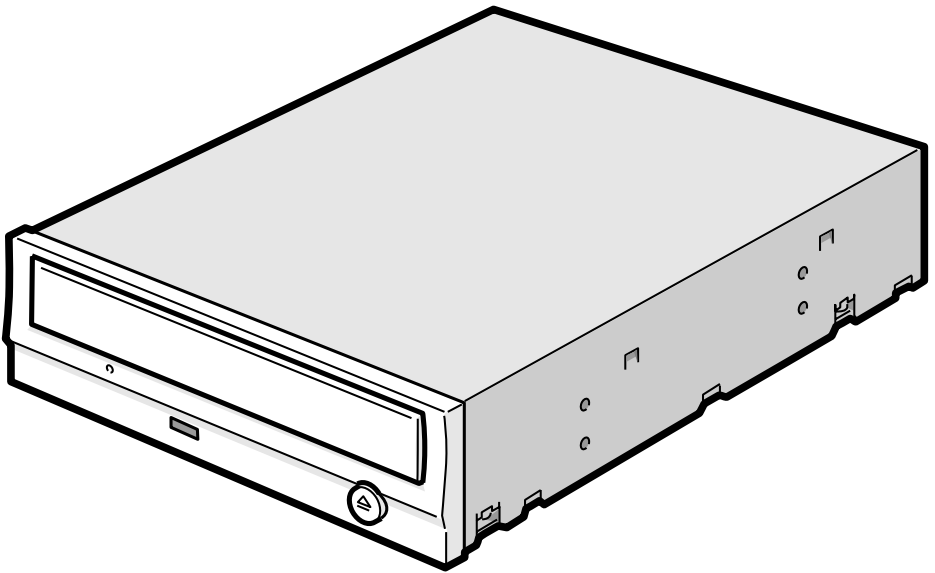


RICOH



Specifications MP5316DA:

Type:	Internal type		
Interface:	ATAPI (UltraDMA mode 2 / MultiwordDMA mode 2 / PIO mode 4)		
Supported Media for Writing* ¹ :	DVD+R DL, DVD±RW, DVD±R, CD-R, CD-RW and High/Ultra High Speed CD-RW		
Writing Speed* ² :	[DVD+R DL] 4x, 2.4x (CLV) [DVD+R] 16x (CAV), 12x, 8x (ZCLV), 4x, 2.4x (CLV) [DVD-R] 16x (CAV), 12x, 8x (ZCLV), 4x, 2x (CLV) [DVD+RW] 4x, 2.4x (CLV) [DVD-RW] 4x, 2x, 1x (CLV) [CD-R] 48x, 40x (CAV/ZCLV), 32x, 24x (PCAV/ZCLV), 16x, 8x (CLV) [CD-RW] 24x (ZCLV), 16x, 10x, 4x (CLV)		
Reading Speed* ³	[DVD-ROM] Max 16x, [DVD+R DL] Max 5x, [DVD±R] Max 16x, [DVD±RW] Max 8x [CD-ROM/CD-R] Max 48x, [CD-RW] Max 32x		
Recording capacity* ⁴	[DVD+R DL] 8.5 Gb [DVD+RW, DVD+R, DVD-RW, DVD-R] 4.7Gb [CD-RW, CD-R] 650Mb and 700Mb		
Average access time CD:	[CD] 120 msec, [DVD] 140 msec		
Buffer memory:	2Mb		
Writing mode:	[DVD+R/DVD+RW] Random write, Sequential write [DVD-R/DVD-RW] Incremental, Multi-border [CD-R/RW] Disc-at-once, Session-at-once* ⁵ , Track-at-once, Multi-session, Packet writing		
Writing format:	[DVD+R/DVD+RW] DVD-ROM, DVD-Video, DVD+VR (DVD+RW), Multisession (DVD+R) [DVD-R/DVD-RW] DVD-ROM, DVD-Video, Multi-border [CD-R/RW] CD-DA, CD-ROM, CD-ROM XA, CD Extra, CD-I* ⁵ , VideoCD, PhotoCD* ⁵ , CD-Text Horizontal/Vertical* ⁶		
Installation:	Horizontal/Vertical* ⁶		
Power requirement:	DC 5V/12V		
Weight:	1.0 kg		
Dimensions (WxHxD):	148 x 42 x 190 mm		
Reliability:	Error Rate: 10-12 bits or less MTBF: 100,000hours or greater MTTR: Within 30 minutes		
Environmental Conditions:	Temperature: Humidity: Vibration: Shock:	When operating 5°C to 35°C (No air cooling) 5% to 90% R.H. (No condensation) 0.035mmpp (10 -45Hz) 0.025mmpp (45 -65Hz) 0.2 X 9.8 m/s ² (65 -150Hz) 2 X 9.8 m/s ² (3msec. half sine)	When not operating -30°C to 65°C 5% to 95% R.H. (No condensation) 1 X 9.8 m/s ² (5 to 300Hz) 40 X 9.8 m/s ² (11msec. half sine)
	Environmental dust: Class 3 million or less (3 million particles of 0.5 micron dustper cubic foot or less)		

*¹ Use only media tested and recommended by Ricoh. We cannot confirm that recording of data will be successful on media other than those brands tested and confirmed. Even media tested and recommended by Ricoh, if not used under optimum recording conditions, may produce read/write errors or corrupted data. Always update to the latest version of the firmware. Check our website for the latest information on recommended media and the firmware compatibility situation.

*² The write speed will differ depending on the write speed of the media you are using. In addition, in some environments, you may not be able obtain the maximum write speed of the media.

*³ Reading speeds may vary, depending on the reading environment in which the media is being used.

*⁴ The recording capacity may vary with the writing software and its settings.

*⁵ The bundled software does not support this item.

*⁶ If the drive is installed vertically, 8cm CDs cannot be used.

The drive's appearance and specifications may change without notice.

Thank you for purchasing the RICOH CD-R/RW or DVD+RW/+R drive (hereafter referred to as the 'drive'). In order to ensure the drive's long lasting operating efficiency, it must be properly installed. Please follow these procedures carefully.

STEP 1:

Before installing the drive, write down its serial number below.
The serial number will be needed if you have to contact customer service.

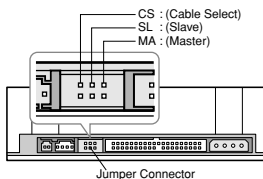
STEP 2: INSTALLING THE DRIVE

The drive may be installed as a master drive or a slave drive. When installing as a slave drive please change the jumper settings on the rear panel.

1. Turn off the computer

2. Jumper Set Up.

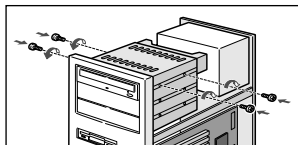
Before the installation, set the jumper on the jumper connector on the rear panel. The drive can be connected as the Master or Slave on an EIDE (ATAPI) interface. When several (up to four) EIDE devices are connected, each drive must be set in a unique way. Master/Slave setting is determined by a jumper on the Jumper Connector. The following table shows the possible jumper settings.



Name	Function	
MA (Master)	Drive set as Master (factory default)	
SL (Slave)	Drive set as Slave	
CS (Cable Select)	Drive mode set by CSEL on the host IDE interface	

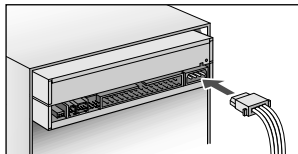
3. Mount the drive.

Insert the drive unit into the 5-inch bay horizontally, and secure it using the provided screws.



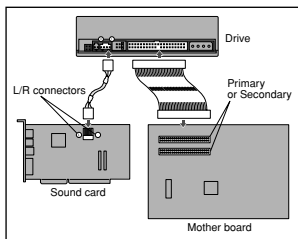
4. Connect the power cable.

Connect the 4-pin power cable from the computer's power supply to the power connector at the drive's rear panel. If there is no spare cable available in the computer, it will be necessary to purchase a splitter cable.



5. Connecting the IDE cable.

Connect one end of the IDE cable to the drive. Then connect the other end to the motherboard's E-IDE connector.



6. Connect the Sound Card.

If a sound card is present in the computer, connect the drive to the sound card with the audio cable.

7. Replace the computer cover.

Connect the power cable and turn on the computer. If the drive is not recognized on the computer, check to see if the port is enabled in the BIOS. For more detailed explanation, refer to the manual of the computer.

8. Check the device driver.

It is not necessary to install any special device drivers.

In order to ensure normal drive operation (or if the drive is not recognized by your computer), please check the following.

In order to ensure normal drive operation

- **For Windows ME/98/95 Users**
 - The driver is located in [control panels] - [system] - [device manager] - [CD-ROM].
 - 32-bit is located in [control panels] - [system] - [performance].
- **For Windows NT Workstation Ver. 4.0 Users**
 - The drive is located on the IDE controller in [control panels] - [SCSI adapter] - [devices].
- **For Windows 2000 and XP Users**
 - The drive is located in [control panels] - [System] - [hardware] - [device manager].

If the drive is not recognized by your computer

- **For Windows ME/98/95 Users**
 - If a [!] indicator is displayed on the IDE controller in [control panels] - [system] - [devices manager] - [harddisk controllers], you will need to contact your PC's manufacturer or the motherboard's manufacturer and get the appropriate IDE controller driver.
- **For Windows NT Workstation Ver. 4.0 Users**
 - If a [!] mark is displayed on the IDE controller in [control panels] - [SCSI adapter] - [devices], you will need to contact your PC manufacturer or the motherboard manufacturer and get the appropriate SCSI controller driver.
- **For Windows 2000 and XP Users**
 - If a [!] mark is displayed on the IDE controller in [control panels] - [System] - [hardware] - [device manager], you will need to contact your PC manufacturer or the motherboard manufacturer and get the appropriate SCSI controller driver.

JustLink A NEW TECHNOLOGY CALLED JUST LINK, THAT OVERCOMES BUFFER UNDERRUN PROBLEMS

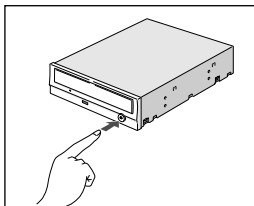
Buffer underrun errors which occur when data transfer falls behind the writing operation has been inevitable for CD-R/RW drives.

Just Link, which we at Ricoh developed on our own, is a new technology that predicts possible occurrences of buffer underrun errors in advance and automatically avoids them. This technology, ensures a stable writing operation even under circumstances where buffer underrun errors tend to occur with conventional drives.

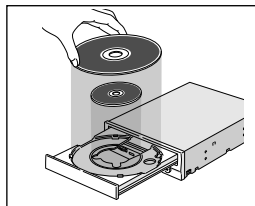
STEP 3: HOW TO USE THE DRIVE

The basic procedures for using the drive are listed below. Load the disc

1. Press the eject button.



2. Place the disc on the disc tray



3. Load the disc by pressing the eject button or by lightly pushing in the disc tray.

After ejecting the disc, load the tray inside the unit quickly. When the tray is in the ejected position, dust and other debris will enter, possibly causing read and write errors, or drive failure.

Emergency Eject

In some unusual situations where the drive becomes faulty or there is a power outage, you can manually remove a CD from the drive using the following method.

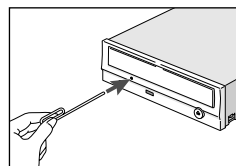
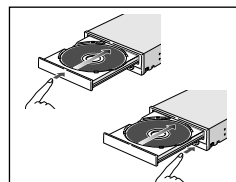
- Never use this method to remove CD's from the drive except for emergency purposes.
- The manual method mentioned here is used only for emergency purposes.
Using the manual method for any other purpose may result in malfunctioning of the drive.

1. Turn of the power.

2. Push a thin, long object into the emergency eject space.

The disc tray pops out slightly.

3. Slowly and gently pull out the disc tray.



* All references to the product in this document are to specifications in effect when the product was released.

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