

DVD 1 MKII

Type 4621 - 4627

Service Center repair guide

English



ABO-CENTER V/HENRIKSENS ELEKTRONIK

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*There is no Brief operation guide in this Service Center repair guide.
Instead an english version of the user guide is enclosed the back-up
suitcase.*

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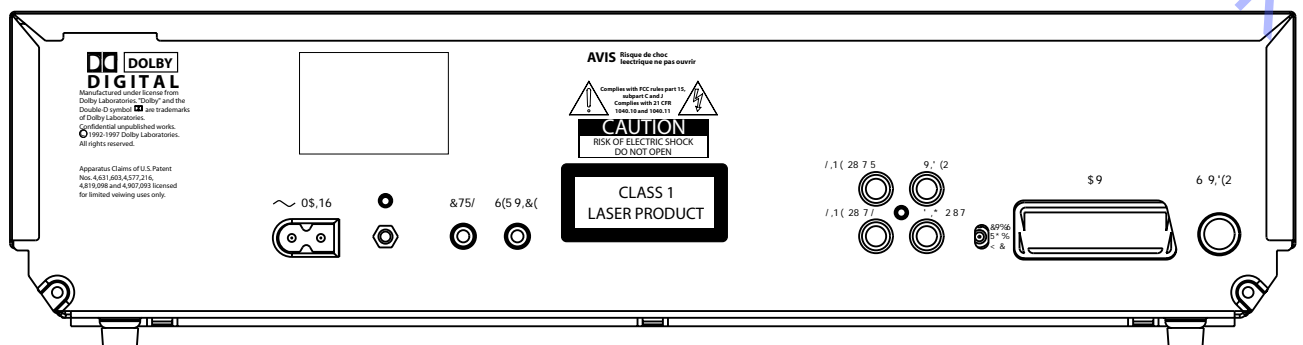
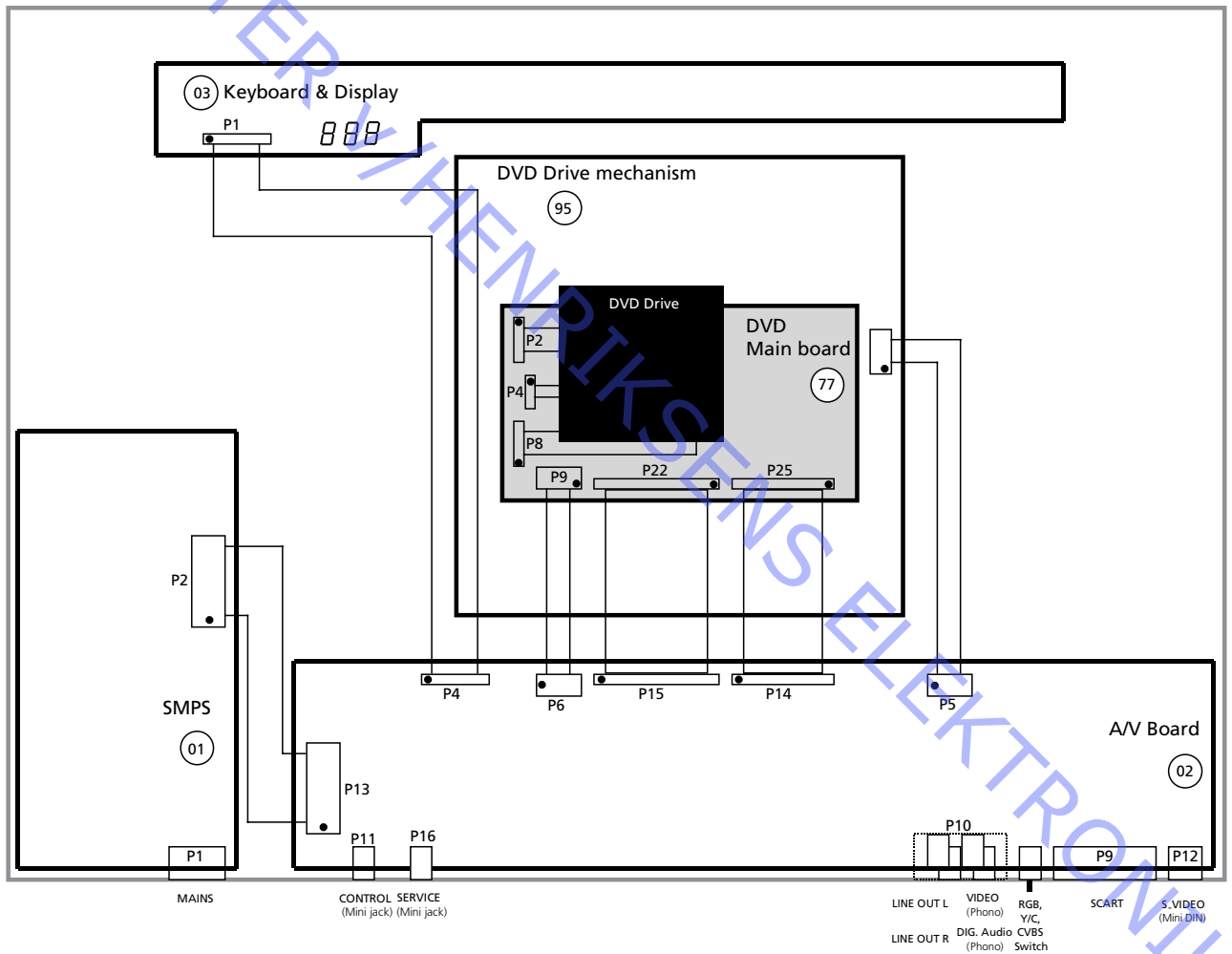
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Survey of modules



How to service

DVD1 mkII is supposed to be serviced in the customer's home.

In order to support the general service strategy the Back up suite case contains all replaceable modules.

The ServiceTool is required in several service situations, e.g.
Error codes – read out and clearing, update of SW or changing the Region setting.
Refer to the ServiceTool for full description of functions and operation.

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Caution

Service

The DVD1 may only be serviced by qualified technical personal.
The product contains a laser system and is classified as a class 1 laser product

The use of any controls, adjustments or procedures other than those specified herein may result in hazardous radiation exposure.



This product incorporates copyright protection technology that is protected by claims of certain US patents and other intellectual property rights owned by technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Warning

Static electricity

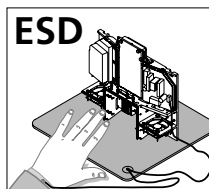


Static electricity may damage the product.

Static-protective field service kit.

A static-protective field service kit must always be used when the product is disassembled or modules are being handled.

The modules must always be connected to the static-protective field service kit or placed in an ESD-proof bag.



Follow the instructions in the guide and use the ESD-mat for both old and new modules.

Please note:

When mains voltage on the DVD1 is required, remove the connection between the DVD1 and the ESD-mat.

Service Mode

Software version.

Read SW version

- Remove CD/DVD from loader.
- Disconnect the mains supply.
- Press and hold **[PLAY]** and **[<<]**.
- Connect to the mains supply.
- Switch on the mains supply.

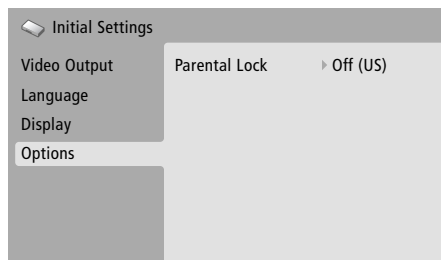
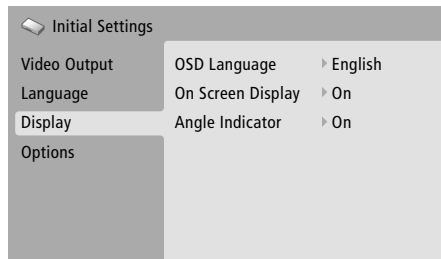
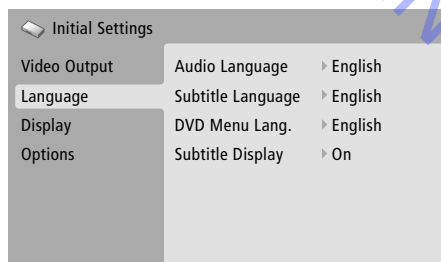
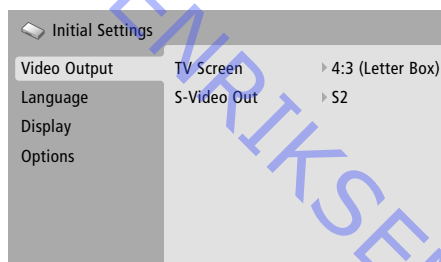
The software version is displayed on the Display.

Memory clear.

Memory clear resets the Initial Settings to the default setting.

The Region setting is not affected by the Memory clear.

- Insert CD/DVD into loader.
- Disconnect mains supply.
- Press and hold **[PLAY]** and **[>>]**.
- Connect to the mains supply.
- Switch on the mains supply.
- Hold **[PLAY]** and **[>>]** until DVD player starts to play, approx. 6 sec.



ServiceTool

Considerations before connecting the ServiceTool to the product.

- Disconnect the product from the Mains supply.
- Follow the instructions described in the ServiceTool.

Contents in Servicetool.

The ServiceTool will contain the complete information concerning:

- How to connect the ServiceTool to the product.
- List of functions handles by the ServiceTool.
- Detailed instruction for using the functions.

The ServiceTool does not contain:

- Description of access and connection to internal connectors inside the product.

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Repair tips

Picture

Poor picture

Dirt on lens

The laser lens must never be touched !

Refer to "Optical Disc Reference Book" for full description.

The "Optical Disc Reference Book" is available in the following languages:
English (Part no. 3540685), German (Part no. 3540686), French (Part no. 3540687), Danish (Part no. 3540688), Italian (Part no. 3540689), Spanish (Part no. 3540690), Nederland (Part no. 3540691)

Summary from Optical Disc Reference Book

Optical unit

The optical unit, also called the OPU - **Optical Pick-Up Unit** - with actuator, laser optics and belonging electronics is the single most expensive and delicate part of the DVD mechanism. It is especially the OPU which must be protected against unintentional contact, dust or other pollution during storage, transport, production and service.

Furthermore, special care must be taken to prevent ElectroStatic Discharge (ESD).

The laser lens must never be touched!

The actuator (the motion mechanism for the lens/mirror system) has together with the complete OPU been adjusted by the supplier. The adjustment is fixed and is not supposed to be readjusted. Please also take note that the actuator includes magnets which may attract iron particles from screw-cuttings etc. and this may detriment the function of the actuator. Furthermore, please avoid that other magnets, in for instance loudspeakers or magnetic screw drivers get into close contact with the OPU. The OPU which has been adjusted individually together with the mechanism itself cannot be readjusted, repaired or replaced.

Cleaning and test of the OPU

Because of the design of the lens it can be very difficult to determine whether the lens is dirty, therefore always clean the lens when servicing. A finger print on the lens will, like dust and other contaminants affect the performance of the lens negatively. If a contamination has taken place the lens can be cleaned with care. Loose particles usually can be removed with air (use e.g. a blower brush for camera lenses). Finger prints etc. can be removed with a special cleaning fluid - "Kodak Lens Cleaner CAT 176 71 36" - on a cotton bud (e.g. of the ESD safe wooden type).

Clean the lens by dipping the cotton bud "Kodak Lens Cleaner CAT 176 71 36" and carefully wipe it with circular movements. Remove the moisture on the lens with the dry end of the cotton bud.

Dirt/defect disc

Refer to user guide for cleaning the disc.

Pixel error or frozen picture is typically due to DVD mechanism failure.

No picture

DVD mechanism failure
 DVD main board failure
 AV Board failure
 Power supply failure

Refer to wiring diagram for point of measurement.

1. Check Video signal on selected output.
 RGB AV connector
 CVBS Video
 YC S-Video
2. Check Video signal, RGB or YC on input to AV Board.
 R, G, B and Y, C
3. Check power supply to DVD Main board

RGB OK and CVBS failure.
 Video buffer on AV Board defect – Replace PCB2, AV Board.

Power supply check
 SMPS output
 Supply power for DVD main board and mechanism.
 2P15

Sound

DVD or CD sound
 The DVD Main Board delivers a digital audio signal to the AV Board.
 Analog audio signal are measured on the output sockets.

Play DVD/CD

1. Check Audio signal on selected output
 Line out R / L, AV or DIG. OUT.
2. Check power supply to DVD Main Board.

Display/Keyboard

Refer to wiring diagram for measuring points.

1. Check +5V supply.
2. Check for activity on KCLK_Display, KDATA_Display and CS_Display.
3. Check function of keys, shift to low voltage when activated.

Loader/Tray

Mechanical failure
 No power from AV Board

1P5 pin 1	LOADER_MOTOR -	3.6V open
1P5 pin 2	LOADER_MOTOR+	3.6V close

No function

Check power supply.

Final Check after repair

Insulation test

DVD 1 must be insulation tested if it has been dismantled.
Make the test when the DVD 1 is reassembled and is ready to be returned to the customer.

Insulation test

- Short-circuit the two pins of the mains plug and connect them to one of the terminals of the Insulation tester. Connect the other terminal of the insulation tester to ground on the DIGITAL OUTPUT socket.
- To avoid damaging the DVD 1, it is essential to ensure that both terminals of the insulation tester have good contact.
- Slowly turn up the voltage control of the insulation tester until a voltage of 2.5kV(ac) is obtained.
- Maintain that voltage level for one second, then slowly turn it down again.
- During the testing the current must not exceed 10mA.

Please note:

Avoid all skin contact with the AC plug and all other metal parts while performing the test, as this contact may influence the measurement.

Confirm picture and sound

DVD

Confirm the region setting is correct, use a DVD with the correct region.

CD

Confirm audio sound, use a CD.

Error log.

Clear the error log. Use the ServiceTool.

Customer setup.

Remember to inform the customer of any changes that has been made in the user setup, due to service procedures, such as "Memory clear".

Restore the customers setup.

Clean the DVD1.

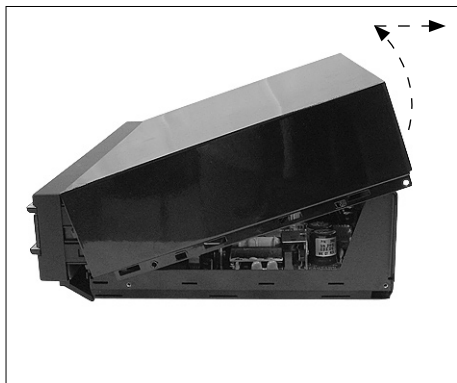
Wipe dust off the surface off DVD 1 using a dry, soft cloth. If necessary, remove grease stains or more persistent dirt with a firmly wrung soft cloth which you have dipped in a solution of water containing a few drops of mild detergent.

Never use alcohol or other solvents to clean any part of DVD 1.

Disassembly

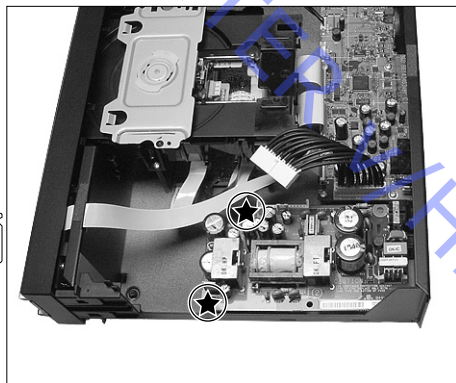


Both sides of DVD1

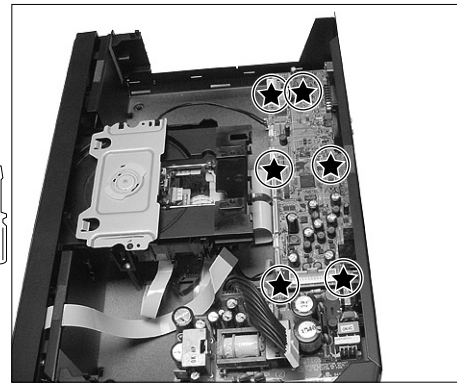
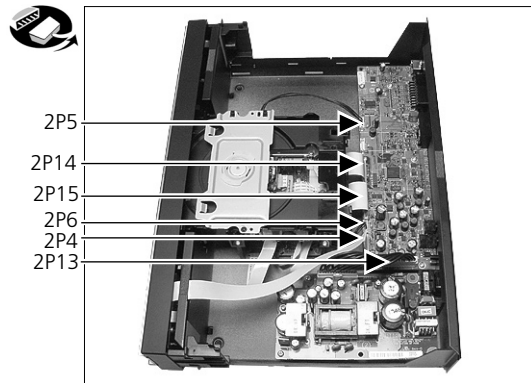


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PCB1 Switch Mode Power supply

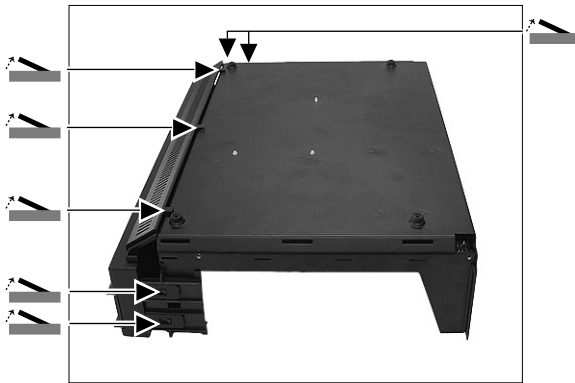
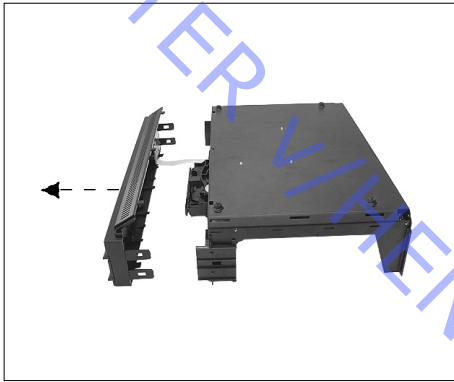
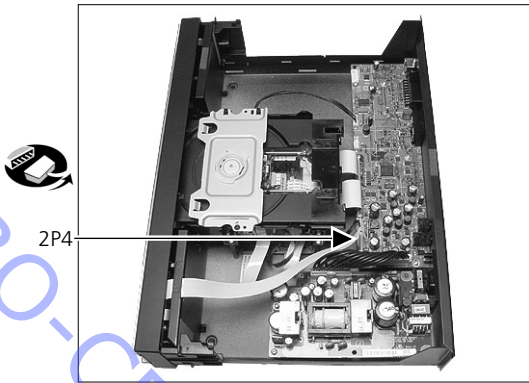


PCB2 AV Board

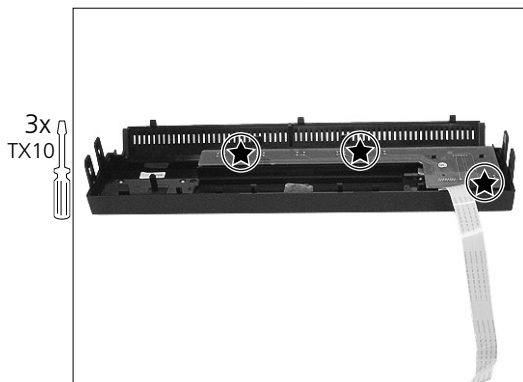


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PCB3 Keyboard & Display

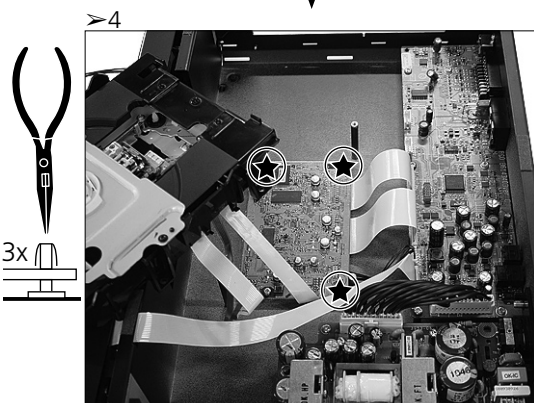
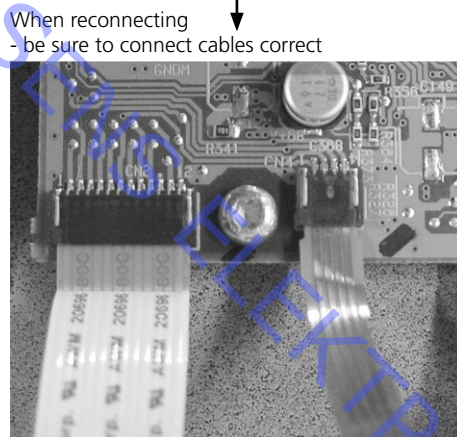
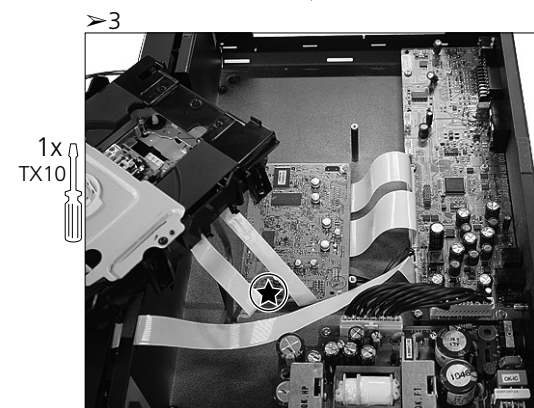
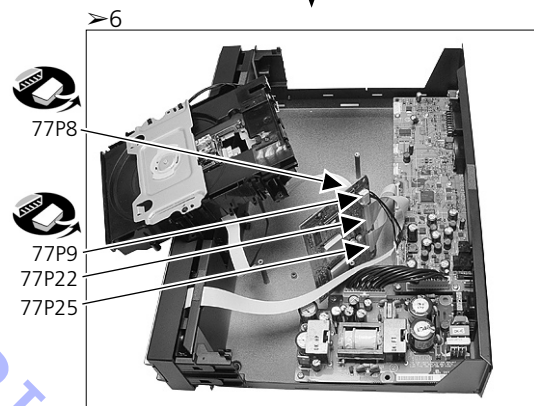
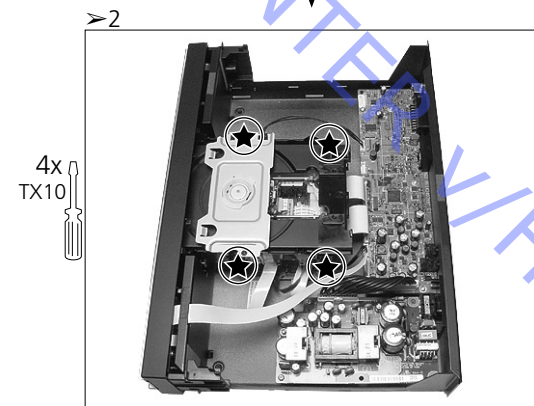
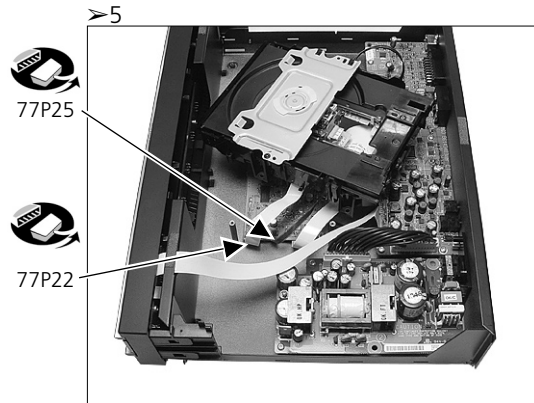
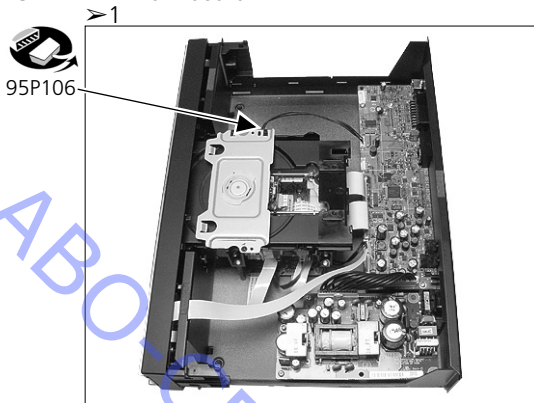


Push to "unlock" front



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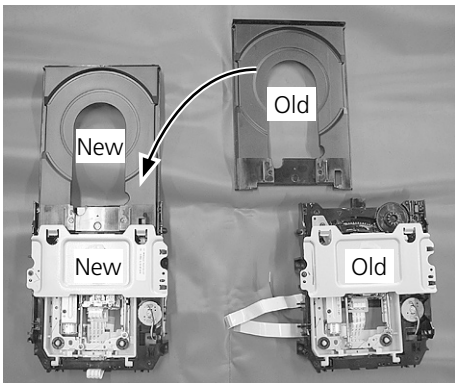
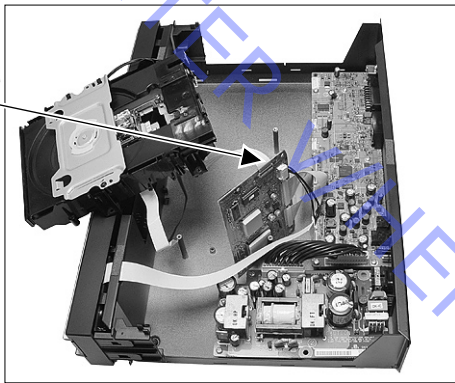
PCB77 DVD Main board



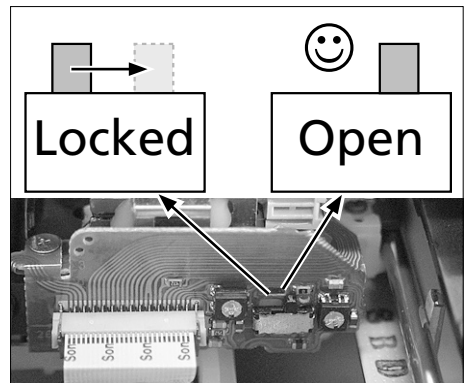
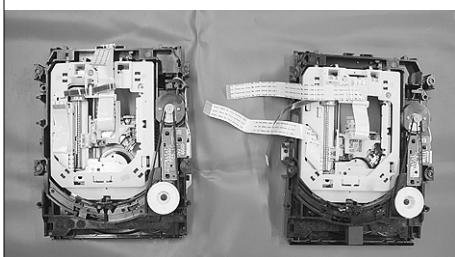
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PCB95 DVD Mechanism

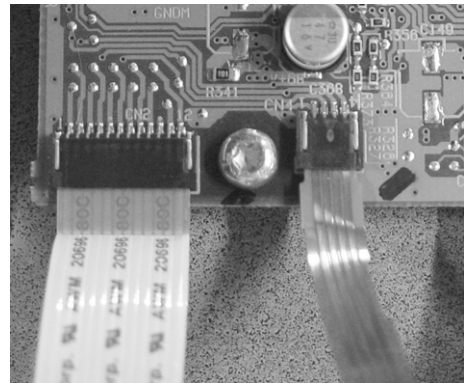
➔ Remove PCB77 DVD Main board (>1 - >5)



Place cables so they are placed the same way as on the old mechanism



When reconnecting
- be sure to connect cables correct



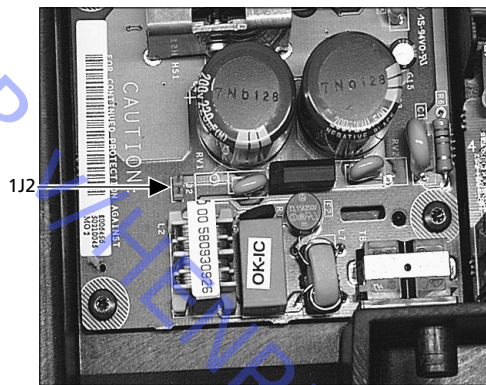
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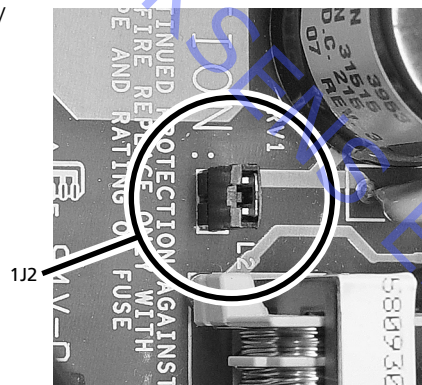
SPECIFICATION GUIDELINES FOR SERVICE USE		DVD 1 MKII		
DVD Region		* See type survey		
Cabinet finish		Black, Silver		
Operation		Close-up operation Beo 4, Beo 1 remote control via BeoVison recommended		
Disc size		12 cm. - 8 cm		
Audio frequency response		4 -20,000 Hz		
Playback the following		DVD-Video, Video CD, CD-A, CD-R, CD-RW, CD-MP3 Multistandard PAL/NTSC		
Signal/noise ratio Audio		≥ 110 dB, A weighted		
Dimensions W x H x D/Weight		38 x 9.7 x 28 cm/4.0 kg		
Power supply		100-120 volts or 220-240 volts/50/60 Hz (* See type survey)		
Power consumption		Typical 13 watts / st-by < 1 watt		
Connections				
AV	Pin 1	Audio R out 1.8V RMS 1k ohm		
	Pin 2	Not used		
	Pin 3	Audio L out 1.8V RMS 1k ohm		
	Pin 4	Audio GND		
	Pin 5	Blue GND		
	Pin 6	Not used		
	Pin 7	Blue out 0.7 Vpp 75 ohms		
	Pin 8	OV / 6V (16:9) / 12V (4:3)		
	Pin 9	Green GND		
	Pin 10	Not used		
	Pin 11	Green out 0.7 Vpp 75 ohms		
	Pin 12	Not used		
	Pin 13	Red GND		
	Pin 14	Blanking GND		
	Pin 15	Red out 0.7 Vpp 75 ohms C out 0.3 Vpp 75 ohms		
	Pin 16	Blanking out 75 ohms	Logic 0 = 0V to 0.4V Logic 1 = 1V to 3V	
	Pin 17	Video out GND		
	Pin 18	Video in GND		
	Pin 19	Composite video out 1 Vpp 75 ohms Y out 1 Vpp 75 ohms		
	Pin 20	Not used		
	Pin 21	Shield		
S-VIDEO	Pin 1	Y GND		
	Pin 2	C GND		
	Pin 3	Y out 1 Vpp 75 ohms		
	Pin 4	C out 0.3 Vpp 75 ohms		
VIDEO		Composite video out 1 Vpp 75 ohms		
DIG. OUT		Digital audio output 0.5 Vpp ± 20%		
LINE OUT L & R		Audio L & R out 1.8 V RMS 100 kohm		
CTRL	AVL	9.5 V - 12 V	4:3 (Logic 1)	
		5 V - 7 V	16:9	
		0 V - 2 V	Logic 0	
SERVICE		ATI		
Subject to change without notice				

* Type survey			
Type	Market	DVD Region	Mains voltage
4621	Austria, Bahrain, Belgium, Croatia, Czech Repub., Denmark, Egypt, Finland, France, Germany, Greece, Holland, Hungary, Israel, Italy, Kuwait, Lebanon, Norway, Oman, Poland, Portugal, Qatar, Saudi Arabia, Slovak Rep., Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, UK, United Arab Emirates	2	220-240 Volts
4622	Taiwan	3	100-120 Volts
4623	Hong Kong, Indonesia, Malaysia, Singapore, Thailand	3	220-240 Volts
4624	Brazil, Mexico	4	100-120 Volts
4625	Argentina, Australia, Chile, New Zealand, Peru, Uruguay	4	220-240 Volts
4626	Morocco, Russia	5	220-240 Volts
4627	China	6	220-240 Volts

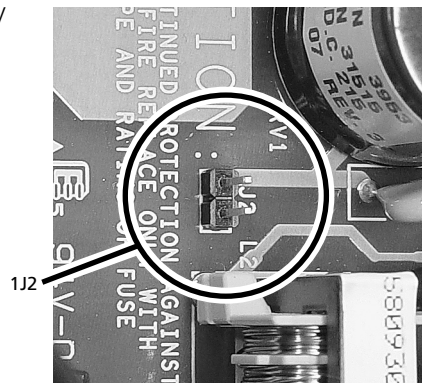
Mains voltage



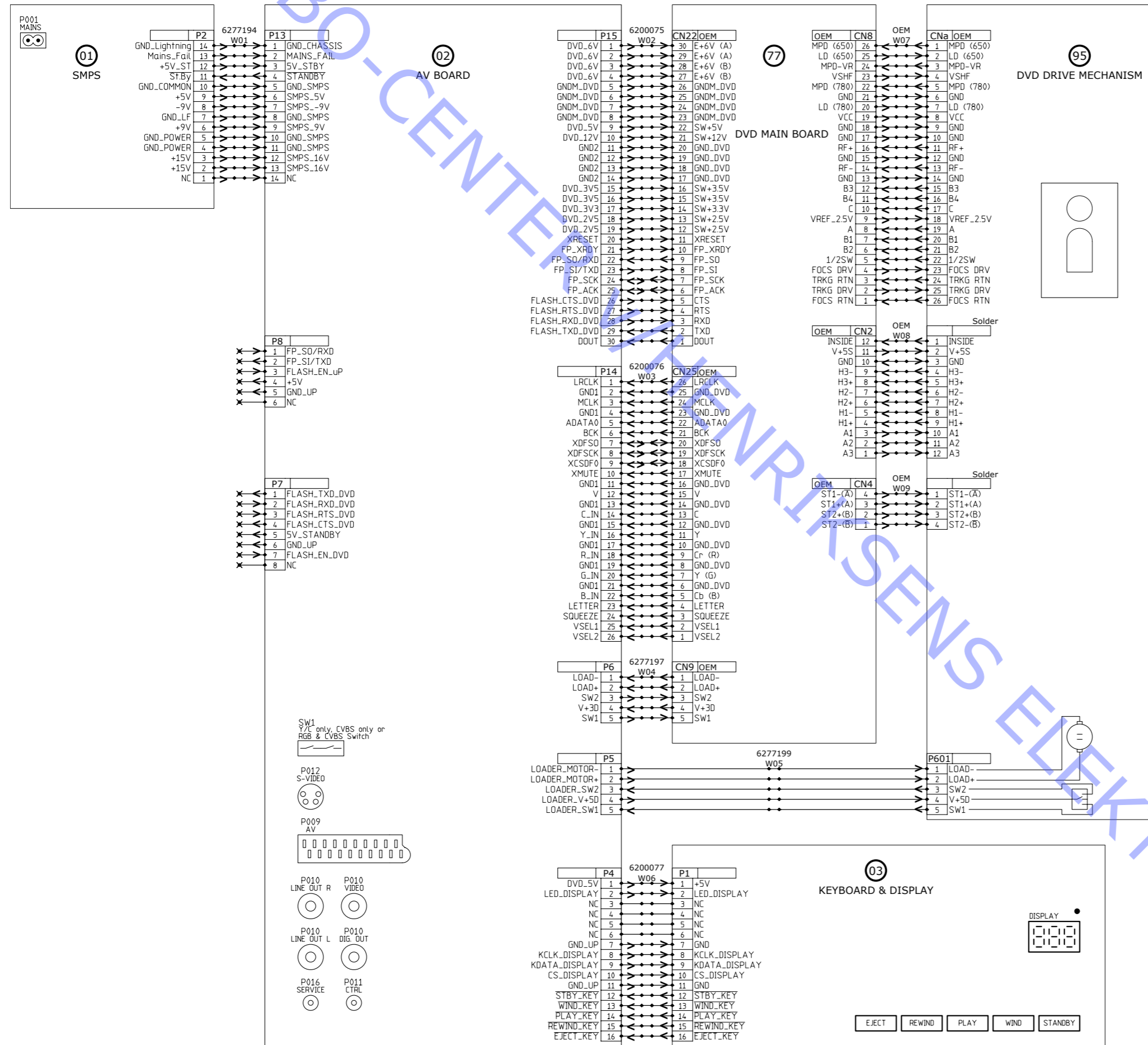
100 - 120 V



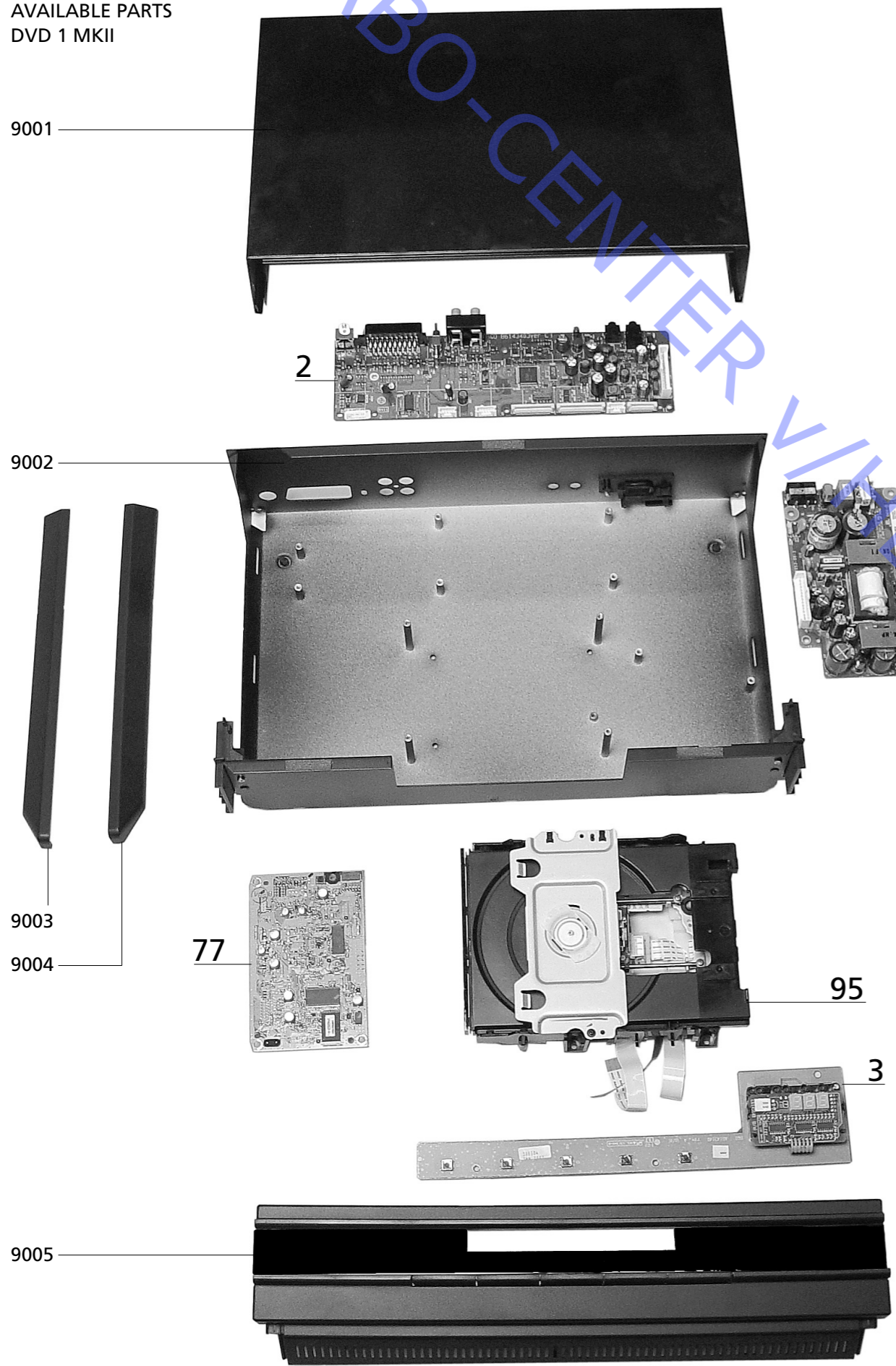
220 - 240 V



Wiring diagram



AVAILABLE PARTS
DVD 1 MKII



DVD 1

Wire bundles

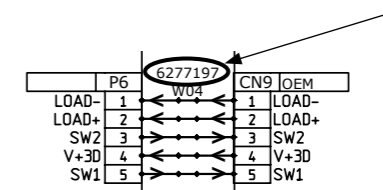
Parts not shown

Packing

Available documentation

9001	3400482	Top cover, black
	3400487	Top cover, silver
9002	3451358	Iron chassis
9003	3320756	Side panel, left
9004	3320755	Side panel, right
9005	3451357	Front panel w/buttons
1Module	8006898	PCB1, Switch Mode Power Supply
	7221406	PCB1, Jumper for 115V mains conversion
2Module	8001444	PCB2, AV Board
3Module	8001346	PCB3, Keyboard
77Module	8001347	PCB77, DVD Mainboard
95Module	8001355	DVD Mechanism

See wiring diagram page 3.1.
The part no. is printed on the diagram above the wire bundle, as shown.



6100245	Mains lead EU
6100328	Mains lead GB
6100248	Mains lead AUS
6100040	Mains lead CHN
6100306	Mains lead US
6270803	AV cable
6270804	Data cable 10cm w. mini jack
6270775	SPDIF cable
3375258	Bag w/screws and washers
3395242	Back-up suitcase

3396135	Set of foam
3392509	Outer carton

See Retail System

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