



AKAI DAW
 **1500x-II**

DISK DRIVE UNIT

Operator's Manual

WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

970319 Printed in Japan

WARNING!!

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

1-En



THE SYMBOLS ARE RULED BY UL STANDARDS (U.S.A.).



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

5B-En

Warning

Power requirements for electrical equipment vary from area to area. Please ensure that your DD1500x-II meets the power requirements in your area. If in doubt, contact a qualified electrician or AKAI Professional dealer.

120 VAC	@ 60 Hz for United States and Canada
220~230/240 VAC	@ 50 Hz for Europe
240 VAC	@ 50 Hz for Australia

Protecting Yourself And The DD1500x-II

- Never touch the AC plug with wet hands.
- Always disconnect the DD1500x-II from the power supply by pulling on the plug, not the cord.
- Allow only an AKAI Professional dealer or qualified professional engineer to repair or reassemble the DD1500x-II. Apart from voiding the warranty, unauthorized engineers might touch live internal parts and receive a serious electrical shock.
- Do not put, or allow anyone to put any object, especially metal objects, into the DD1500x-II.
- Use only a household AC power supply. Never use a DC power supply.
- If water or any other liquid is spilled into or onto the DD1500x-II, disconnect the power, and call your dealer.
- Make sure that the unit is well-ventilated, and away from the direct sunlight.
- To avoid damage to internal circuitry, as well as the external finish, keep the DD1500x-II away from sources of direct heat (stoves, radiators, etc.).
- Avoid using aerosol insecticides, etc. near the DD1500x-II. They may damage the surface and may ignite.
- Do not use denatured alcohol, thinner or similar chemicals to clean the DD1500x-II. They may damage the finish.
- Modification of this equipment is dangerous, and can result in the functions of the DD1500x-II being impaired. Never attempt to modify the equipment in any way.
- In order to assure optimum performance of your DD1500x-II, select the setup location carefully, and make sure the equipment is used properly. Avoid setting the DD1500x-II in the following locations:
 1. In a humid or dusty environment
 2. In a room with poor ventilation
 3. On a surface that is not horizontal
 4. Inside a vehicle such as a car, where it will be subject to vibration
 5. In an extremely hot or cold environment

Special notes on use of the DD1500x-II

The DD1500x-II incorporates an MO disk drive. To handle the device, pay special attentions in the following points:

1. The MO disk drive is a special precision device and is very sensitive to shock or vibration. If you plan to move the DD1500x-II by air, land, we recommend to put the unit into a shell-type case (urethane-cushioned inside) that meets the ATA specifications
2. Set the DD1500x-II horizontally (within 10 degrees to the front or rear panel). Do not set the unit vertically or in a slanted location.
3. In case the DD1500x-II is moved into a relatively warm room, etc., the laser pickup of the MO disk drive may have condensation. In this case, do not use the unit immediately after it is turned on. Always wait for more than one hour with the DD1500x-II turned on, until the condensation is removed. Then insert an MO disk and start the session.
4. Set the DD1500x-II so as not to prevent its ventilation (by the fan unit on the rear panel). Also, if you rack-mount the DD1500x-II with other devices, be sure to keep at least 10 cm over and under the DD1500x-II for good air circulation.

Copyright notice

The AKAI DD1500x-II is a computer-based device, and as such contains and uses software in ROMs. This software, and all related documentation, including this Operator's Manual, contain proprietary information that is protected by copyright laws. All rights are reserved. No part of the software or its documentation may be copied, transferred or modified. You may not modify, adapt, translate, lease, distribute, resell for profit or create derivative works based on the software and its related documentation or any part thereof without prior written consent from AKAI Electric Co., Ltd., Tokyo, Japan.

WARNING
THIS APPARATUS MUST BE EARTHED
IMPORTANT

This equipment is fitted with an approved non-rewireable UK mains plug.
To change the fuse in this type of plug proceed as follows:

- 1) Remove the fuse cover and old fuse.
- 2) Fit a new fuse which should be a BS1362 5 Amp A.S.T.A or BSI approved type.
- 3) Refit the fuse cover.

If the AC mains plug fitted to the lead supplied with this equipment is not suitable for your type of AC outlet sockets, it should be changed to an AC mains lead, complete with moulded plug, to the appropriate type. If this is not possible, the plug should be cut off and a correct one fitted to suit the AC outlet. This should be fused at 5 Amps.

If a plug without a fuse is used, the fuse at the distribution board should NOT BE GREATER than 5 Amp.

*PLEASE NOTE: THE SEVERED PLUG MUST BE DESTROYED TO AVOID A POSSIBLE SHOCK
HAZARD SHOULD IT BE INSERTED INTO A 13 AMP SOCKET ELSEWHERE.*

The wires in this mains lead are coloured in accordance with the following code:

GREEN and YELLOW	—EARTH
BLUE	—NEUTRAL
BROWN	—LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, please proceed as follows:

The wire which is coloured GREEN and YELLOW must be connected to the terminal which is marked with the letter E or with the safety earth symbol \perp or coloured GREEN or coloured GREEN and YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

THIS APPARATUS MUST BE EARTHED

Ensure that all the terminals are securely tightened and no loose strands of wire exist.

Before replacing the plug cover, make certain the cord grip is clamped over the outer sheath of the lead and not simply over the wires.

6D-En

CERTIFICATION: PRODUCT COMPLIES WITH DHHS RULES 21 CFR, CHAPTER I, SUBCHAPTER J.

19-En

CAUTION
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN
THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

20-En

FCC warning

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

21A-En

CLASS 1 LASER PRODUCT

**DANGER- INVISIBLE LASER RADIATION
WHEN OPEN AND INTERLOCK
FAILED OR DEFEATED.**

AVOID DIRECT EXPOSURE TO BEAM.

This product contains a low power laser device. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product. Refer any servicing to qualified personnel.

**CLASS 1 LASER PRODUCT
KLASSE 1 LASER PRODUKT
LUOKAN 1 LASER LAITE
KLASS 1 LASER APPARAT**

**CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND
INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM.**

**ADVARSEL : USYNLIG LASERSTRALING VED ABNING NAR
SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDDGA
UDSETTELSE FOR STRALING.**

**VAROITUS : LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ
KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA
ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1
YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.**

**WARNING : OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I
DENNA BRUKSANVISNING SPECIFICERATS, KAN
ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG
LASERSTRÄLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR
LASERKLASS 1**

23-En

AVIS POUR LES ACHETEURS CANADIENS DU DD1500x-II

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

27-F

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

27-En

VENTILATION

Do not prevent the unit's ventilation, especially by placing the unit on the soft carpet, in a narrow space, or by placing objects on the unit's chassis - top, side, or rear panels. Always keep the unit's chassis at least 10 centimeters from any other objects.

31C-En

CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE MANUFACTURER FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

32-En

Warranty

AKAI Electric Co., Ltd., warrants its products, when purchased from an authorized AKAI dealer, to be free from defects in materials and workmanship for a period of 12 (twelve) months from the date of purchase. Warranty service is effective and available to the original purchase only, and only on completion and return of the AKAI Warranty Registration Card within 14 days of purchase.

Warranty coverage is valid for factory-authorized updates to AKAI instruments and their software, when their installation is performed by an authorized AKAI Service Center, and a properly completed Warranty Registration has been returned to your AKAI Professional dealer.

To obtain service under this warranty, the product must, on discovery of the defect, be properly packed and shipped to the nearest AKAI Service Center. The party requesting warranty service must provide proof of original ownership and date of purchase of the product.

If the warranty is valid, AKAI will, without charge for parts or labor, either repair or replace the defective part(s). Without a valid warranty, the entire cost of the repair (parts and labor) is the responsibility of the product's owner.

AKAI warrants that it will make all necessary adjustments, repairs and replacements at no cost to the original owner within 12 (twelve) months of the purchase date if:

1. The product fails to perform its specified functions due to failure of one or more of its components.
2. The product fails to perform its specified functions due to defects in workmanship.
3. The product has been maintained and operated by the owner in strict accordance with the written instructions for proper maintenance and use as specified in this Operator's Manual.

Before purchase and use, owners should determine the suitability of the product for their intended use, and owner assumes all risk and liability whatsoever in connection therewith. AKAI shall not be liable for any injury, loss or damage, direct or consequential, arising out of use, or inability to use the product.

The warranty provides only those benefits specified, and does not cover defects or repairs needed as a result of acts beyond the control of AKAI, including but not limited to:

1. Damage caused by abuse, accident, negligence. AKAI will not cover under warranty any original factory disk damaged or destroyed as a result of the owner's mishandling.
2. Damage caused by any tampering, alteration or modification of the product: operating software, mechanical or electronic components.
3. Damage caused by failure to maintain and operate the product in strict accordance with the written instructions for proper maintenance and use as specified in this Operator's Manual.
4. Damage caused by repairs or attempted repairs by unauthorized persons.
5. Damage caused by fire, smoke, falling objects, water or other liquids, or natural events such as rain, floods, earthquakes, lightning, tornadoes, storms, etc.
6. Damage caused by operation on improper voltages.

IMPORTANT NOTE: *This warranty becomes void if the product or its software is electronically modified, altered or tampered with in any way.*

AKAI shall not be liable for costs involved in packing or preparing the product for shipping, with regard to time, labor, or materials, shipping or freight costs, or time or expense involved in transporting the product to and from AKAI Authorized Service Center or Authorized Dealer.

AKAI will not cover under warranty an apparent malfunction that is determined to be user error, or owner's inability to use the product.

THE DURATION OF ANY OTHER WARRANTIES, WHETHER IMPLIED OR EXPRESS, INCLUDING BUT NOT LIMITED TO THE IMPLIED CONDITION OF MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN.

AKAI hereby excludes incidental or consequential damages, including but not limited to:

1. Loss of time.
2. Inconvenience
3. Delay in performance of the Warranty.
4. The loss of use of the product.
5. Commercial loss.
6. Breach of any express or implied warranty, including the Implied Warranty of Merchantability, applicable to this product.



Introduction

Thank you for buying an AKAI DD1500x-II Disk Drive Unit. The unit is designed for exclusive use with the DD1500 Digital Audio Workstation. With a Nikon DD53 magneto optical disk drive that conforms to 130 mm Optical Disk ISO Standard installed, you can use the MO disks of 2.6G, 1.3G and 650M Bytes for recording or playback of digital audio signal. Additionally, the MO disk drive conforms to ISO/IEC10089 standard so that you can, on the DD1500x-II, use the DD1000 MO disks.

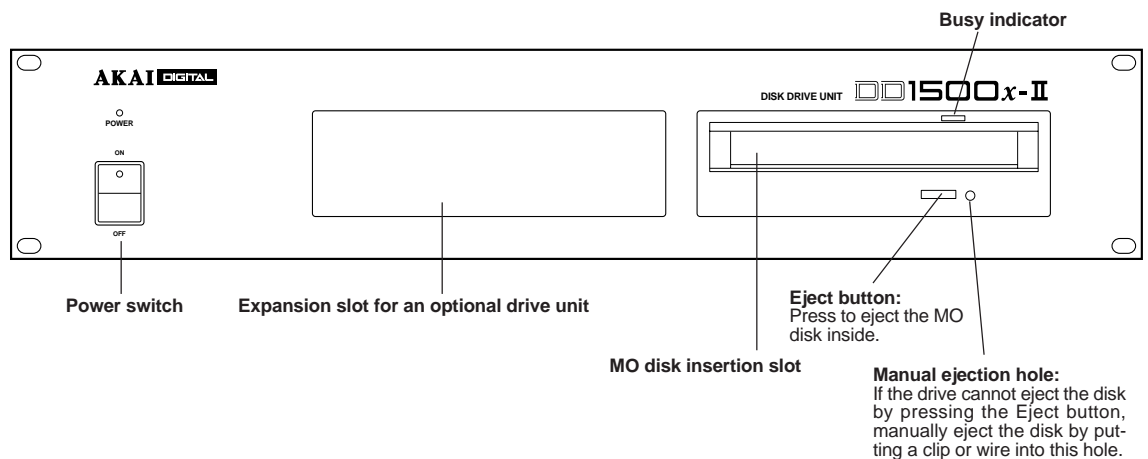
Note: Please use the operation system of v2.1 or higher version on your DD1500 system, otherwise its full performance may not be expected.

About This Manual

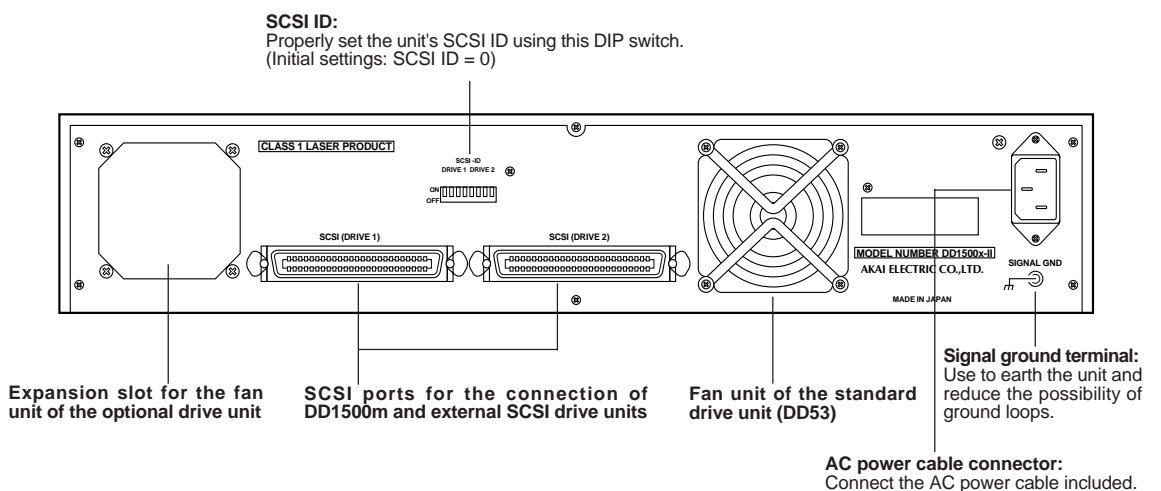
This manual describes the basic information regarding the DD1500x-II, a component of the DD1500 Digital Audio Workstation. Please refer to the DL1500 manual for detailed instructions regarding the whole system. Additionally, we recommend to bind this manual to the DL1500 manual, for easy access to the information of each component.

Panel Descriptions

Front Panel



Rear Panel



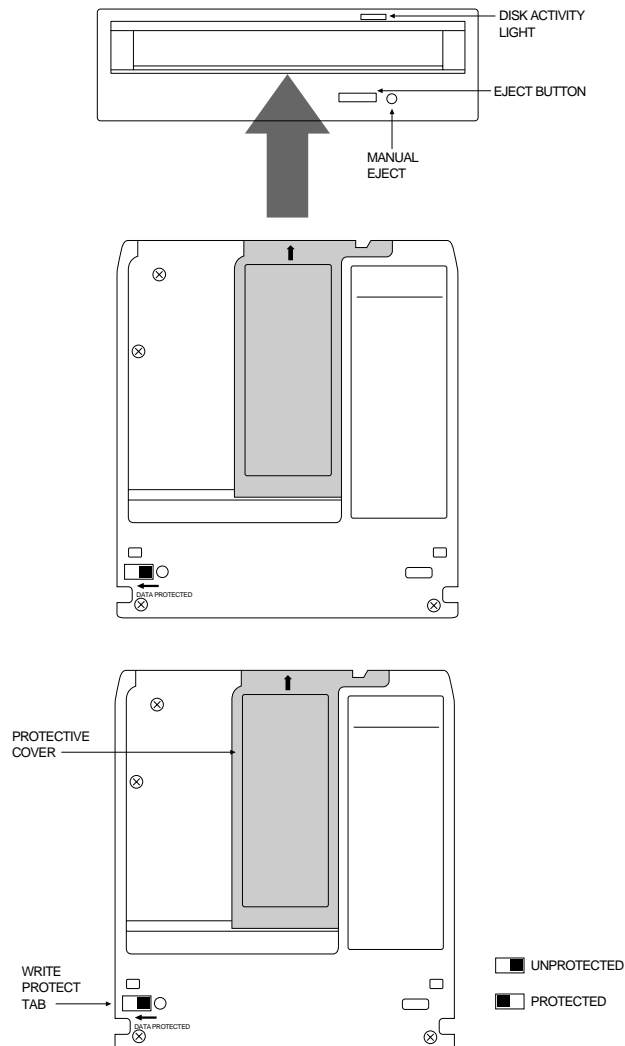
Handling the Magneto Optical Disk

The optical disk employed with the DD1500x-II is a rewritable magneto optical disk that measures 130 mm (5.25 inches) and conforms to ISO standards. Use only the Nikon D5-CD11 or equivalent type disks. The DD1500x-II package does not include any MO disks. Please purchase them separately.

The MO disk is double-sided, however the only one side can be used at a time. To use the other side, it is necessary to eject the disk, turn it over, and re-insert it.

Write protection is possible by two tabs. When the disk is in the insertion position (horizontal), the write-protect tab for the side you are using is at the left of the disk. Sliding the tab reveals a small hole. When the hole is visible, the relevant side of the disk is protected, and you cannot perform record, erase or format operations with that side of the disk.

Note: When inserting a disk, make sure that you insert it straight in the disk drive. Do not hold it at an angle, or leaning to one side. Additionally, do not force a disk into the drive. Failure to follow either of these warnings could result in serious, expensive damage to both the disk and disk drive.



Adjustment and Servicing

The DD1500x-II's disk drive is carefully adjusted for optimum performance when it is shipped from the factory. Special tools are necessary to make such adjustments to the DD1500x-II so please do not try to adjust it yourself. If the unit does not operate properly, or shows significant change in performance, consult the dealer where you purchased the unit or your nearest AKAI Professional dealer.

Maintenance and Regular Checks

Regular maintenance or checks are important for proper operations of the DD1500x-II and keeping the unit in optimum condition. Maintain the unit in the following points:

Cleaning the Magneto Optical Disk Drive

To maintain the disk drive, we suggest cleaning the drive once a month. Use the separately sold general lens cleaning cartridge to remove dirt and dust on the lens inside the disk drive.

Cleaning the Magneto Optical Disk

If there are stains or marks on the surface of the optical disk inside the cartridge, it may result in write or read errors. In such cases, remove any stains on the disk surface as following manners:

Open the metal shutter by pushing the black tab of the cartridge. Fasten the shutter with tape so that it cannot close.

Hold the cartridge and rotate the optical disk inside by touching the edge of the disk with your finger tips, to check for any stains or marks.

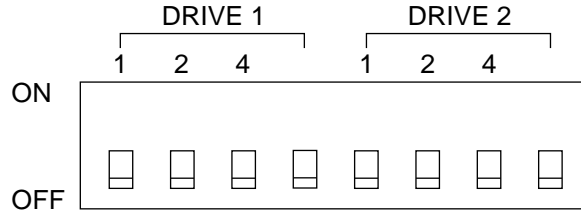
Use the general cloth with the disk cartridge to remove stains. Wipe the disk surface carefully from the hub to the outer edge as it goes along the radius of the disk. Do not force to remove stains.

Caution: *Using any other cloth or liquid not mentioned above may scratch or change the composition of the disk surface. It may cause data errors (worse than write or read errors)! Also, wiping in a circular manner may scratch the disk surface and lead to data errors.*

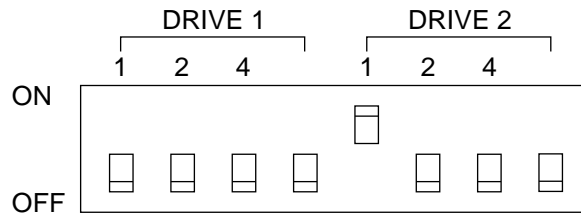
Cleaning frequency of the disk surface depends on the situation. However, it is recommended to clean it about every month.

DIP SWITCHES - SETTING SCSI ID

If you have just one DD1500x-II, you need not concern yourself with this too much as the correct SCSI ID will have been set at the factory. The default settings for a single drive is SCSI ID#0 and the rear panel DIP switches should look like this:



However, if you install another drive into the DD1500x-II, the DIP switches should be set as appropriate.



ID Numbers	DIP Switches		
	1	2	4
0	OFF	OFF	OFF
1	ON	OFF	OFF
2	OFF	ON	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	ON	OFF	ON
6	OFF	ON	ON
7	ON	ON	ON

SCSI ID#0 is still selected for the first drive. SCSI ID#1 has been set for the second (you may, of course, set any SCSI ID you like as long as it does not contend with any others on the buss).

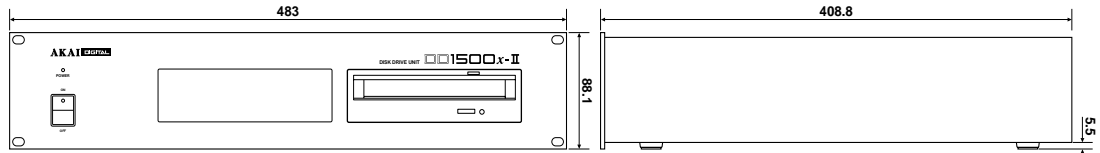
Note: In the DD1500 system, the DD1500m is set to SCSI ID #7. Select the ID numbers other than ID #7.

If you are using other drives in the system, then termination for the second disk in the DD1500x-II should be switched off (remove the terminator of accessory from connector) and the other drives terminated or otherwise as appropriate.

If you are in any doubt about SCSI IDs and termination, please consult your dealer. Similarly, if you are in any doubt about setting up a system with more than one drive, please consult your dealer who will be able to advise you.

DD1500x-II Specifications

- Power requirements /consumption** : 100 - 240 V AC, 50/60 Hz, 40 W
- Dimensions** : 483 x 88.1 x 408.8 (W x H x D, mm), EIA 2U
- Weight** : 7.9 kg



- Operating temperature** : 5~40 °C (40~105 °F)
- Operating humidity** : 30~80 % (no condensation)
- MO disk drive** : Nikon DD53 x 1
- Storage medium** : 5.25 inch (130 mm) double-sided double-density magneto optical disk
- SCSI ports** : 50-pin Amphenol x 2 (for external SCSI drive units)
- Accessories** : AC power cable, 50-pin SCSI cable (1 m), Terminator, Disk Eject Pin, Operator's Manual

* Above specifications are subject to change without notice.

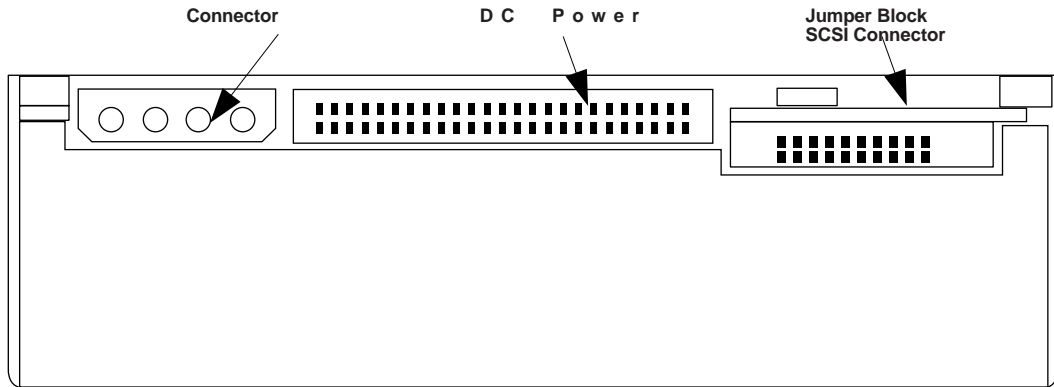
DD53 Specifications

Performance

Media	130 mm (5.25 inches) rewritable magneto optical disk	ISO / IEC10089 ISO / IEC13549 ISO / IEC14517
Number of revolutions	3600 rpm	
Record Rate	Max 4MB/Sec.	Use 4xLIMDOW media
Play Rate	Max 4MB/Sec.	Use 4xLIMDOW media
Seek time	average 24mSec.	except SCSI overhead of 5mSec.
Loading time	average 7.5 Sec.	Use 4xLIMDOW media
Eject time	average 3.3 Sec.	
Interface	SCSI-2	

LIMDOW: Light Intensity Modulation - Direct OverWrite

DD53 Rear Panel



50-pin SCSI connector	50-pin terminal for SCSI connection																																										
DC Power connector	Connector for supplying power																																										
Jumper block	<div style="text-align: center;"> </div> <table border="1"> <thead> <tr> <th>Connector Pin</th> <th>Signal Name</th> </tr> </thead> <tbody> <tr><td>1</td><td>*Library Interface Eject</td></tr> <tr><td>2</td><td>LED pipe</td></tr> <tr><td>3</td><td>*PWRDN REQ</td></tr> <tr><td>4</td><td>Drive present (Grounded)</td></tr> <tr><td>5</td><td>SCSI TERMPWR</td></tr> <tr><td>6</td><td>SCSI TERMPWR SRC</td></tr> <tr><td>7</td><td>*PWRDN ACK</td></tr> <tr><td>8</td><td>*Error Line</td></tr> <tr><td>9</td><td>Standalone/Autochanger</td></tr> <tr><td>10</td><td>*Cartridge in drive</td></tr> <tr><td>11</td><td>*Hard Reset</td></tr> <tr><td>12</td><td>*Cartridge loaded</td></tr> <tr><td>13</td><td>*SCSI parity enable</td></tr> <tr><td>14</td><td>Ground</td></tr> <tr><td>15</td><td>*SCSI Address ID2</td></tr> <tr><td>16</td><td>Ground</td></tr> <tr><td>17</td><td>*SCSI Address ID1</td></tr> <tr><td>18</td><td>Ground</td></tr> <tr><td>19</td><td>*SCSI Address ID0</td></tr> <tr><td>20</td><td>Ground</td></tr> </tbody> </table> <p>* = Asserted low</p>	Connector Pin	Signal Name	1	*Library Interface Eject	2	LED pipe	3	*PWRDN REQ	4	Drive present (Grounded)	5	SCSI TERMPWR	6	SCSI TERMPWR SRC	7	*PWRDN ACK	8	*Error Line	9	Standalone/Autochanger	10	*Cartridge in drive	11	*Hard Reset	12	*Cartridge loaded	13	*SCSI parity enable	14	Ground	15	*SCSI Address ID2	16	Ground	17	*SCSI Address ID1	18	Ground	19	*SCSI Address ID0	20	Ground
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