WX400

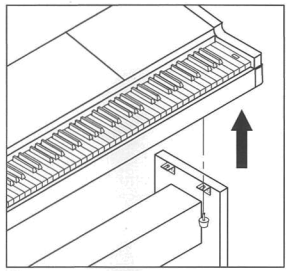
MULTIMEDIA WORKSTATION

SERVICE MANUAL

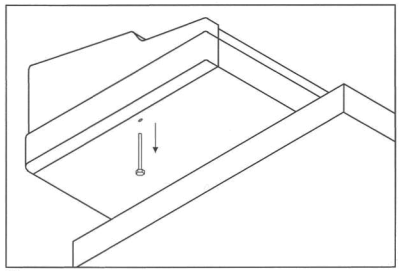
Schematic Diagrams

CODE: 270158

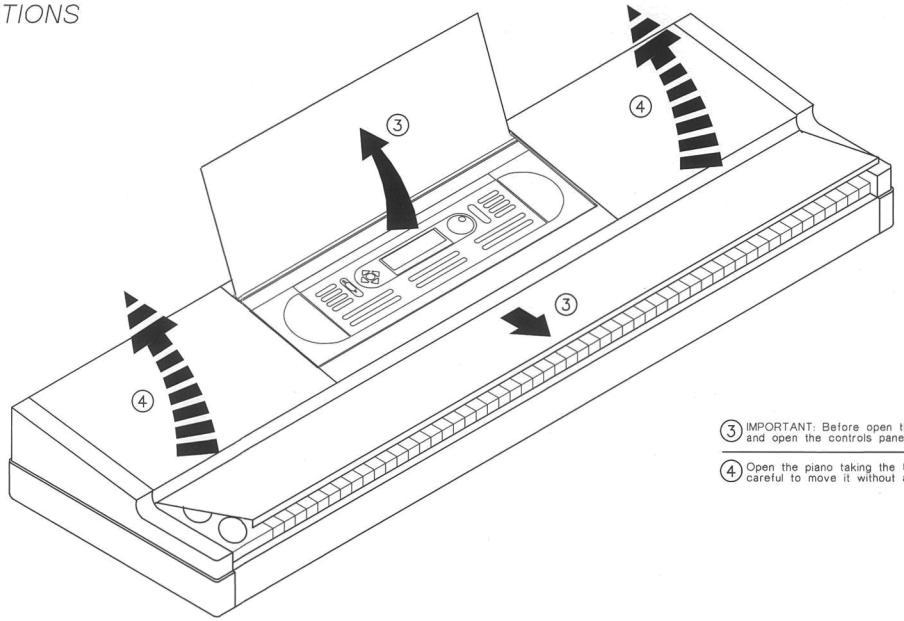
OPENING INSTRUCTIONS



(1) Remove the cabinet from legs unscrewing the 4 thumb screws underneath it.



(2) Place the cabinet on a table, remove the 2 screws bolt at the sides as show above.

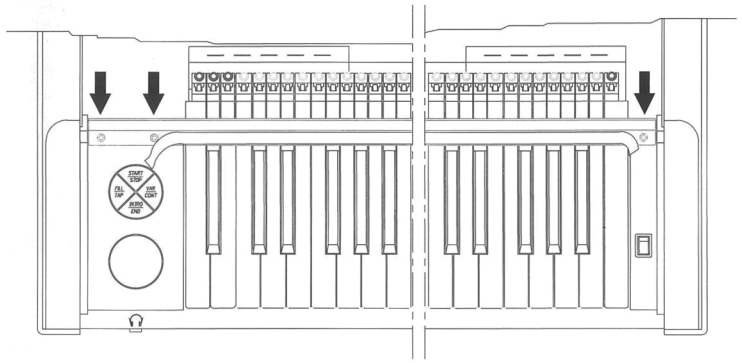


(3) IMPORTANT: Before open the piano you may close the keyboard cover and open the controls panel cover.

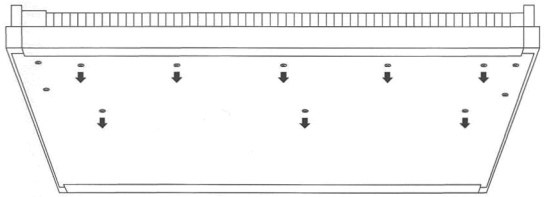
(4) Open the piano taking the top cabinet cover from left and right sides, be careful to move it without an excessive strenght, and release it slowly.

KEYBOARD DISASSEMBLING INSTRUCTIONS

(1) Take off the bar over the keyboard removing the screws showed below:



(2) Unfix the keyboard from chassis removing the screws showed below:

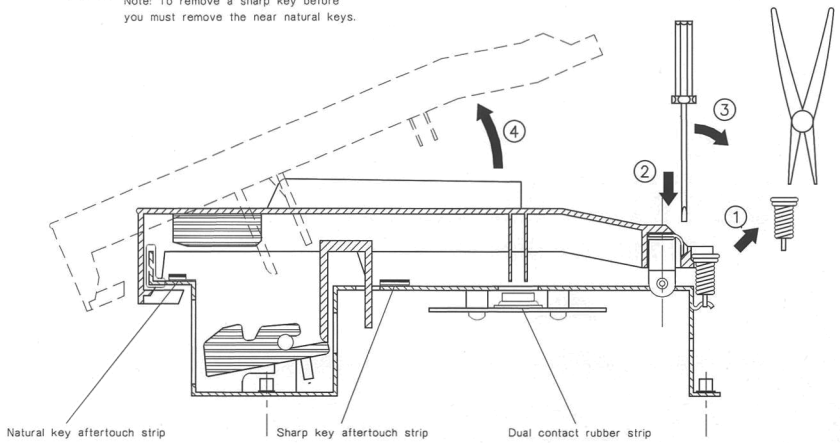


(3) Now you can move back or move out the keyboard.

KEY DISASSEMBLING INSTRUCTIONS

(1) Remove the key return spring

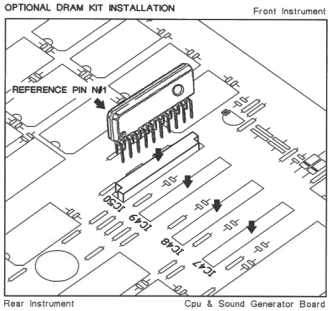
(2)(3)(4) Unlock the key appling not much strenght
Note: To remove a sharp key before you must remove the near natural keys.



DRW BOCCATO	DWG# 500610	SCHEMATIC DIAGRAM WX400	GENERALMUSIC S.p.A. ITALY
CKD	DISK: 23 PART: 1/1	OPENING INSTRUCTIONS KEYBOARD DISASSEMBLING INSTR. KEY DISASSEMBLING INSTRUCTIONS	
APP. GALANTI	REV: 27-02-1994		

Pos.	Description	Code	Pos.	Description	Code	Pos.	Description	Code
1	Rear Keyboard Cover	660333	19	FD Frame	340708	37	Cpu & Sound Gen. Board	760867
2	Plexiglass Keyboard Cover	340254	20	3,5' Floppy Disk Drive	110401	38	Left Contacts Board	810545
3	Front Keyboard Cover	660332	21	Right FD Support	171184	39	Power Am. & Supply Board	see spare parts list
4	Toothed Wheel	340247	22	Right Fixing Square	170898	40	Transformer Assembly	see spare parts list
5	Wheel Support	170905	23	Mains Socket	110614	41	Left Cheek Block	652081
6	Cover Bar	170906	24	A.C. Line Filter Board	see spare parts list	42	Phones Board	730152
7	Bar Centre Bush	340253	25	Rack	340246	43	Hemispherical Knob	340237
8	Controls Panel Cover	660331	26	Right Rack Support	170903	44	Drum, Pitch & Mod. Board	810265
9	Pin	170907	27	Right Side	340241	45	Drum Keys	720356
10	Front Panel	660320	28	Upper Keyboard Cross-Bar	660330	46	Left Side	340242
11	Front Panel Bar	171182	29	Power Switch	110285	47	Left Rack Support	170904
12	Controls Panel Board	810262	30	Right Cheek Block	652080	48	Rear Cross-Bar	660321
13	Lcd Graphic Display	730372	31	Lower Keyboard Cross-Bar	660322	49	Left Fixing Square	170899
14	DC-AC Converter Board	730246	32	Nat. Key Aftertouch Strip	not available as spare part			
15	Dial Encoder	110254	33	Sharp Key Aftertouch Strip	not available as spare part			
16	Controls Panel	652037	34	Mech. Keyboard Assembly	500058			
17	Tweeter	220092	35	Video Board	see spare parts list			
18	Left FD Support	171200	36	Right Contacts Board (88n)	810544			

OPTIONAL DRAM KIT INSTALLATION



RIGHT LEVEL ADJ

LEFT LEVEL ADJ

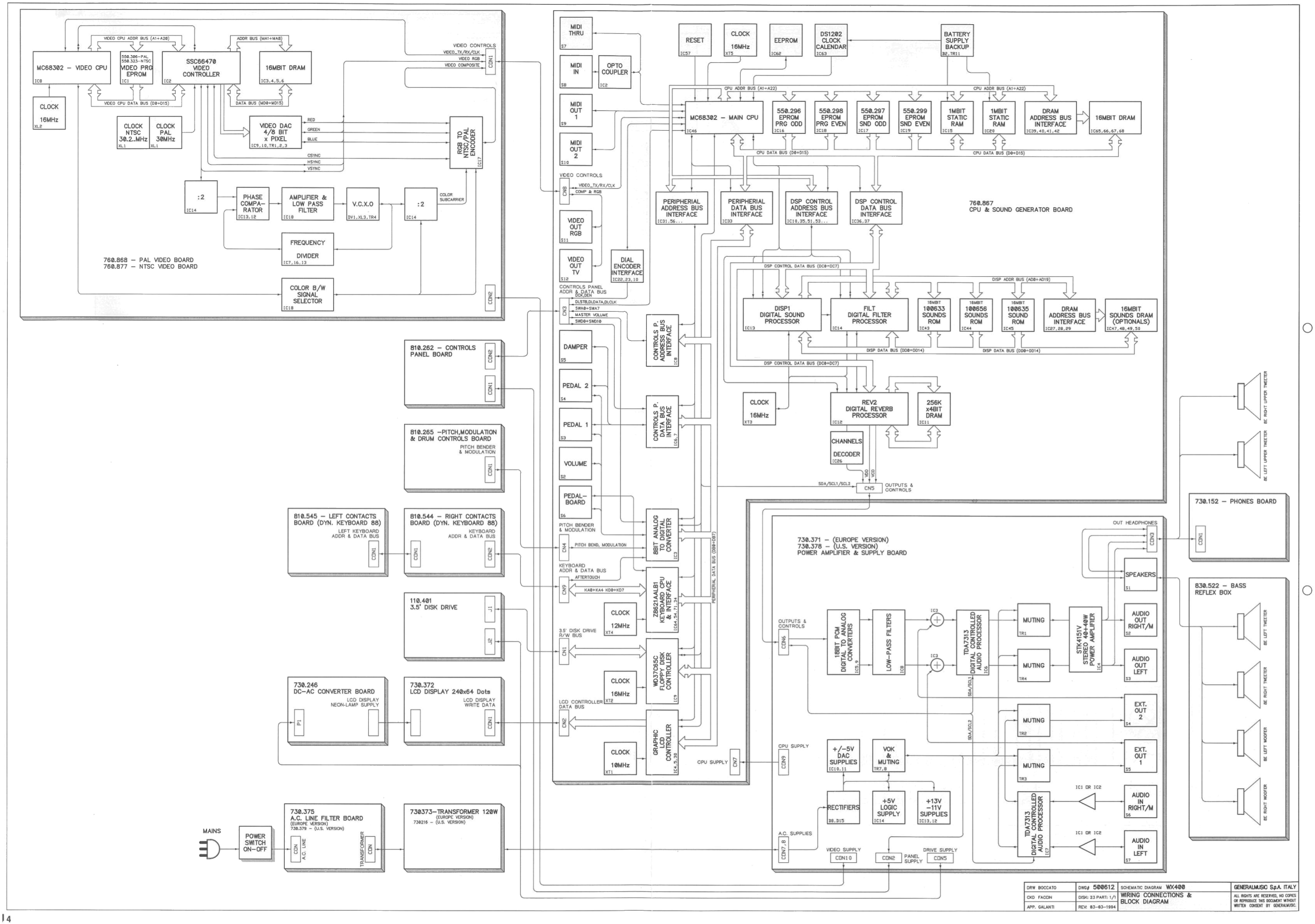
COMP DUTY CYCLE ADJ

AFTER TOUCH ADJUSTMENT

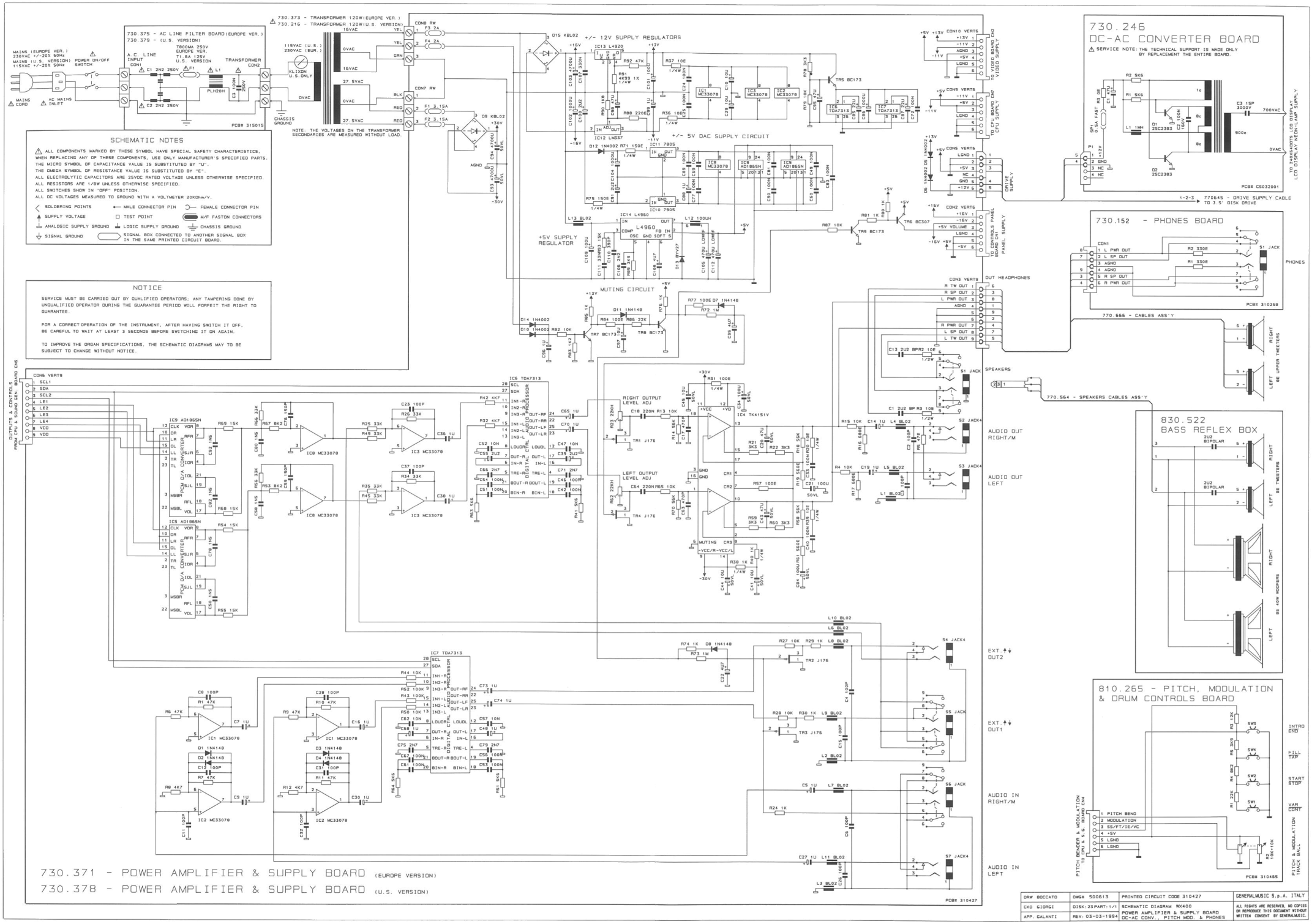
OPTIONAL DRAM KIT LOCATION
see figure on upper right corner

CONTRAST ADJUSTMENT

DRW BOCCATO	DWG# 500611	SCHEMATIC DIAGRAM WX400	GENERALMUSIC S.p.A. ITALY
CKD	DISK: 23 PART: 1/1	ASSEMBLY & OPTIONAL DRAM KIT INSTALLATION	
APP. GALANTI	REV: 03-03-1994		



DRW BOCCATO	DWG# 500612	SCHEMATIC DIAGRAM WX400	GENERALMUSIC S.p.A. ITALY
CKD FACCIN	DISK: 23 PART: 1/1	WIRING CONNECTIONS & BLOCK DIAGRAM	ALL RIGHTS ARE RESERVED, NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC.
APP. GALANTI	REV. 03-03-1994		


730.371 - POWER AMPLIFIER & SUPPLY BOARD (EUROPE VERSION)
730.378 - POWER AMPLIFIER & SUPPLY BOARD (U.S. VERSION)
730.246
DC-AC CONVERTER BOARD
SERVICE NOTE: THE TECHNICAL SUPPORT IS MADE ONLY BY REPLACEMENT THE ENTIRE BOARD.
730.152 - PHONES BOARD
830.522
BASS REFLEX BOX
810.265 - PITCH, MODULATION & DRUM CONTROLS BOARD
730.375 - AC LINE FILTER BOARD (EUROPE VER.)
730.379 - (U.S. VERSION)
730.373 - TRANSFORMER 120W (EUROPE VER.)
730.216 - TRANSFORMER 120W (U.S. VERSION)
+/- 12V SUPPLY REGULATORS
+/- 5V DAC SUPPLY CIRCUIT
+5V SUPPLY REGULATOR
MUTING CIRCUIT
SCHEMATIC NOTES
ALL COMPONENTS MARKED BY THESE SYMBOL HAVE SPECIAL SAFETY CHARACTERISTICS, WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY MANUFACTURER'S SPECIFIED PARTS.
THE MICRO SYMBOL OF CAPACITANCE VALUE IS SUBSTITUTED BY "U".
THE OMEGA SYMBOL OF RESISTANCE VALUE IS SUBSTITUTED BY "E".
ALL ELECTROLYTIC CAPACITORS ARE 25VDC RATED VOLTAGE UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS ARE 1/8W UNLESS OTHERWISE SPECIFIED.
ALL SWITCHES SHOW IN "OFF" POSITION.
ALL DC VOLTAGES MEASURED TO GROUND WITH A VOLTMETER 20KOhm/V.
SOLDERING POINTS
MALE CONNECTOR PIN
FEMALE CONNECTOR PIN
SUPPLY VOLTAGE
TEST POINT
W/F FASTON CONNECTORS
ANALOGIC SUPPLY GROUND
LOGIC SUPPLY GROUND
CHASSIS GROUND
SIGNAL GROUND
SIGNAL BOX CONNECTED TO ANOTHER SIGNAL BOX IN THE SAME PRINTED CIRCUIT BOARD.
NOTICE
SERVICE MUST BE CARRIED OUT BY QUALIFIED OPERATORS; ANY TAMPERING DONE BY UNQUALIFIED OPERATOR DURING THE GUARANTEE PERIOD WILL FORFEIT THE RIGHT TO GUARANTEE.
FOR A CORRECT OPERATION OF THE INSTRUMENT, AFTER HAVING SWITCH IT OFF, BE CAREFUL TO WAIT AT LEAST 3 SECONDS BEFORE SWITCHING IT ON AGAIN.
TO IMPROVE THE ORGAN SPECIFICATIONS, THE SCHEMATIC DIAGRAMS MAY TO BE SUBJECT TO CHANGE WITHOUT NOTICE.
PCB# 315015
PCB# CS032001
PCB# 310250
PCB# 310465
PCB# 310427
DRW BOCCATO
DWG# 500613
PRINTED CIRCUIT CODE 310427
GENERALMUSIC S.p.A. ITALY
CKD GIORGI
DISK: 23 PART: 1/1
SCHEMATIC DIAGRAM WK400
POWER AMPLIFIER & SUPPLY BOARD
DC-AC CONV., PITCH MOD. & PHONES
APP. GALANTI
REV: 03-03-1994
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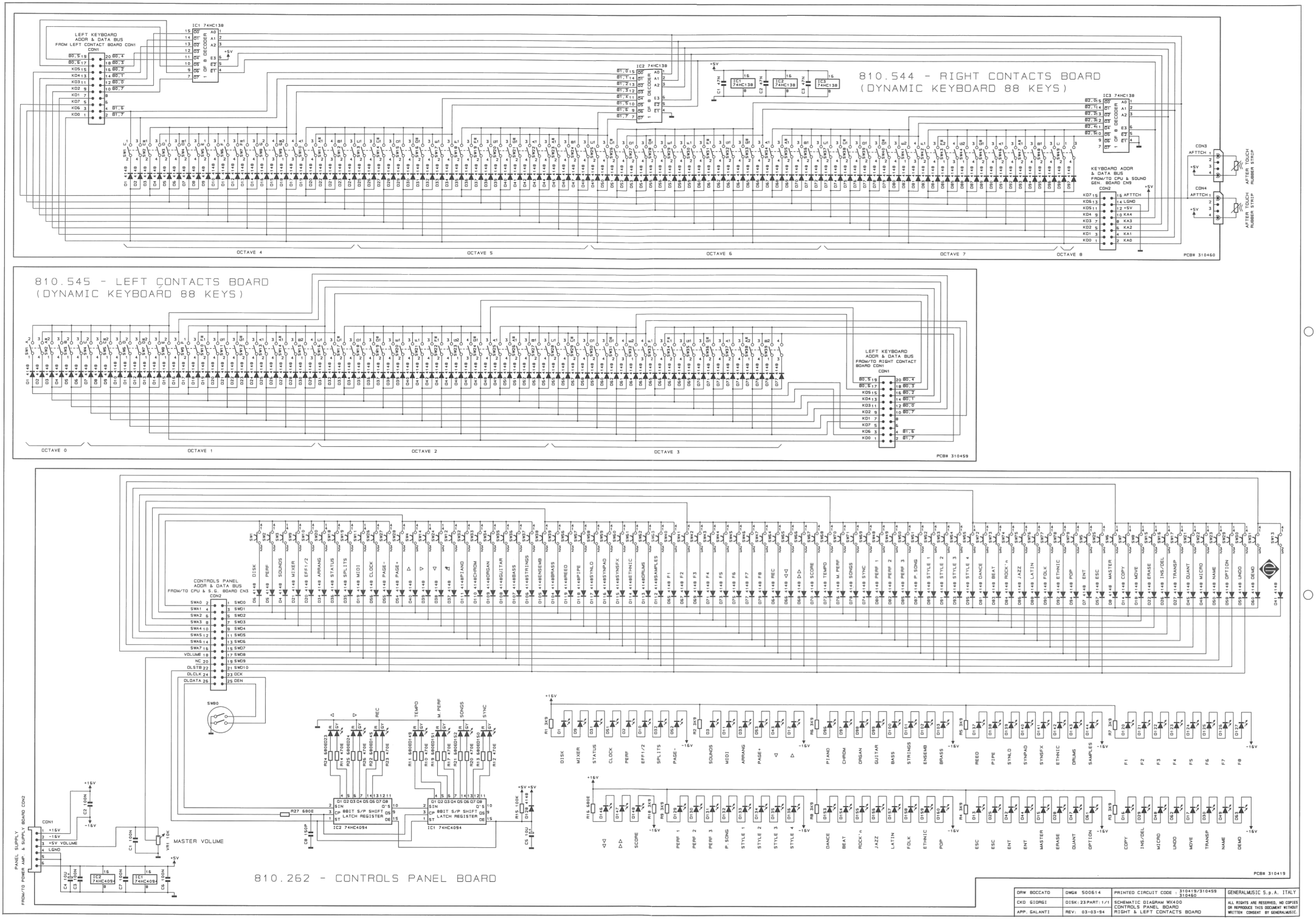
810.544 - RIGHT CONTACTS BOARD
(DYNAMIC KEYBOARD 88 KEYS)
LEFT KEYBOARD ADDR & DATA BUS FROM LEFT CONTACT BOARD CON1
KEYBOARD ADDR & DATA BUS FROM/TO CPU & SOUND GEN. BOARD CN3
AFTER TOUCH RUBBER STRIP
OCTAVE 4
OCTAVE 5
OCTAVE 6
OCTAVE 7
OCTAVE 8
PCB# 310460
810.545 - LEFT CONTACTS BOARD
(DYNAMIC KEYBOARD 88 KEYS)
LEFT KEYBOARD ADDR & DATA BUS FROM/TO RIGHT CONTACT BOARD CON1
OCTAVE 0
OCTAVE 1
OCTAVE 2
OCTAVE 3
PCB# 310459
CONTROLS PANEL ADDR & DATA BUS FROM/TO CPU & S.G. BOARD CN3 CON2
MASTER VOLUME
PANEL SUPPLY FROM/TO POWER AMP & SUPPLY BOARD CON2
810.262 - CONTROLS PANEL BOARD
PCB# 310419
DRW BOCCATO
DWG# 500614
PRINTED CIRCUIT CODE : 310419/310459 310460
CKD GIORGI
DISK: 23 PART: 1/1
SCHEMATIC DIAGRAM WX400
CONTROLS PANEL BOARD
RIGHT & LEFT CONTACTS BOARD
APP. GALANTI
REV: 03-03-94
GENERALMUSIC S.p.A. ITALY
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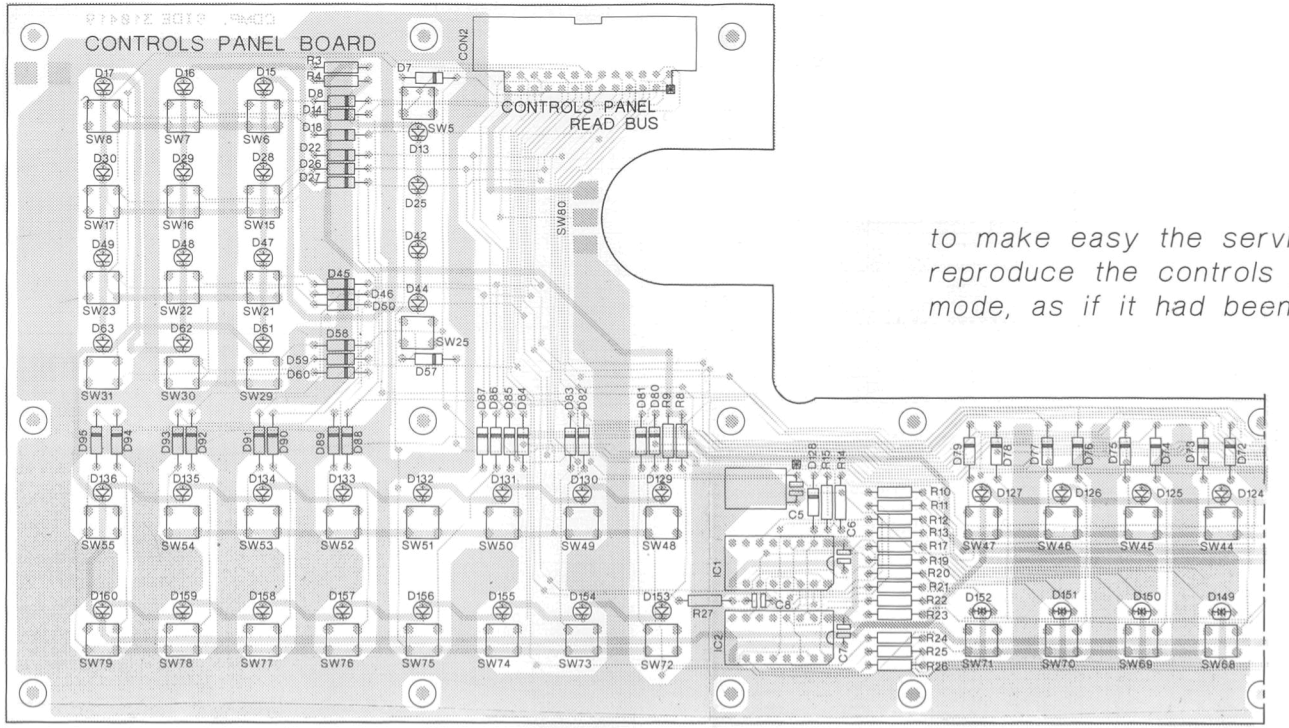
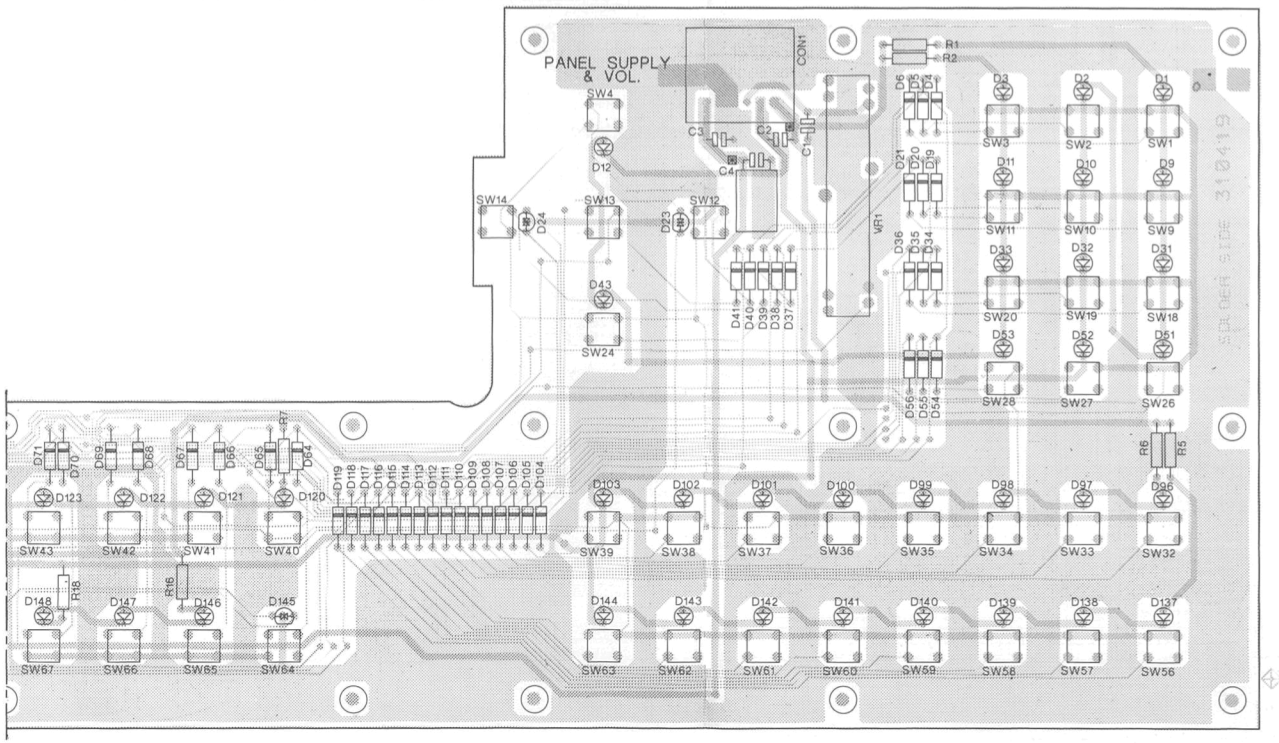
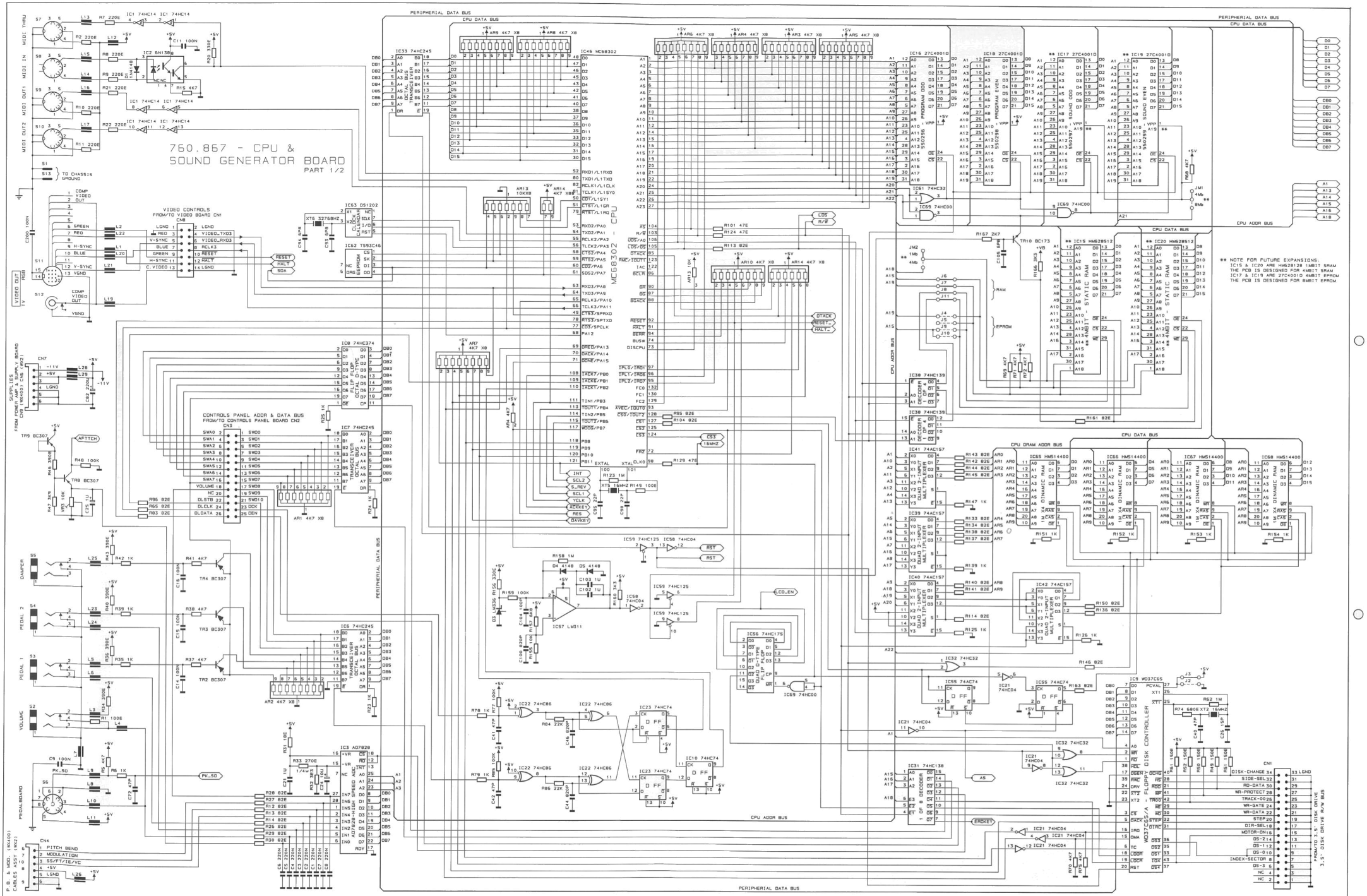


to make easy the service operations this drawing reproduce the controls panel layout in reverse mode, as if it had been printed on solder side.



DRW BOCCATO	DWG# 500605	SCHEMATIC DIAGRAM WX2	GENERALMUSIC S.p.A. ITALY
CKD	DISK: 21 PART: 1/1	CONTROLS PANEL REVERSE LAYOUT	ALL RIGHTS ARE RESERVED, NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC.
APP. GALANTI	REV: 15-11-1993		



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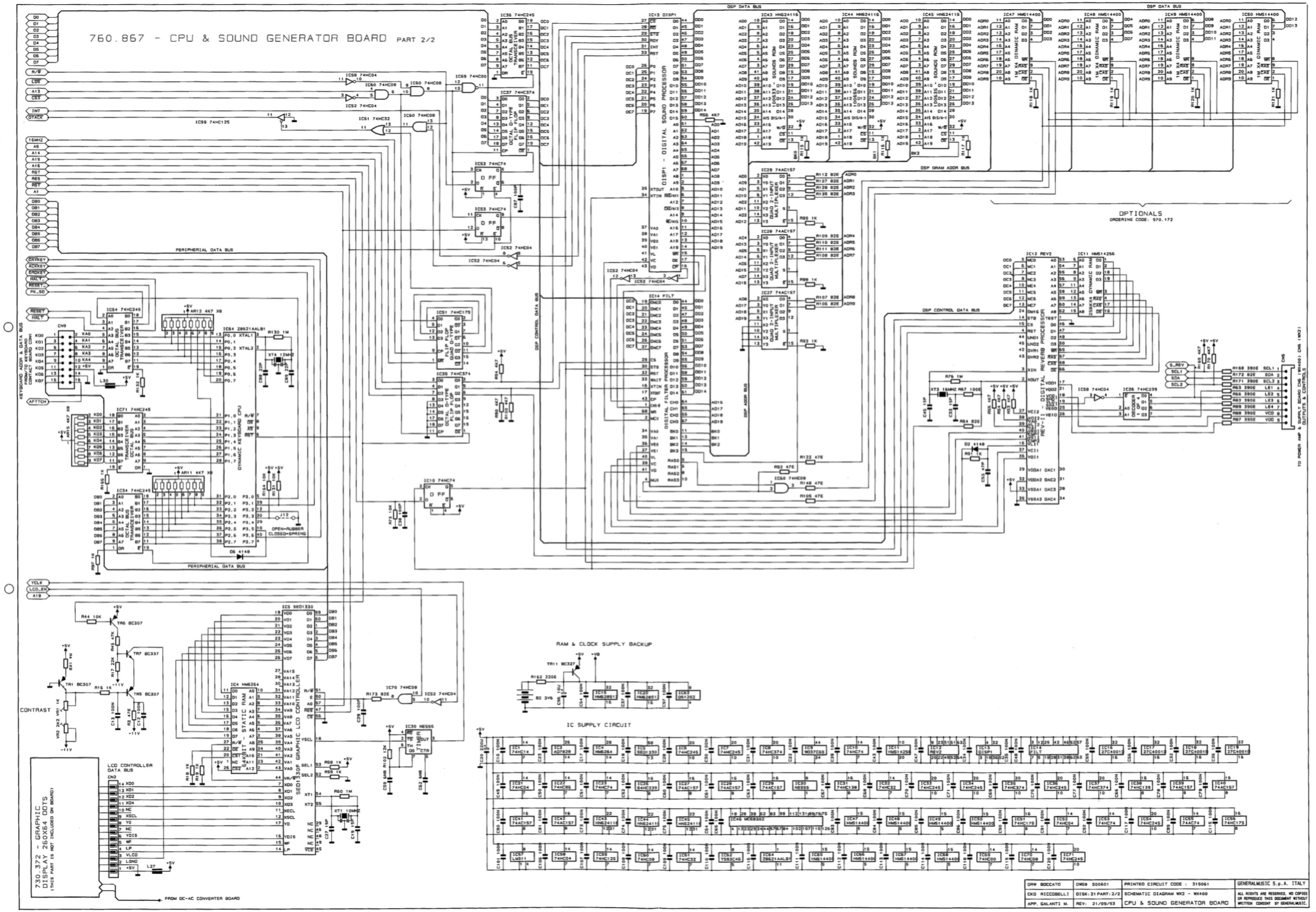
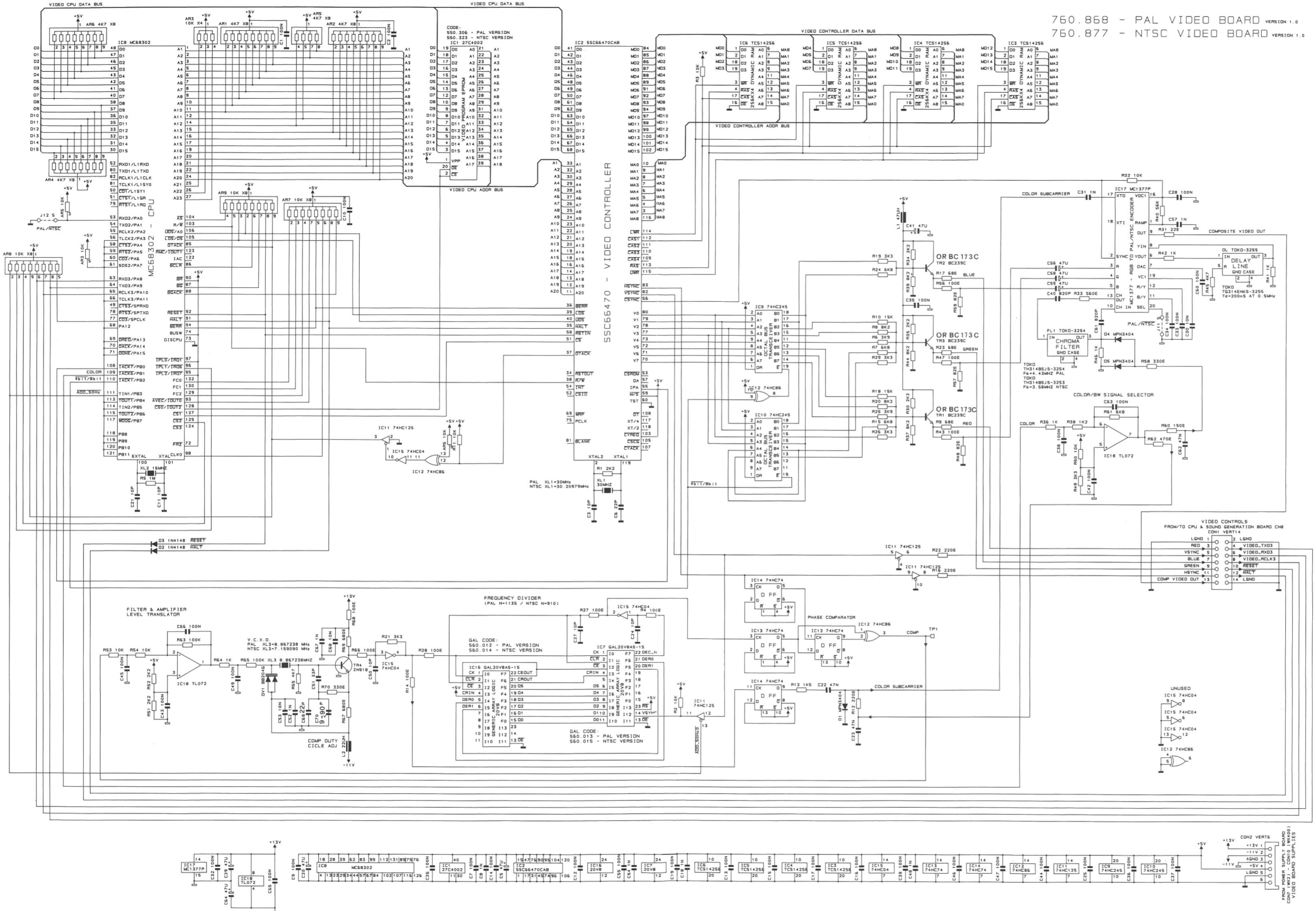
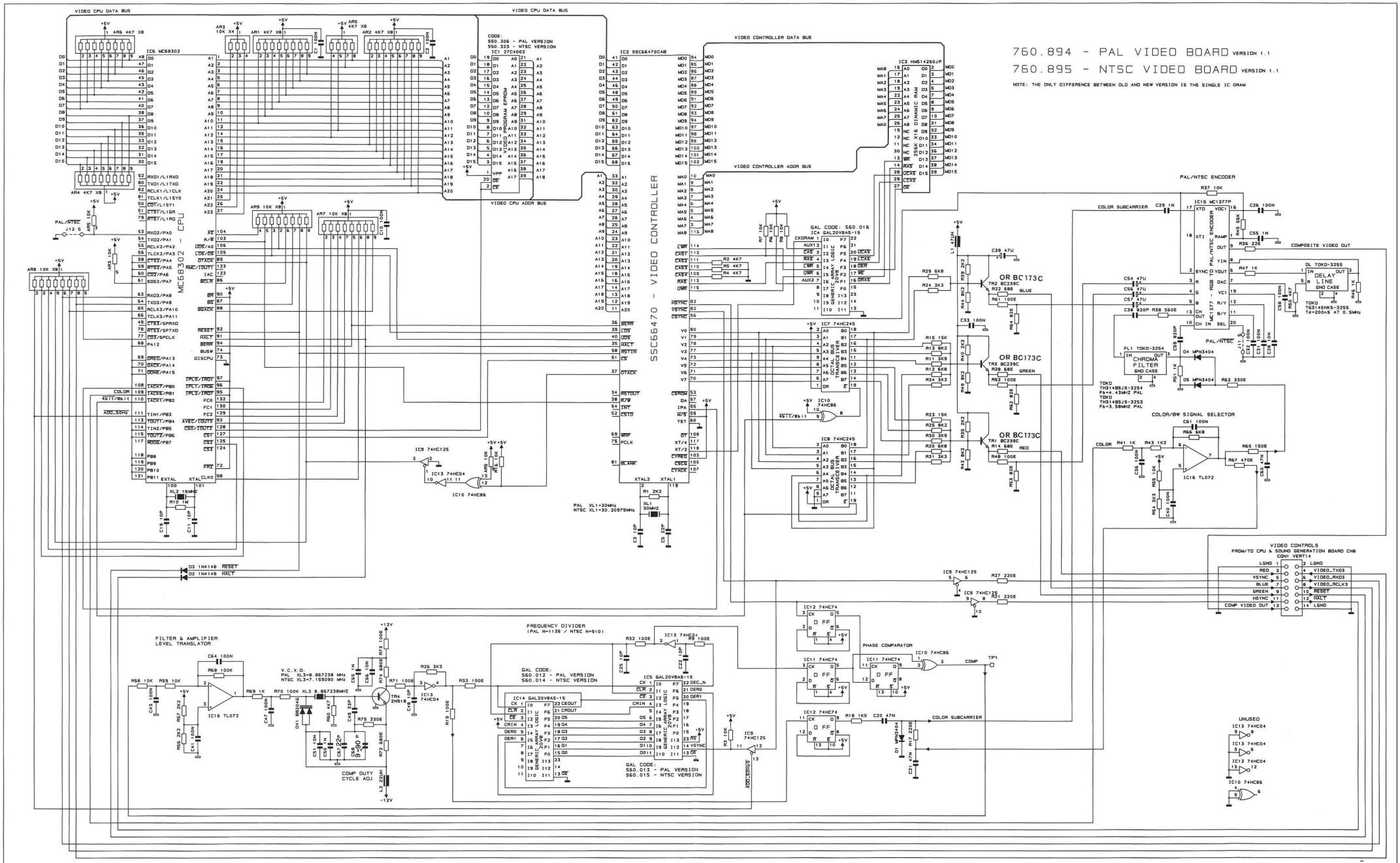
DRW BOCCATO	DWG# 500600	PRINTED CIRCUIT CODE : 315061	GENERALMUSIC S.p.A. ITALY
CKD RICCOBELLI	DISK:21 PART:1/2	SCHEMATIC DIAGRAM WX2 - WX400	ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC
APP. GALANTI	REV: 21/09/93	CPU & SOUND GENERATOR BOARD	


760.867 - CPU & SOUND GENERATOR BOARD PART 2/2
DSP DATA BUS
DSP DRAM ADDR BUS
DSP CONTROL DATA BUS
DSP ADDR BUS
PERIPHERIAL DATA BUS
KEYBOARD ADDR & DATA BUS
CONTACT BOARD CON1
DYNAMIC KEYBOARD CPU
OPTIONALS
ORDERING CODE: 970.172
DIGITAL SOUND PROCESSOR
DISP1 - DIGITAL SOUND PROCESSOR
DIGITAL FILTER PROCESSOR
FILT - DIGITAL FILTER PROCESSOR
SOUNDS ROM
DYNAMIC RAM
DIGITAL REVERB PROCESSOR
REV2 - DIGITAL REVERB PROCESSOR
TO POWER AMP & SUPPLY BOARD CN5 (RX400) CN1 (WX2)
OPEN=RUBBER
CLOSED=SPRING
CONTRAST
730.372 - GRAPHIC DISPLAY 256X64 DOTS
(THIS PART IS NOT INCLUDED ON BOARD)
LCD CONTROLLER DATA BUS
FROM DC-AC CONVERTER BOARD
RAM & CLOCK SUPPLY BACKUP
IC SUPPLY CIRCUIT
DRW BOCCATO
DWG# 500601
PRINTED CIRCUIT CODE : 315061
GENERALMUSIC S.p.A. ITALY
CKD RICCOBELLI
DISK: 21 PART: 2/2
SCHEMATIC DIAGRAM WX2 - WX400
APP. GALANTI M.
REV: 21/09/93
CPU & SOUND GENERATOR BOARD
ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC.

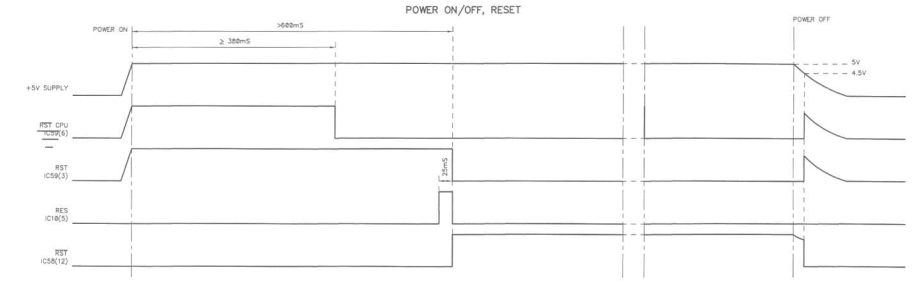
760.868 - PAL VIDEO BOARD VERSION 1.0
760.877 - NTSC VIDEO BOARD VERSION 1.0

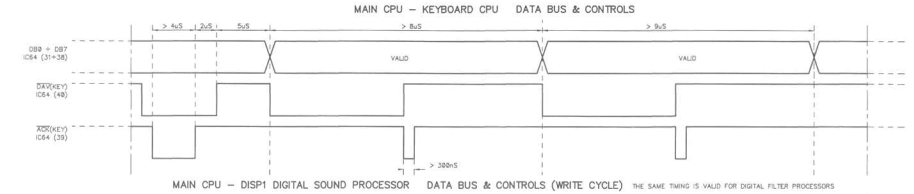


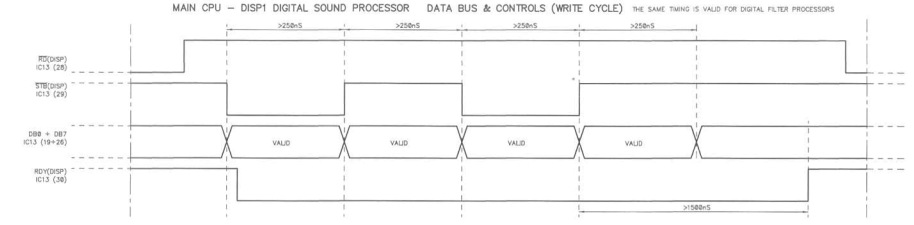
DRW PIER FACCIN	DWG# 500603	PRINTED CIRCUIT CODE : 310447	GENERALMUSIC S.p.A. ITALY
CKD BOCCATO	DISK: 21 PART: 1/1	SCHEMATIC DIAGRAM WX2 - WX400	ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC
APP GALANTI M	REV: 13-07-93	VIDEO BOARD VERSION 1.0	

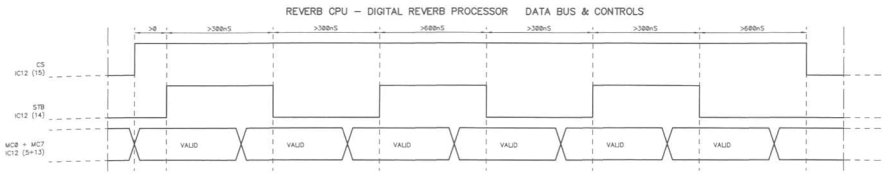


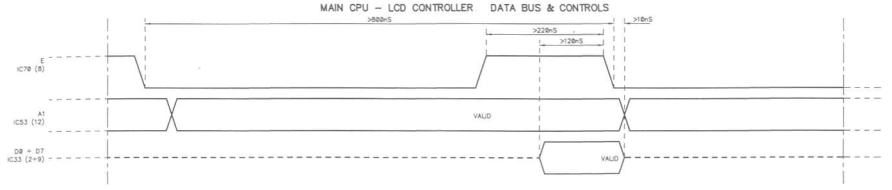
DRW PIER FACCIN	DWG# 500406	PRINTED CIRCUIT CODE : 310486	GENERALMUSIC S.p.A. ITALY
CKD BOCCATO	DISK: 21 PART: 1/1	SCHEMATIC DIAGRAM WX2 - WX400	ALL RIGHTS ARE RESERVED, NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC.
APP. GALANTI W.	REV: 22-11-93	VIDEO BOARD (VERSION 1.1)	

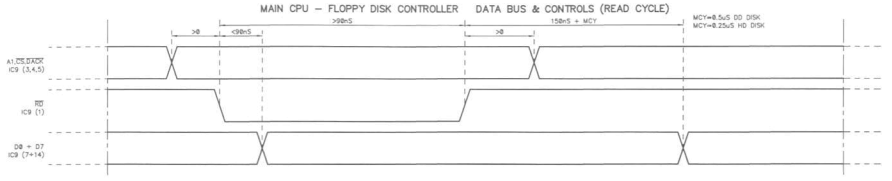


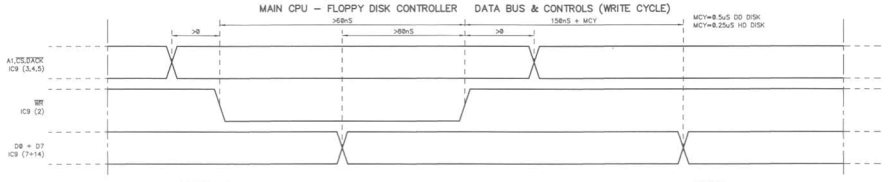


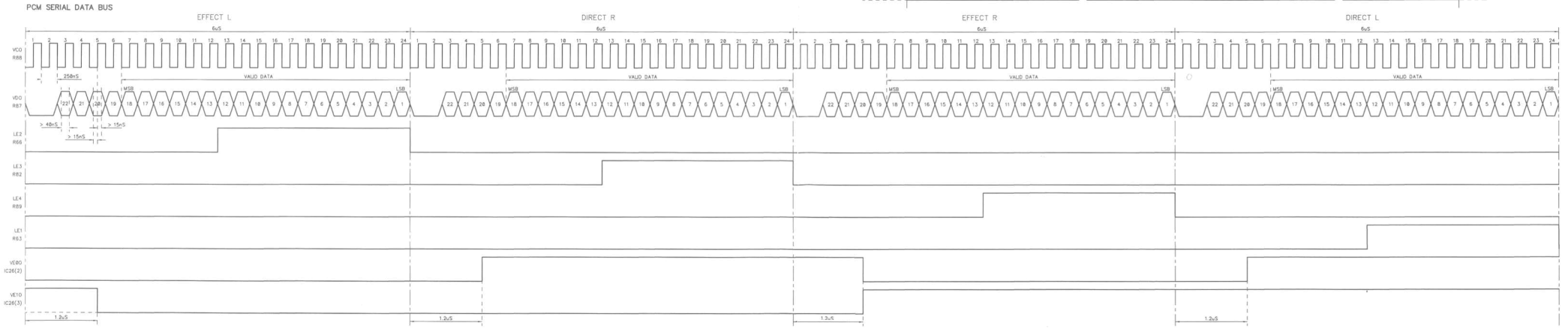












NOTE: ALL COMPONETS PIN REFERENCE ARE LOCATED ON "CPU & SOUND GENERATOR BOARD" UNLESS OTHERWISE SPECIFIED.

ADJUSTMENT TABLE

N.	ADJUSTMENT TYPE	TEST POINT	KEY PRESSED	OPERATION POINT	READING VALUES	NOTE : Execute the follow instructions to set the keyboard before operate the level adjustments: Turn on the keyboard (without any disk inserted), press [DISK] press [PAGE+] 3 times, press [ENT] 2 times to format the static ram (ATTENTION this operation will destroy all data on it), turn off and turn on again the keyboard, press [REED] select OBOE from display pressing [F5], put the MASTER VOLUME at max position, now the keyboard is set to operate the level adjustment.
1	LCD CONTRAST ADJ	SEE NOTE	NONE	VR2 CPU & S.G. BOARD	SEE NOTE	PUT THE CONTRAST CONTROL VR1 AT CENTRE POSITION, TURN THE VR2 TRIMMER TO OBTAIN THE BEST CONTRAST SHOWED ON DISPLAY.
2	COMP DUTY CICLE ADJ	TP1 VIDEO BOARD	NONE	C78 VIDEO BOARD	SEE NOTE	SET THE OSCILLOSCOPE ON D.C. AT 1V/div. 50µS/div. TURN THE TRIMMER TO HAVE DUTY CICLE MORE CLOSE AS POSSIBLE TO 50%, VERIFY THE ADJUSTMENT WITH A MONITOR ATTACHED TO VIDEO OUT TV SOCKET.
3 WX2	RIGHT LEVEL ADJ	R8 SIDE IC4 POWER AMP. BOARD	C3	R17 PWR AMP BOARD	5 Vpp	SET THE KEYBOARD AS INDICATED ABOVE, SET THE OSCILLOSCOPE ON D.C. AT 1V/div. 5mS/div., ACTIVE THE NOTE KEY WITH THE HIGHEST PRESSURE, TURN THE TRIMMER TO HAVE EXACTLY OUTPUT VOLTAGE.
4 WX2	LEFT LEVEL ADJ	R9 SIDE IC7 POWER AMP. BOARD	C3	R47 PWR AMP BOARD	5 Vpp	SET THE KEYBOARD AS INDICATED ABOVE, SET THE OSCILLOSCOPE ON D.C. AT 1V/div. 5mS/div., ACTIVE THE NOTE KEY WITH THE HIGHEST PRESSURE, TURN THE TRIMMER TO HAVE EXACTLY OUTPUT VOLTAGE.
5 WX2	AFTER TOUCH ADJ	R30	ANY NOTE	VR3 CPU & S.G. BOARD	~2Vcc	APPLY A 700 grams WEIGHT ON THE KEY FRONT END, TO OBTAIN A VALID MEASURE PRESS THE KEY NOTE TWO OR THREE TIMES WITH MORE PRESSURE, TURN THE TRIMMER TO HAVE THE VALUE SPECIFIED.
3 WX400	RIGHT LEVEL ADJ	R15 SIDE IC4 POWER AMP. BOARD	C3	R23 PWR AMP BOARD	14 Vpp	SET THE KEYBOARD AS INDICATED ABOVE, SET THE OSCILLOSCOPE ON D.C. AT 1V/div. 5mS/div., ACTIVE THE NOTE KEY WITH THE HIGHEST PRESSURE, TURN THE TRIMMER TO HAVE EXACTLY OUTPUT VOLTAGE.
4 WX400	LEFT LEVEL ADJ	R4 SIDE IC4 POWER AMP. BOARD	C3	R62 PWR AMP BOARD	14 Vpp	SET THE KEYBOARD AS INDICATED ABOVE, SET THE OSCILLOSCOPE ON D.C. AT 1V/div. 5mS/div., ACTIVE THE NOTE KEY WITH THE HIGHEST PRESSURE, TURN THE TRIMMER TO HAVE EXACTLY OUTPUT VOLTAGE.
5 WX400	AFTER TOUCH ADJ	R30	ANY NOTE	VR3 CPU & S.G. BOARD	~2Vcc	APPLY A 1350 grams WEIGHT ON THE KEY FRONT END, TO OBTAIN A VALID MEASURE PRESS THE KEY NOTE TWO OR THREE TIMES WITH MORE PRESSURE, TURN THE TRIMMER TO HAVE THE VALUE SPECIFIED.

DRW BOCCATO	DWG# 500606	SCHEMATIC DIAGRAM WX2 – WX400	GENERALMUSIC S.p.A. ITALY
CKD FACCIN	DISK: 21 PART:	ADJUSTMENT TABLE TIMING TABLE	
APP. GALANTI	REV: 19-11-92		

ACCESSORIES

270969	OWNER'S MANUAL (ENGLISH VERSION)
270947	OWNER'S MANUAL (ITALIAN VERSION)
270950	OWNER'S MANUAL (FRENCH VERSION)
270951	OWNER'S MANUAL (GERMAN VERSION)
270952	OWNER'S MANUAL (SWEDISH VERSION)
270953	OWNER'S MANUAL (DUTCH VERSION)
270954	OWNER'S MANUAL (SPANISH VERSION)
955104	VIDEO-CASSETTE (ENGLISH VERSION)
955101	VIDEO-CASSETTE (ITALIAN VERSION)
955102	VIDEO-CASSETTE (FRENCH VERSION)
955103	VIDEO-CASSETTE (GERMAN VERSION)
955107	VIDEO-CASSETTE (SWEDISH VERSION)
955105	VIDEO-CASSETTE (DUTCH VERSION)
955106	VIDEO-CASSETTE (SPANISH VERSION)
950824	DEMO DISK WX SERIES
130274	MAINS CABLE (EUROPE VERSION)
130276	MAINS CABLE (U.S. VERSION)
130318	DIN/RGB TO RCA VIDEO CABLE
130317	DIN/RGB TO SCART VIDEO CABLE

OPTIONAL ACCESSORIES

130301	2Mt MIDI CABLE
970046	BENCH
970085	CONTROL PEDALBOARD
970172	1M SAMPLE DRAM EXPANSION KIT
970136	NTSC VIDEO KIT
970135	PAL VIDEO KIT

STAND ASSEMBLY

970171	STAND KIT
260308	* WOODEN PARTS INCLUDING:
	** 42307-A3W RIGHT LEG
	** 42308-A3W LEFT LEG
	** 42309-A3W PEDAL CROSS BAR
340102	* PLASTIC FOOT
170768	* METAL FOOT SUPPORT
170763	* LEG-CROSS BAR FITTING
170758	* LEG-CABINET FITTING
120086	* ASSEMBLING SCREW BOLT
120680	* ASSEMBLING JOINT-NUT
190180	* HEXAGONAL ROD SPANNER
150618	* THUMB SCREW
340116	* ADESIVE CLAMP FOR PEDALS CABLE
210017	* ADESIVE BLACK FELT
830522	* BASS REFLEX BOX ASSEMBLY
260306	** WOODEN BOX
210074	** BLACK ACOUSTIC CLOTH
220093	** 8E 40W WOOFER SPEAKER
220087	** 8E TWEETER SPEAKER
030952	** 2u2 BIPOLAR CROSSOVER CAPACITOR
770564	** SPEAKER CABLES ASSEMBLY (WITH MALE JACK)
720353	* PEDALS ASSEMBLY
190181	** PEDALS CLOG
340105	** PLASTIC SUPPORT
170767	** METAL SUPPORT
170874	** LEFT PEDAL
170873	** CENTRE PEDAL
170875	** RIGHT PEDAL
170777	** PEDAL RETURN SPRING
190015	** ADESIVE RUBBER
210017	** BLACK FELT
190178	** PERMANENT MAGNET
810168	** REED SWITCH BOARD (PCB#310272)
130271	** PEDAL CABLE

CABINET ASSEMBLY (see page 3)

660331	CONTROLS PANEL COVER
170907	PIN
120020	PIN SCREW
340254	PLEXIGLASS KEYBOARD COVER
660332	FRONT KEYBOARD COVER
660333	REAR KEYBOARD COVER
120243	COVER FIXING SCREW
170906	COVER BAR
170905	WHEEL SUPPORT
340247	TOOTHED WHEEL
340253	BAR CENTRE BUSH
660320	FRONT PANEL
171182	FRONT PANEL BAR
170899	LEFT FIXING SQUARE
170898	RIGHT FIXING SQUARE
652037	CONTROLS PANEL
220092	8E TWEETER
171183	TWEETER GRID
340708	FD FRAME
171200	LEFT FD SUPPORT
171184	RIGHT FD SUPPORT
110401	3,5' FLOPPY DISK DRIVE
730372	GRAPHIC DISPLAY 260x64 DOTS
130600	* 14Wires x 30 Cm MYLAR FLAT CABLE
652028	DISPLAY GLASS
652000	<DISK> <PERF> <SOUNDS> TRIPLE PUSH CAP
652001	<MIXER> <EFF1/2> <MIDI> TRIPLE PUSH CAP
652002	<STATUS> <SPLITS> <ARRANG> TRIPLE PUSH CAP
652003	<CLOCK> <PAGE-> <PAGE+> TRIPLE PUSH CAP
652004	<MASTER> <COPY> <MOVE> TRIPLE PUSH CAP
652005	<ERASE> <INS/DEL> <TRANSP> TRIPLE PUSH CAP
652006	<QUANT> <MICRO> <NAME> TRIPLE PUSH CAP
652007	<OPTION> <UNDO> <DEMO> TRIPLE PUSH CAP
652008	<PIANO> <CHROM> <ORGAN> <GUITAR> QUAD PUSH CAP
652009	<REED> <PIPE> <SYNLD> <SYNPAD> QUAD PUSH CAP
652010	<REC> < << > < >> > <SCORE> QUAD PUSH CAP
652011	<PERF1> <PERF2> <PERF3> <P.SONG> QUAD PUSH CAP
652012	<DANCE> <BEAT> <ROCK'n> <JAZZ> QUAD PUSH CAP
652013	<F1> <F2> <F3> <F4> QUAD PUSH CAP
652014	<BASS> <STRING> <ENSEMB> <BRASS> QUAD PUSH CAP
652015	<SYNSFX> <ETHNIC> <DRUMS> <SAMPLES> QUAD PUSH CAP
652016	<TEMPO> <SYNC> <M.PERF> <SONGS> QUAD PUSH CAP
652017	<STYLE1> <STYLE2> <STYLE3> <STYLE4> QUAD PUSH CAP
652018	<LATIN> <FOLK> <ETHNIC> <POP> QUAD PUSH CAP
652019	<F5> <F6> <F7> <F8> QUAD PUSH CAP
652020	QUADRUPLE ARROW PUSH CAP
652021	<ENT> <ESC> DUAL PUSH CAP
652026	PUSH CAP MARKED WITH GENERALMUSIC LOGO
340364	DIAL KNOB
120960	DIAL STEEL SPHERE
110254	DIAL ROTARY ENCODER WITH SNAP
340701	SLIDE POTENTIOMETER KNOB
190211	DC-AC CONVERTER INSULATION SCREEN
730246	DC-AC CONVERTER BOARD (PCB# CS032001)
340370	CONTRAST KNOB
340246	RACK
170904	LEFT RACK SUPPORT
170903	RIGHT RACK SUPPORT
340242	LEFT SIDE (CABINET)
340241	RIGHT SIDE (CABINET)
660322	LOWER KEYBOARD CROSS BAR
660330	UPPER KEYBOARD CROSS BAR
660321	REAR CROSS BAR
110614	MAINS SOCKET
652080	RIGHT CHEEK BLOCK
170900	RIGHT CHEEK BLOCK SUPPORT
110285	MAINS SWITCH
730375	A.C. LINE FILTER BOARD (PCB# 315015) (EUROPE VER.)
730379	A.C. LINE FILTER BOARD (PCB# 315015) (U.S. VERSION)
010719	* 2.2nF MAINS CAPACITOR "T" FILTER
020493	* 100nF 250VAC IEC/UL/CSA CAPACITOR
230565	* 2.5MH 250V 3A AC LINE FILTER
140010	* VERT 3WAY P=10 SCREW TERMINAL BLOCK
110113	* FUSE CLIP (EUROPE VERSION)
110015	* T800mA 250V FUSE (EUROPE VERSION)
110114	* FUSE CLIP (U.S. VERSION)
110055	* T1.6A 125V FUSE (U.S. VERSION)

WIRING CONNECTIONS

770666	CABLE ASS'Y
770645	DISK DRIVE CABLE ASS'Y
840159	6 Wires x 35 Cm FLAT CABLE (PANEL SUPPLY)
840165	6 Wires x 65 Cm FLAT CABLE (VIDEO SUPPLY)
840170	6 Wires x 90 Cm FLAT CABLE (P.B. & MOD.)
840152	6 Wires x 10 Cm FLAT CABLE (CPU SUPPLY)
840202	9 Wires x 10 Cm FLAT CABLE (OUTPUTS & CONTROLS)
840618	26Wires x 35 Cm FLAT CABLE (CONTROL PANEL ADDR & DATA BUS)
840662	34Wires x 45 Cm FLAT CABLE (3,5' DISK DRIVE R/W BUS)
840661	14Wires x 15 Cm FLAT CABLE (VIDEO CONTROLS)
840580	16Wires x 25 Cm FLAT CABLE (KEYBOARD ADDR & DATA BUS)

TRANSFORMER ASSEMBLY

730373	TRANSFORMER ASS'Y 120W (EUROPE VERSION)
730216	TRANSFORMER ASS'Y 120W (U.S. VERSION)

720352 KEYBOARD ASS'Y

500058	* MECHANICAL ASSEMBLY
151119	** C KEY
151120	** D KEY
151121	** E KEY
151122	** F KEY
151123	** G KEY
151124	** A KEY
151125	** B KEY
151126	** SHARP KEY
151127	** FIRST A KEY
151128	** LAST C KEY
160201	** NATURAL KEYS RETURN SPRING
160202	** SHARP KEYS RETURN SPRING
840526	* 20 Wires x 10 Cm FLAT CABLE (LEFT TO RIGHT CONTACT BOARDS)
810545	* LEFT CONTACTS BOARD (88 NOTES DYNAMIC KEYBOARD) (PCB# 310459)
810544	* RIGHT CONTACTS BOARD (88 NOTES DYNAMIC KEYBOARD) (PCB# 310460)
340212	** 13 DUAL CONTACT RUBBER STRIP
340211	** 12 DUAL CONTACT RUBBER STRIP
140890	** 4 CONTACTS HOR MALE CONNECTOR
140854	** 16 CONTACTS VERT MALE CONNECTOR
140851	** 20 CONTACTS VERT MALE CONNECTOR
100606	** 74HC138 1-OF-8 DECODER
080103	** 1N4148 75V 100mA SIGNAL DIODE

810262 CONTROLS PANEL BOARD (PCB# 310419)

070551	* 10K SLIDE POTENTIOMETER
080103	* 1N4148 75V 100mA SIGNAL DIODE
080743	* GREEN LED
080742	* BICOLOR GREEN/RED LED
100613	* 74HC4094 8BIT SHIFT/LATCH REGISTER
140361	* 6 CONTACTS HOR MALE CONNECTOR
140520	* MICROSWITCH 15V 20mA
140883	* 26 CONTACTS HOR MALE CONNECTOR

820341 PITCH, MODULATION & PHONES ASS'Y

652081	* LEFT CHEEK BLOCK
170901	* LEFT CHEEK BLOCK SUPPORT
340089	* 5MM SPACER
730152	* PHONES BOARD (PCB# 310258)
140207	** JACK STEREO SOCKET
810265	* DRUM, PITCH & MOD. BOARD (PCB# 310465)
070700	** 10+10K CONTROL JOYSTICK
140327	** 6 CONTACTS HOR MALE CONNECTOR
140520	** MICROSWITCH 15V 20mA
720356	* DRUM CONTROL KEYS ASSEMBLY
652022	** <START-STOP> KEY
652025	** <INTRO-END > KEY
652024	** <VAR-CONT > KEY
652023	** <FILL-TAP > KEY
340239	** KEY SUPPORT
160152	** KEY SPRING
340237	* PITCH E MODULATION HEMISPHERICAL KNOB
120682	* M3 THREADED INSERT-BUSH FOR KNOB

760867 CPU & SOUND GENERATOR BOARD (PCB# 315061)

550296	* 27C4001D 4MBIT EPROM <PROGRAM 0DD>
550297	* 27C4001D 4MBIT EPROM <SOUND ODD>
550298	* 27C4001D 4MBIT EPROM <PROGRAM EVEN>
550299	* 27C4001D 4MBIT EPROM <SOUND EVEN>
100573	* HM6264 64KBIT STATIC RAM
100591	* WD37C65C FLOPPY DISK CONTROLLER
100598	* HM628128LP-10 1MBIT STATIC RAM
100596	* FILT DIGITAL FILTER PROCESSOR
100580	* DISP1 DIGITAL SOUND PROCESSOR
100628	* REV2 DIGITAL REVERB PROCESSOR
100633	* HN624017PR33 16MBIT SOUNDS ROM
100656	* HN624116PD87 16MBIT SOUNDS ROM
100635	* HN624017PR35 16MBIT SOUNDS ROM
100644	* AD7828 8BIT HISPEED A/D CONVERTER
100725	* Z8621AALB1 KEYBOARD CPU
100035	* 6N138 OPTOCOUPLER
100057	* NE555 TIMER
100075	* LM311 VOLTAGE COMPARATOR
100586	* HM514256P10 1MBIT TA=100N DYNAMIC RAM
100600	* 74HC00 QUAD 2-INPUT NAND GATE
100602	* 74HC04 HEX INVERTER
100605	* 74HC125 QUAD 3-STATE BUFFER
100606	* 74HC138 1 OF 8 DECODER
100609	* 74HC175 QUAD D-TYPE FLIP-FLOP
100610	* 74HC245 OCTAL BUS TRANSCEIVER
100612	* 74HC374 OCTAL D-TYPE FLIP-FLOP
100614	* 74HC74 DUAL FLIP-FLOP
100615	* 74HC08 QUAD 2-INPUT AND GATE
100618	* 74HC14 HEX INV SCHMITT TRIGGER
100619	* 74HC32 QUAD 2-INPUT OR GATE
100620	* 74HC86 QUAD 2-INPUT EXOR GATE
100623	* 74HC139 DUAL 2 TO 4 LINE DECODER
100640	* MC68302 CPU
100641	* HM514400AZ7 4MBIT TA=70NS DYNAMIC RAM
100642	* TS93C46 1KBIT EEPROM MEMORY
100647	* 74HC239 DUAL 2 TO 4 LINE DECODER
100730	* SED1330 E-1330BA LCD CONTROLLER
100731	* DS1202 CLOCK CALENDAR
100920	* LM336 2.5V VOLTAGE REFERENCE
101002	* 74AC74 DUAL FLIP-FLOP
101005	* 74AC157 QUAD 2-INPUT MULTIPLEXER
010700	* 12MHz CERAMIC RESONATOR
010704	* 16Mhz QUARTZ RESONATOR
010709	* 10MHz CERAMIC RESONATOR
010710	* 32.768Hz QUARTZ RESONATOR
070123	* 1Kohm CONTRAST TRIMMER
080103	* 1N4148 75V 100mA SIGNAL DIODE
090152	* BC337 TO92 NPN TRANSISTOR
090153	* BC327 TO92 PNP TRANSISTOR
090182	* BC173 TO92 NPN TRANSISTOR
090192	* BC307 TO92 PNP TRANSISTOR
140323	* 6 CONTACTS VERT MALE CONNECTOR
140352	* 9 CONTACTS VERT MALE CONNECTOR
140857	* 16 CONTACTS VERT MALE CONNECTOR
140858	* 14 CONTACTS HOR MALE CONNECTOR
140866	* 34 CONTACTS VERT MALE CONNECTOR
140881	* 14 CONTACTS VERT FEM CONNECTOR MYLAR CABLE
140882	* 26 CONTACTS VERT MALE CONNECTOR
140217	* JACK STEREO SLIM SOCKET
140212	* 5 POLES DIN SOCKET
140216	* 6 POLES DIN SOCKET
140219	* 13 POLES DIN SOCKET
140213	* RCA SOCKET
110282	* 3,6V 60mA NiCd BATTERY

POWER AMPLIFIER & SUPPLY BOARD

730371	POWER AMPLIFIER & SUPPLY BOARD (EUROPE VER.)(PCB# 310427)
730378	POWER AMPLIFIER & SUPPLY BOARD (U.S. VERSION)(PCB# 310427)
100039	* STK4151V 40+40W HYBRID POWER AMPLIFER
100058	* 7905 -5V 1A VOLTAGE REGULATOR
100059	* 7805 +5V 1A VOLTAGE REGULATOR
100919	* MC33078 DUAL LOW NOISE J-FET OP AMP
100067	* LM337 1.2V-37V 1.5A ADJUSTABLE REGULATOR
100643	* AD1865N 2CH 18BIT DAC
100900	* L4960 5-40V 2.5A SWITCHING REGULATOR
100947	* L4920 1.2-20V LOW DROP ADJUSTABLE REGULATOR
100948	* TDA7313 DIGITAL CONTROLLED AUDIO PROCESSOR
030555	* 4700U 50V 20% SNAP-IN ELECTROLYTIC CAPACITOR
030950	* 470U 16V 20% LOW ESR VERT ELECTROLYTIC CAPACITOR
042565	* 4K99 1/4W RESISTOR MET FILM
080103	* 1N4148 75V 100mA SIGNAL DIODE
080156	* 1N4002 1A 100V RECTIFIER DIODE
080170	* FE2B 2A 100V FAST RECO. DIODE
080605	* KBL02 4A 200V BRIDGE REC DIODE
090182	* BC173 TO92 NPN TRANSISTOR
090192	* BC307 TO92 PNP TRANSISTOR
090856	* J176 TO92 P-CHANNEL JFET TRANSISTOR
110010	* T2A 250V FUSE (EUROPE VERSION)
110003	* T3.15A 250V FUSE (EUROPE VERSION)
110113	* FUSE CLIP (EUROPE VERSION)
110083	* T2A 125V FUSE (U.S. VERSION)
110061	* T3.15A 125V FUSE (U.S. VERSION)
110114	* FUSE CLIPS (U.S. VERSION)
140010	* VERT 3WAY P=10 SCREW TERMINAL BLOCK
140207	* JACK STEREO SOCKET
140217	* JACK STEREO SLIM SOCKET
140351	* 6 CONTACTS VERT MALE PASS-THRU CONNECTOR
140352	* 9 CONTACTS VERT MALE CONNECTOR
140908	* 6 CONTACTS VERT MALE SMALL CONNECTOR
230524	* 100UH SWITCHING COIL

VIDEO BOARD (WXvideo only)

760868	PAL VIDEO BOARD (PCB# 310447) (EUROPE VERSION)
760887	NTSC VIDEO BOARD (PCB# 310447) (U.S. VERSION)
760894	PAL VIDEO BOARD (PCB# 310486) (EUROPE VERSION)(VERSION 1.1)
760895	NTSC VIDEO BOARD (PCB# 310486) (U.S. VERSION)(VERSION 1.1)
550306	* 27C4001D 4MBIT EPROM <PROGRAM> (PAL VERSION)
560013	* GAL20V8AS-15HB1 GATE ARRAY LOGIC TA=15NS (PAL VERSION)
560012	* GAL20V8AS-15HB1 GATE ARRAY LOGIC TA=15NS (PAL VERSION)
550323	* 27C4001D 4MBIT EPROM <PROGRAM> (NTSC VERSION)
560015	* GAL20V8AS-15HB1 GATE ARRAY LOGIC TA=15NS (NTSC VERSION)
560014	* GAL20V8AS-15HB1 GATE ARRAY LOGIC TA=15NS (NTSC VERSION)
560016	* GAL20V8AS-15HB1 GATE ARRAY LOGIC TA=15NS (VERSION 1.1 ONLY)
104003	* HM514260JP 4MBIT TA=70NS DYNAMIC RAM (VERSION 1.1 ONLY)
100061	* TL072 DUAL LOW NOISE JFET OP AMP
100586	* HM514256P10 1MBIT TA=100N DYNAMIC RAM
100602	* 74HC04 HEX INVERTER
100605	* 74HC125 QUAD 3-STATE BUFFER
100610	* 74HC245 OCTAL BUS TRANSCEIVER
100614	* 74HC74 DUAL FLIP-FLOP
100620	* 74HC86 QUAD 2-INPUT EXOR GATE
100640	* MC68302 CPU
100951	* MC1377P RGB TO PAL/NTSC ENCODER
104002	* SSC66470CAB VIDEO CONTROLLER
010603	* 9P -90P N750 CERAMIC CAPACITOR TRIMMER
010704	* 16MHZ QUARTZ RESONATOR
010714	* 30MHZ QUARTZ RESONATOR (PAL VERSION)
010715	* 8.867238MHZ QUARTZ RESONATOR (PAL VERSION)
010717	* 30.20979MHZ QUARTZ RESONATOR (NTSC VERSION)
010716	* 7.15909MHZ QUARTZ RESONATOR (NTSC VERSION)
080103	* 1N4148 75V 100mA SIGNAL DIODE
080500	* BB204G DUAL VARICAP DIODE
080551	* MPN3404VHF PIN SWITCHING DIODE
090102	* 2N918 VHF NPN TRANSISTOR
090182	* BC173C TO92 NPN TRANSISTOR
230560	* 22UH 10% 170MA RF COIL
230561	* 47UH 10% 100MA RF COIL
230562	* LC CHROMA FILTER 4.43MHZ PAL
230563	* LC CHROMA FILTER 3.58MHZ NTSC
230564	* LC DELAY LINE 200NS 0.5MHZ
140351	* 6 CONTACTS VERT MALE CONNECTOR PASS-THRU
140910	* 14 CONTACTS VERT MALE CONNECTOR

Note:

Each spare part is single quantity unless otherwise specified.
Asterisk prefix explanation:
Omitted = First level spare part.
One asterisk = Second level, part of previous listed first level part.
Two asterisk = Third level, part of previous listed second level part.
Three asterisk = ...
Any request for not above mentioned part must encompass specific description including:
1) Model name, 2) Section, 3) Module code, 4) Reference name, 5) Quantity number.

WX plus upgrade kit installation instructions

CAUTION
Read these notes before proceeding

These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock and device malfunction, do not perform any user-servicing but refer all servicing to the nearest Service Center Authorized by GENERALMUSIC. Any servicing performed by unqualified service personnel will forfeit all GUARANTEE rights and exonerate GENERALMUSIC from all liabilities for damage to property or persons resulting from device malfunction.

ATTENZIONE
Leggi queste note prima di procedere

Le seguenti istruzioni di servizio sono ad esclusivo uso di personale qualificato. Per evitare il rischio di scosse elettriche e malfunzionamenti dell' apparecchio, non tentate di effettuare personalmente queste operazioni, rivolgetevi al più vicino Centro di Assistenza Autorizzato GENERALMUSIC. Ogni intervento effettuato da personale non qualificato farà decadere i diritti di GARANZIA ed esonererà GENERALMUSIC da ogni responsabilità su eventuali danni a persone o cose conseguenti dal suo malfunzionamento.

ATTENTION
Observe precautions when handling electrostatic sensitive devices.

ATTENZIONE
Maneggiare con cura i dispositivi elettronici sensibili alle cariche elettrostatiche.

- Open the instrument, locate the boards with the eproms to be replaced.
  Aprire lo strumento, individuare le schede interessate alla sostituzione delle eprom.
- Replace existing eproms inside the instrument with those supplied in the upgrade kit, according to the following table:
  Rimpiazzare le eprom esistenti all' interno dello strumento con quelle in dotazione al kit, come indicato nella tabella sottostante:

Model *Modello*	Board Name *Nome Circuito*	Position *Posizione*	Remove *Rimuovere*	Insert *Inserire*
WX2-WX400	Cpu & Sound Generator Board (315061)	IC19	550299	550504
		IC18	550298	550503
		IC17	550297	550502
		IC16	550296	550501
video versions	Pal Video Board (310447 or 310486)	IC1	550306 / 550360	550505
	Ntsc Video Board (310447 or 310486)	IC1	550323 / 550359	550506
WX expander	Cpu & any Video Board (315064)	IC50	550299	550504
		IC49	550325	550508
		IC48	550297	550502
		IC47	550324	550507
video versions	Cpu & Pal Video Board (315064)	IC34	550306 / 550360	550505
	Cpu & Ntsc Video Board (315064)	IC34	550323 / 550359	550506

- **WX2-WX400:**
  Place the first "plus" sticker on the front panel above the disk drive, and the second on the rear panel close to the
  "WX..." logo.
  Applicare il primo adesivo "plus" sul pannello frontale, sopra il disk drive, e il secondo sul retro dopo la scritta "WX...".
  WX expander:
  Place the "plus" sticker on the rear panel close to the "WX..." logo.
  Applicare l'adesivo "plus" sul retro dopo la scritta "WX...".

IMPORTANT: Part below to be filled in by the service center.
IMPORTANTE: Fate compilare al servizio di assistenza la parte sottostante.

Stamp of Service Center
Authorized by Generalmusic
Timbro Centro Assistenza
Autorizzato da Generalmusic

Device serial number / *Numero di serie apparecchio*

Installation date / *Data installazione*