



**AKAI**

**DVD PLAYER**

Model:  
DV-P4940KDSM

**SERVICE MANUAL**

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# 1. General Sections

## Cautions and Warnings

### Product Safety Notice

Parts marked with the symbol  in the schematic diagram have critical characteristics.

Use **ONLY** replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check out procedures.



### Leakage Current Check/Resistance Check

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 K ohms, the unit is defective.

WARNING: DO NOT return the set to the customer until the problem or located is corrected.

### Protection of Eyes from Laser Beam

To protect eyes from invisible laser beam during servicing  
DO NOT LOOK AT THE LASER BEAM

### Laser Caution

This Digital Video Disc Player employs a Laser System. To prevent direct exposure to the laser beam, do not try to open the enclosure.

Visible laser radiation emits when open and interlocks are defeated.

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure. This CD Changer must be adjusted and repaired only by qualified service personnel.

**DO NOT STARE INTO BEAM.**

## Precautions

### 1. ESD Precautions in Repairing

1.1 Do not apply excessive pressure on the mechanical parts (moving parts), including the Pickup Block, as extremely high mechanical precision or required in these parts.

1.2 When soldering the microprocessor and signal processing IC's, use a ceramic soldering iron or a soldering iron whose metal part is grounded since they are not resistant to static electricity.

1.3 When removing the solder or soldering the laser shorting lands for the Pickup Block, use a ceramic soldering iron or a soldering iron whose metal part is grounded since the laser diode or not resistant to static electricity.

### 2. DVD Loading Unit Precautions when handling the Mechanism Block

2.1 Do not loosen any screws in the Pickup Block.

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2.2 Do not adjust any screws in the Mechanism Block except for "Tilt Adjust Screws", as they are adjusted precisely at the factory.

2.3 Replacement of the Pickup Block is impossible. Always replace the Traverse Ass'y when the Pickup Block needed to be replaced. Do not touch the lens or lens holder of the Pickup Block.

2.4 The Guide Rails of the Pickup Block are greased. Take care when handling.

2.5 When you try to slide the Pickup Block, do not press or pull it directly. Always turn the drive gears with your fingers.

2.6 Be sure that the anti-slipping rubber on the turntable or clean. If there is dust or it is greasy, clean the part with the liquid that contains 50% each of alcohol and water.

When removing the Mechanism P.C.B. Ass'y, you need to short-circuit the laser diode shorting lands beforehand.

### Test Equipment / Jigs

Variable isolating transformer, Dual channel oscilloscope, Digital multimeter

### Specification

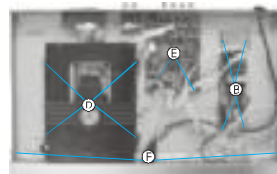
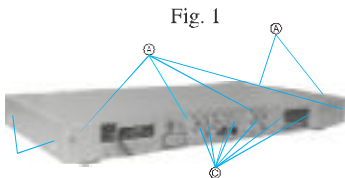
<b>1</b>	<b>Chassis</b>	
	Laser concept	2 laser for DVD and VCD
<b>2</b>	<b>Disc formats</b>	
	DVD+R	Yes
	DVD-R	Yes
	DVD+RW	Yes
	DVD-RW	Yes
	CD-R	Yes
	CD-RW	Yes
<b>3</b>	<b>Media formats</b>	
	DVD-Video	Yes
	Audio CD	Yes
	Video CD	VCD 1.0,1.1,2.0
	S-Video CD	Yes
	CD-ROM	MP3, JPEG, Kodak Picture CD,WMA
<b>4</b>	<b>Player features</b>	
	Parental control	Yes, numerical lock
	Screen saver	Yes
	Picture mode select	Yes
	Video strobe	Yes
	Video filter	Yes
	File browser	MP3, JPEG, Kodak Picture CD,WMA
<b>5</b>	<b>Player functions</b>	
	Play/stop/pause	Yes/Yes/Yes
	Next/previous(skip)	Yes/Yes
	Fast forward/reverse	Yes/Yes ( 2X / 4X / 8X / 20X )
	Zoom	2X / 3X / 4X / 1/2 / 1/3 / 1/4
	Slow motion forward /reverse	Yes/Yes ( DVD,VCD: 1/2,1/3,1/4,1/5,1/6,1/7 )

	Perfect still picture	Yes
	Frame advance /reverse	Yes/Yes
	Repeat CD /DVD	DVD: title -chapter-A/B,VCD,CD: A/B-repeat one-repeat all
	Random play	CDDA, MP3,WMA
	Program play	CDDA,DVD,JPEG,MP3,WMA
	Last memory( resume)	Yes
<b>6</b>	<b>Region Code</b>	
	Region code	All Regions
<b>7</b>	<b>OSD</b>	
	OSD style	standard
	OSD language	English
<b>8</b>	<b>Audio out</b>	
	Digital Audio decoder	Dolby digital AC-3, MPEG 2, PCM, MP3
	Digital Audio output	Dolby digital AC-3, MPEG, PCM 48/96 KHz
	Analog Audio output	5.1CH; 2CH mix
	Audio D/A converter	24 Bit/96kHz
	Virtual surround Sound	Yes
	Digital sound process	Yes
	Frequency range DVD 48/96 kHz	4 Hz-22 kHz/ 4 Hz- 44 kHz
	Frequency range CD 44.1 kHz	4 Hz-20 kHz
	Dynamic range 1 kHz	≥90 dB
	Crosstalk	≥90 dB
	Signal noise	≥90 dB
<b>9</b>	<b>Video out</b>	
	Video D/A converter	10 Bit / 54 MHz
	Progressive Video out	PAL / NTSC
	PAL	Yes, 625 lines / 50Hz / 4.43 MHz
	NTSC	Yes, 525 lines / 60 Hz / 3.58 MHz
	Norm converter	Yes
	Video resolution	525 lines
	Frequency response	5MHz < -3 dB
	Signal noise rate luminance	>60 dB unweighted
	Signal noise rate chroma	>60 dB unweighted
<b>10</b>	<b>Connections rear</b>	
	scart output	Yes
	Cinch Video	Yes, 1x output
	Cinch Audio	Yes, 6x output
	S-Video ( Y-C)	Yes, 1x output
	Digital Audio out coaxial	Yes, 1x
	Digital Audio out optical	Yes, 1x

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<b>11</b>	<b>Power Supply</b>	
	Power voltage	AC ~ 110 ~ 240V 50/60 Hz
	Max. power consumption	Approx. max. 20W
	Power switch	Yes
	Power supply plug	Yes
<b>12</b>	<b>Cabinet</b>	
	Dimensions in cm (W x H x D) net	Approx. 43x3.8x25.5
	Dimensions of carton in cm (W x H x D)	Approx. 470x104x296
	Weight (net) in kg	2.5
	Weight with carton (gross) in kg	3.5
<b>13</b>	<b>Design</b>	
	Design	mirror-like front panel
	Cabinet keys	POWER, PLAY, PAUSE, STOP, OPEN/CLOSE,
<b>14</b>	<b>Remote Control</b>	
	Type	standard
	Batteries	YES, CR2025 BUTTON BATTERY
	IR code	standard
<b>15</b>	<b>Display</b>	
	Type	LED
<b>16</b>	<b>Packaging</b>	
	1 set /carton	Yes
	54 cartons/ slip-sheet	Yes
<b>17</b>	<b>Supplied Accessories</b>	
	Power cord	Yes
	Remote control	Yes
	Batteries	Yes
	Instruction Manual	Yes
	Warranty info	Yes
<b>19</b>	<b>Safely Conformity</b>	
	3C	YES

### Dissassembly Instructions



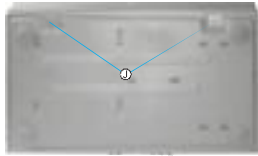


Fig.3



Fig. 4

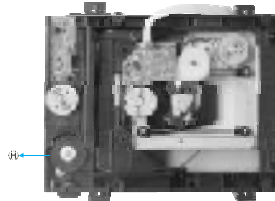


Fig. 5

1. Cabinet Upper Part
  - Undo the 7 screws A(Fig.1)
  - Bend the upper part of the cabinet from the rear side (Fig. 1) off the base plate, and then detach the cabinet upper part from the unit.
2. Front Panel
  - Undo the 2 screws J (Fig. 3)
  - Undo the 2 screws F (Fig. 2)
  - Unplug the connectors if necessary.
3. VFD Driver and Key Control Board Units
  - Remove the front panel (Point 2)
  - Undo the 4 screws I (Fig. 4)
  - Remove the VFD Driver and Key Control Board units.
4. Power Supply Board
  - Undo the 4 screws B (Fig. 2).
  - Remove the Power Supply Board from the unit.
  - Unplug the connectors if necessary.
5. Main Board
  - Undo the 2 screws E(Fig.2).
  - Remove the main board.
  - Unplug the connectors if necessary.
6. Output Board
  - Undo the 7 screws C(Fig.1).
  - Remove the output board.
  - Unplug the connectors if necessary.
7. Drive Mechanism
  - Undo the 4 screws D (Fig. 2)
  - Lift the drive mechanism at its back part, slide it to the rear, and then remove it.
  - Unplug the connectors if necessary.
8. Opening the Tray of a Defective Unit
  - Turn the toothed wheel H (Fig. 5) in direction of the arrow until the tray moves then pull out the tray completely.
  - Remove the DVD/CD from the defective drive unit if necessary.

## 2. Service and Special Functions

### Software Upgrade

You can download the upgrade software "DVD ROM.BIN", from Web using an Internet browser.

- Copy the "DVD ROM.BIN", on the drive of your PC.
- Create a software upgrade CD.
- Use only a new CD-R/CD-RW(not a erased one).
- the CD name is not been required.
- Burn the "DVD ROM.BIN" on the CD-R/CD-RW
- Insert the upgrade CD,the unit will be upgraded automatically
- After upgrade , the disc tray will opened , remove the upgrade CD.

Attention:The file name is captital.Don't power off the unit and remove the upgrade CD when upgrading.

### Initialization of the Set

You can restore all the custom settings to the basic settings.

- Press SETUP button to open the main menu.
- Select the PREFERENCES line with ▲ or ► and activate with ENTER button.
- Select the DEFAULTS line with ▲ or ▼ and press ENTER button to confirm.
- Select the RESET press ENTER button to reset the unit to its basic settings.
- Press SETUP to exit the menu.

## 3. Layout of Circuit Diagrams and PCBs

### Main Board



ZIRAN	
NO.	REVISI/REVISOR
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

Value is [ ] for size adjustment only.

