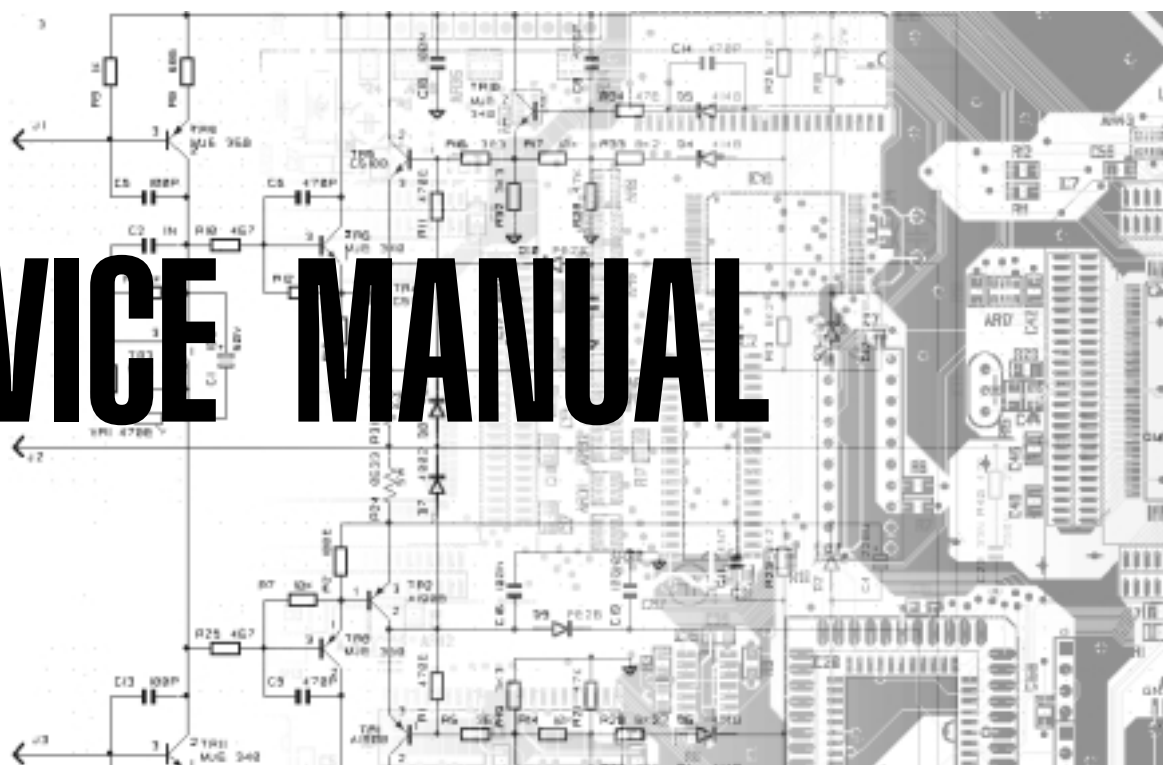


BLUES

8/12 CH. MIC/LINE/PHONO MIXER

Second Edition

SERVICE MANUAL



Index

	BLUES 8
4	Main Board (Master & Power Supply)
5	Main Board (1-4 Mono Channels)
6	Main Board (Stereo Channels)
	BLUES 12
7	Main Board (Master & Power Supply)
8	Main Board (1-4 Mono Channels)
9	Main Board (5-8 Mono Channels)
10	Main Board (Stereo Channels)
	BLUES 8 - 12
3	Wiring Connections, Functional Block Diagram, Level Diagram
11	DSP Board, Display Board
12	Spare Part List

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

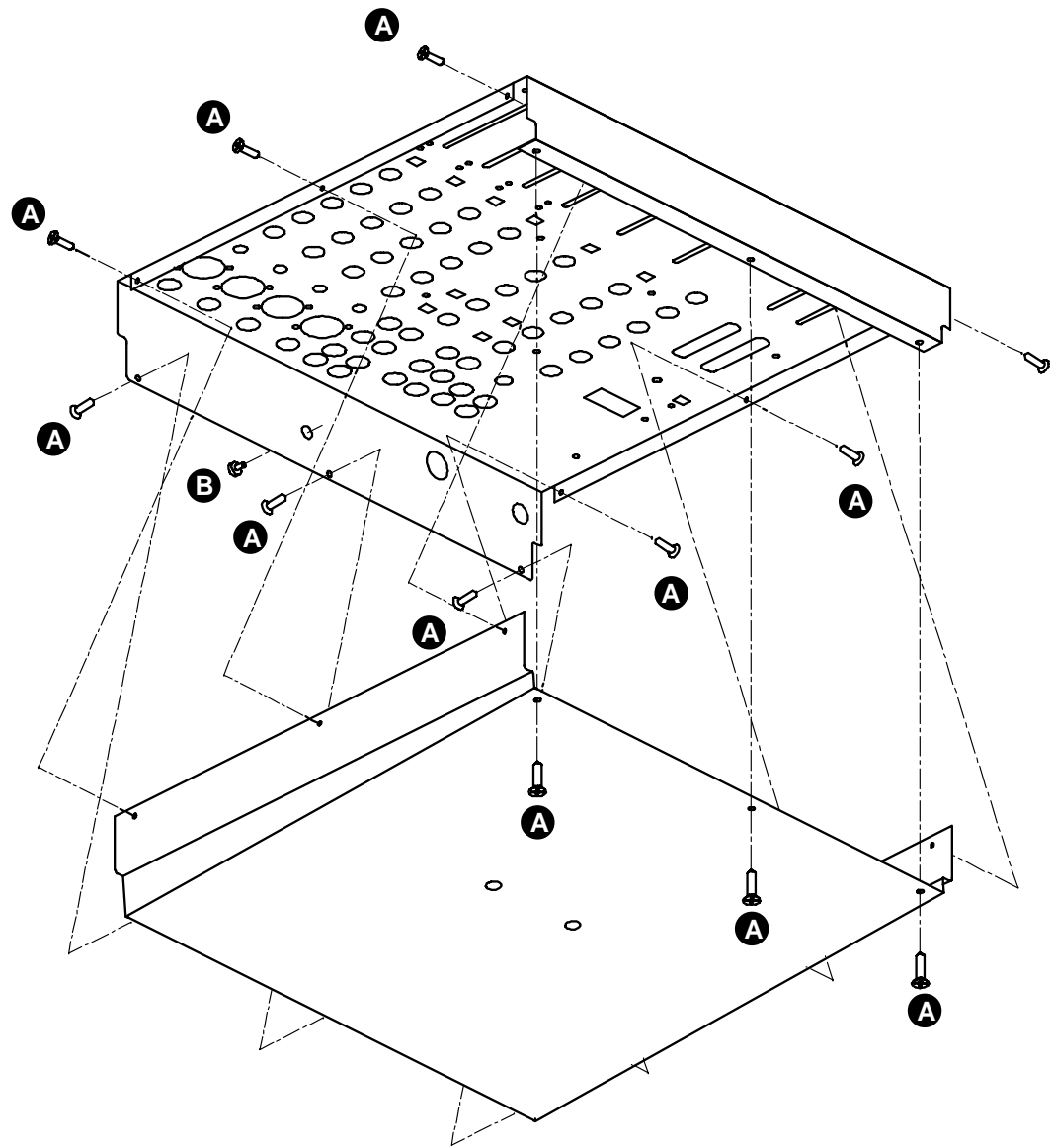
Phone +39(0)541/959511 - Fax +39(0)541/957404 - GENERALMUSIC on the NET: <http://www.generalmusic.com>



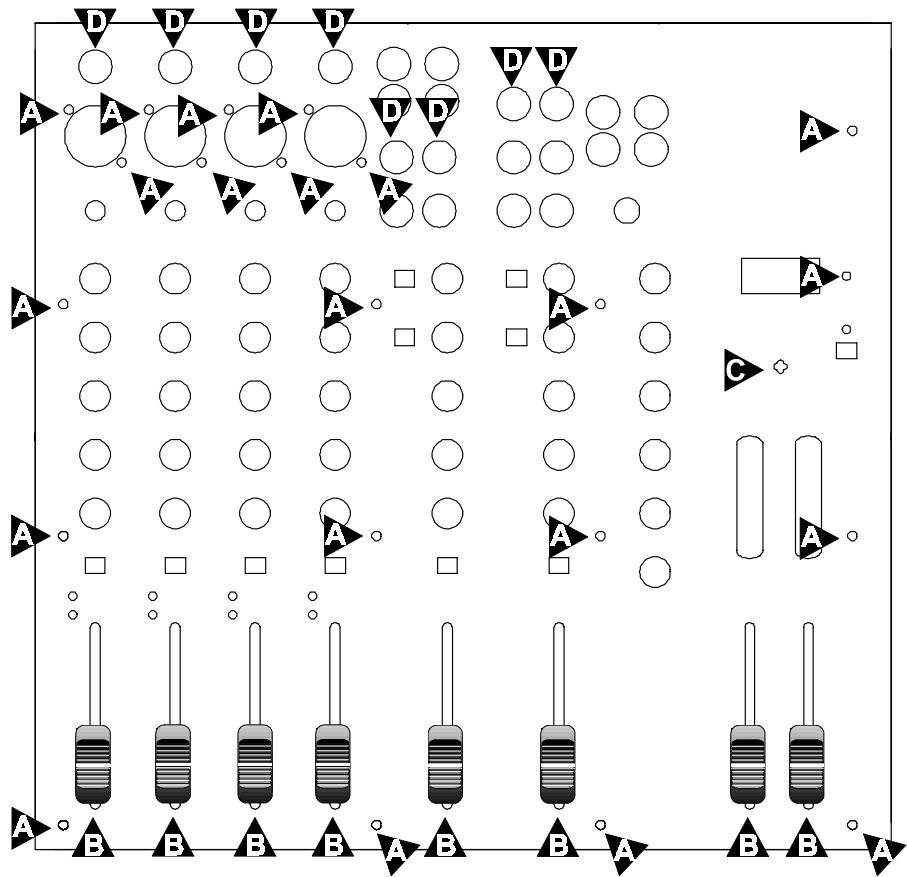
► CODE: 277316 ◀

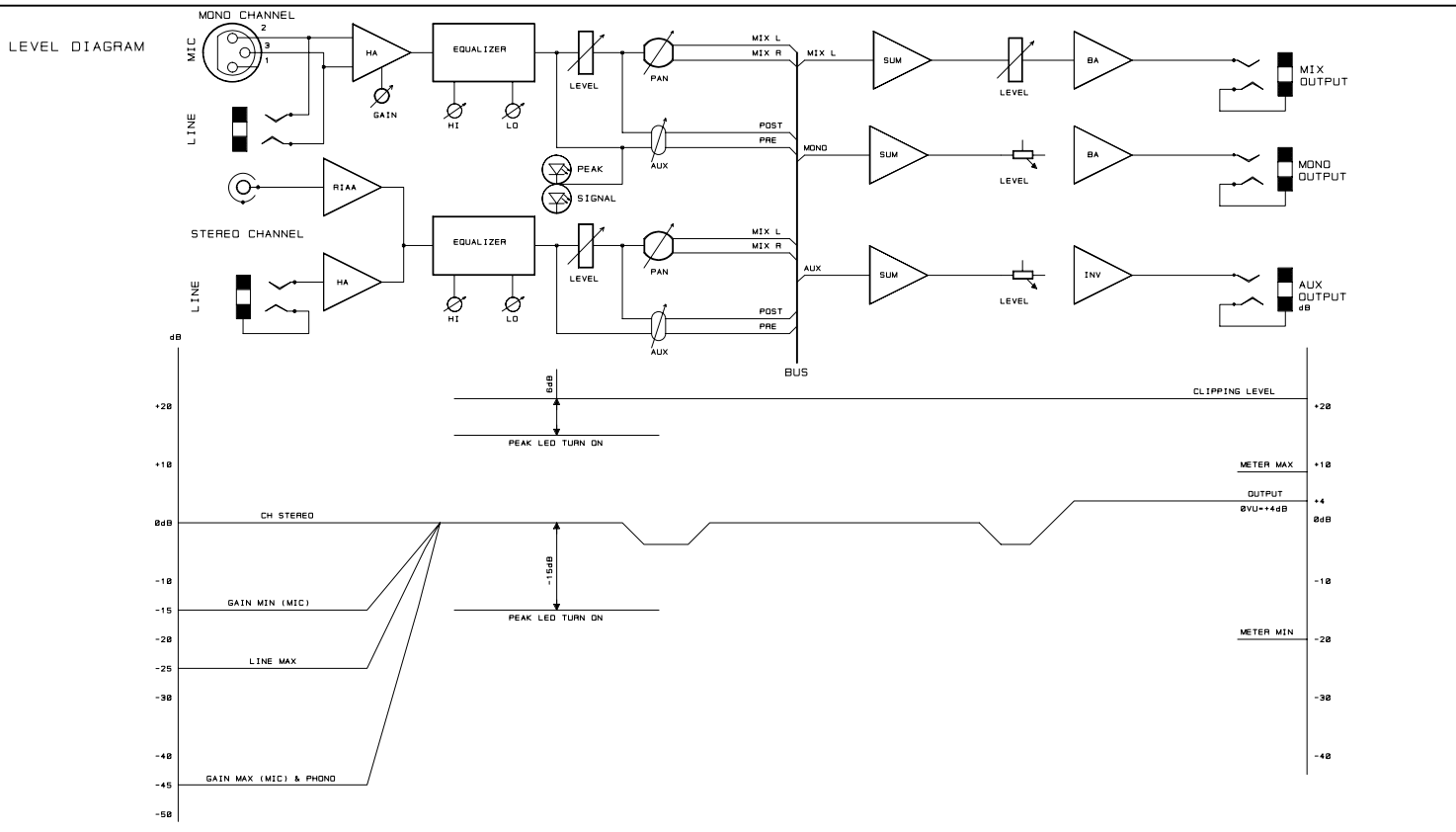
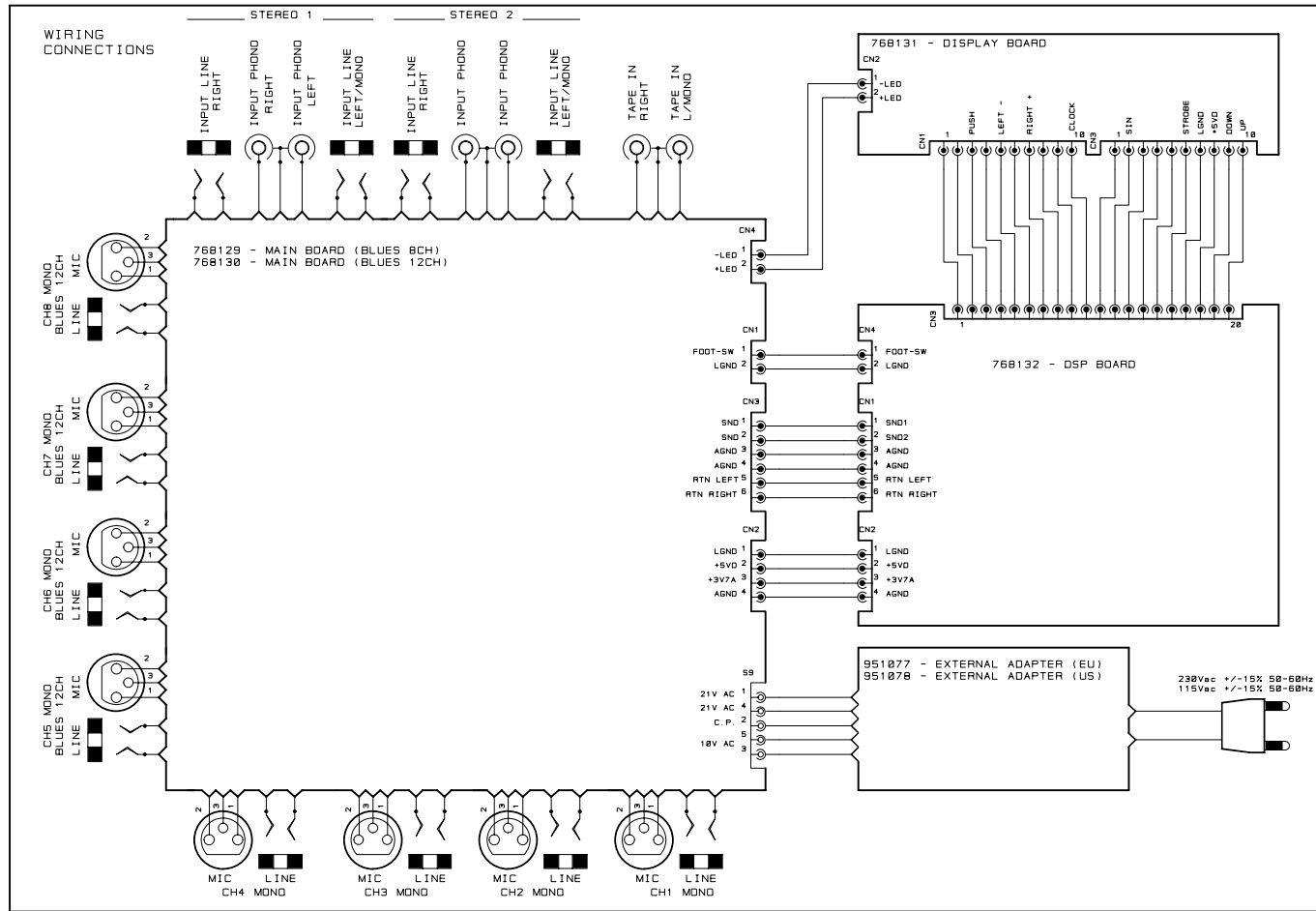
Opening Instructions

- 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.

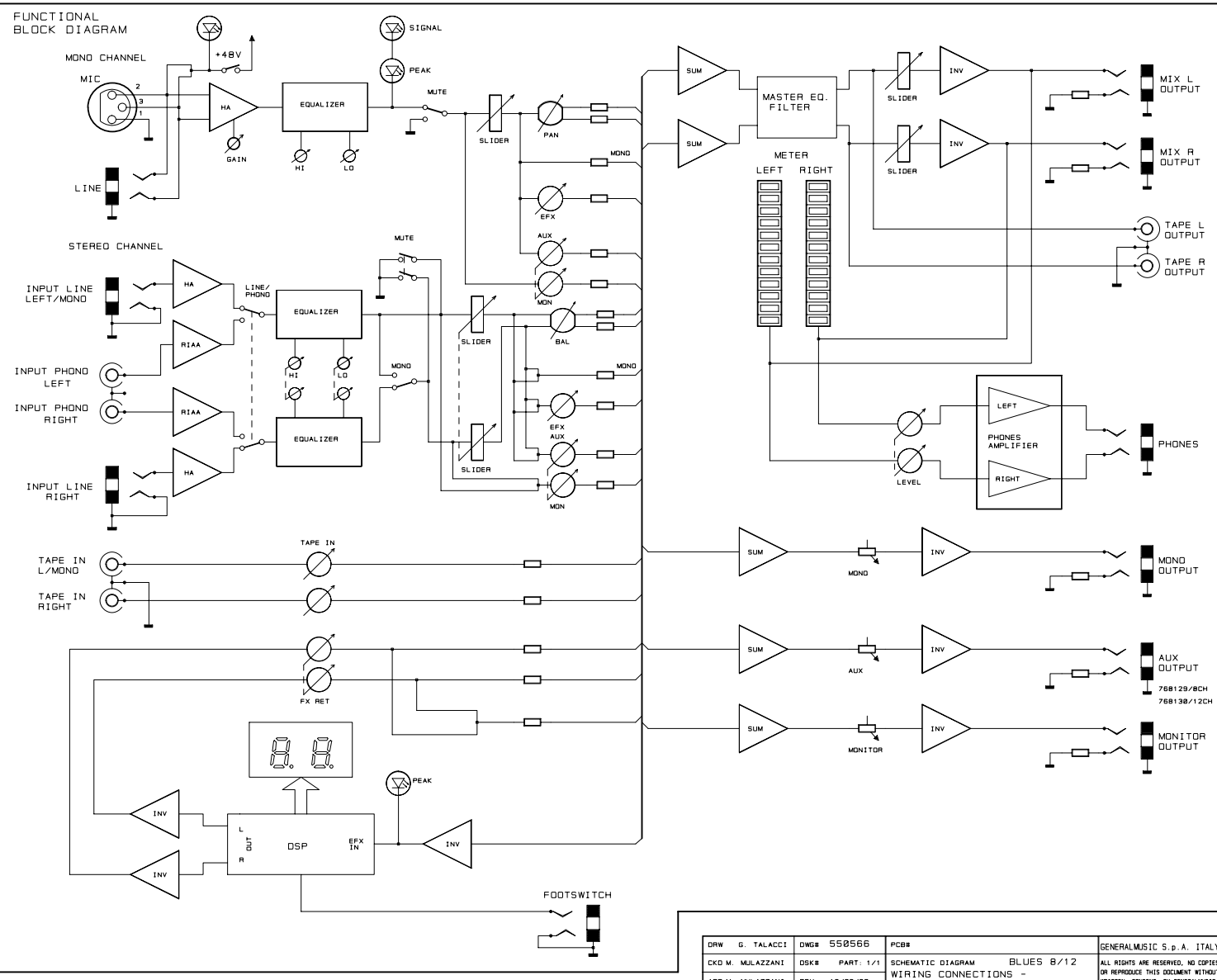


- To remove the main board from the front panel unscrew the screws in sight (A).
- Moreover remove the sliders knobs (B), unscrew the joy-stick cap (C) and the jacks nut (D).

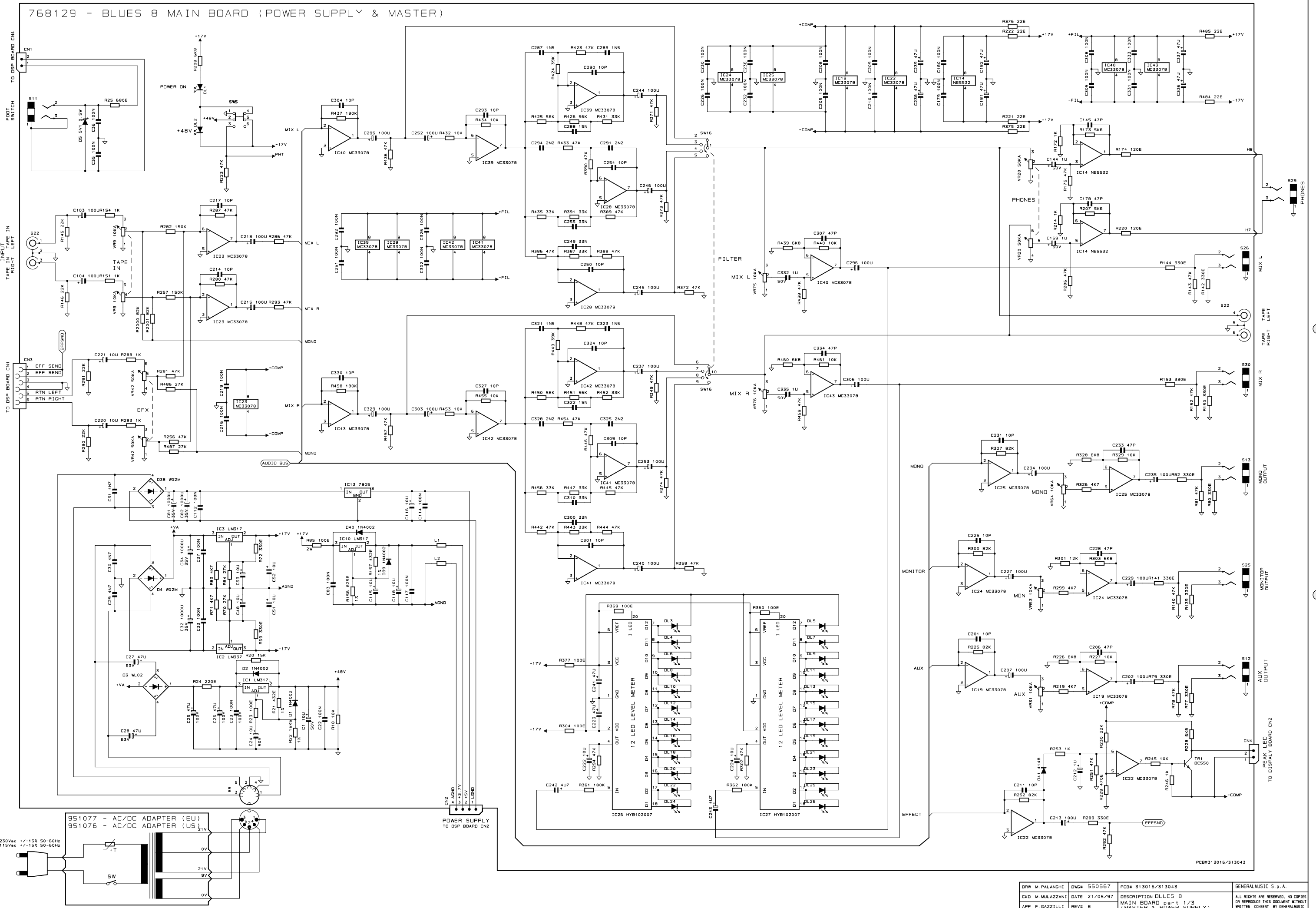




TECHNICAL SPECIFICATIONS				
SECTION		LEVELS & DATA		CONNECTORS
MONO INPUT CHANNEL				
MIC input	sensitivity	from -45 to -15dB		Balanced XLR_F
	gain	30dB		
	impedence	1Kohms		
LINE input	sensitivity	from +10 to -20dB		Balanced JACK
	gain	30dB		
	impedence	10Kohms		
Equalizer	HI	±15 dB @ 10kHz		
	LOW	±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)		

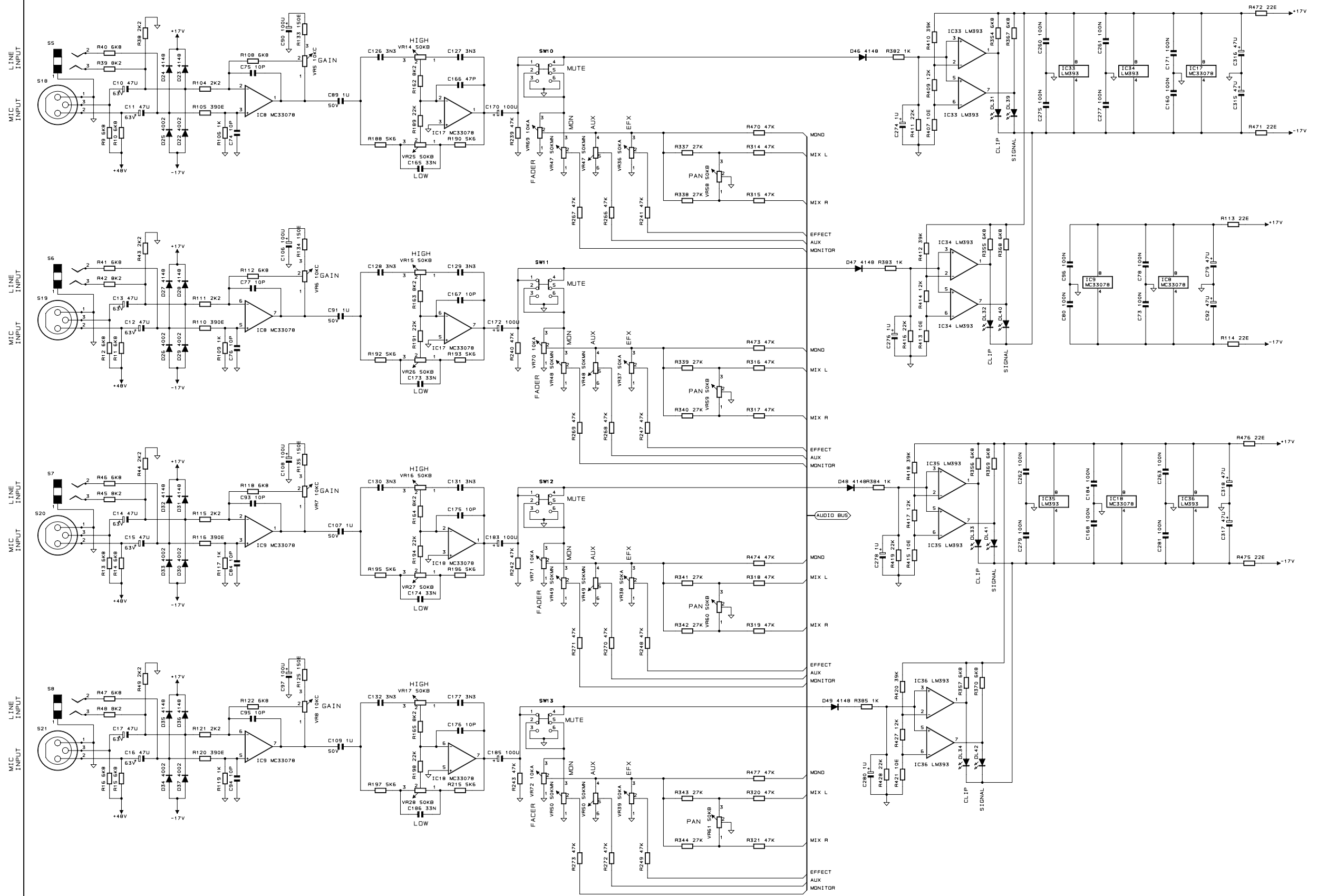


768129 - BLUES 8 MAIN BOARD (POWER SUPPLY & MASTER)



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)	

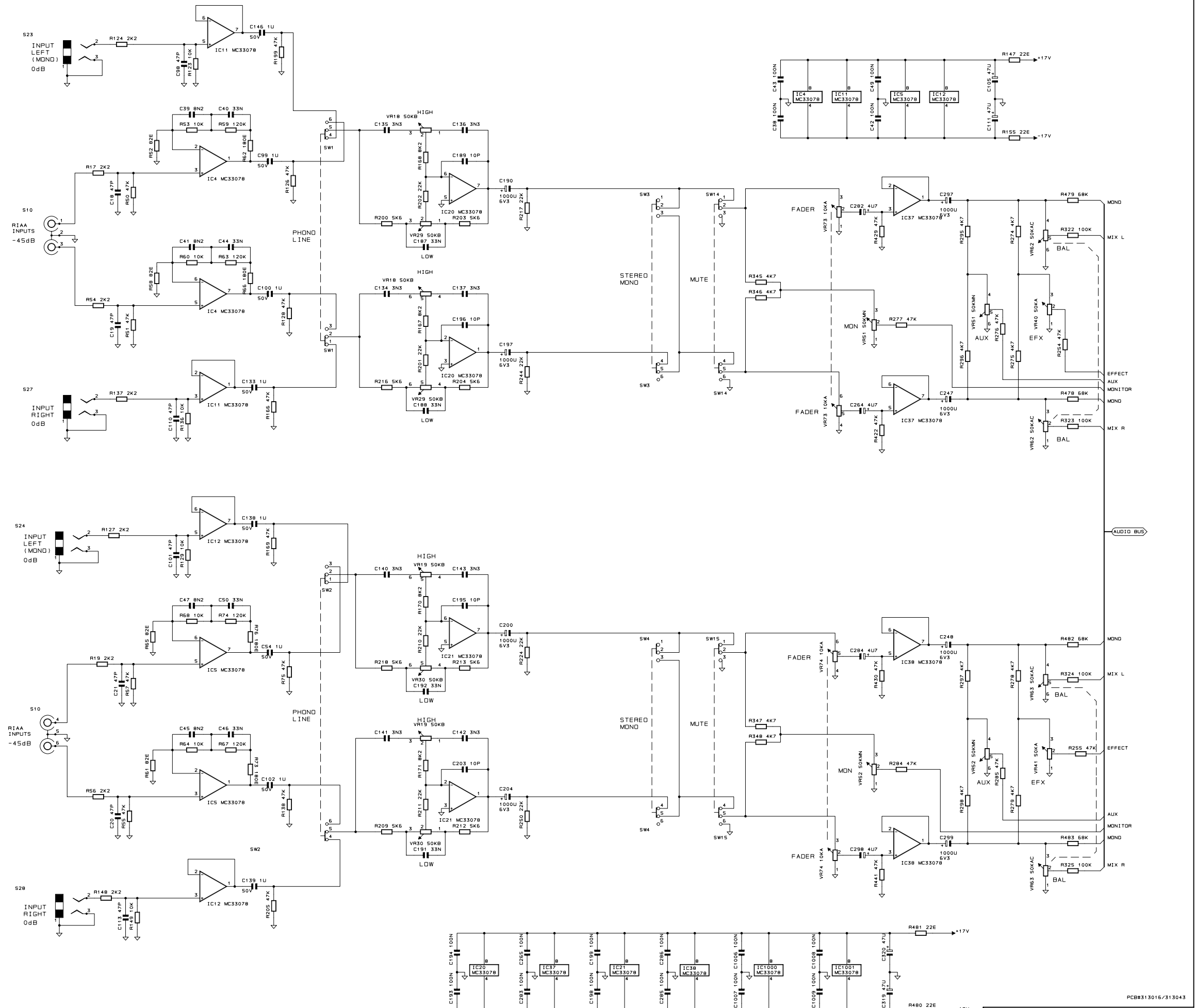
768129 - BLUES 8 MAIN BOARD (1-4 MONO CHANNELS)



PCB#313016/313043

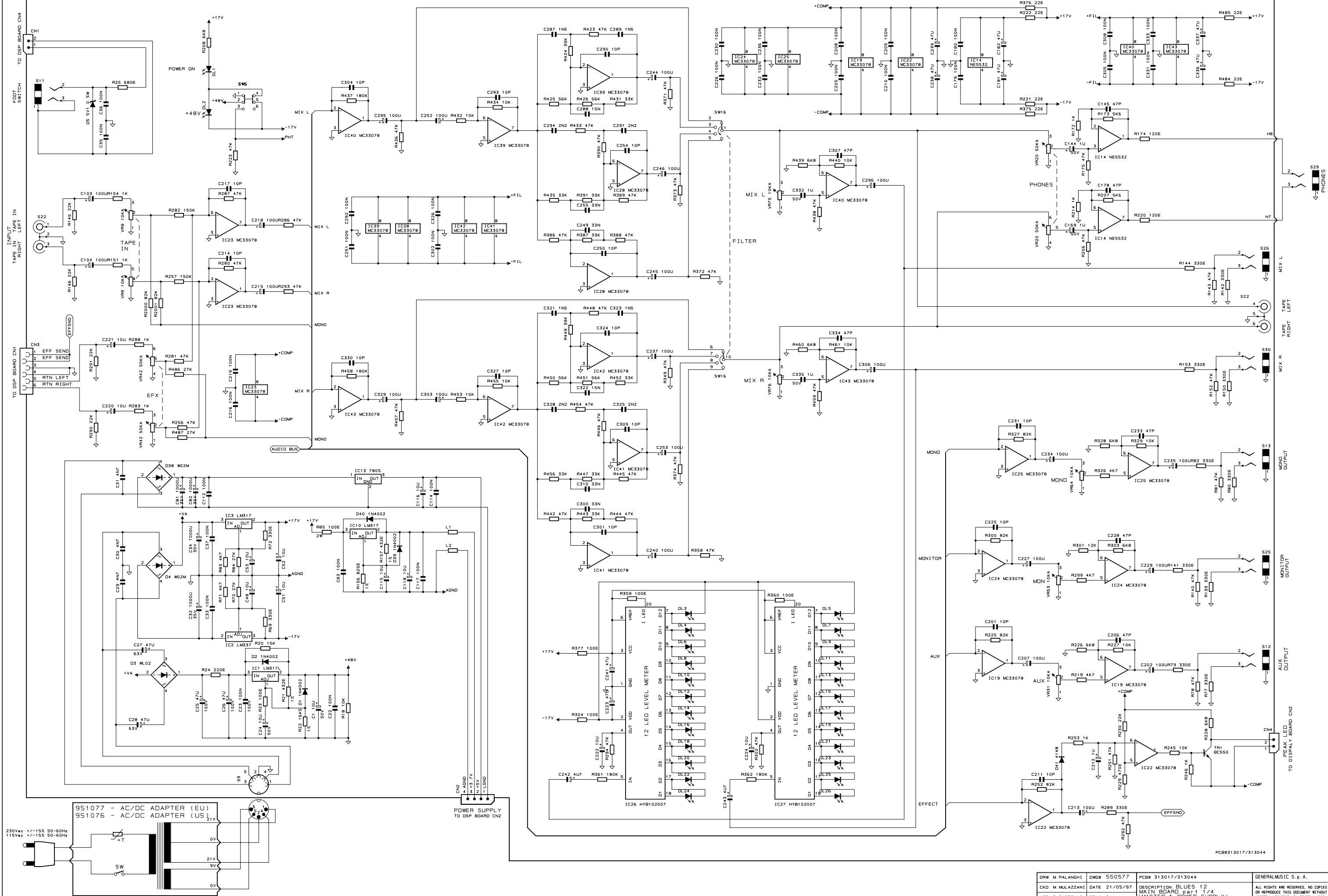
MODIFIES N. 1	DATE: 15-02-98	DESC. 02-25-26-29-30-33-34-37 CHANGE AS 1N4002 TO PROTECT BETTER MC33078 ICs	
DRW M. PALANGHI	DWG# 550568	PCB# 313016/313043	GENERALMUSIC S.p.A.
CKD M. MULAZZANI	DATE 21-05-97	DESCRIPTION BLUES 8 MAIN BOARD part 2/3 (1-4 MONO CHANNELS)	ALL RIGHTS ARE RESERVED, NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC
APP F. GAZZILLI	REV# B		

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



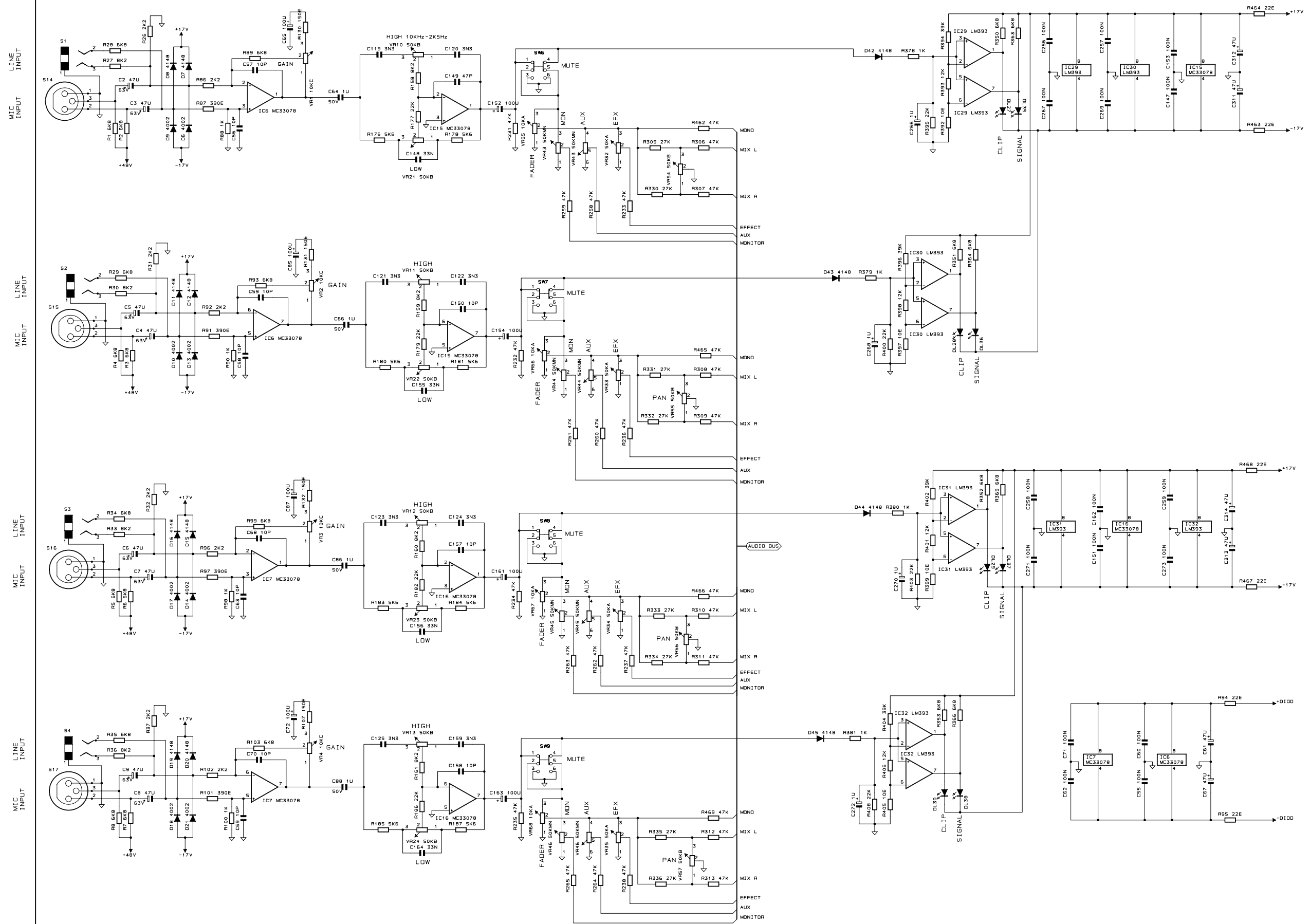
DRW M. MULAZZANI	DWG# 550569	PCB# 313016/313043	GENERALMUSIC S.p.A.
CKD M. MULAZZANI	DATE 10-9-97	DESCRIPTION BLUES 8	ALL RIGHTS ARE RESERVED. NO COPIES
APP F. GAZZILLI	REV# 8	MAIN BOARD part 3/3	OR REPRODUCE THIS DOCUMENT WITHOUT
		(STEREO CHANNELS)	WRITTEN CONSENT BY GENERALMUSIC

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



DRW M. PALANGHI	DWG# 550577	PCB# 313017/313044	GENERALMUSIC S.p.A.
CKD M. MULAZZANI	DATE 21/05/97	DESCRIPTION BLUES 12	ALL RIGHTS ARE RESERVED, NO COPIES
APP F. GAZZILLI	REV# B	MAIN BOARD part 1/4	OR REPRODUCE THIS DOCUMENT WITHOUT
		(MASTER & POWER SUPPLY)	WRITTEN CONSENT BY GENERALMUSIC

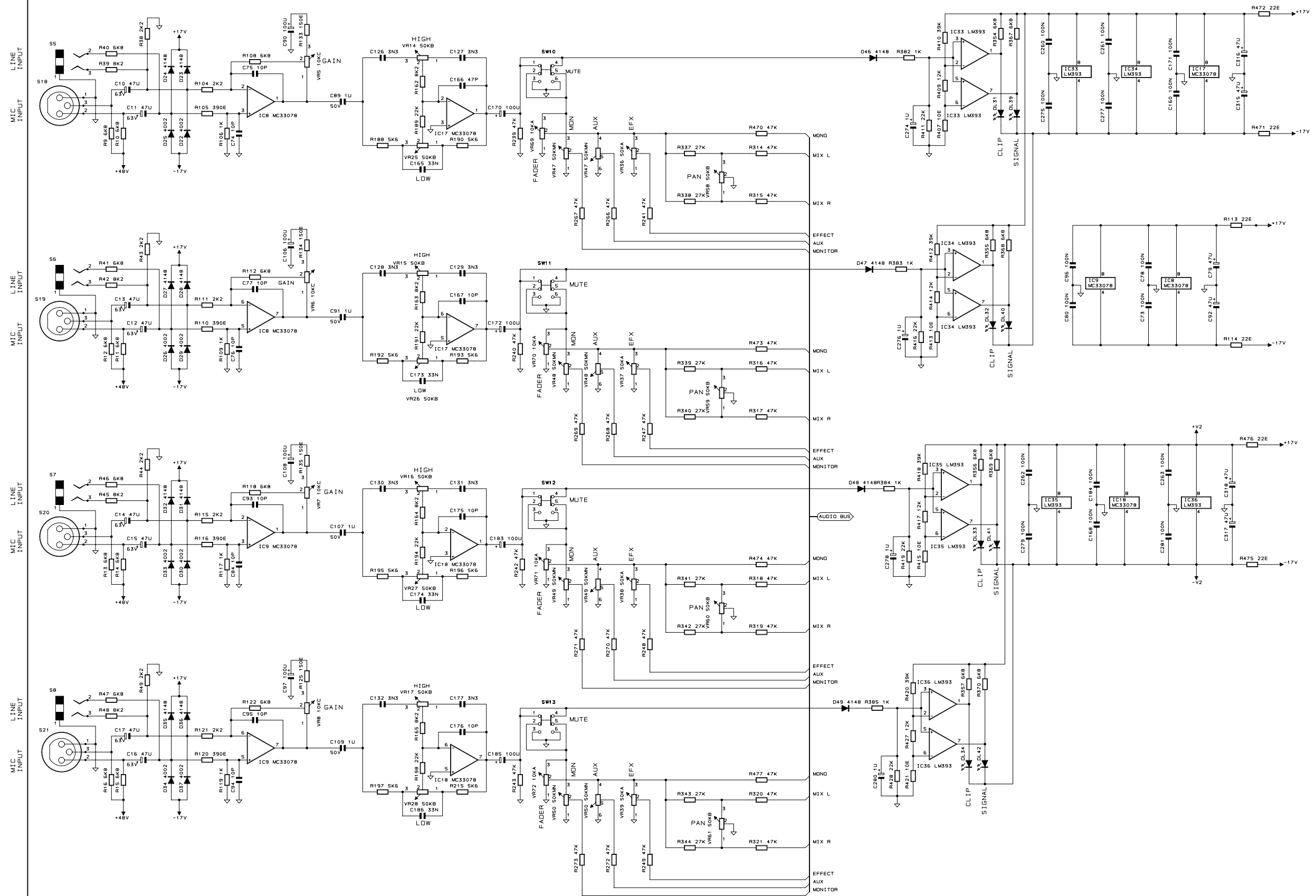
768130 - BLUES 12 MAIN BOARD (1-4 MONO CHANNELS)



PCB#313017/313044

MODIFIES N. 1	DATE: 15/02/98	DESC: D18-21-17-14-10-13-9-6 CHANGE TO 1M4002 TO PROTECT BETTER MC33078 ICs
DRW M. PALANGHI	DWG# 550578	PCB# 313017/313044
CKD M. MUAZZANI	DATE 21/05/97	DESCRIPTION BLUES 12 MAIN BOARD part 2/4 (1-4 MONO CHANNEL)
APP F. GAZZILLI	REV# B	ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC

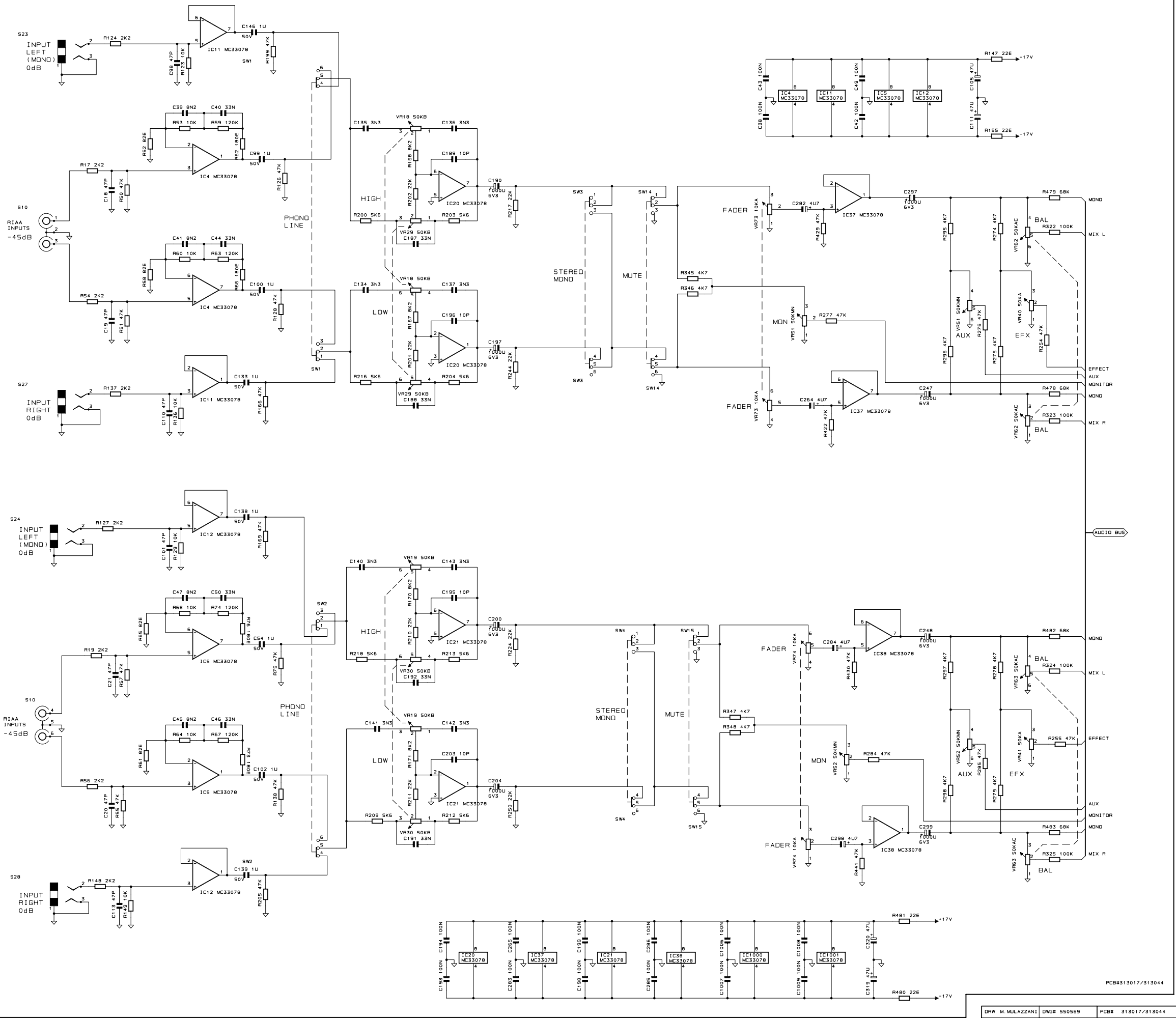
768130 - BLUES 12 MAIN BOARD (5-8 MONO CHANNELS)



PCB313017/313044

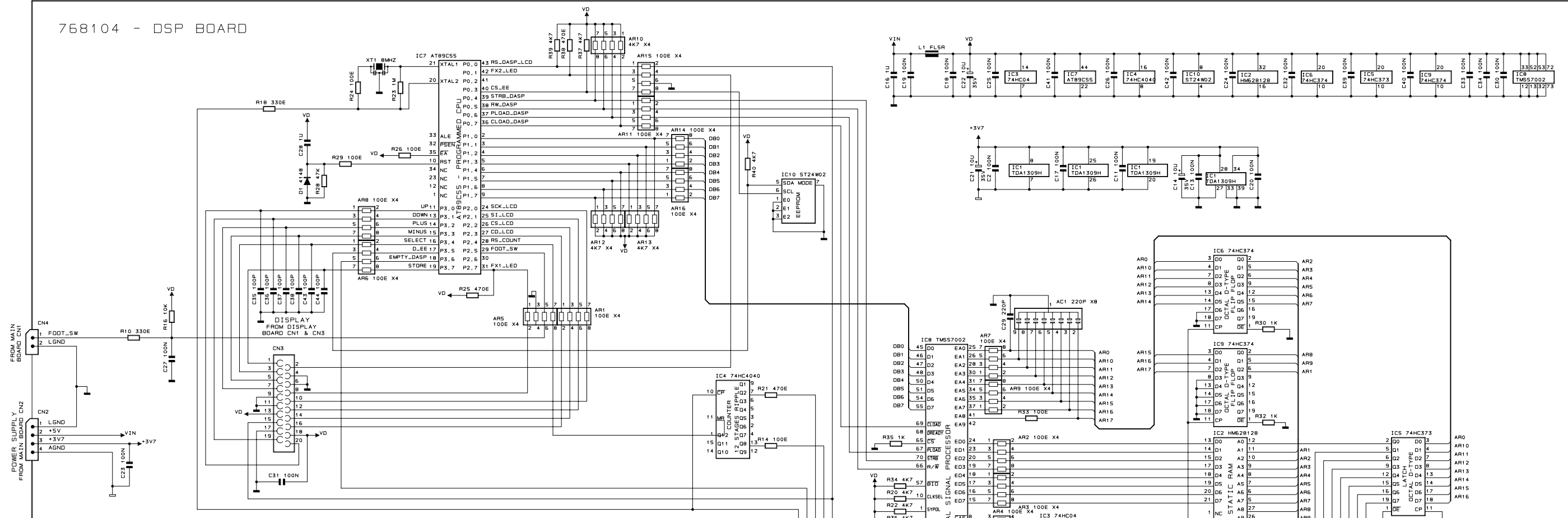
MODIFIES N. 1	DATE: 15/02/98	DESC. 025-22-26-29-33-30-34-37 CHANGE TO 1M4002 TO PROTECT BETTER MC33078 ICs	GENERALMUSIC S.p.A.
DRW M. PALANGHI	DWG# 550579	PCB# 313017/313044	
CKD M. MULAZZANI	DATE 21/05/97	DESCRIPTION BLUES 12CH MAIN BOARD part 3/4 (5-8 MONO CHANNELS)	ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC
APP F. GAZZILLI	REV# B		

768130 - BLUES 12 MAIN BOARD (STEREO CHANNELS)

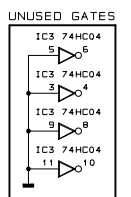
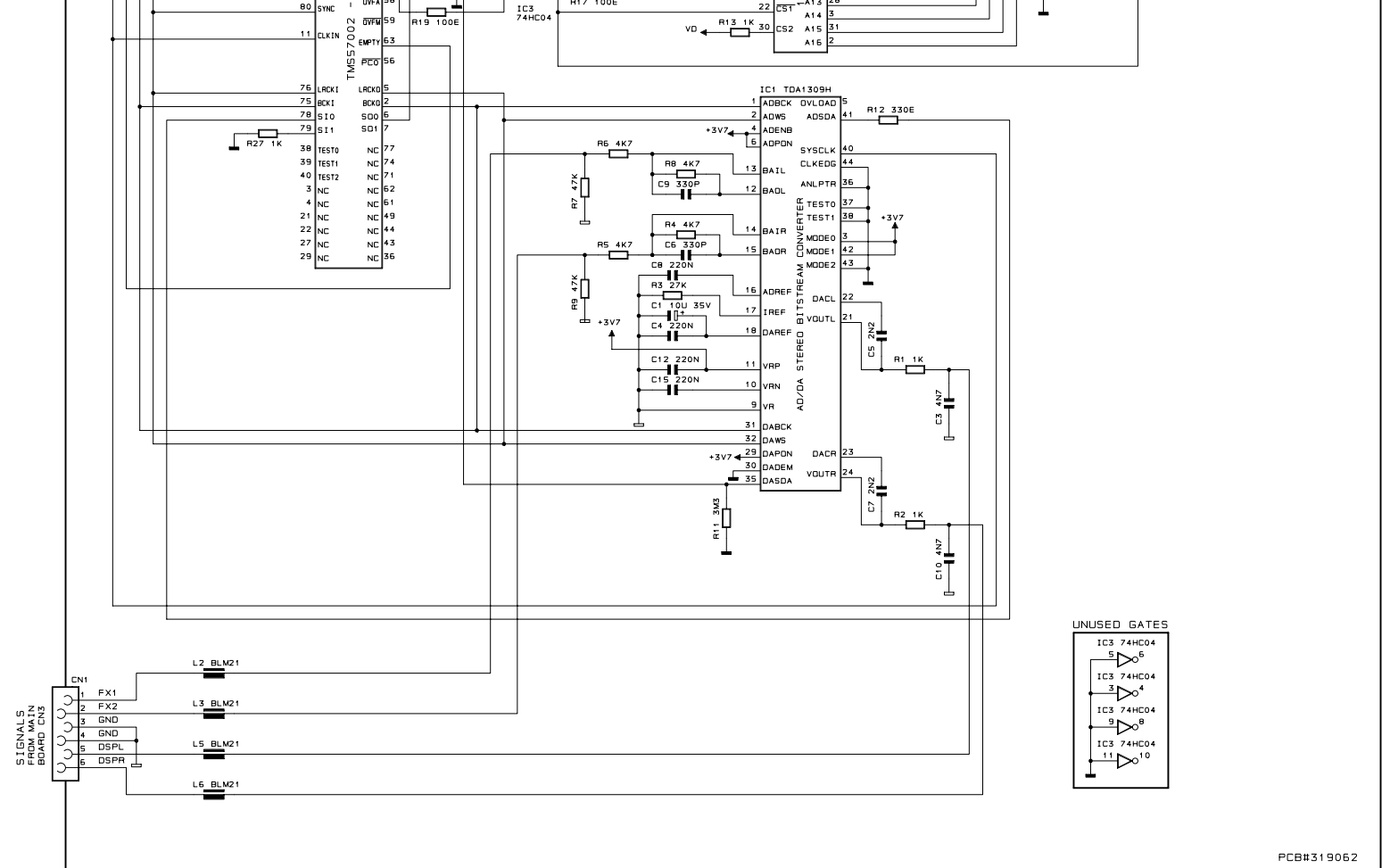
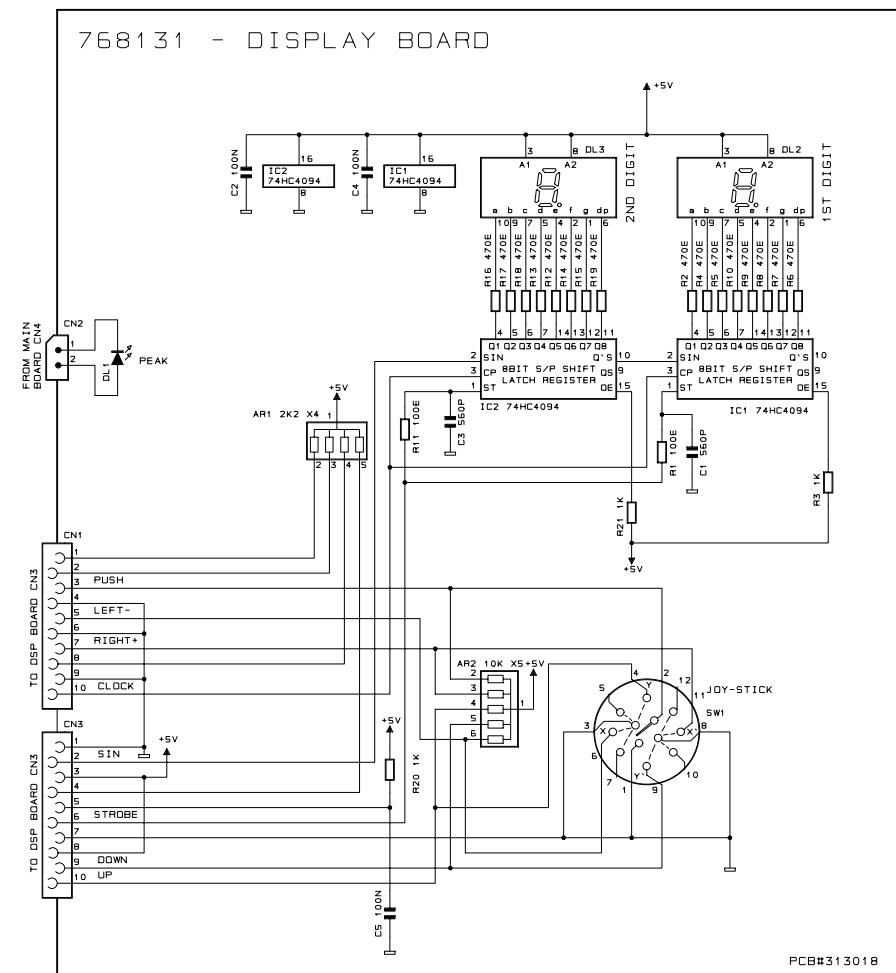


DRW M. MULAZZANI	DWG# 550569	PCB# 313017/313044	GENERALMUSIC S.p.A.
CKD M. MULAZZANI	DATE 10-9-97	DESCRIPTION BLUES 12	ALL RIGHTS ARE RESERVED. NO COPIES
APP F. GAZZILLI	REV# B	MAIN BOARD part 4/4	OR REPRODUCE THIS DOCUMENT WITHOUT
		(STEREO CHANNELS)	WRITTEN CONSENT BY GENERALMUSIC

768104 - DSP BOARD



768131 - DISPLAY 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 versions 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 Contaccs Hor Male Connector (Italy)		
PHC145004	* 4 Contaccs 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 Contaccs Hor Male Connector (Italy)
PHC145004	* 4 Contaccs 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)