



# **DVD-103S**

**DVD-ROM Drive**

## **OPERATING INSTRUCTIONS**

Version 1.00

June 19, 2000

Pioneer Corporation  
Pioneer New Media Technologies, Inc.

This manual is copyrighted with all rights reserved. No part of this document may be reprinted, produced, translated or utilized in any form or by any means now known or hereafter invented including, but not limited to, any electronic, mechanical, photocopying and recording or information storage and retrieval system means, without the express written permission from Pioneer New Media Technologies, Inc.

Every effort has been made to ensure that the information in this manual is accurate. Pioneer is not responsible for printing or clerical errors.

Information in this document is subject to change without notice.

Copyright (c) 1999-2000 Pioneer New Media Technologies, Inc.

Document No. DVD103S\_OI  
Printed in the United States of America.

Mention of third-party products is for informational purposes only and contributes neither an endorsement nor a recommendation. Pioneer assumes no responsibility with regard to the performance or use of these products.

No investigation has been made of common-law trademark rights in any word. Words that are known to have current registrations are shown with an initial capital. Many, if not all, hardware and/or software products referenced in this manual are identified by their trade names. Most, if not all, of these designations are claimed a legally protected trademarks by the companies that make the product. It is not Pioneer's intent to use any of these names generically and cautions the reader to investigate any claimed trademark before using it for any purpose other than to refer to the product to which the trademark is attached.

Pioneer makes no warranty of any kind, expressed or implied, about the contents of this manual, the merchantability of the product or the product's fitness for any particular purpose.

Every precaution has been taken in the preparation of this manual. Although we tried to thoroughly check that all instructions and information in this manual are accurate and correct, Pioneer can not be and is not responsible, in whole or in part, for any damage or loss to your data and/or equipment that results from your use of this document or from any information contained herein including, but not limited to, any errors, omissions or typos that may have resulted in an incorrect operation or installation.

## IMPORTANT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications; there are no guarantees that interference will not occur in a particular installation. If this drive does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit which is different from the receiver's circuit
- Consult the dealer or an experienced radio/TV technician for help

## Table of Contents

<b>1.0</b>	<b>General Information.....</b>	<b>2</b>
<b>2.0</b>	<b>Safety Instructions .....</b>	<b>3</b>
2.1	Drive Precautions .....	3
2.2	Disc Precautions .....	4
<b>3.0</b>	<b>Features .....</b>	<b>4</b>
3.1	Specific Features.....	4
3.2	Precautions With CD-RW/DVD-RW Discs .....	5
3.3	When Playing 8cm (3.15") Discs.....	5
<b>4.0</b>	<b>Interface .....</b>	<b>5</b>
4.1	Front View .....	6
4.2	Back View.....	6
4.3	Region Code Information.....	7
<b>5.0</b>	<b>Installation .....</b>	<b>7</b>
5.1	Positioning the Drive.....	7
5.2	Connections .....	8
<b>6.0</b>	<b>Specifications .....</b>	<b>9</b>
6.1	General Functions .....	9
6.2	Specific Functions .....	9

## 1.0 GENERAL INFORMATION

Thank you for buying this Pioneer DVD-ROM drive. Please read through these operating instructions to understand your unit properly. After you have finished reading the instructions, put them away in a safe place for future reference.

**WARNING:** To prevent fire or shock hazard, do not expose drive to rain or moisture.

**CAUTION:** This product contains a laser diode of higher class than 1. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel. For *pluggable* equipment, install near a wall outlet for easy access. The drive is labeled as a *Class 1 Laser Product* on the top of the cover.

Do not remove the cover. Alterations or modifications carried out without appropriate authorization may invalidate the warranty.

This product complies with the EMC Directives (89/336/EEC, 92/31/EEC) and CE Marking Directive (93/68/EEC).

The Generation of Acoustical Noise is less than 70dB.

(For Canadian model: This Class B digital apparatus complies with Canadian ICES-003.)

Play only round discs rather than unique shapes such as a heart or diamond.

### AFTER SALES SERVICE FOR PIONEER PRODUCTS:

Contact your dealer or distributor for after-sales and warranty service. Please provide any necessary warranty documents or other pertinent information. If the documents are unavailable, please contact the Pioneer regional service headquarters listed below.

**Please do NOT ship any products to these non-repair center addresses**

#### AMERICA

Pioneer Electronics Service, Inc.  
Customer Support Division  
P.O. box 1760  
Long Beach, CA 90801-1760

#### EUROPE

Pioneer Electronics (Europe) N V  
European Service Division  
Haven 1087, Keetbeglaan 1, 19120 Melsele, Belgium

**ASIAN**

Pioneer Electronics Asiacentre PTE Ltd.  
Service Department  
253 Alexandra Road, #04-01  
Singapore 159936

**JAPAN & OTHERS**

Pioneer Corporation (Head Office)  
Customer Support Center  
4-1, Meguro 1-Chrome, Meguro-KU, Tokyo 153-8654 Japan

## 2.0 SAFETY INSTRUCTIONS

To ensure your personal safety and to maximize the full operating potential of your drive, read and follow the precautions listed below.

### 2.1 Drive Precautions

This section discusses installation concerns and drive maintenance.

**Environment** – Avoid installing this drive in a location with exposure to large quantities of dust, high temperatures, high humidity, and subject to excessive vibrations or shocks.

**Power** – Turn OFF the system before installing this or any other hardware device.

**Read & Retain Instructions** – Read all operating and user information provided with this drive.

**Cleaning** – Use a damp cloth to clean the exterior housing. Avoid using any fluids including liquid, aerosol or alcohol-based cleaning products.

**Water or Moisture** – avoid operating or locating this drive near water or other sources of fluid.

**Power Sources** – Operate this drive only from the recommended power sources. If you are unsure of the power source, consult an authorized Pioneer representative.

**Overloading** – Avoid connecting too many devices to a single wall socket or power source as this can cause fires or short circuits.

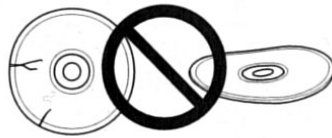
**Object & Liquid Entry** – Never push objects

**Condensation** – Moisture can form in the operating section of the product if the drive is taken from cool surroundings to a room with a warmer temperature. Let the drive stand for one to two hours in the new location before turning it ON.

**Servicing** – Opening or removing the cover exposes you to possible electrical shock or other danger. Contact a Pioneer authorized service representative for repairing this drive (refer to the enclosed Service & Support Card).

## 2.2 Disc Precautions

Cracked or warped discs may damage the drive. If a disc breaks inside of the unit, pieces are likely to strike the optics.



Non-standard disc shapes are unusable on this drive. These shapes include hearts, diamonds, polygons, etc.

## 3.0 FEATURES

The Pioneer DVD-103S drive support many current and upcoming formats.

### 3.1 Specific Features

- High-Speed Reading / transfer rate (sustained):  
DVD-ROM – maximum 8,100 kBytes/sec.  
CD-ROM – maximum 4,800 kBytes/sec.
- Note: The data transfer rate may fail to be output if the disc is scratched or damaged in any way.
- High Speed Access / random average:  
DVD-ROM – 120 ms  
CD-ROM – 90 ms
- ATAPI correspondence
- Buffer size: 512 kBytes
- Applicable discs:
 

* DVD-ROM (DVD-5, DVD-9)	* CD-ROM Mode 1	* CD Extra
* DVD-V	* CD-DA	* Video CD
* DVD-R	* CD-RW/DVD-RW disc reading	
* CD-ROM XA Mode 2 (Form 1, 2)	* CD-R	

*Note: Please read the following section entitled Precautions with CD-RW/DVD-RW discs*

- Correspondence with Kodak Photo CD multi-sessions
- Conforming to MPC-3 specifications
- Half-height size
- Slot loading
- Microsoft® Windows® 95 and Windows® 98 (Plug & Play) supported


### **3.2 Precautions With CD-RW/DVD-RW Discs**

This drive is able to read out CD-RW/DVD-RW disc data. The following items may affect speed or compatibility.

- The drive requires an additional short period of time to sense a CD-RW/DVD-RW disc at startup when compared with a CD/DVD-ROM.
- Since a CD-RW/DVD-RW signal level is lower than a replicated CD/DVD disc, reading speeds are slower.
- Blank discs, discs without data, and discs without a complete closing process are invalid.
- The drive may fail under the following conditions:
  - \* dirty or scratched discs
  - \* heavily rewritten discs

### **3.3 When Playing 8cm (3.15") Discs**

To play an 8cm (3.15") disc, use an adapter designed for this disc size. Before loading the disc, verify that it is securely in the adapter catches. If the disc is placed in the slot by mistake, press the Eject button repeatedly until the disc is forced out of the slot.

Use adapters marked with the standard logo () only. Avoid adapters that cause the disc to idle or to flex.

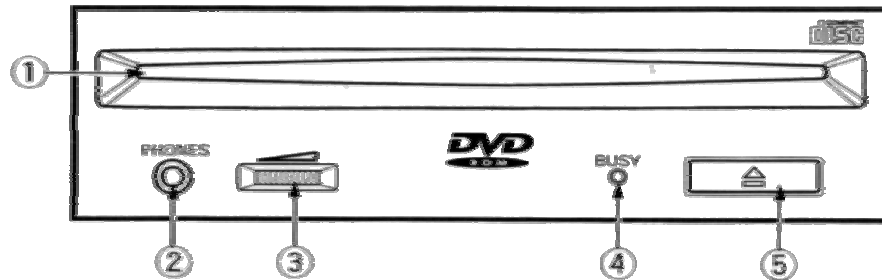
## **4.0 INTERFACE**

Before connecting the drive, confirm that all cables are present. Verify that the ports are free from any packing materials and that the drive slot is free of plastic.



## 4.1 Front View

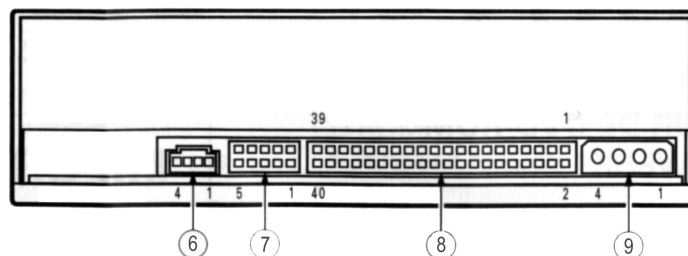
DVD-103S Front View



- 1) Disc Loading Slot  
insert a disc with the label facing
- 2) Phones – Headphone jack  
stereo mini-jack for using headphones
- 3) Volume Control – Headphone Level  
used to adjust the volume for the headphones
- 4) Busy indicator  
flashes during data access
- 5) Eject button  
press to eject a disc

## 4.2 Back View

DVD-103S Back View



- 6) Audio Output  
connector for analog audio output, uses a Modex 70553 connector  
Select the appropriate cable from the following chart:

Pin	Name	Function
1	L	Left channel audio output
2	G	Ground
3	G	Ground
4	R	Right channel audio output

- 7) Device Configuration Jumper  
set this jumper switch to select the drive use mode supporting the computer  
(jumped = ON; no jumper = OFF)

Pin	Name	Function	
1	MA* <sup>1</sup>	on	Drive set to Master mode
2	SL	on	Drive set to Slave mode
3	CS	on	Drive set to Cable Select mode
4		Reserved	
5	RPC SET * <sup>1</sup> * <sup>2</sup>	on	Stays in RPC Phase I mode
		off	Starts in PRC Phase II mode <i>never return to Phase I mode after using Phase II mode</i>

- 8) Host IDE Interface  
40-pin I/O connector in accordance with ATA specifications
- 9) DC Input  
power supply input for DC +5 V and +12 V

Pin	Name	Function
1	+12	Power supply input for DC +12 V
2	G	Ground
3	G	Ground
4	+5	Power supply input for DC +5 V

### 4.3 Region Code Information

The maximum number of times the Region Code may be changed is five (5), including the initial setting. The fifth change becomes PERMANENT.

*Note: Region Codes are part of the DVD Standard, however, Region Codes on DVD discs are optional. DVD discs with no specified Region Code may be played on any player.*

## 5.0 INSTALLATION

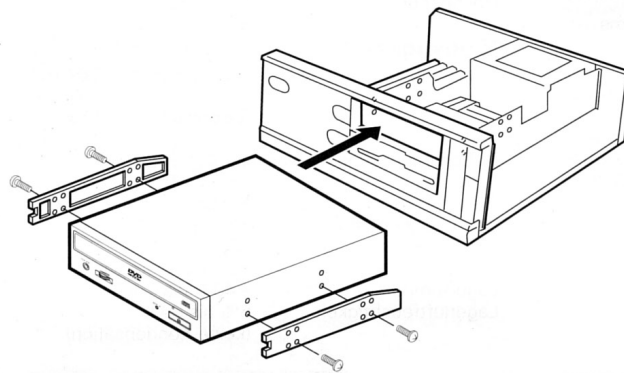
The following information provides step-by-step instructions to install the DVD-103S.

### 5.1 Positioning the Drive

Before beginning the installation, decide if the drive needs to be positioned horizontally (standard) or vertically. Review all instructions prior to install the DVD-114 drive.

1. Turn OFF the computer and remove the cover or front panel.
2. Remove the blank drive-cover from the front panel.
3. Attach the slide rails to the drive.  
*slide rails may be purchased from a computer retailer*
4. Insert the drive in to the open bay/slot.
5. Place the screws in the appropriate holes and tighten.  
Screws must be shorter than 5mm (3/16") in length, longer screws may damage the drive.

*Note: When mounting screws are loose, vibrations from a spinning disc may cause a ripping sound.*



## 5.2 Connections

The computer provides power for the drive rather than an external power source. Do not use any other power supply for this drive.

Connect the cables in the following order:

1. Connect the power cable from the computer.  
*pay close attention to the polarity on the cable*
2. Connect the IDE interface cable.  
*confirm that Pin 1 on the drive corresponds to Pin 1 on the cable*
3. Connect the drive's audio output to the sound card, if applicable

## 6.0 SPECIFICATIONS

### 6.1 General Functions

Disc Diameter	12 cm (4.72")	8 cm (3.15") *
	* use an appropriate adapter when playing 8 cm discs	
Transfer Rate (sustained)	DVD-ROM	Maximum 8,100 kBytes/sec *
	CD-ROM	Maximum 4,800 kBytes/sec *
	* data transfer rate may not be output if disc is damaged or dirty	
Access Time (Random Average)	DVD-ROM	120 ms
	CD-ROM	90 ms
Data Buffer Capacity	512 kBytes	

### 6.2 Specific Functions

Audio Output Line	0.7 Vrms $\pm$ 0.5 Vrms (at 10 k $\Omega$ load)
Power Supply	DC + 12 V, 1.2 A (peak) – 0.8 A (normal) CD + 5 V, 1.0 A (peak) – 0.8 A (normal)
External Dimensions (includes front panel)	5 27/32" (W) x 1 11/16" (H) x 8 7/32" (D) 148mm (W) x 42.3mm (H) x 208.5mm (D)
Weight	2.2 lbs (1.0 kg)
Temperature Range	41° F to 113° F (+5° C to +45° C)
Humidity Range	5% to 85% (no condensation)
Storage Temperature	- 40° F to 140° F (- 40° C to +60° C)
Storage Humidity	5% to 90% (no condensation)

*Note: Specifications and design changes subject to possible modification without notice due to improvements.*

# **DVD-103S**

---

## **Industrial DVD-ROM Drive**

**Pioneer Electronic Corporation**

4-1, Meguro 1-chome  
Meguro-ku, Tokyo 153  
JAPAN

<http://www.pioneer.co.jp>

**Pioneer New Media Technologies, Inc.**

2265 East 220<sup>th</sup> Street  
Long Beach, California 90810  
United States of America  
(310) 952-2111

<http://www.pioneerusa.com>