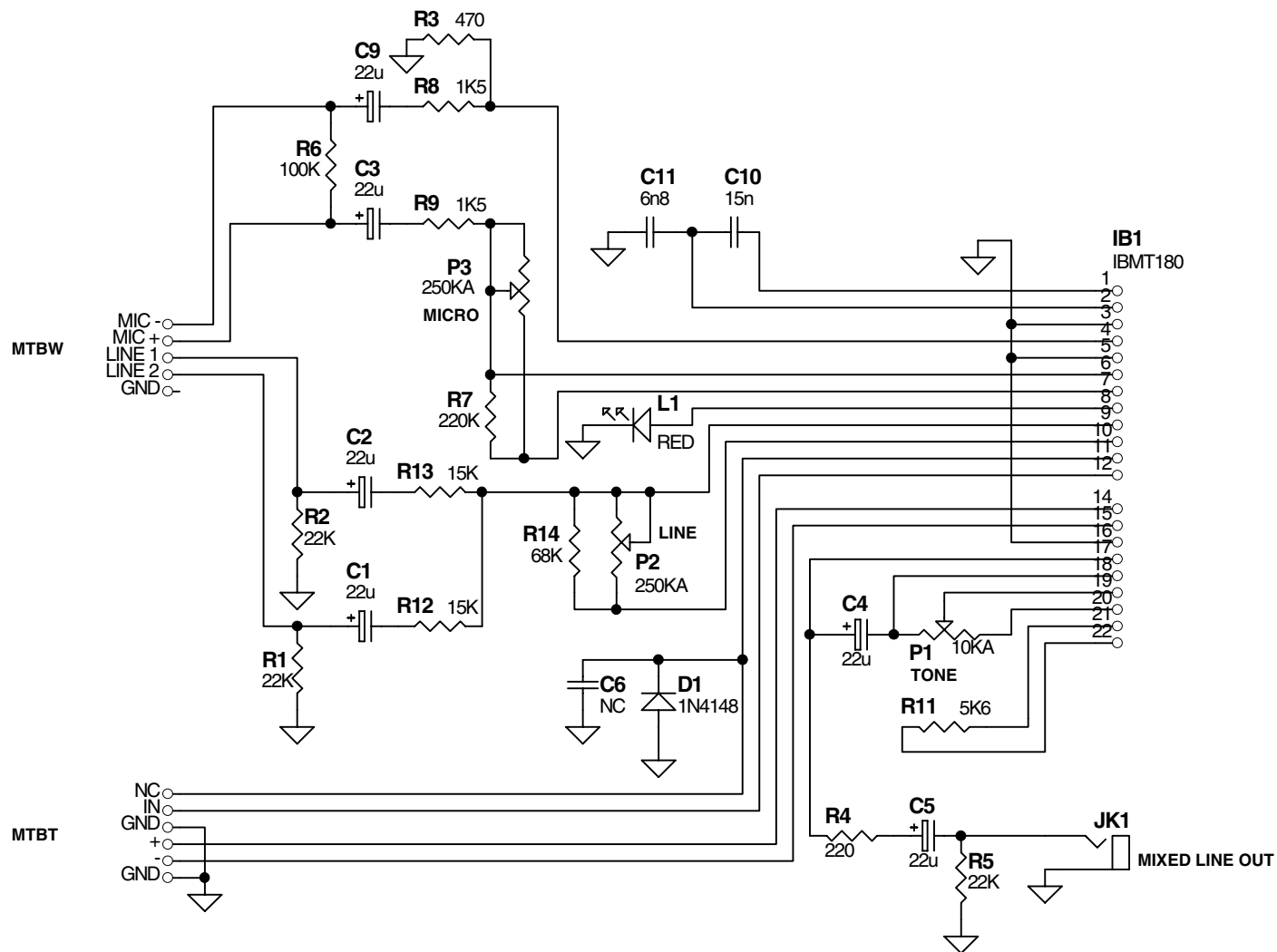


MODIFICATION RESERVEES - ANDERUNGEN VORBEHALTEN - CON RISERVA DI MODIFICHE - ALTERATIONS RESERVED - CON RESERVA DE MODIFICACION

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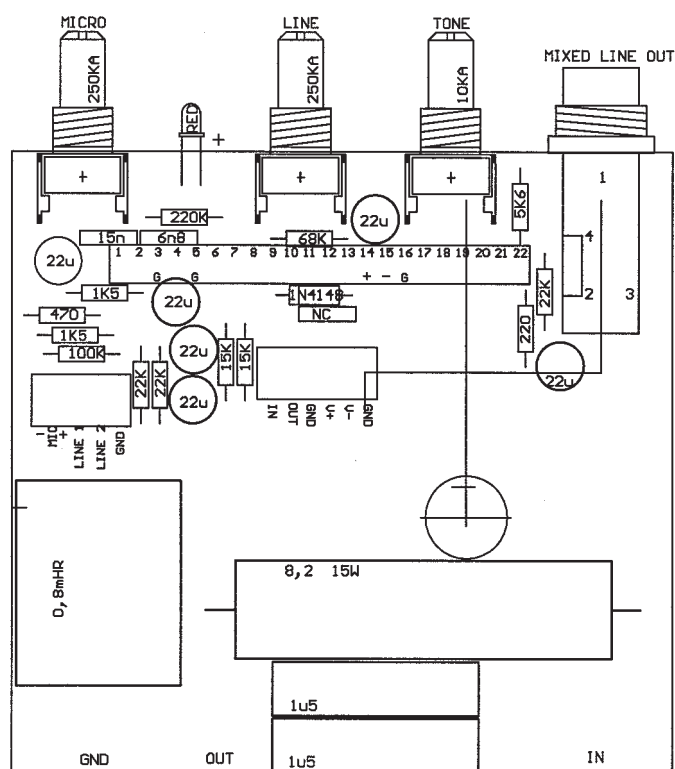
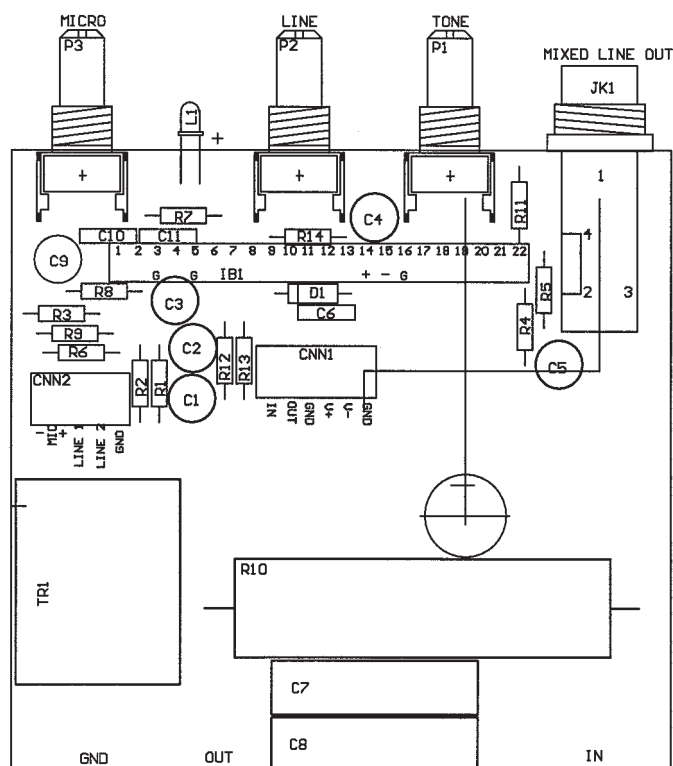
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CADRIANO DI GRANAROLO
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MTBY - PREAMPLIFICATORE / FILTRO - 1a versione

Size A4	FCSM No.	DWG No.	Rev 37.98
Scale		Sheet 1 of 1	



MODIFICATION RESERVEES - ANDERUNGEN VORBEHALTEN - CON RISERVA DI MODIFICHE - ALTERATIONS RESERVED - CON RESERVA DE MODIFICACION

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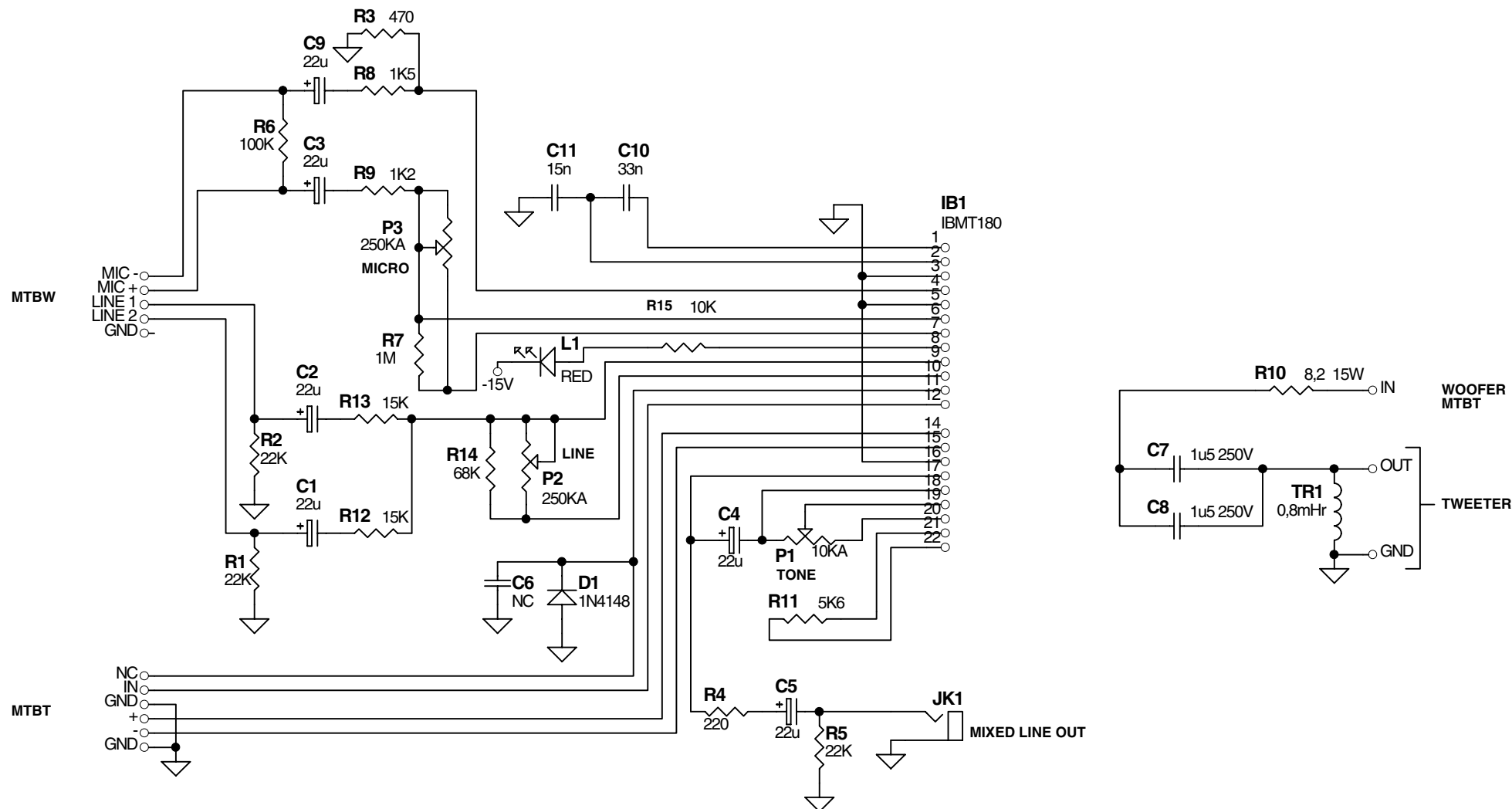
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MTBY
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2nd version

PREAMPLIFICATORE / FILTRO 2a versione

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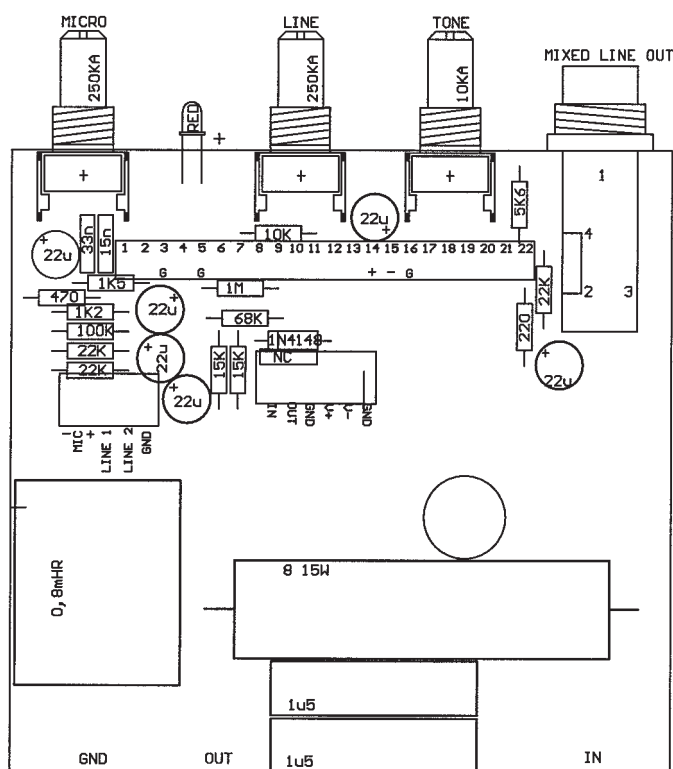
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MTBY - PREAMPLIFICATORE / FILTRO - 2a versione

Size A4	FCSM No.	DWG No.	Rev 41.98
Scale		Sheet 1 of 1	

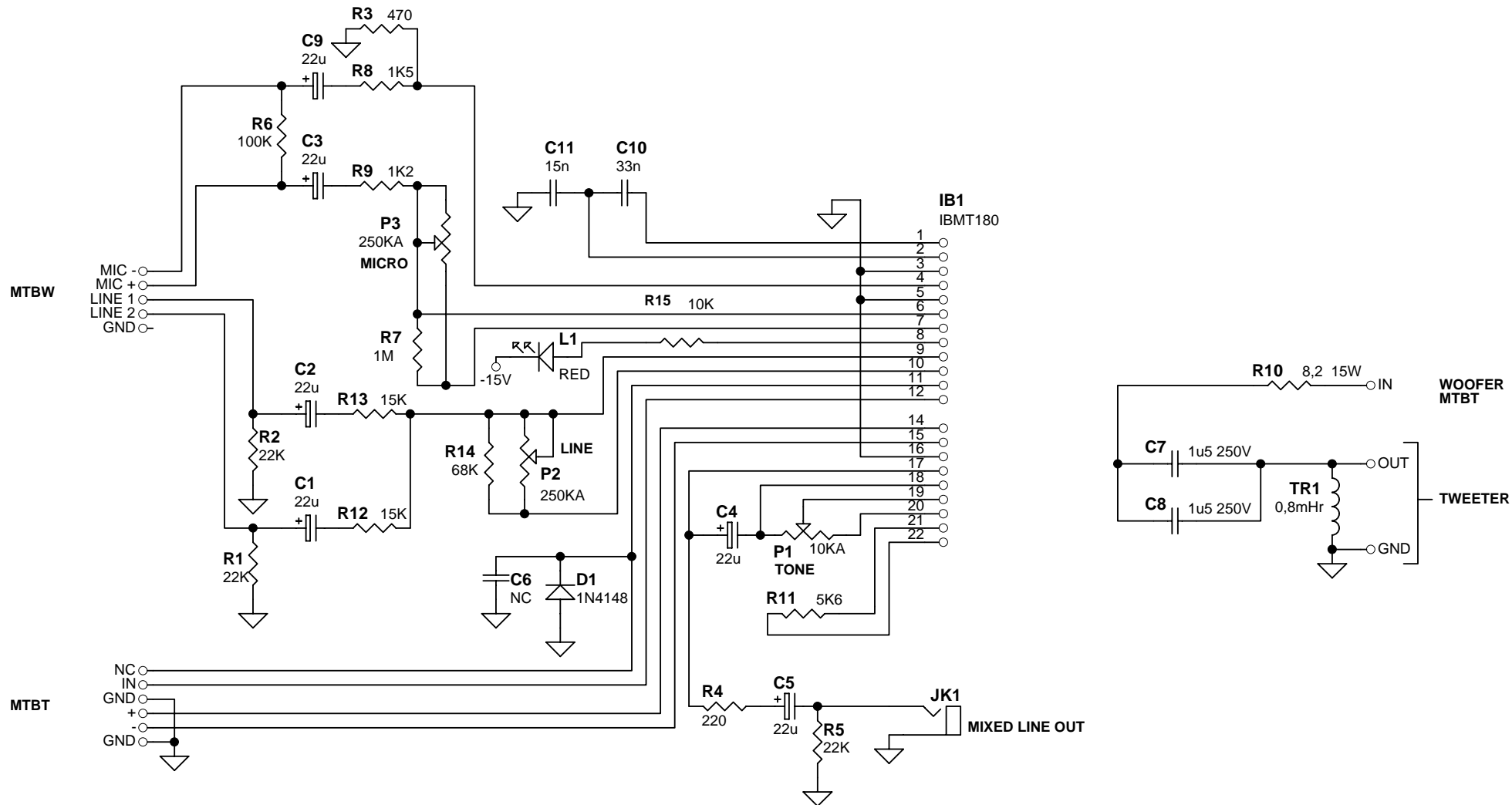


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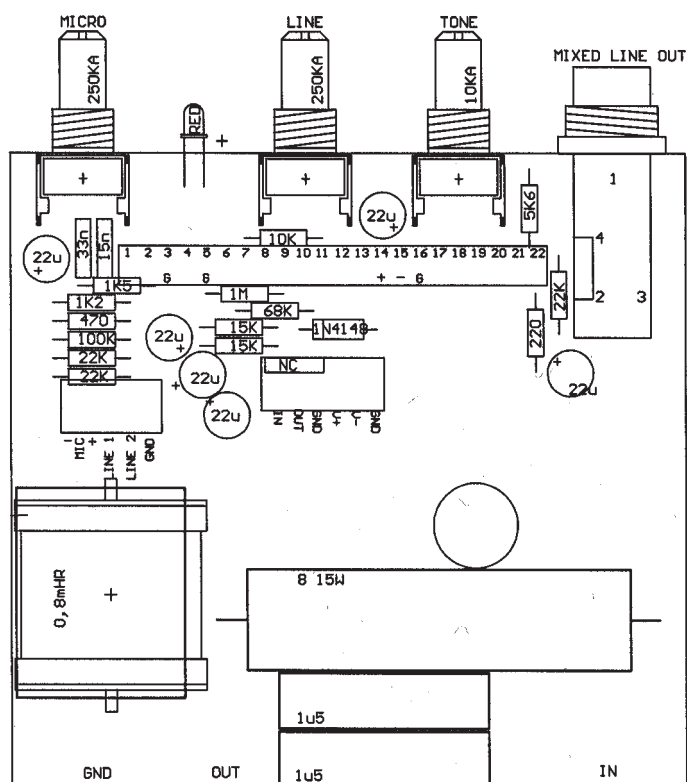
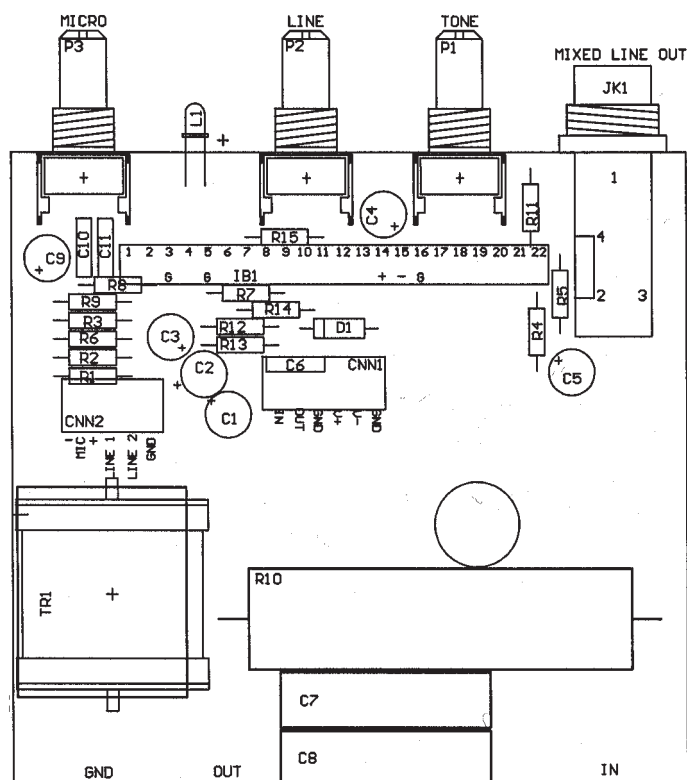
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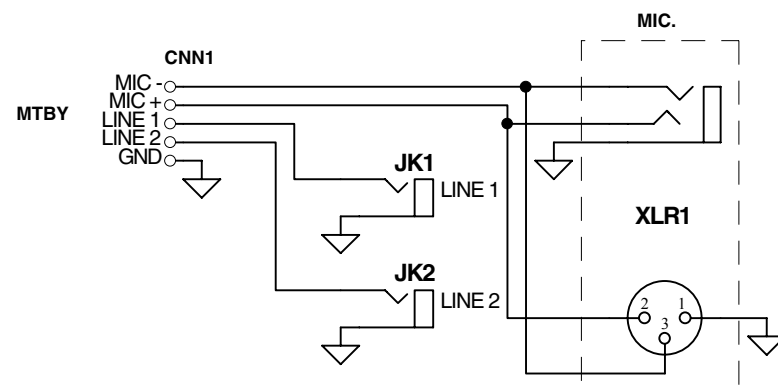
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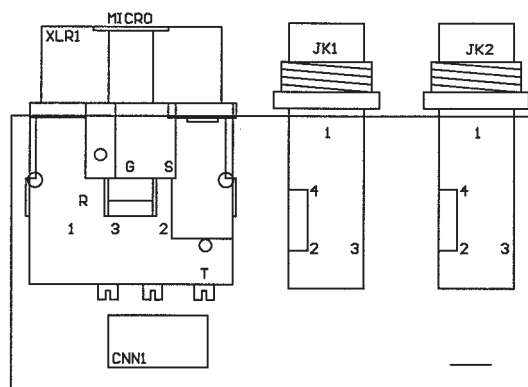
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ELETTRONICA Montarbo srl
via G. di Vittorio 13
40057 Cadriano di Granarolo
(BOLOGNA) - ITALY
Tel. (051) 76 64 37
Tlx. 511312 MONTAR I
Fax. (051) 76 52 26

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