

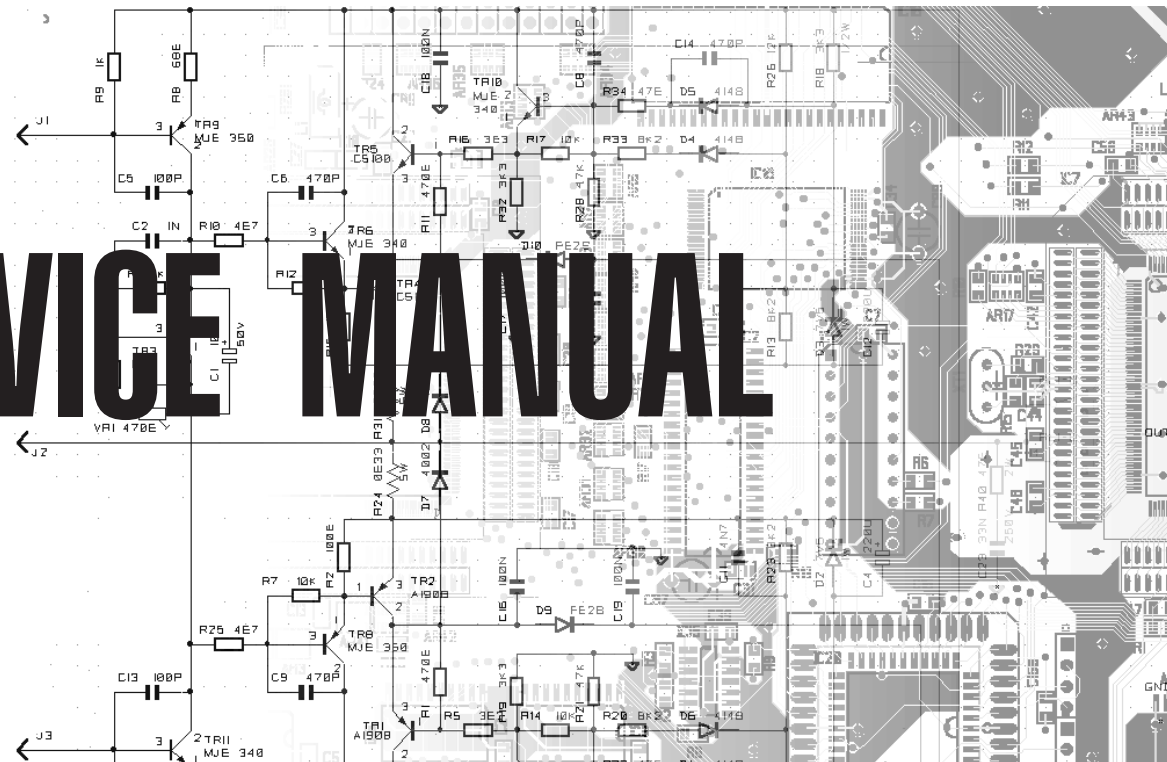


BLUES

8/12 CH. MIC/LINE/PHONO MIXER

Second Edition

SERVICE MANUAL



CODE: 277316

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Warnings



Notice

Service must be carried out by qualified personnel only. Any tampering carried out by unqualified personnel during the guarantee period will forfeit the right to guarantee.

For a correct operation of the instrument, after having switched off, be careful to wait at least 3 seconds before switching on again.

To improve the device's specifications, the schematic diagrams may be subject to change without prior notice.

All components marked by this symbol have special safety characteristics, when replacing any of these components use only manufacturer's specified parts.

The (μ) micro symbol of capacitance value is substituted by U.

The (Ω) omega symbol of resistance value is substituted by E.

The electrolytic capacitors are 25Vdc rated voltage unless otherwise specified.

All resistors are 1/8W unless otherwise specified.

All switches shown in the "OFF" position. All DC voltages measured to ground with a voltmeter 20KOhm/V.

◀ Soldering point.

• Male connector.

◊ Female connector.

◌ M/F faston connector.

↑ Supply voltage.

◻ Test point.

◌ Flag joined with one or more flags with the same signal name inscribed.

⊥ Logic supply ground.

⊥ Analog supply ground.

⊥ Chassis ground.

⊥ Earth ground.



ATTENTION

Observe precautions when handling electrostatic sensitive devices.

Address



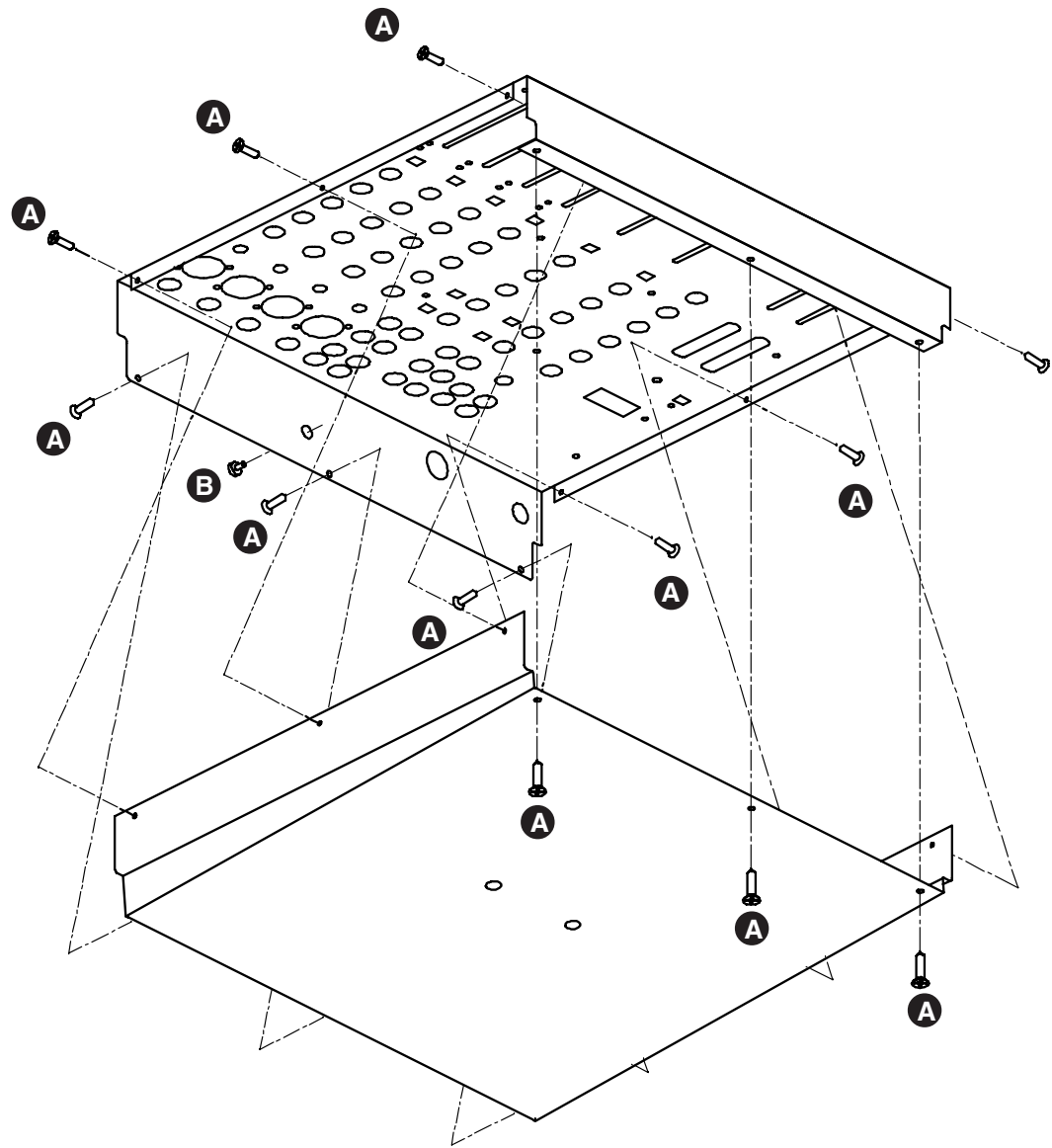
GENERALMUSIC S.p.A. Sales Division: 47842 S.Giovanni in Marignano (RN) ITALY - Via delle Rose, 12



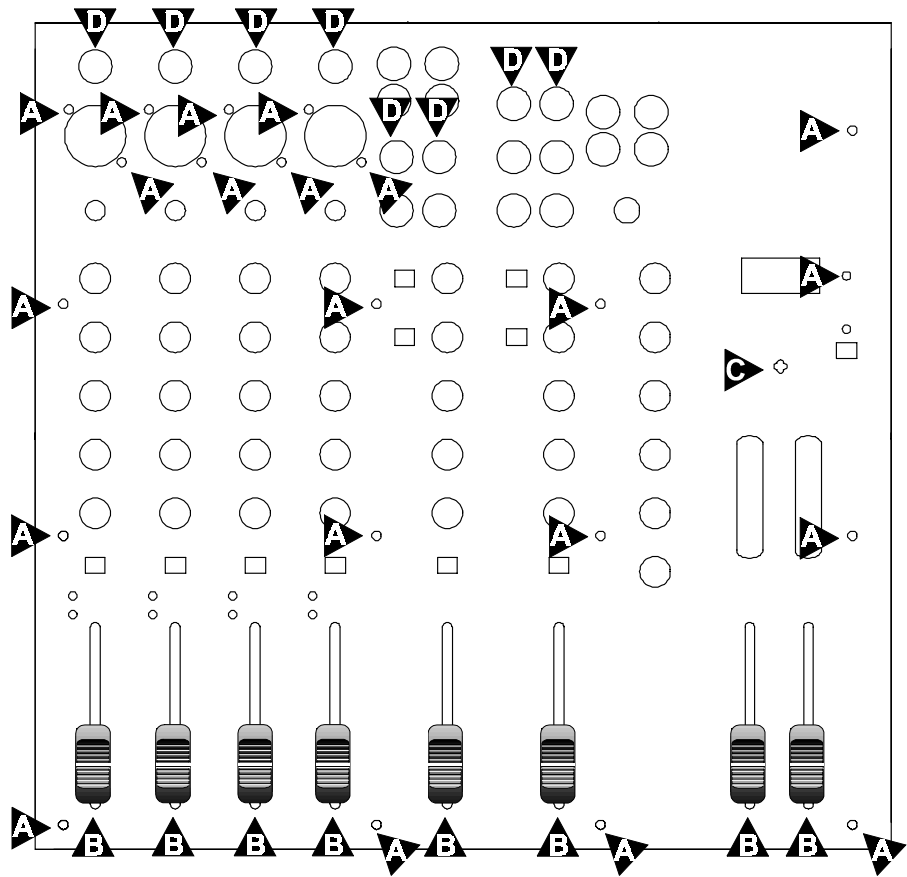
Phone +39(0)541/959511 - Fax +39(0)541/957404 - GENERALMUSIC on the NET: <http://www.generalmusic.com>

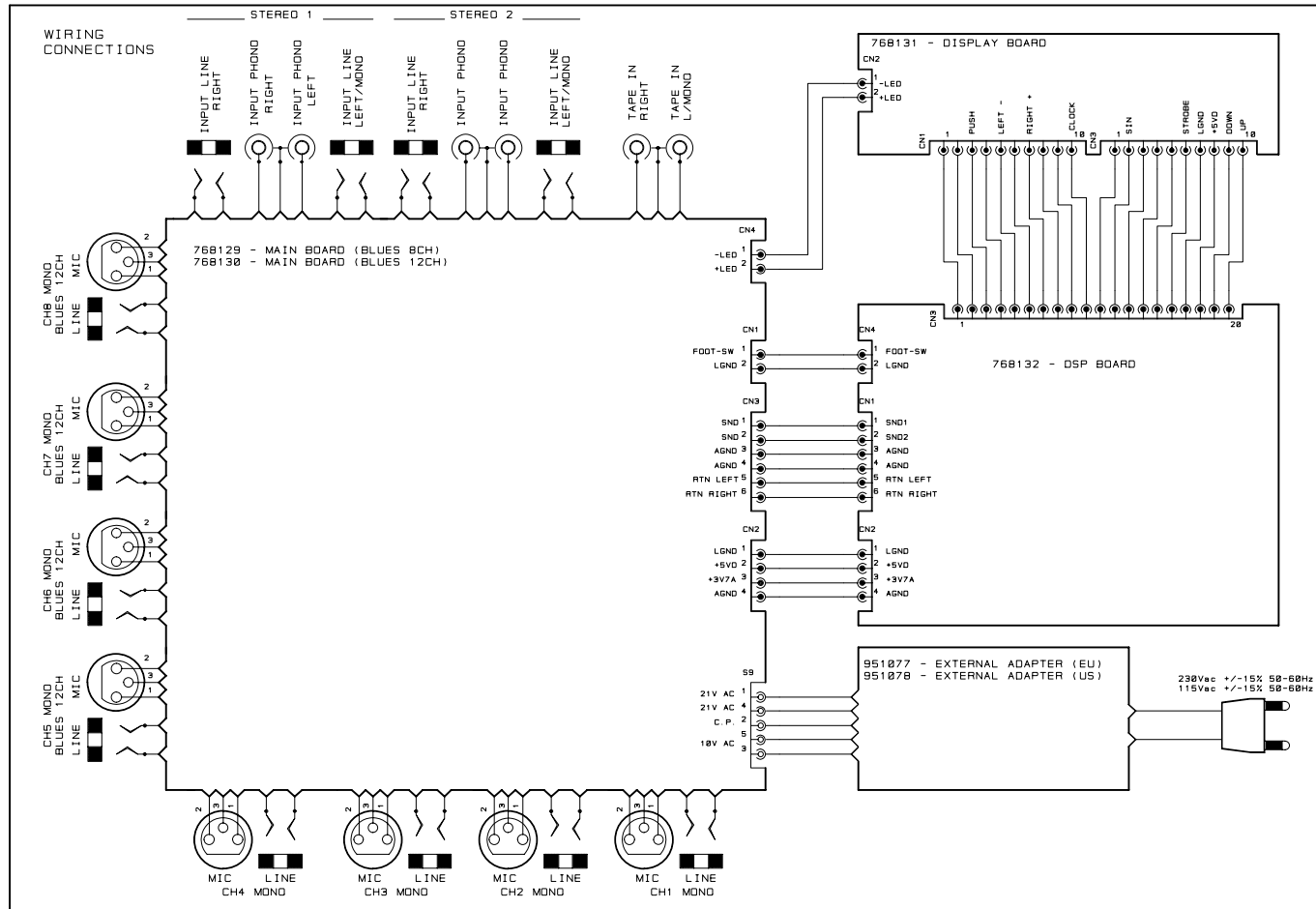
Opening Instructions

- To remove the front panel from the chassis unscrew the eleven screws that anchor the apparatus (A).
- Remember to remove the earth screw (B) from the rear side too.

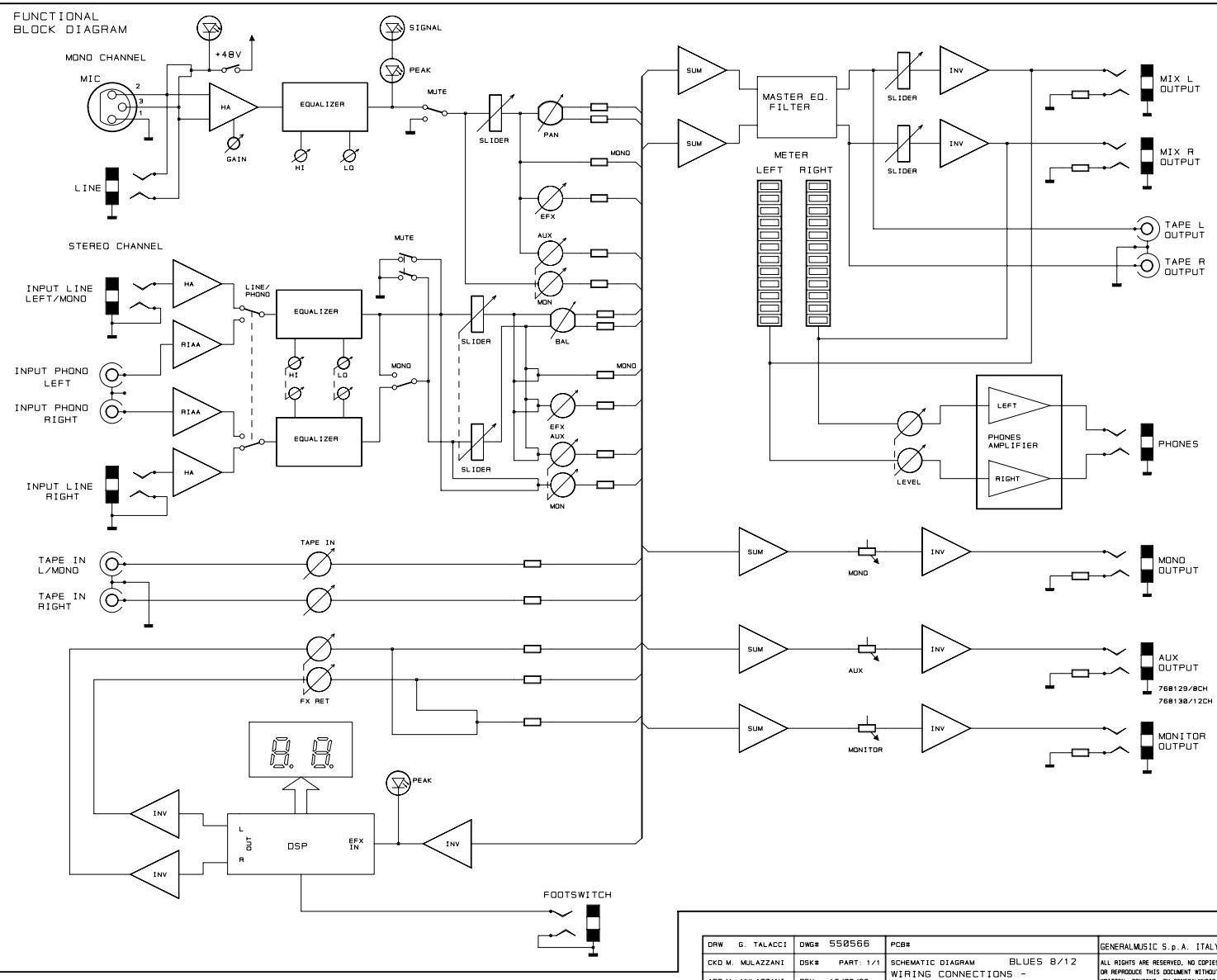
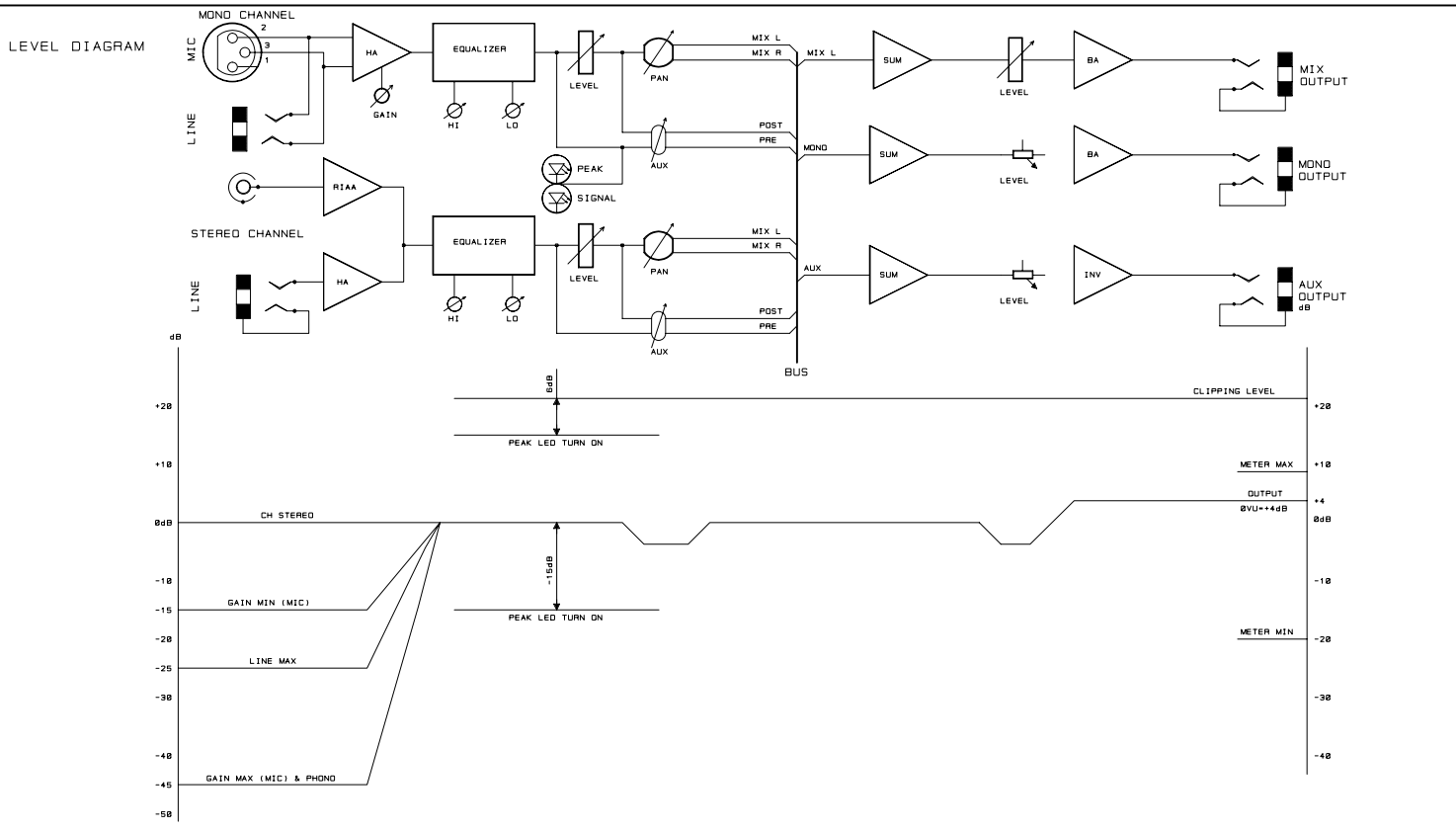


- To remove the main board from the front panel unscrew the screws in sight (A).
- Moreover remove the sliders knobs (B), unscrew the joy-stick cap (C) and the jacks nut (D).

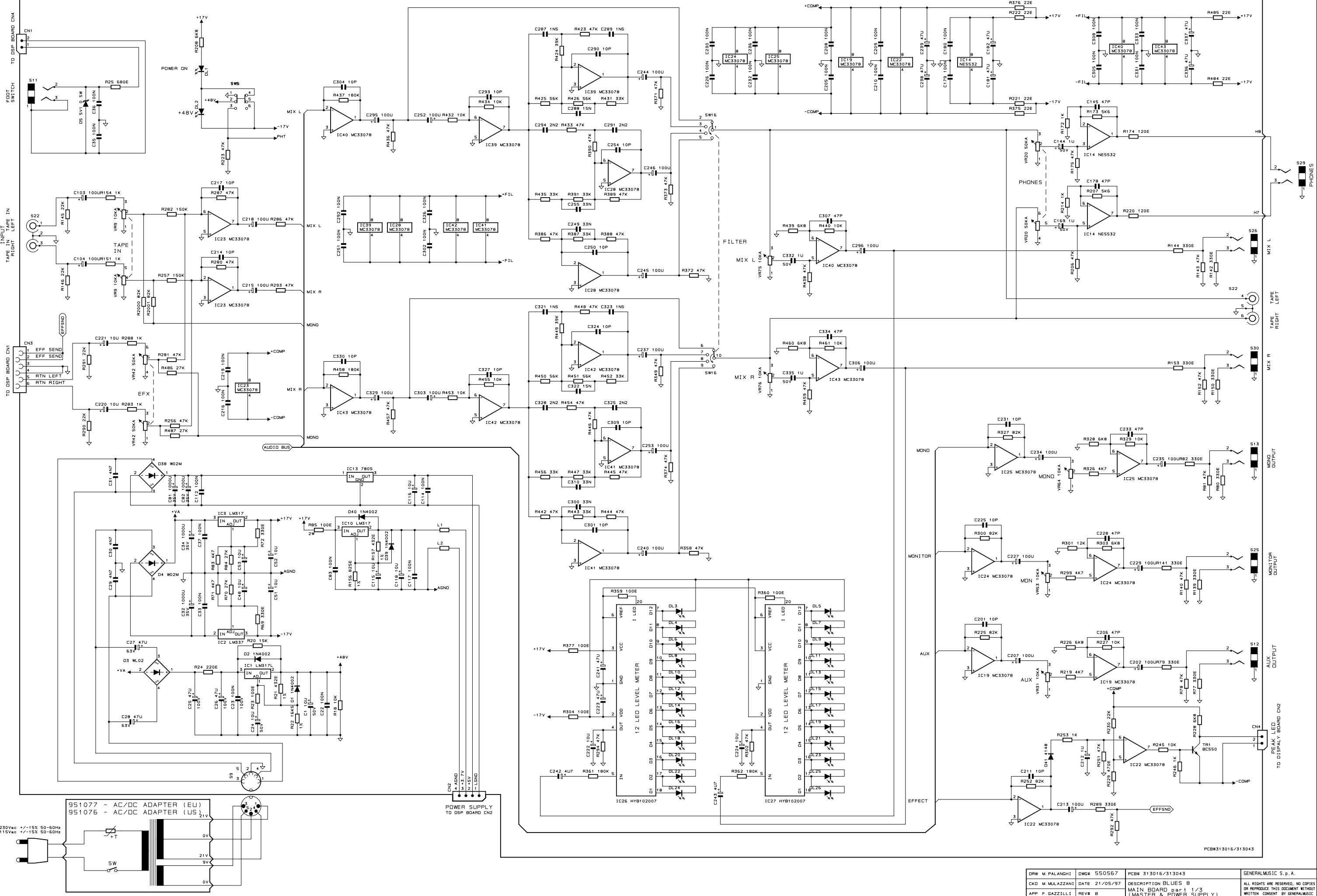




| TECHNICAL SPECIFICATIONS | | | | |
|---------------------------|---------------------------|--------------------------------|--|--------------------|
| SECTION | | LEVELS & DATA | | CONNECTORS |
| MONO INPUT CHANNEL | | | | |
| MIC input | sensitivity | from -45 to -15dB | | Balanced XLR_F |
| | gain | 30dB | | |
| | impedence | 1Kohms | | |
| LINE input | sensitivity | from +10 to -20dB | | Balanced JACK |
| | gain | 30dB | | |
| | impedence | 10Kohms | | |
| Equalizer | HI | ±15 dB @ 10kHz | | |
| | LOW | ±15 dB @ 70Hz | | |
| STEREO INPUT CHANNEL | | | | |
| LINE input | sensitivity | 0dB | | 2 Balanced JACKS |
| | impedence | 10Kohms | | |
| PHONO input | sensitivity | -45dB | | 2 x pin RCA |
| | impedence | 47Kohms | | |
| Equalizer | HI | ±15 dB @ 10kHz | | |
| | LOW | ±15 dB @ 70Hz | | |
| MASTER SECTION | | | | |
| MASTER output level | | +4dB | | 2 x Balanced JACKS |
| MONITOR output level | | +4dB | | 2 x Balanced JACKS |
| AUX output level | | 0dB | | Balanced JACK |
| TAPE IN input level | | 0dB | | 2 x pin RCA |
| TAPE OUT output level | | +4dB | | 2 x pin RCA |
| HEADPHONES output | | Minimum impedance 30 ohms | | Stereo JACK |
| GENERAL SPECIFICATIONS | | | | |
| TOTAL HARMONIC DISTORTION | | <0,1% from 20Hz to 20KHz | | |
| CROSS-TALK | STEREO separation | >-80dB @ 1KHz, >-70dB @ 10KHz | | |
| | FADER | >-90dB @ 1KHz, >-85dB @ 10KHz | | |
| | ON | >-100dB @ 1KHz, >-90dB @ 10KHz | | |
| NOISE | (all fader closed) | -115 dB | | |
| | (fader MIX nominal) | -105 dB | | |
| | (fader MIX nominal +1ch.) | -100 dB | | |
| WEIGHT | BLUES 8 | 3 kg | | |
| | BLUES 12 | 3,5 kg | | |
| DIMENSIONS | BLUES 8 | 324x310x58 mm (WxHxD) | | |
| | BLUES 12 | 340x310x58 mm (WxHxD) | | |
| POWER SUPPLY | | | | |
| Pow er supply | | see label on the apparatus | | |
| Weight | | 1kg | | |
| Dimensions | | 102x75x61,5mm (WxHxD) | | |

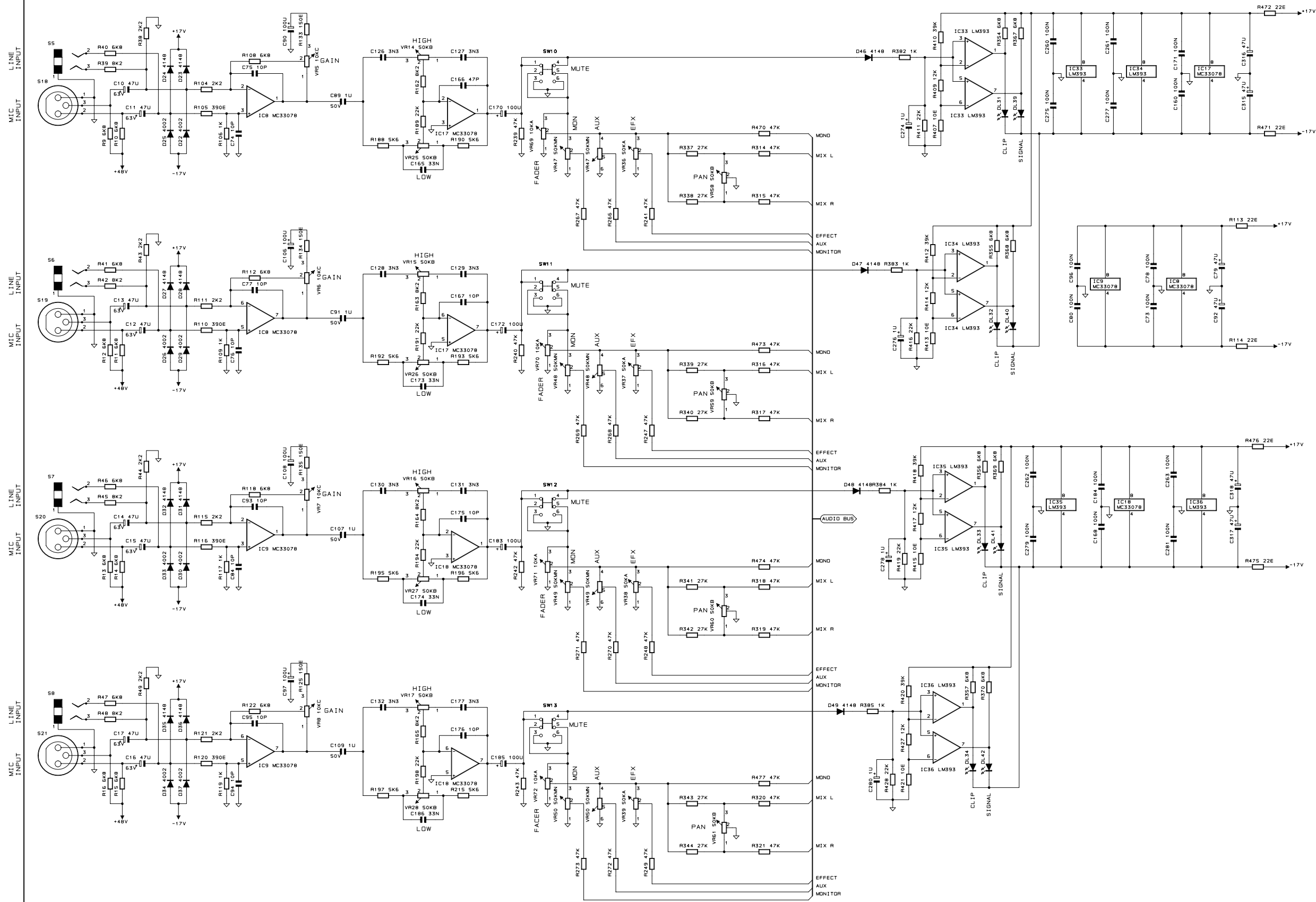


768129 - BLUES 8 MAIN BOARD (POWER SUPPLY & MASTER)



| | | | |
|------------------|---------------|---|---|
| DRW M. PALANGHI | DWG# 550567 | PCB# 313016/313043 | GENERALMUSIC S.p.A. |
| CKD M. MULAZZANI | DATE 21/05/97 | DESCRIPTION BLUES 8 | ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC |
| APP F. GAZZILLI | REV# 8 | MAIN BOARD part 1/3 (MASTER & POWER SUPPLY) | |

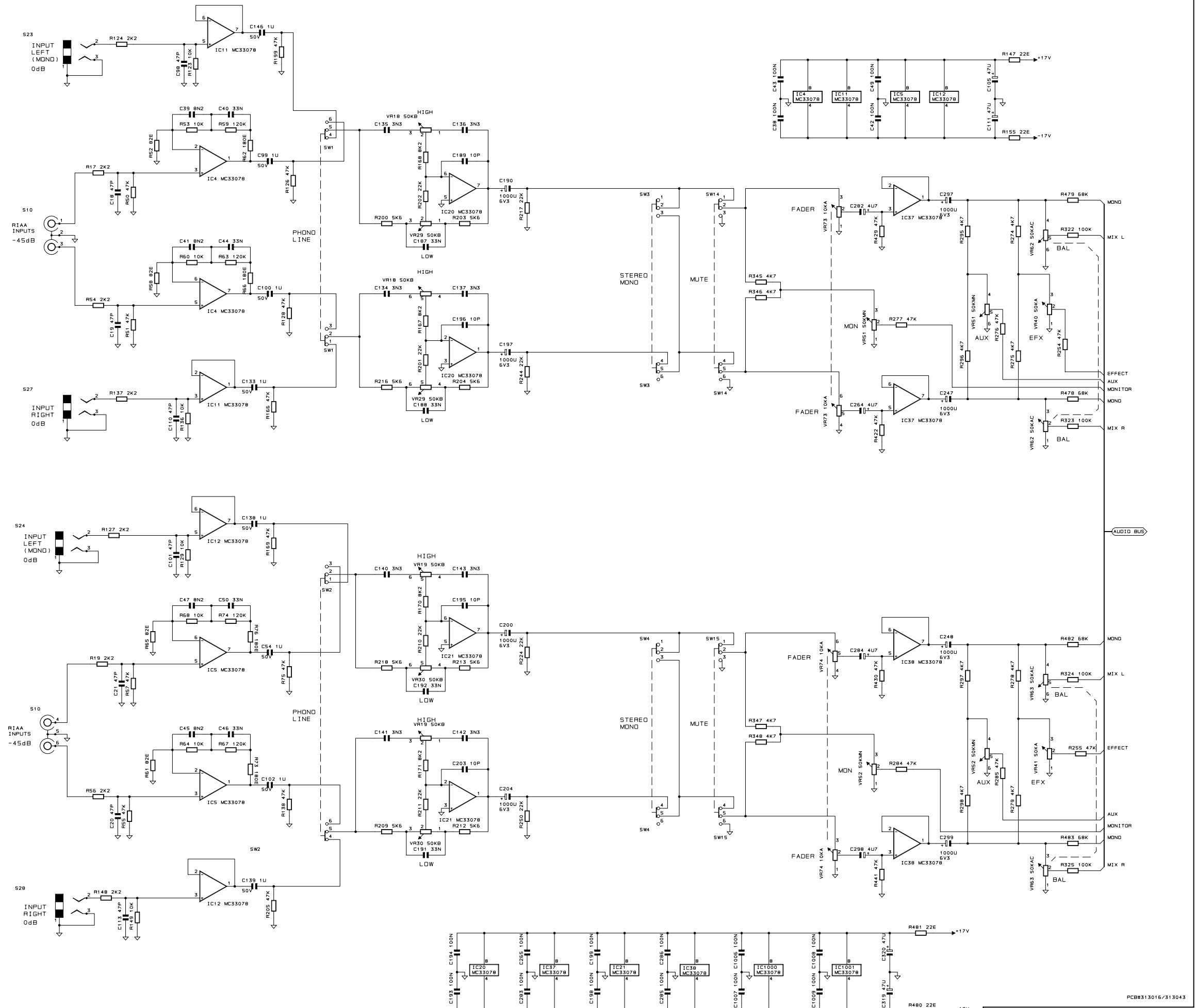
768129 - BLUES 8 MAIN BOARD (1-4 MONO CHANNELS)



PCB#313016/313043

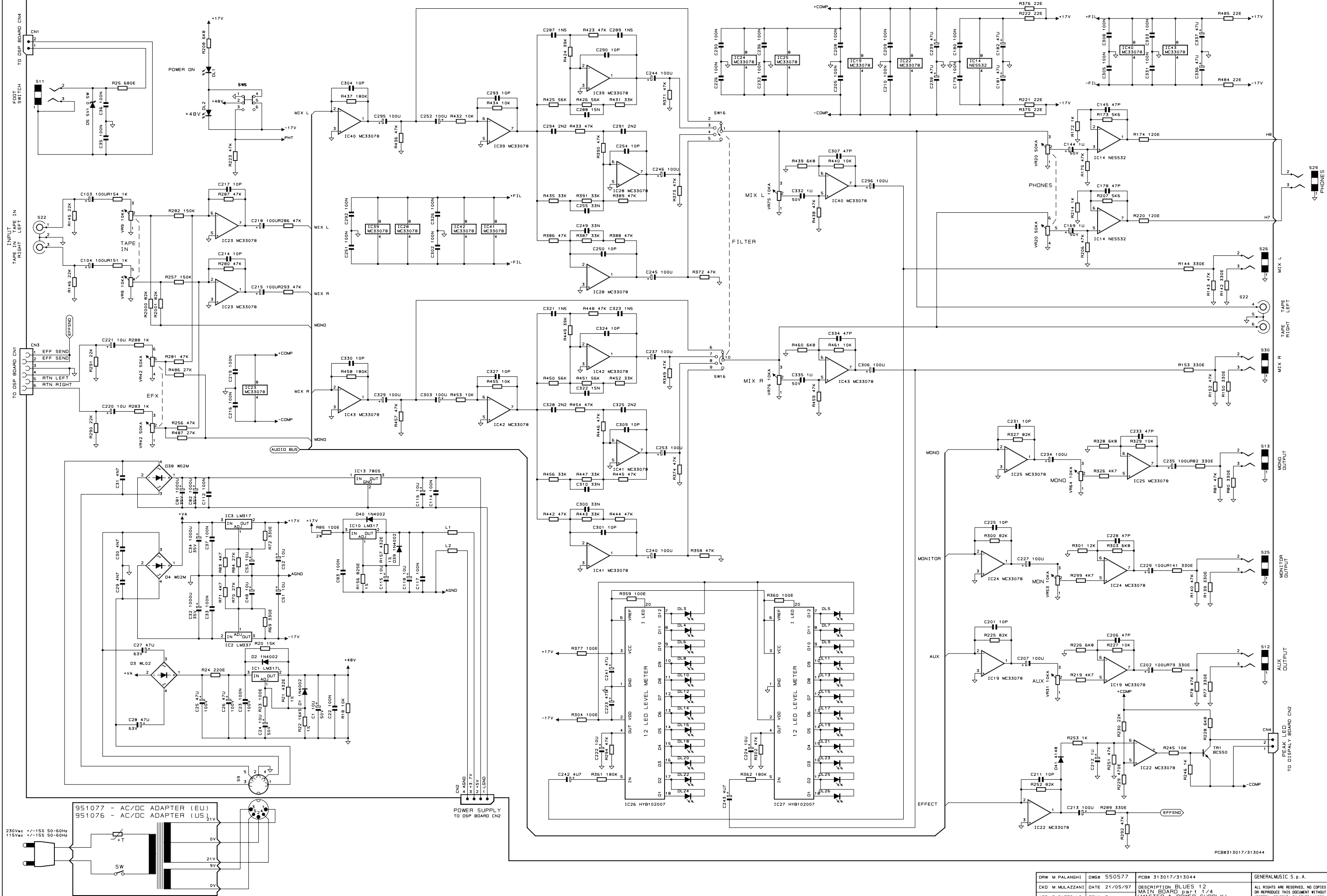
| | | | |
|------------------|----------------|--|------------------------------------|
| MODIFIES N. 1 | DATE: 15-02-98 | DESC. 02-25-26-28-30-33-34-37 CHANGE AS 1N4002 TO PROTECT BETTER MC33078 ICs | |
| DRW M. PALANGHI | DWG# 550568 | PCB# 313016/313043 | GENERALMUSIC S.p.A. |
| CKD M. MULAZZANI | DATE 21-05-97 | DESCRIPTION BLUES 8 | ALL RIGHTS ARE RESERVED, NO COPIES |
| APP F. GAZZILLI | REV# B | MAIN BOARD part 2/3 | OR REPRODUCE THIS DOCUMENT WITHOUT |
| | | (1-4 MONO CHANNELS) | WRITTEN CONSENT BY GENERALMUSIC |

768129 - BLUES 8 MAIN BOARD (5-6/7-8 STEREO CHANNELS)

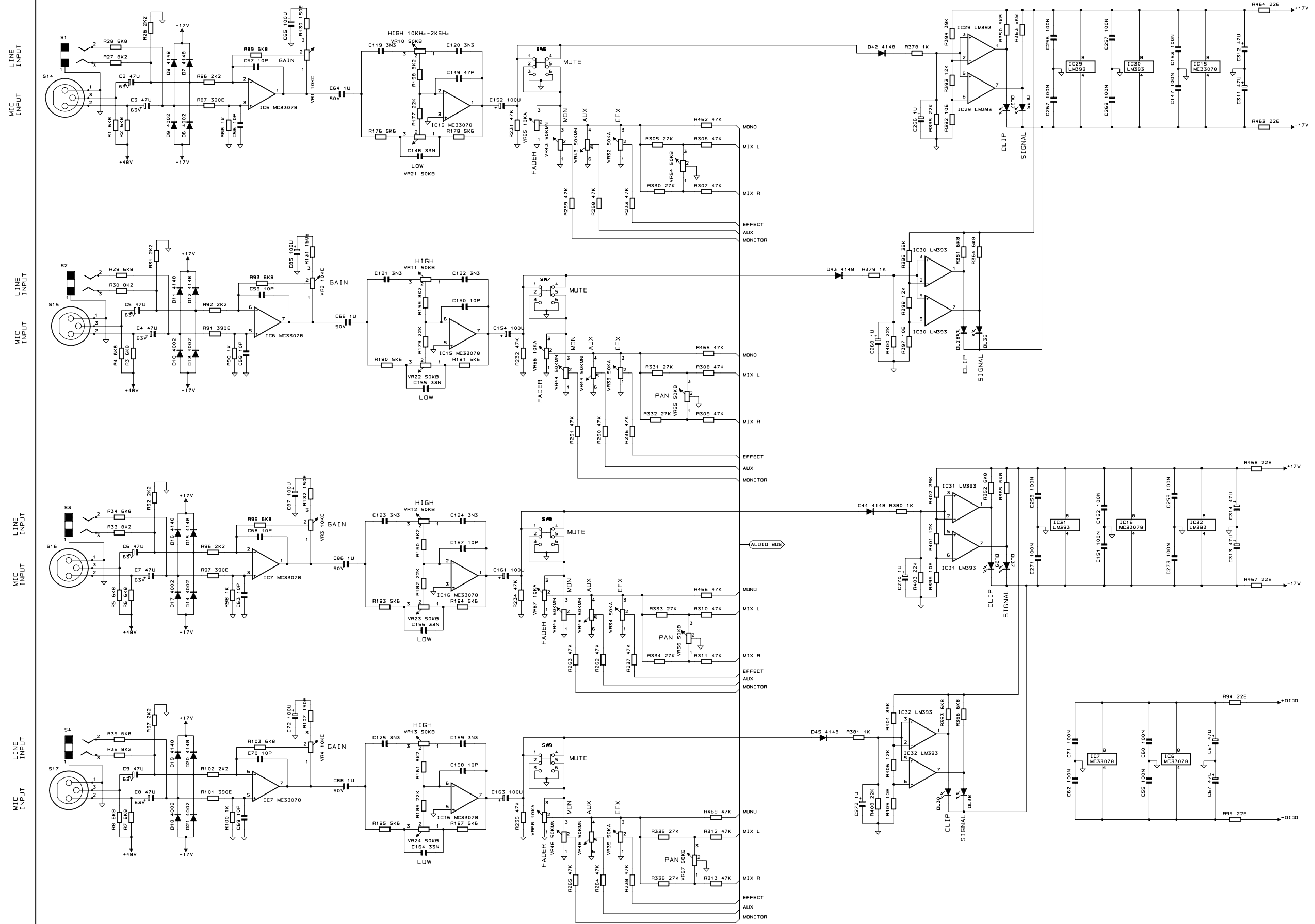


| | | | |
|------------------|--------------|---------------------|------------------------------------|
| DRW M. MULAZZANI | DWG# 550569 | PCB# 313016/313043 | GENERALMUSIC S.p.A. |
| CKD M. MULAZZANI | DATE 10-9-97 | DESCRIPTION BLUES 8 | ALL RIGHTS ARE RESERVED. NO COPIES |
| APP F. GAZZILLI | REV# 8 | MAIN BOARD part 3/3 | OR REPRODUCE THIS DOCUMENT WITHOUT |
| | | (STEREO CHANNELS) | WRITTEN CONSENT BY GENERALMUSIC |

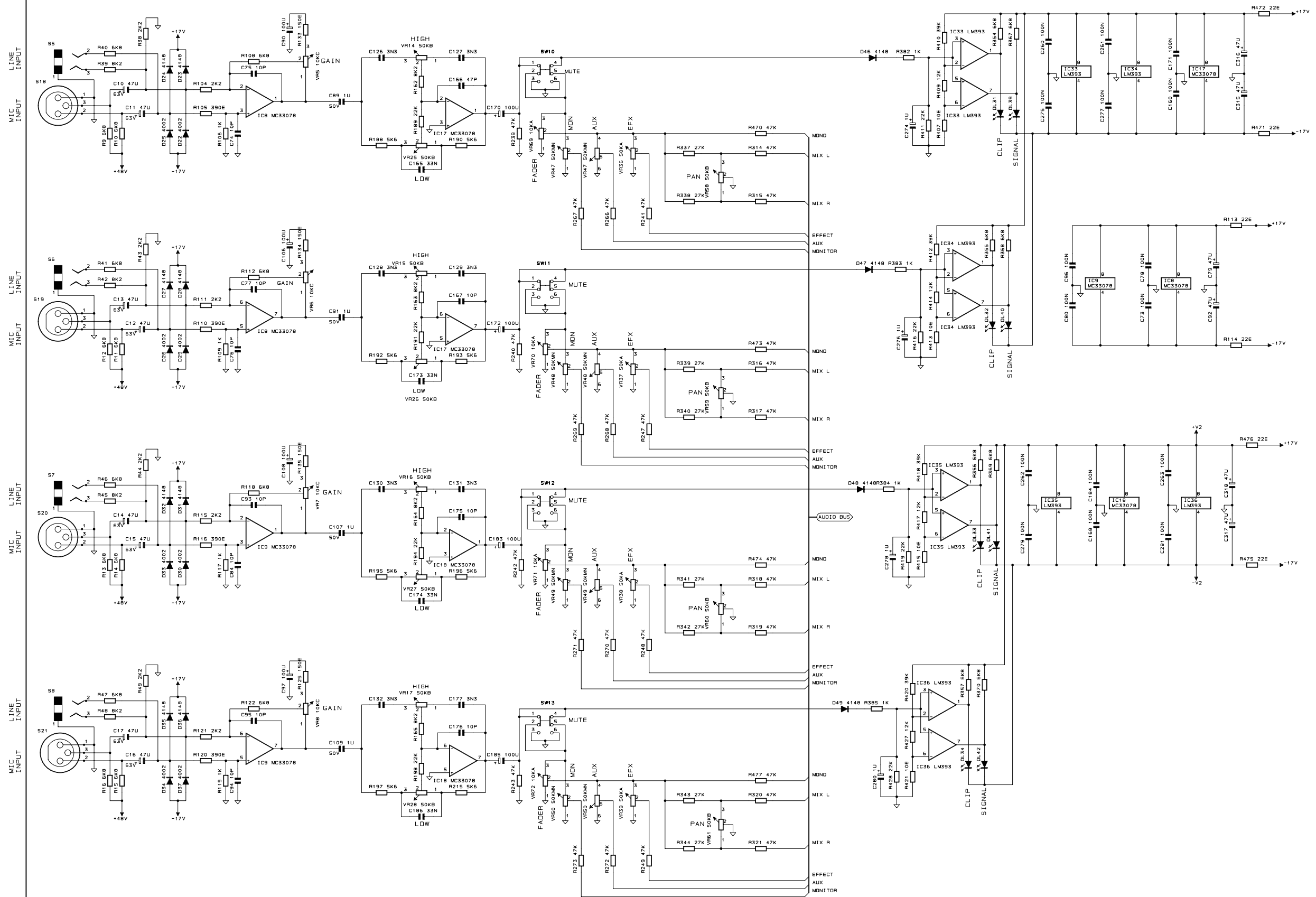
768130 - BLUES 12 MAIN BOARD (POWER SUPPLY & MASTER)



768130 - BLUES 12 MAIN BOARD (1-4 MONO CHANNELS)



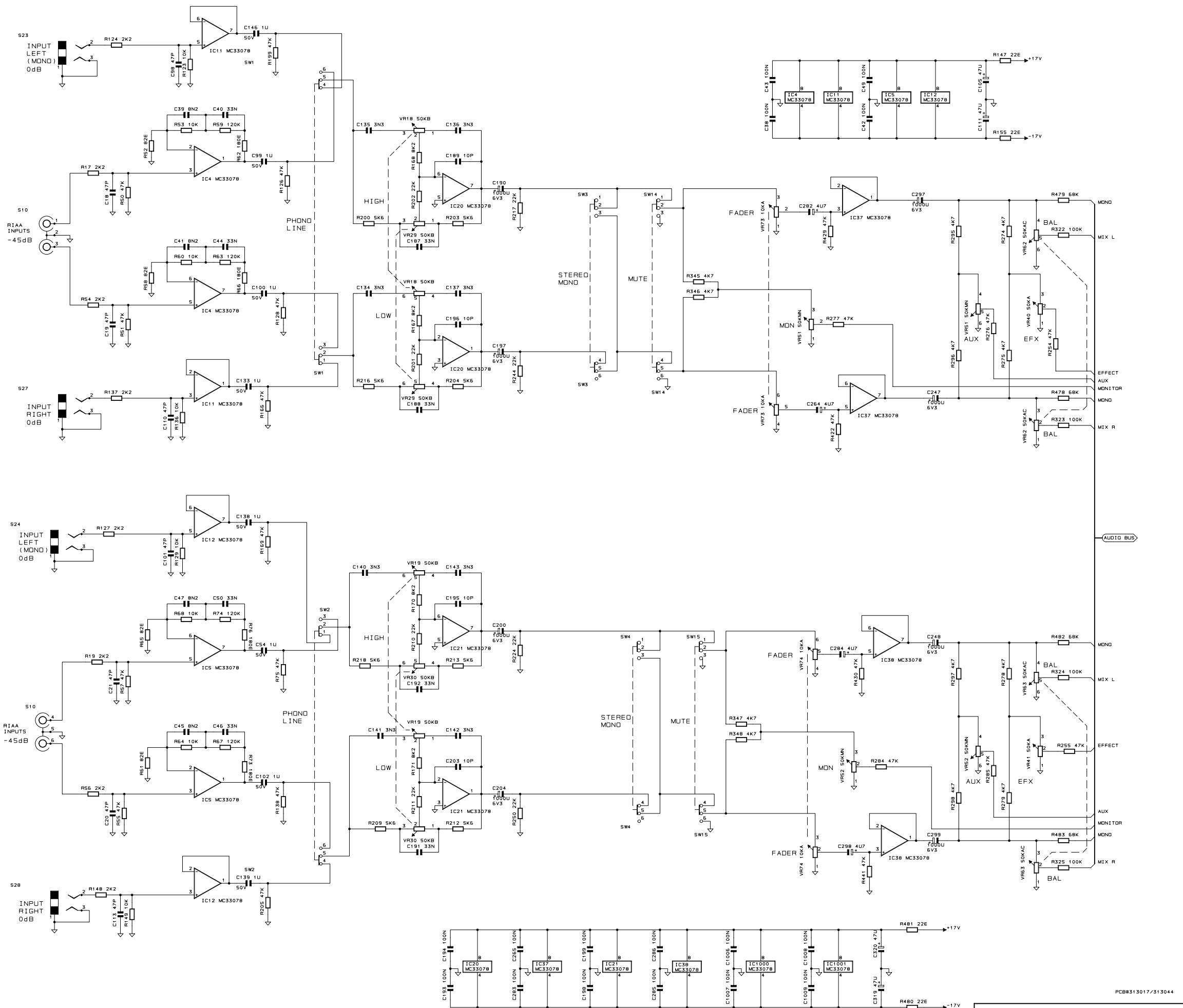
768130 - BLUES 12 MAIN BOARD (5-8 MONO CHANNELS)



PCB8313017/313044

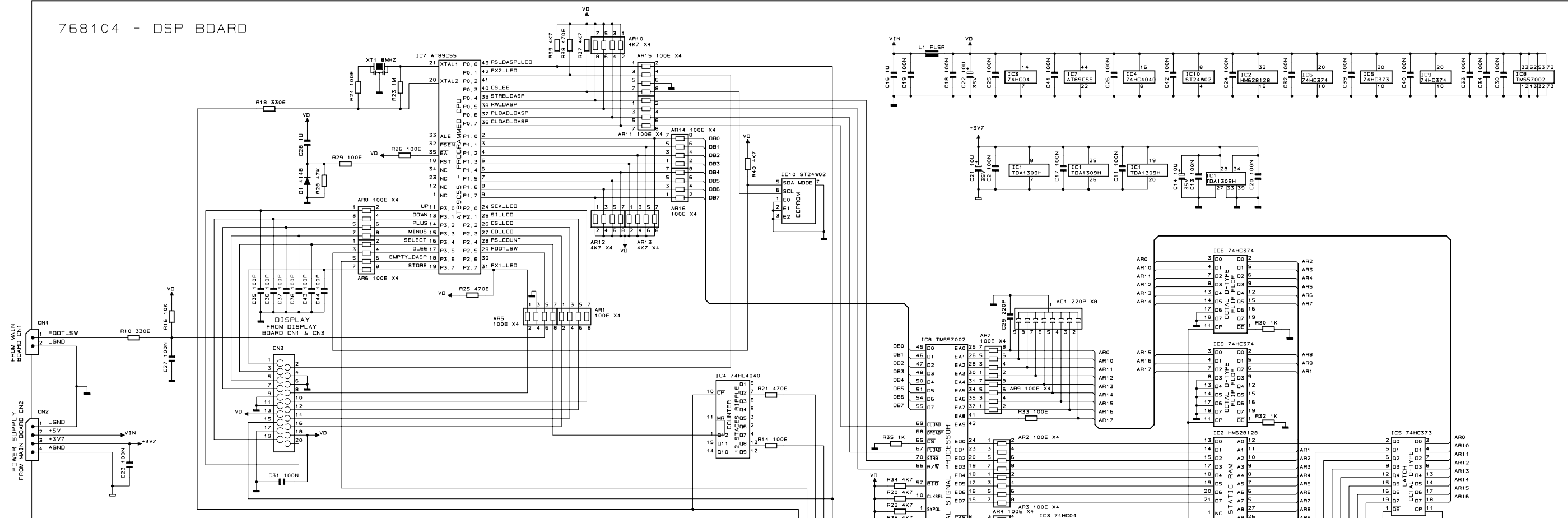
| | | | |
|------------------|----------------|---|---------------------|
| MODIFIES N. 1 | DATE: 15/02/98 | DESC. 025-22-26-29-33-30-34-37 CHANGE TO 1M4002 TO PROTECT BETTER MC33078 ICs | |
| DRW M. PALANGHI | DWG# 550579 | PCB# 313017/313044 | GENERALMUSIC S.p.A. |
| CKD M. MULAZZANI | DATE 21/05/97 | DESCRIPTION BLUES 12CH MAIN BOARD part 3/4 (5-8 MONO CHANNELS) | |
| APP F. GAZZILLI | REV# B | | |

768130 - BLUES 12 MAIN BOARD (STEREO CHANNELS)



| | | | |
|------------------|--------------|----------------------|------------------------------------|
| DRW M. MULAZZANI | DWG# 550569 | PCB# 313017/313044 | GENERALMUSIC S.p.A. |
| CKD M. MULAZZANI | DATE 10-9-97 | DESCRIPTION BLUES 12 | ALL RIGHTS ARE RESERVED. NO COPIES |
| APP F. GAZZILLI | REV# B | MAIN BOARD part 4/4 | OR REPRODUCE THIS DOCUMENT WITHOUT |
| | | (STEREO CHANNELS) | WRITTEN CONSENT BY GENERALMUSIC |

768104 - DSP BOARD



Spare Part List

RELEASE 2.0 updated July 23 1998

NOTE: Starts from April 1998 the Blues mixers are manufactured in China, the spare parts are referred to these new and old versions.

You may recognize the version from the apparatus identifier plate:

951051, 951052, 951053 and **951054** are the old versions made in **Italy**

951112, 951113, 951114 and **951115** are the new verions made in **China**

All parts are replaceable between the two versions with the follow precautions:

- 1) The white connectors are different, so you could reuse the connectors of the older Board or order the appropriate connectors and cables that you need.
- 2) The Jack and RCA sockets are different.
- 3) The Front Panels are different.

All the schematics are unchanged.

| Legend | |
|---------------|--|
| EU | = Specify European Version (230Vac). |
| US | = Specify United States Version (115Vac). |
| Italy | = Manufactured in Italy, old version. |
| China | = Manufactured in China, new version. |
| Code | Description |
| | |
| Accessories | |
| 951077 | 230V Ac/Ac Adapter PS30 (EU) |
| 951078 | 115V Ac/Ac Adapter PS30 (US) |
| 277315 | Owner's Manual |
| | |
| Assembly | |
| 667635 | Chassis (Blues 8) |
| 667634 | Front Panel (Blues 8) (Italy) |
| PHC667005 | Front Panel (Blues 8) (China) |
| 667637 | Chassis (Blues 12) |
| 667636 | Front Panel (Blues 12) (Italy) |
| PHC667006 | Front Panel (Blues 12) (China) |
| 347354 | Gray/Yellow Slider Knob |
| 347343 | Gray/White Slider Knob |
| 347342 | Gray/Red Slider Knob |
| 340754 | Rubber Foot |
| 340120 | Plexiglass Display Screen |
| | |
| Dsp Board | |
| 768132 | DSP Board (PCB#319062) (Italy) |
| PHC768003 | DSP Board (PCB#319062) (China) |
| 557028 | * Programmed Cpu |
| 141018 | * 20 Contacts Vert Female Connector |
| 141011 | * 6 Contacts Vert Female Connector |
| 140918 | * 2 Contacts Hor Male Connector (Italy) |
| PHC145002 | * 2 Contacts Hor Male Connector (China) |
| 140872 | * 4 Contatcs Hor Male Connector (Italy) |
| PHC145004 | * 4 Contatcs Hor Male Connector (China) |
| 105007 | * TMS57002 Dsp |
| 104019 | * ST24W02 Smd 2Kbit Serial Access EEprom |
| 104000 | * HM628128LFP7 SOP 1Mbit (128Kx8) Static Ram |
| 103025 | * 74HC4040 12-Stage Binary Counter |
| 103021 | * TDA1309HN2 Bitstream Ad/Da Converter |
| 103016 | * 74HC373DW SOIC Octal D-Type Latch |
| 103010 | * 74HC04D SOIC Hex Inverter |
| 103003 | * 74HC374DW Soic Octal D-Type Flip-Flop |
| 081000 | * PMLL4148 Smd 100mA 75V Signal Diode |
| 010735 | * 8MHz Ceramic Resonator |
| | |
| Display Board | |
| 768131 | Display Board (PCB#313018) (Italy) |
| PHC768002 | Display Board (PCB#313018) (China) |
| 110260 | * 9 Switches Compact Stick |
| 141013 | * 10 Contacts Vert Female Connector |
| 140918 | * 2 Contacts Hor Male Connector (Italy) |
| PHC145002 | * 2 Contacts Hor Male Connector (China) |
| 100613 | * 74HC4094 8 bit Sipo Latch Register |
| 080717 | * HDN1105 7 Segments Display |
| 080705 | * Led 3mm 60deg Diffused Red |
| | |
| Main Board | |
| 768130 | Main Board (PCB#313017) (Blues 12) (Italy) |
| 768129 | Main Board (PCB#313016) (Blues 8) (Italy) |
| PHC768001 | Main Board (PCB#313044) (Blues 12) (China) |
| PHC768000 | Main Board (PCB#313043) (Blues 8) (China) |
| 659129 | * Gray Knob with Black Cover |
| 347357 | * Gray/Yellow Switch Button |
| 347356 | * Gray/White Switch Button |
| 347355 | * Gray/Red Switch Button |
| 347353 | * Gray/Yellow Knob |

| | |
|-----------|---|
| 347348 | * Gray/White Knob |
| 347346 | * Gray/Black Knob |
| 347345 | * Gray/Blu Knob |
| 347344 | * Gray/Red Knob |
| 347334 | * 12 Leds Plastic Cover |
| 347333 | * 12 Leds Plastic Support |
| 141188 | * XLR Female Connector |
| 141011 | * 6 Contacts Vert Female Connector |
| 140918 | * 2 Contacts Hor Male Connector (Italy) |
| PHC145002 | * 2 Contacts Hor Male Connector (China) |
| 140872 | * 4 Contatcs Hor Male Connector (Italy) |
| PHC145004 | * 4 Contatcs Hor Male Connector (China) |
| 140397 | * 2sw 2pos V Slider Switch |
| 140250 | * RCA Socket |
| 140236 | * Jack Vert Female Socket (Italy) |
| PHC145001 | * Jack Vert Female Socket (China) |
| 140220 | * Jack Slim Hor Female Socket |
| 140212 | * Horizontal Female 5 Poles Din Socket |
| 110365 | * 2 ways - 4pos. Vertical Switch |
| 106004 | * LM393 Dual Voltage Comparator |
| 106001 | * MC33078P Smd Dual LN J-Fet Operational Amplifier |
| 102007 | * Hybrid 12 Led Level Meter |
| 100959 | * LM3171,2V-37V 0.1A Adjustable Regulator |
| 100923 | * NE5532A Dual LN Operational Amplifier |
| 100067 | * LM337 1.2-37V 1.5A Adjustable Regulator |
| 100066 | * LM317 1.2-37V 1.5A Adjustable Regulator |
| 100059 | * 7805 +5V 1A Voltage Regulator |
| 090183 | * BC550 To92 Ln Npn Transistor |
| 080733 | * Led 2.5x5mm Rect Diffused Green |
| 080731 | * Led 2.5x5mm Rect Diffused Red |
| 080706 | * Led 3mm 60deg Diffused Green |
| 080705 | * Led 3mm 60deg Diffused Red |
| 080232 | * 5V1 0.5W 5% Zener Diode |
| 080168 | * WL02 1.5A 200V Rectifier Diodes Bridge |
| 080156 | * 1N4002 1A 100V Rectifier Diode |
| 080103 | * 1N4148 100mA 75V Signal Diode |
| 075805 | * 50K 14mm Vert Rotary MN Potentiometer w/Click (Aux/Mon) |
| 075802 | * 2X50K 14mm Vert Rotary Log Potentiometer (Phones, Efx Return) |
| 075800 | * 50K 14mm Vert Rotary LogC Potentiometer w/Click (Balance) |
| 075699 | * 50K 9mm Vert Rotary Log Potentiometer (Efx) |
| 075613 | * 2X10K 9mm Vert Rotary Log Potentiometer (Tape In) |
| 075590 | * 10K 9mm Vert Rotary Log Potentiometer (Aux, Mon, Mono) |
| 075589 | * 10K 9mm Vert Rotary Alog Potentiometer (Gain) |
| 074761 | * 2X50K 14mm Vert Rotary Lin Potentiometer w/Click (High, Low S.) |
| 074696 | * 50K 9mm Vert Lin Rotary Potentiometer w/Click (High, Low, Pan M.) |
| 073596 | * 2x10K 60mm Log Slider Potentiometer (Stereo Fader) |
| 073574 | * 10K 60mm Log Slider Potentiometer (Mono Fader) |
| 060378 | * 100E 2W 10% Resistor |
| 042628 | * 16K5 1/4W 1% Metalized Film Resistor |
| 042475 | * 825E 1/4W 1% Metalized Film Resistor |
| 042435 | * 432E 1/4W 1% Metalized Film Resistor |

| Wiring Connections | |
|--------------------|--|
| 840768 | 2 Wires 12.5cm Length Crimp Terminal Cable (Italy) |
| 841200 | 2 Wires 12.5cm Length Crimp Terminal Cable (China) |
| 840803 | 6 Wires 12.5cm Length Flat Cable |
| 840844 | 2 Wires 7.5cm Length Crimp Terminal Cable (Italy) |
| 841199 | 2 Wires 7.5cm Length Crimp Terminal Cable (China) |
| 841080 | 4 Wires 12.5cm Length Crimp Terminal Cable (Italy) |
| 841201 | 4 Wires 12.5cm Length Crimp Terminal Cable (China) |
| 841081 | 20/10+10 Wires 8cm Length Flat Cable |
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