



SERVICE MANUAL
Schematic Diagrams



Index & Warnings

Opening & Keyboard Disassembling Instructions	2
Wiring & Block Diagrams	3
Power Amplifier & Supply Boards	4
Keyboard L/R Contact Boards	5
Cpu & Sound Generator Board (PK7)	6
Cpu & Sound Generator Board (PK5)	7
Audio/Video Interface Board (PK7)	8
Timings Table	9
Spare Part List	10

GENERALMUSIC S.p.A. Sales Division: 47048 S.Giovanni in Marignano (RN) ITALY - Via delle Rose, 12 - tel. 0541/959511 - fax 0541/957404 - <http://www.generalmusic.com>



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.

Schematic Notes

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.

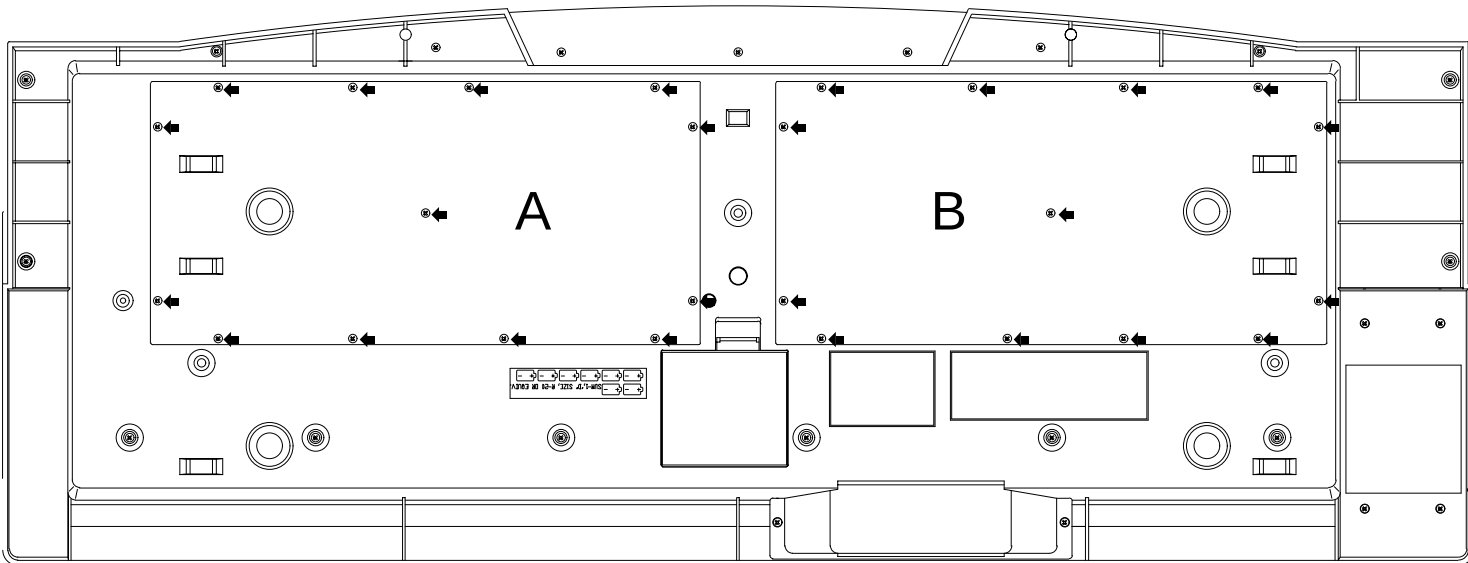
- | | |
|---|-------------------------|
| ← Soldering point. | ↑ Supply voltage. |
| • Male connector. | ⊥ Logic supply ground. |
| ⊖ Female connector. | ⏏ Analog supply ground. |
| ⏏ M/F faston connector. | ⏏ Chassis ground. |
| □ Test point. | |
| ⏏ Flag joined with one or more flags with the same signal name inscribed. | |



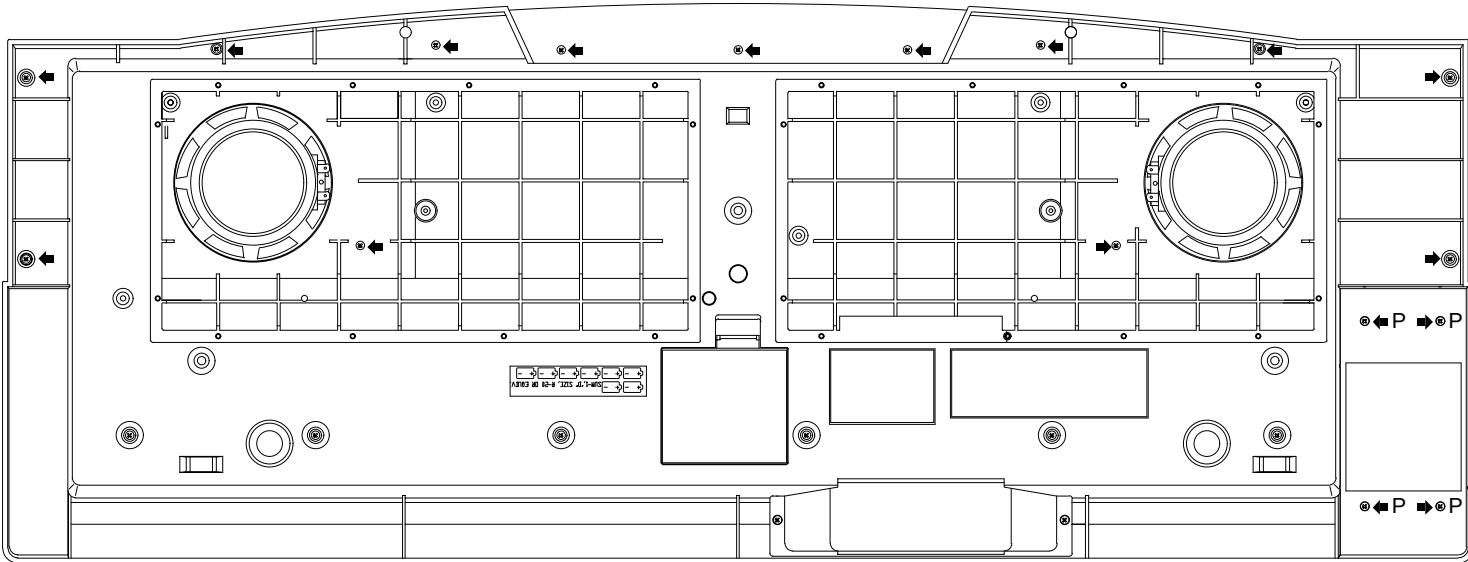
ATTENTION
Observe precautions when handling
electrostatic sensitive devices

Opening Instructions

- 1) Carefully turn the instrument over and unscrew the screws marked with the arrows ◀ on the speaker covers.
- 2) Remove the speaker covers (A) and (B).

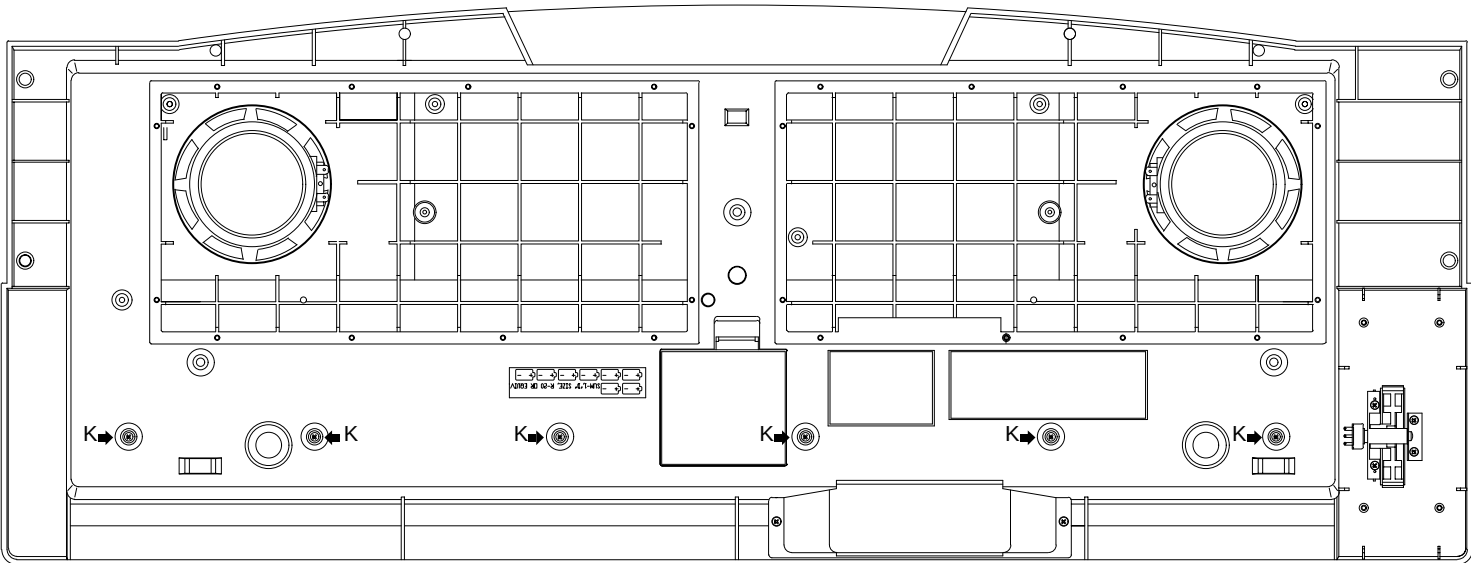


- 3) Unscrew the screws marked with the arrows ◀
- 4) To access to the pitch wheel unscrew the four screws marked with arrows ◀P

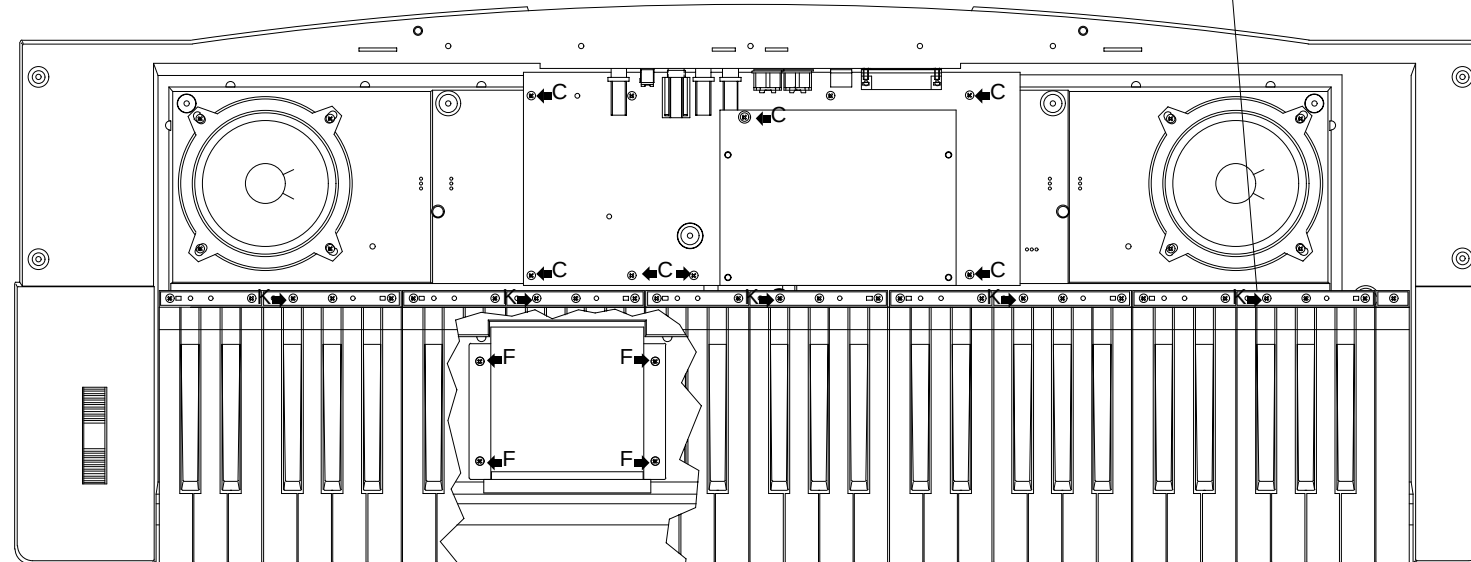
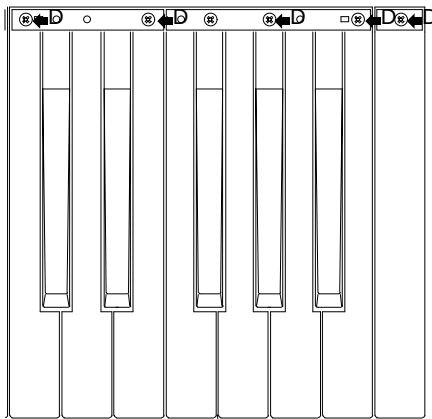


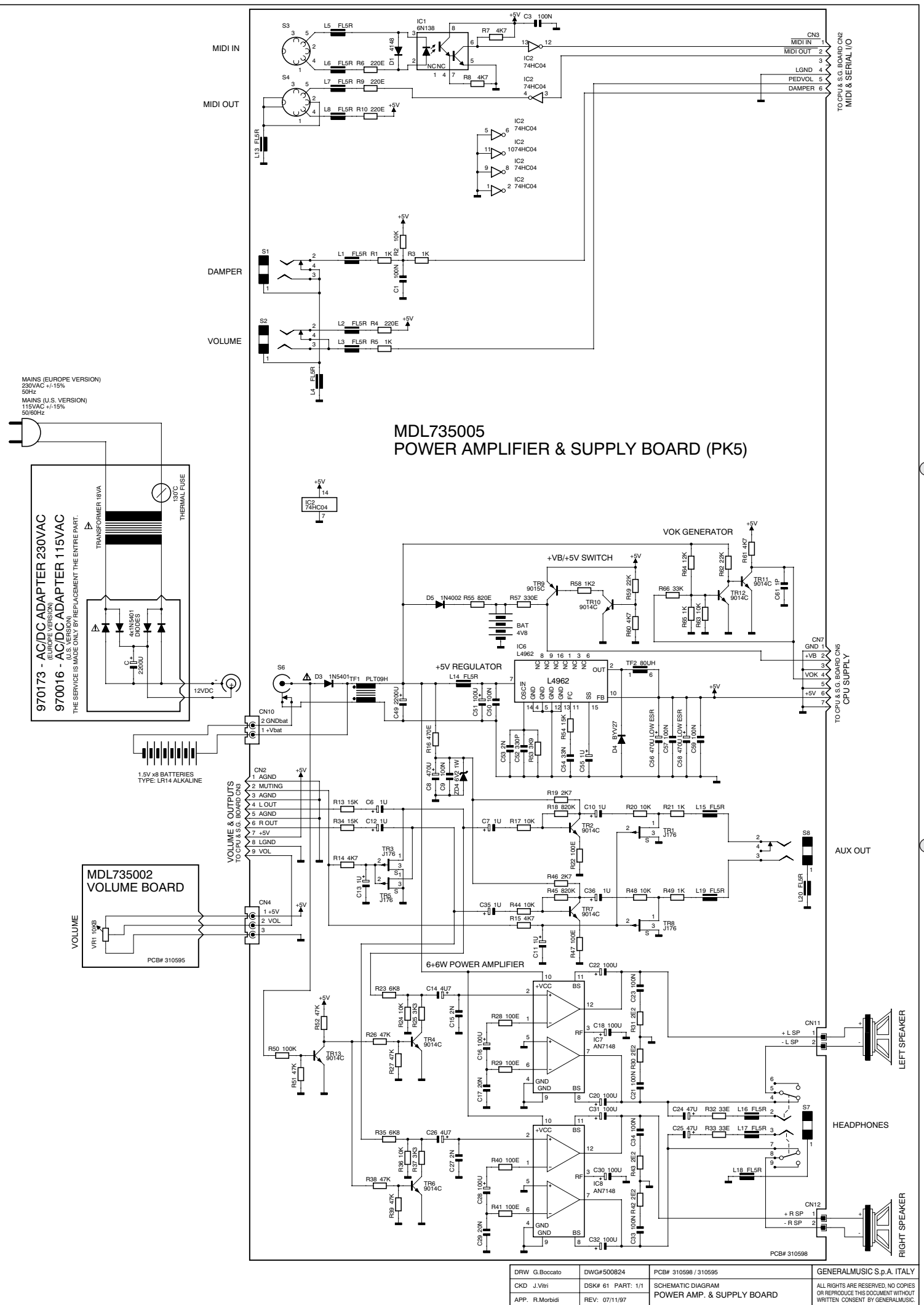
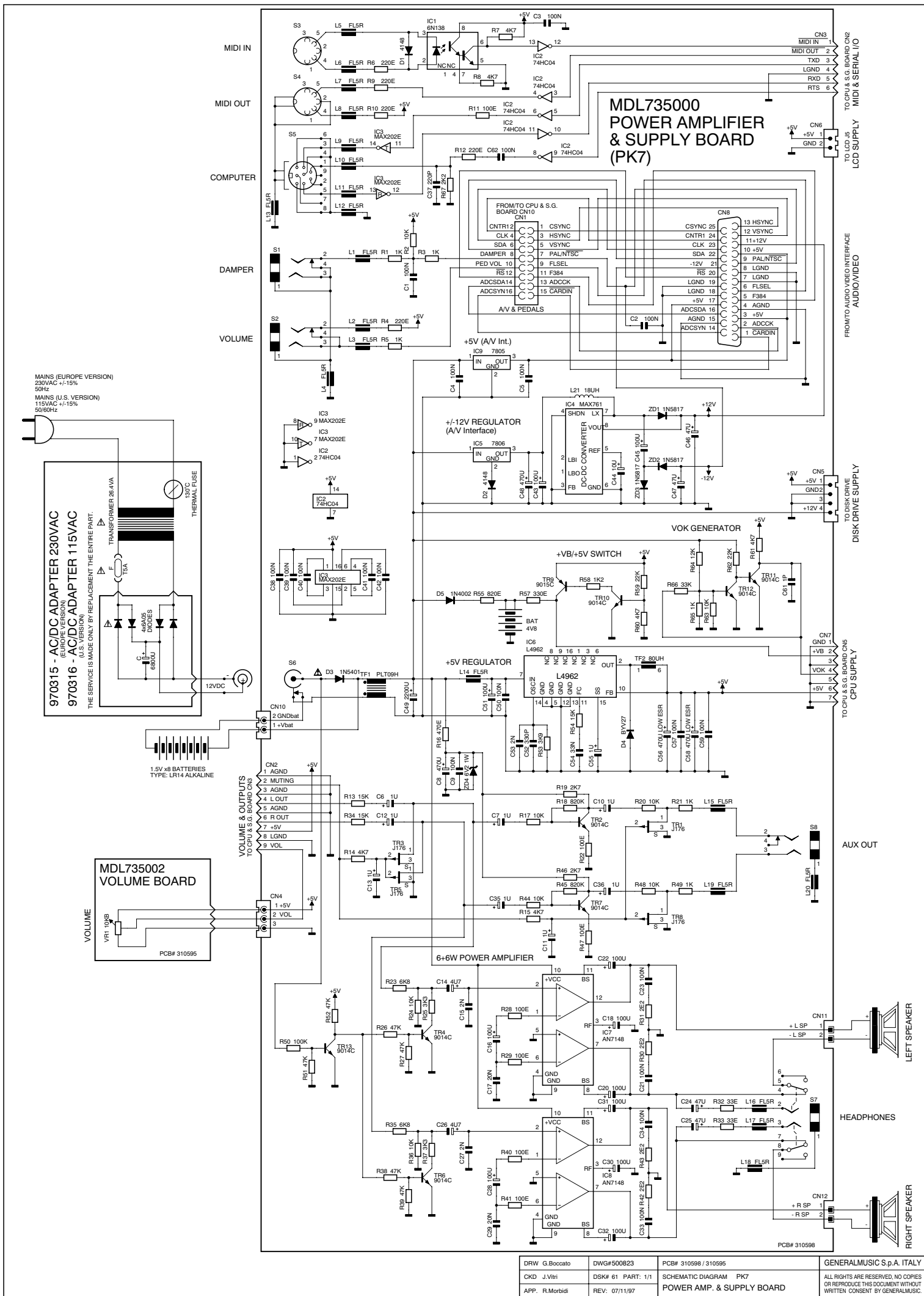
Disassembling Instructions

- 5) To remove the keyboard or to access the disk drive unscrew the screws marked arrows ◀K



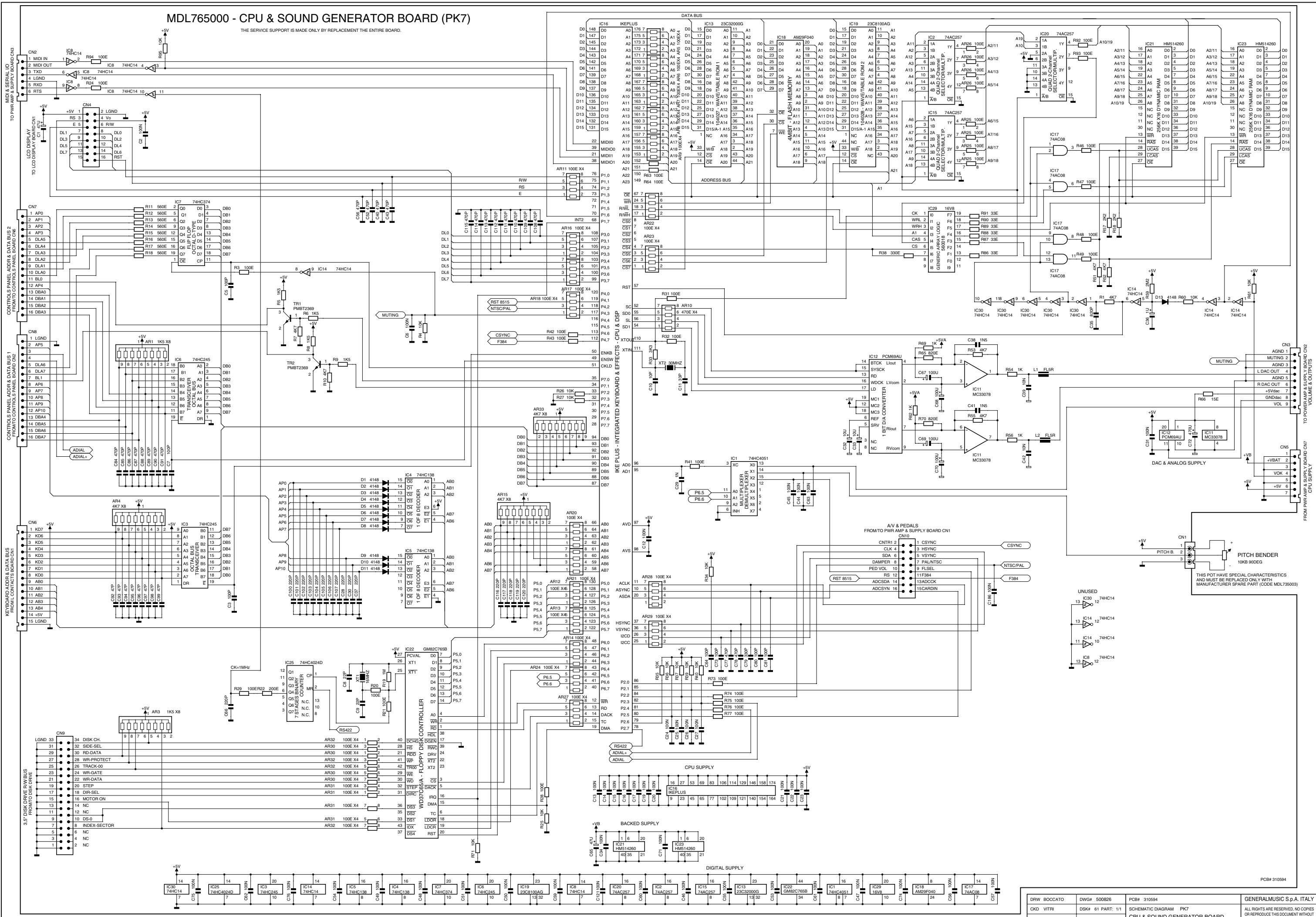
- 6) Hold the chassis (top and bottom) tightly and turn the instrument the right way up.
- 7) Lift off the top chassis with care without forcing the cables.
- 8) To remove the keyboard unscrew the black screws marked with arrows ◀K
- 9) To remove the disk drive unscrew the four screws marked with arrows ◀F
- 10) To remove the board assembly unscrew the screws marked with arrows ◀C
- 11) To disassemble a keyboard octave unscrew the screws marked with arrows ◀D





MDL765000 - CPU & SOUND GENERATOR BOARD (PK7)

THE SERVICE SUPPORT IS MADE ONLY BY REPLACEMENT THE ENTIRE BOARD.

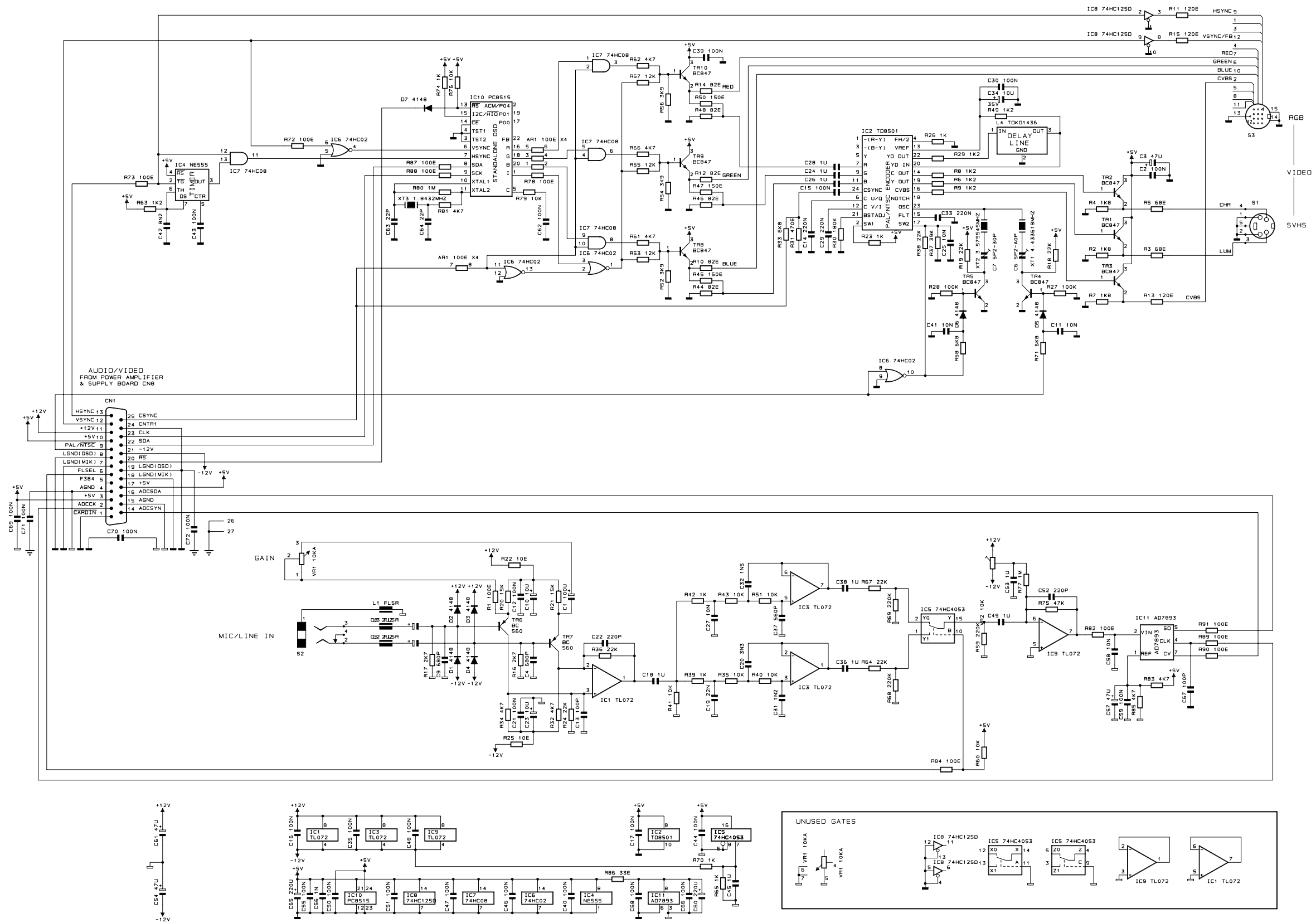


DRW BOCCATO	DWG# 500826	PCB# 310594	GENERALMUSIC S.p.A. ITALY
CKD VITRI	DSK# 61 PART: 1/1	SCHEMATIC DIAGRAM PK7	ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC.
APP MORBIDI	REV: 06-12-96	CPU & SOUND GENERATOR BOARD	

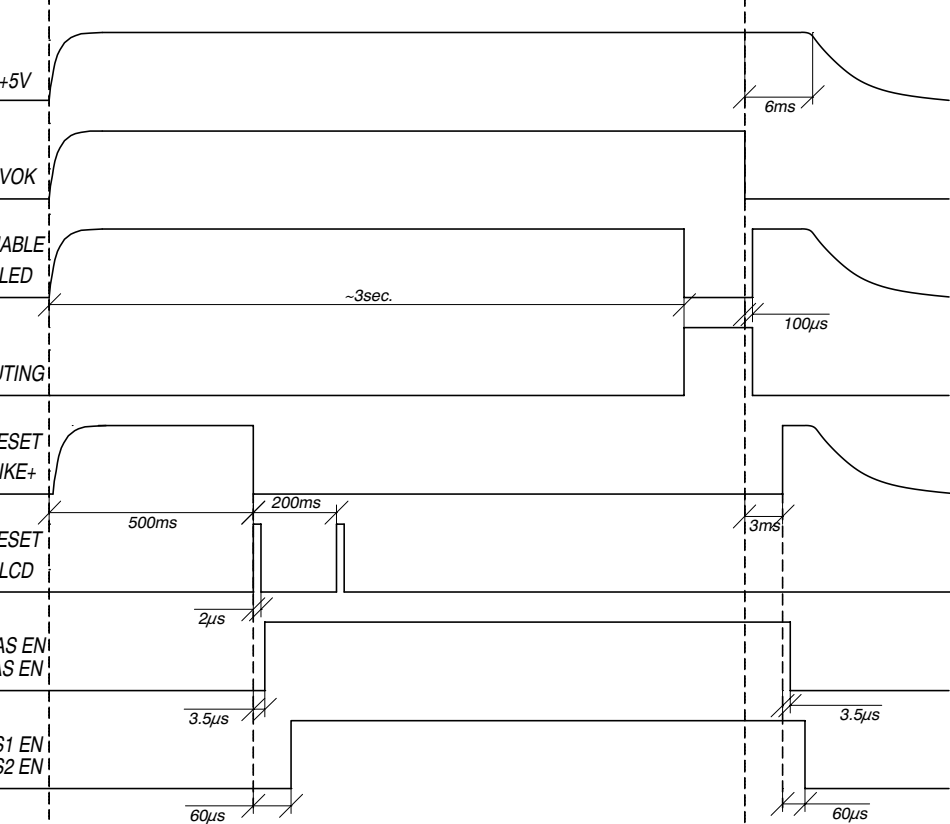
THE SERVICE SUPPORT IS MADE ONLY BY REPLACEMENT THE ENTIRE BOARD

70

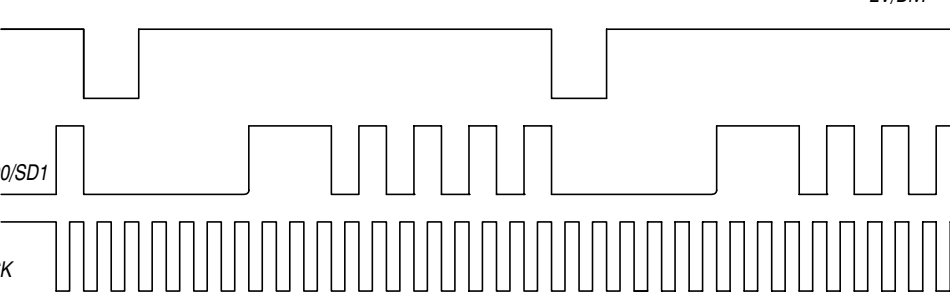
761096 - VIDEO INTERFACE BOARD



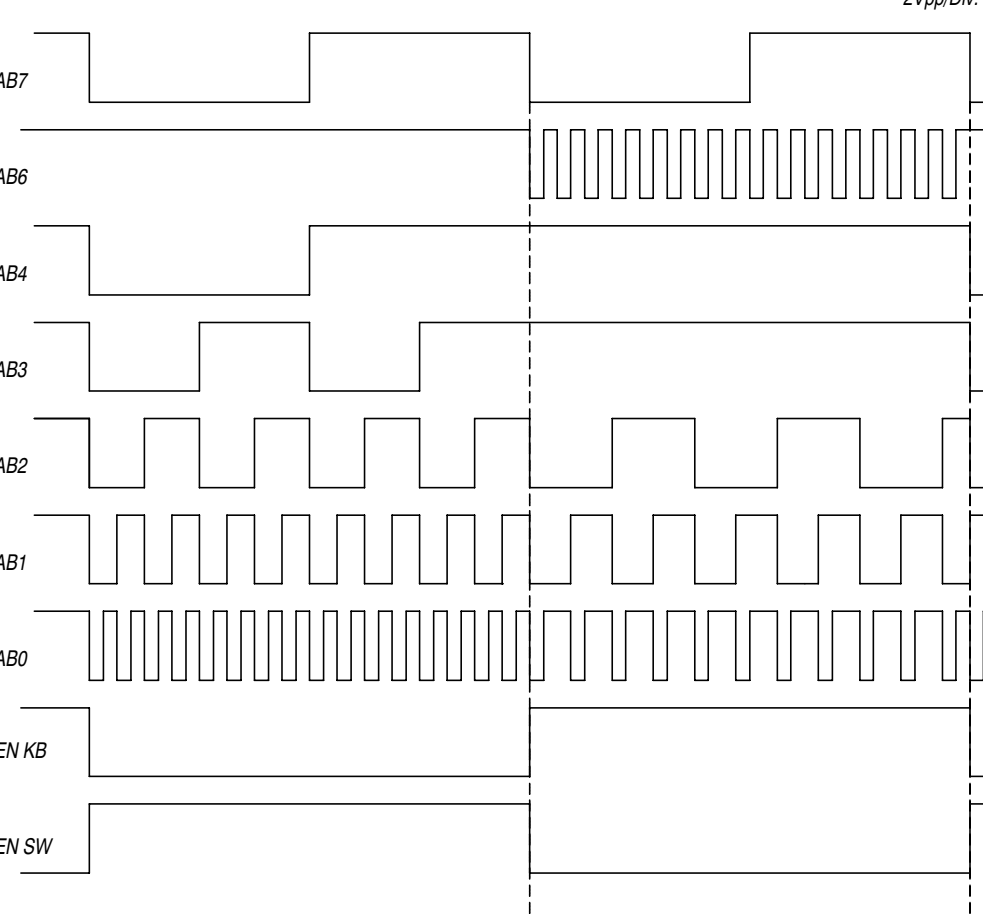
POWER ON/OFF Timings



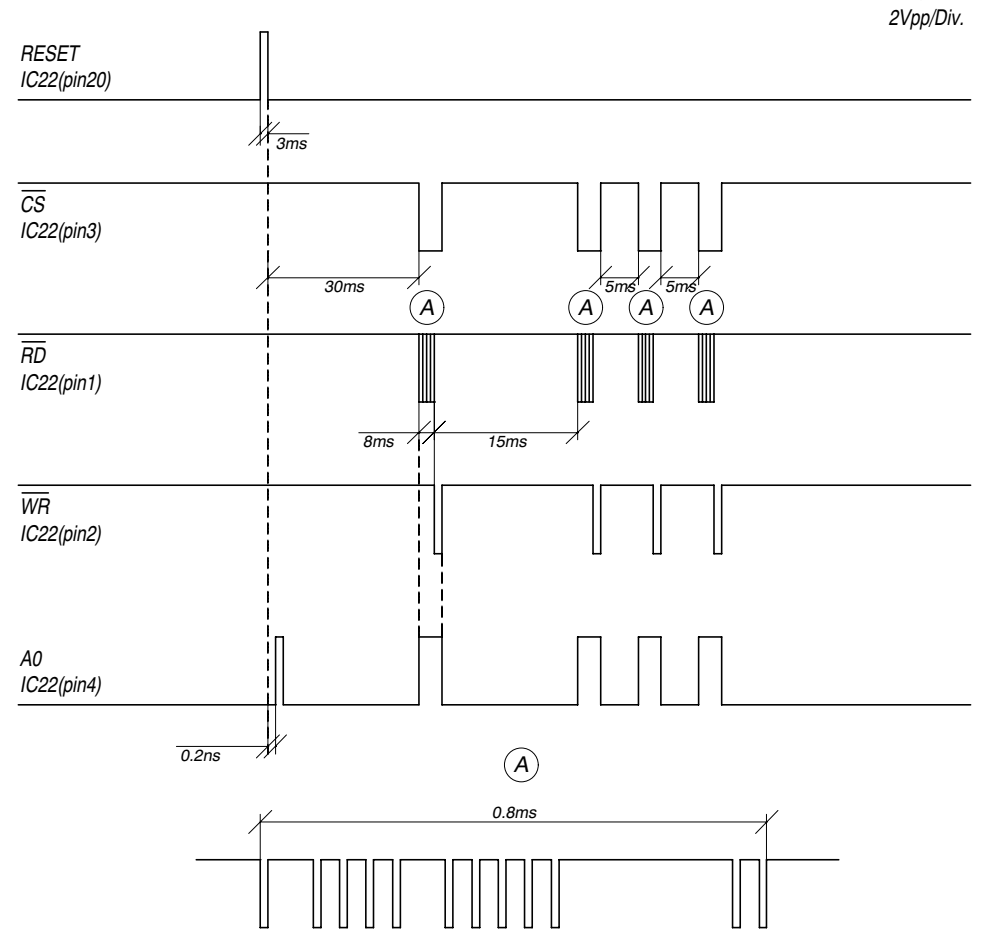
IKE+ - DA Converter (PCM69AU) Timings



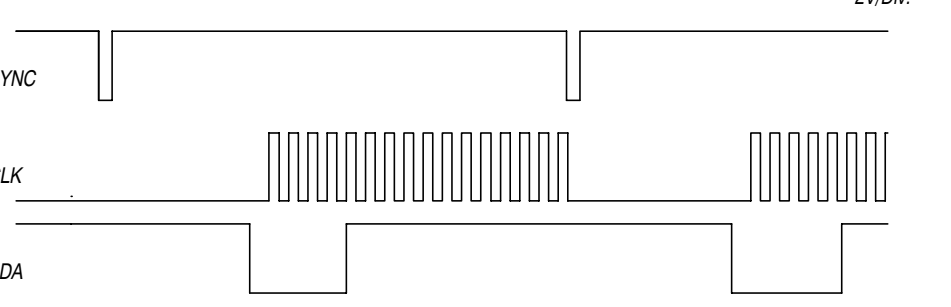
IKE+ - Keyboard And Controls Panel Timings



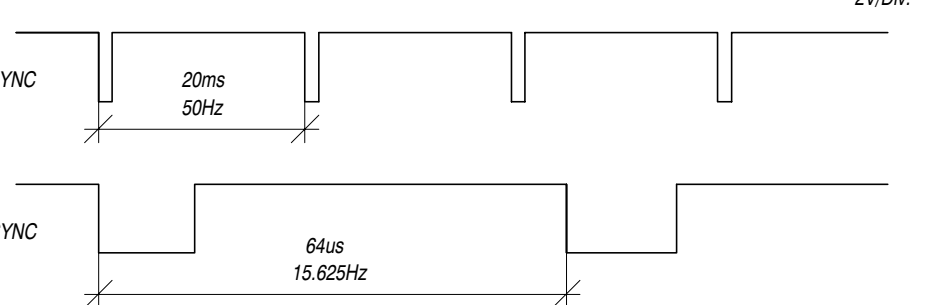
IKE+ - Disk Drive Controller Timings (PK7 only)



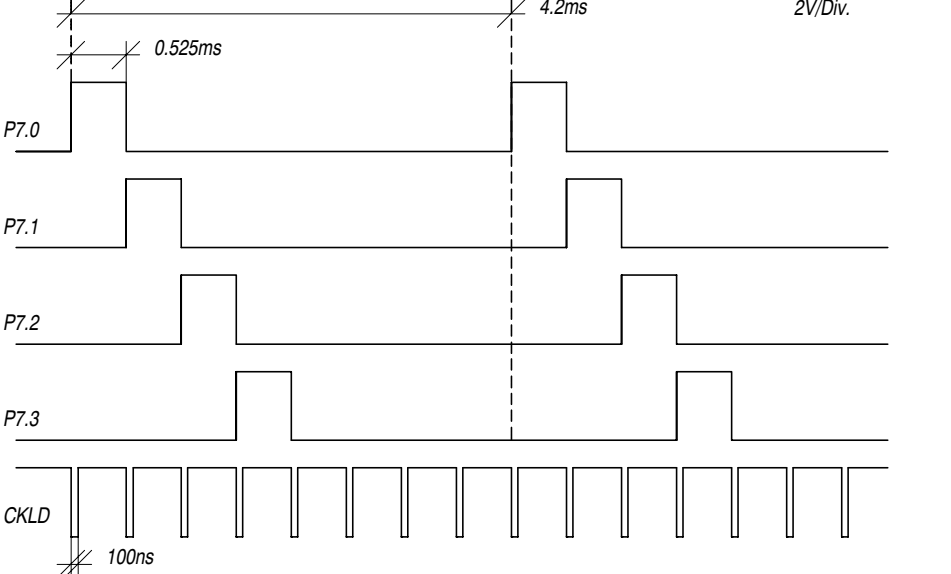
IKE+ - AD Converter (AD7893) Timings



IKE+ - Video Interface (PC8515) Timings



IKE+ - Led Bar Timings



Note: The bars showed depends by keyboard model.

Spare Part List

Legend	
PK7	= PK7 only
PK5	= PK5 only
if omitted the spare part is valid for both models.	
Code	Description

Accessories

MDL345019	Music Stand
271194	Owner's Manual (Italian, English, French, German)
271195	Owner's Manual (Spanish, Dutch, Danish)
955989	Operating System Disk (PK7)
955988	Demo Disk (PK7)
970315	AC-DC Adapter 230Vac 26.4W (Europe)(PK7)
970316	AC-DC Adapter 115Vac 26.4W (U.S.)(PK7)

Optional Accessories

970173	AC-DC Adapter 230Vac 18W (Europe)(PK5)
970016	AC-DC Adapter 115Vac 18W (U.S.)(PK5)
130301	2mt Midi Cable
970310	Multimedia Kit (PK7 only)
970013	Volume Pedal
970107	Professional Volume Pedal
970116	Sustain Pedal
970134	Piano Sustain Pedal
970110	X Metal Stand
990927	Arabic Scale Converter
970317	PAL Audio/Video Interface (PK7)
970318	NTSC Audio/Video Interface (PK7)
660580	* Support
660581	* Fixing Plate
130433	* 25 poles Female-Male Cable
130317	* DIN/SCART Video Cable (Pal-Europe)
130428	* DIN/RCA Video Cable (Ntsc-U.S.)
980933	* Video Interface
652881	** Bottom Box
652880	** Top Box
761096	** Video Interface Board (PCB#310528)
140861	*** 25 Contacts Horizontal Male Connector
140248	*** 4 Poles Mini Din Female Socket
140219	*** 13 Poles Din Horizontal Female Socket
140217	*** Jack Stereo Horizontal Slim Socket
106002	*** NE555 SOIC Timer
106001	*** MC33078P SOIC Low Noise Dual Op. Amp.
106000	*** TDA8501 PAL/NTSC Encoder
103020	*** AD7893 12bit AD Converter
103019	*** PCA8515 Standalone OSD
103012	*** 74HC125D SOIC Quad Tri-State Buffer
103009	*** 74HC02D SOIC Quad 2-In Nor Gate
103006	*** 74HC4053DW SOIC 3x2ch Analog Multiplexer
103001	*** 74HC08D SOIC Quad 2-Input And Gate
091000	*** BC847 TO236 Smd NPN Transistor
090194	*** BC560 TO92 LN PNP Transistor
081000	*** PMLL4148 Smd 100mA 75V Signal Diode
070613	*** 2X10K Rotary Potentiometer
070246	*** 100K 10% Multiround Vertical Linear Trimmer
010731	*** 1MHz Quartz Resonator
010730	*** 4.433619MHz Quartz Resonator
010729	*** 3.579545MHz Quartz Resonator

Assembly

MDL815001	Controls Panel Board (PK5)
MDL815000	Controls Panel Board (PK7)
MDL765001	Cpu & Sound Generator Board (PK5)
MDL765000	Cpu & Sound Generator Board (PK7)
	The service support is made only by replacement the entire Cpu Board unless for eventual program eproms and GALs.
550653	* Program OTP Eprom (PK5)
560018	* Programmed GAL
MDL735003	Pitch Wheel Assembly
MDL735002	Volume Assembly
MDL735004	Lcd Display (PK5)
MDL735001	Lcd Display (PK7)
MDL735005	Power Amplifier & Supply Board (PK5)
MDL735000	Power Amplifier & Supply Board (PK7)
MDL100000	* AN7148 Dual Power Amplifier
MDL100001	* MAX761 DC-DC Converter
MDL145000	* 5 Poles Din Socket
MDL145001	* 25 Contacts Hor Female Connector Din41652
MDL235000	* 80uH Switching Coil
MDL085000	* 1N5817 1A 20V Schottky Diode
140247	* 8 Poles Mini Din Female Socket
140217	* Jack Stereo Slim Horizontal Socket
140207	* Jack Horizontal Female Socket

40211	*	Dc Horizontal Male Socket
090183	*	BC550 TO92 LN Npn Transistor (spare part supplied instead of 9014C)
100035	*	6N138 Optocoupler
100602	*	74HC04 Hex Inverter
100734	*	MAX202E RS232 Drivers/Receiver
100063	*	7806 +6V 1A Voltage Regulator
110300	*	4.8V 280mAh Nicd Battery
100901	*	L4962 5-40V 1.5A Switching Regulator
090856	*	J176 TO92 P-Channel J-Fet Transistor
080242	*	6V2 1W 5% Zener Diode
080172	*	BYV27 2A 100V Fast Recovery Diode
100059	*	7805 +5V 1A Voltage Regulator
080187	*	1N5403 3A 300V Rectifier Diode (spare part supplied instead of 1N5401)

MDL725002	61Notes Dynamic Keyboard
MDL725001	4E 10W Full Range Speaker
MDL725000	Power Switch Assembly
MDL675001	Actuators Kit (PK5)
MDL675000	Actuators Kit (PK7)
MDL345010	* Gray Rectangular Actuator
MDL345011	* Gray Circular Actuator
MDL345012	* Red Circular Actuator
MDL345013	* Gray Triangular Actuator
MDL345014	* "Start/Stop" Quadruple Actuator
MDL345015	* "Enter/Escape" Dual Actuator (PK7)
MDL345016	* "Pads" Quadruple Actuator
MDL345017	* Volume Knob
MDL345018	* Dial Encoder Knob (PK7)
MDL655010	* Arrows Quadruple Actuator
MDL655011	* Play Sequencer Actuator
MDL655012	* Record Sequencer Actuator
MDL655013	* Upper1/U.2/Lower Triple Actuator
MDL655014	* "1" Actuator
MDL655015	* "2" Actuator
MDL655016	* "3" Actuator
MDL655017	* "4" Actuator
MDL655018	* "5" Actuator
MDL655019	* "6" Actuator
MDL655020	* "7" Actuator
MDL655021	* "8" Actuator
MDL655022	* "9" Actuator
MDL655023	* "0" Actuator
MDL655024	* "+" Actuator
MDL655025	* "-" Actuator
MDL655009	Batteries Inlet
MDL655008	Batteries Cover
MDL655007	Pitch Wheel Bottom Cover
MDL655026	Disk Drive Inlet Cover (PK5)
MDL655006	Disk Drive Inlet Frame (PK7)
MDL655005	Right Speaker Bottom Cover
MDL655030	Left Speaker Bottom Cover
MDL655027	Bottom Chassis (PK5)
MDL655004	Bottom Chassis (PK7)
MDL655028	Top Chassis (PK5)
MDL655003	Top Chassis (PK7)
MDL655002	Right Speaker Grid
MDL655001	Left Speaker Grid
MDL655029	Lcd Display Screen (PK5)
MDL655000	Lcd Display Screen (PK7)
MDL345009	1 Octave Sharp Keys
MDL345008	D-F-A Natural Keys
MDL345007	C-E-G-B Natural Keys
MDL345006	13 Contacts Grey Strip
MDL345005	13 Contacts White Strip
MDL345004	Last C Key
MDL345002	Rubber Contact Strip (step=20mm)
MDL345001	Rubber Contact Strip (step=14mm)
MDL345000	Single Rubber Contact

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 name,

3) Module code,

4) Reference name,

5) Quantity number.