

# ***Multi-Card Reader/Writer***

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## **Operating Instructions**

Before operating the unit, please read this document thoroughly, and retain it for future reference.



## ***MRW68E-D1***

# Safety regulations

## WARNING

**Keep the unit away from children. If any part of the unit is swallowed, promptly see a doctor.**

**To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.**

**To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.**

## Notice for the customer in the countries applying EU Directives

The manufacturer of this product is Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan. The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany. For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

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This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of

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## Overview

The MRW68E-D1 (hereafter referred to as the “reader/writer”) has the following features:

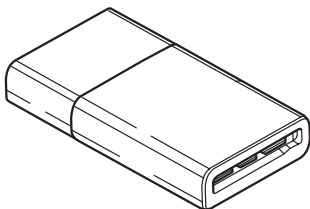
- Quick and simple data transfer - easily transfer images from camera to PC
- Quick to Connect - Hot-pluggable USB-powered design
- Compatible with “Memory Stick Duo”, SD Memory Card, MultiMediaCard.

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## Package Contents

When you unpack the box, make sure that it contains all the accessories listed below. If anything is missing or damaged, contact your retailer.

- MRW68E-D1 Multi-Card Reader/Writer



- Read Me First

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## System Requirements

The reader/writer requires the following minimum system configuration:

- OS
  - Windows® 7
  - Windows Vista®
  - Windows® XP (Service Pack 2 or later)
  - Windows® 2000 Professional (Service Pack 4 or later)
  - Mac OS® X 10.2 or later

This product works with the standard Windows drivers.

# Supported Media

The reader/writer supports the following media:

## “Memory Stick” media

- “Memory Stick Duo” (without MagicGate)
- “MagicGate Memory Stick Duo”
- “Memory Stick Duo” (with MagicGate) \*1
- “Memory Stick PRO Duo” \*1
- “Memory Stick PRO-HG Duo” \*1
- “Memory Stick Micro” (“M2”) \*1\*2\*4

## SD Memory cards

- SD Memory Card
- SDHC™ Memory Card
- miniSD™ card \*4
- miniSDHC™ card \*4
- microSD™ card \*4
- microSDHC™ card \*4

## MultiMediaCards

- MultiMediaCard
- RS-MMC \*4
- MMCplus \*3
- MMCmobile \*3\*4
- MMCmicro \*4

\*1 4-bit parallel data transfer is supported. It, however, varies depending on each medium and how long it takes to read/write data.

\*2 “M2” is an abbreviation of “Memory Stick Micro”. In this document, hereinafter, the abbreviation “M2” is used.

\*3 8-bit parallel data transfer is not supported.

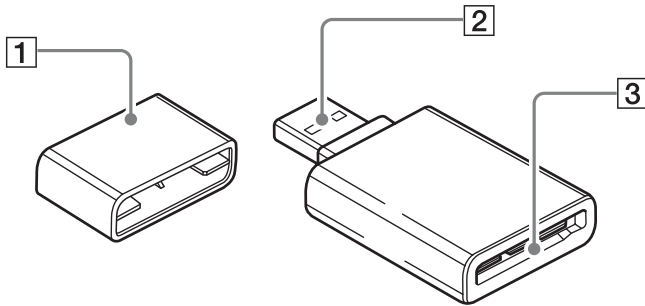
\*4 With adaptor only (not supplied).

## Notes

- Not all memory cards are guaranteed to work. Operation is not assured if non-supported memory cards are used.
- “MagicGate” is the general name of a copyright protection technology developed by Sony.
- Recording or playback of MagicGate data that uses MagicGate technology is not supported.
- The capacity of a file to be recorded/played back is smaller than 4 GB per file according to the specifications of the system incorporated in “Memory Stick.”
- Although operation check of this product has been performed with up to 8 GB “Memory Stick,” please note that the operation is not guaranteed for every type of “Memory Stick.”
- Recording or playback of data that uses SD technology is not supported.
- In this manual, all types of media listed in “Supported Media” are generically called memory cards.
- I/O cards that are not memory cards, such as GPS cards, are not supported.
- The “Memory Stick” media, SD memory cards and MultiMediaCards all use the same slot, so you cannot use them at the same time.
- Only DOS format is supported. Memory cards in other formats are not supported.

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# Parts and Functions



**1 Cap**

**2 USB connector**

Connect to a computer

**3 Memory Card Slot**

Insert memory cards here. This slot is compatible with “Memory Stick Duo” size media, SD memory cards and MultiMediaCards.

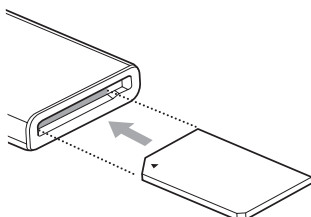
# Using the Reader/Writer

## Inserting a Memory Card

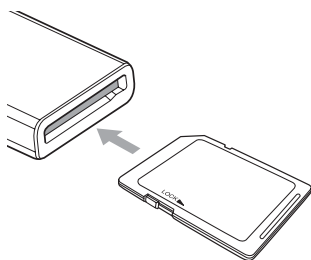
Insert a memory card into the slot on the reader/writer. When inserting a card, push it in as far as it can go.

### To insert a “Memory Stick”

\* Push at the left side.



### To insert a SD Memory Card/ MultiMediaCard.



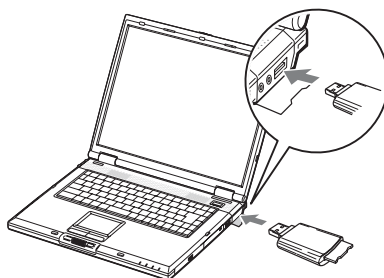
## Notes

- Insert only one memory card into the slot. Do not insert multiple cards at the same time.
- When inserting a “Memory Stick Micro” (“M2”), miniSDCard, miniSDHC Card, microSD Card, microSDHC Card, RS-MMC, MMCmobile or MMCmicro, use an appropriate adaptor (not supplied).
- Do not insert a card upside down.
- Forcibly inserting the card may damage the card or the slot.
- If a memory card is inserted incorrectly, you may not be able to remove it. In the unlikely event that a memory card becomes stuck in the reader/writer, consult your local Sony dealer.

## Connecting the Reader/Writer to a Computer

Simply connect the reader/writer to a computer directly.

- 1 Start the computer.
- 2 Pull off the cap of the reader/writer.
- 3 Insert a memory card.
- 4 Connect the USB header of the reader/writer to the USB port on the computer.



The computer recognizes the reader/writer as a removable disk, and the reader/writer is ready for use.

## Notes

- Do not connect to a computer via a USB hub.
- Depending on the computer and the status of its operating system, the reader/writer may not operate or may become unstable. If this occurs, refer to the “Troubleshooting” section.
- After disconnecting from the USB port, wait at least 5 seconds before reconnecting it. (Otherwise, the reader/writer may not be recognized.)
- When two or more USB devices are connected to one computer, the reader/writer is not guaranteed to operate simultaneously with some types of USB devices.
- You may not access two or more memory cards simultaneously on a single computer by connecting additional memory card devices. Remove any memory cards from the reader/writer or turn off the other devices.
- Do not remove a memory card from the reader/writer while the access indicator is blinking. The data stored on the memory card may be damaged.

## ■ For Windows

- On some computers, a message may appear asking you to insert the operating system disc. When this happens, follow the computer's instructions.
- On some computers, the "HI-SPEED USB Device Plugged into non-HI-SPEED USB Hub" message may appear, indicating that a hi-speed USB device has been connected to a USB port which does not support hi-speed USB. If your computer has multiple USB ports, try connecting to a different port.  
Otherwise, close the message and continue using the reader/writer with the current port.



- **Follow the steps below to turn off the write cache setting for removable disk drives. Leaving this setting on may cause the reader/writer to malfunction.**

- On Windows 7:  
Open the following items in the following order: [Start] button- [Control Panel] - [System and Security] - [Device Manager] (Click on the Device Manager link located under the System heading) - [Disk drives] - [Sony Card\_R/W -USB Device]. On the [Policies] tab in the properties dialogbox that appears, make sure that [Quick removal (default)] is selected.
- On Windows Vista:  
Open the following items in the following order: [Start] button – [Control Panel] – [System and Maintenance] – [Device Manager] button (When clicking on [Device Manager] button, the User Account Control window will appear, click on [Continued]) – [Disk drives] – [Sony Card\_R/W USB Device]. On the [Policies] tab in the properties dialog box that appears, make sure that [Optimize for quick removal] is selected.
- On Windows XP:  
Open the following items in the following order: [Start] button – [Control Panel] – [Performance and Maintenance] – [System] – [Hardware] tab – [Device Manager] button – [Disk drives] – [Sony Card\_R/W USB Device]. On the [Policies] tab in the properties dialog box that appears, make sure that [Optimize for quick removal] is selected.
- On Windows 2000:  
Open the following items in the following order: [Start] button – [Settings] – [Control Panel] – [System] – [Hardware] tab – [Device Manager] button – [Disk drives] – [Sony Card\_R/W USB Device]. On the [Disk Properties] tab in the properties dialog box that appears, make sure the [Write Cache enabled] check box is not selected.

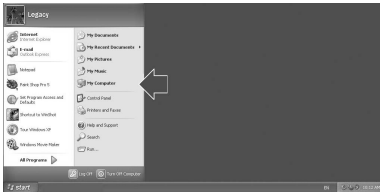


## Reading and Writing Data on a Memory Card

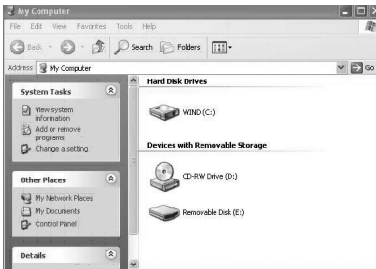
### ■ For Windows

The following explanation is illustrated with screens from Windows XP. The screens may differ for other Windows versions.

#### 1 Open [My Computer].



#### 2 Make sure the removable disk icons appear in [My Computer].

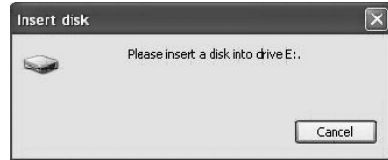


Drive letter for the removable disk icon is assigned in alphabetical order to the memory card slot.

For example, if the computer has an A:, C: and D: drive before connecting the reader/writer, the drive letters will be assigned as E: when the reader/writer is connected:

#### 3 Use the removable disk icon to read or write data on the memory card.

If the following message appears, the memory card has not been recognized correctly, remove the card and insert it again.



#### Notes

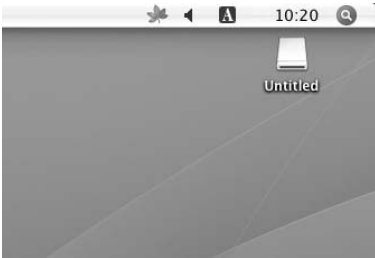
- Use the removable disk icon for the memory card you are using.
- It may take a while for the removable disk icons to appear.
- If the removable disk icons do not appear, follow the steps under “Disconnecting the Reader/Writer From the Computer” on page 11 to disconnect the reader/writer, and then wait at least 5 seconds before reconnecting it. If the [Safely Remove Hardware] icon mentioned in step 1 of “Disconnecting the Reader/Writer From the Computer” is not displayed, skip the rest of the procedure and immediately disconnect the reader/writer.
- Depending on your operating system and the type of memory card you are using, the reader/writer drives may be recognized as “Local Disks” instead of “Removable Disks,” but this will not affect their operation.

■ For Macintosh

**1 Connect the reader/writer, with a memory card inserted, to your computer**

The removable disk icon appears on the desktop.

When a volume label is assigned to the memory card, the volume label will be displayed together with the removable disk icon.



**2 Use the removable disk icon to read or write data on the memory card.**

**Removing a Memory Card**

**Notes**

- Do not remove a memory card while the access indicator is blinking. Doing so may cause damage to the data stored on the memory card.
- Be sure to follow the steps described below. Sony accepts no responsibility for any damage or loss that results from removing a memory card without following the procedure described below.

■ For Windows

- 1 Make sure the access indicator is not blinking.**
- 2 Open [My Computer].**
- 3 Right-click the removable disk icon, and select [Eject].**
- 4 Pull the memory card straight out.**

■ For Macintosh

- 1 Close the files saved on the memory card, and exit any currently running applications.**
- 2 Make sure the access indicator is not blinking.**
- 3 Drag the removable disk icon to the [Trash].**

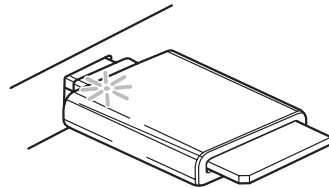
Alternatively, select the removable disk icon, access the [File] menu on the menu bar, and select [Eject “Untitled”]\*.

\* Depending on the memory card, a different label than “Untitled” may be shown.
- 4 Pull the memory card straight out.**

**Reading the Access Indicator**

The access indicator changes according to the status of the reader/writer, as follows:

Reader/writer status	Access indicator
Memory Card inserted	Lights up
Reading/writing data	Blinks*



\* Depending on your operating environment and the memory card you are using, the access indicator may blink so quickly it appears to be lit. Be careful not to misread the access indicator.

**Note**

If data cannot be read from or written to the memory card while the access indicator is lit, make sure the card is fully inserted into the slot.

# Disconnecting the Reader/Writer From the Computer

## Notes

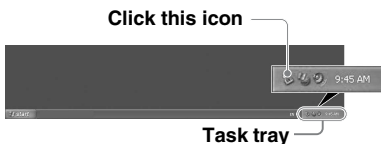
- Do not disconnect the reader/writer from the computer while the access indicator is blinking. Doing so may cause damage to the data stored on the memory card.
- Be sure to follow the steps described below. Sony accepts no responsibility for any damage or loss that results from disconnecting the reader/writer without following the procedure described below.

## ■ For Windows

The following explanation is illustrated with screens from Windows XP, and assumes that drive name E: is assigned to the slot of the reader/writer.

The screens may differ for other versions of Windows.

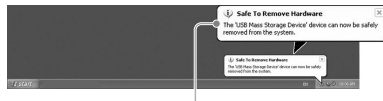
- 1 Click [Safely Remove Hardware] on the task tray, located at the lower right corner of the screen.**



- 2 Click [Safely remove USB Mass Storage Device - Drives (E:)].**



- 3 Make sure the message “The ‘USB Mass Storage Device’ device can now be safely removed from the system.” appears, and then disconnect the reader/writer.**



**The ‘USB Mass Storage Device’ device can now be safely removed from the system.**

## Note

The above steps are not required when removing a memory card from the reader/writer.

When you remove a memory card, follow the steps under “Removing a Memory Card”.

## ■ For Macintosh

- 1 Close the files saved on the memory card, and exit any currently running applications.**
- 2 Make sure the access indicator is not blinking.**
- 3 Drag the removable disk icon to the [Trash].**

Alternatively, select the removable disk icon, access the [File] menu on the menu bar, and select [Eject “Untitled”]\*.

\* Depending on the memory card, a different label than “Untitled” may be shown.

If no memory card is inserted into the reader/writer, skip this step.

- 4 Disconnect the reader/writer from the computer.**

# About Memory Stick

## What is “Memory Stick”?

“Memory Stick” is a compact-size IC recording medium with a large capacity. It has been designed not only for exchanging/sharing digital data among “Memory Stick” compliant products, but also for serving as an insertable/removable external storage medium that can save data.

## Notes on “Memory Stick”

### On formatting (initialization)

- If you format media in which data has been already written, all the data will be erased. Please be cautious not to mistakenly erase any important data.
- Please make sure to format (initialize) a medium with the formatter of a “Memory Stick” compliant product. If it is initialized with Windows Explorer, a FORMAT ERROR occurs, and data on the medium can no longer be used by this product.

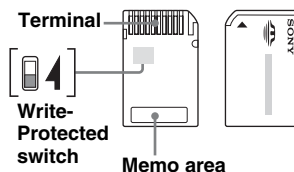
### About the size of “Memory Stick”

- Standard-size “Memory Stick” media cannot be used on this product.
- Do not insert multiple “Memory Sticks” at the same time. It might cause damage to the product.
- When you use “Memory Stick Duo”, please make sure to attach it in the right direction.
- “Memory Stick Duo”, “Memory Stick Micro” and M2 Duo Size Adaptor should be kept away from small children to prevent them from accidentally swallowing it.
- When you use “Memory Stick Micro” on this product, please make sure to attach the media into M2 adaptor.  
If you attempt to insert “Memory Stick Micro” without attaching to M2 adaptor, there is a possibility that it cannot be pulled out.

# Usage Notes

## “Memory Stick” Media

### Notes on using “Memory Stick Duo/ Memory Stick PRO Duo”



- When you use “Memory Stick Duo/ Memory Stick PRO Duo” without Write-Protected switch, be careful not to edit or erase important data by mistake.
- When you use “Memory Stick Duo/ Memory Stick PRO Duo” with Write-Protected switch, data cannot be recorded, edited, or erased by “LOCK” the switch.
- Use an object with a sharp tip to move the Write-Protected switch.
- Do not press on the memo area strongly when writing.
- Carry and keep “Memory Stick” in the supplied case.

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## Other Points to Note

### Media formatting

Do not format (initialize) memory cards with a computer. If you format a memory card with a computer, devices such as digital cameras may not be able to use it due to differences in format type (FAT size, cluster size, hard disk type, or super floppy disk type). If you use a digital camera, format memory cards with your camera, instead.

### Restrictions on DOS mode

In Windows, the reader/writer does not operate in DOS mode.

To use the reader/writer, start up Windows.

### Standby

The reader/writer supports standby functions based on the PC2000 standard, which may not cover the standby function of all computers. Disable the standby function of your computer if it causes any problems. While the computer is in standby, do not insert or remove any media.

### Do not attempt to dismantle, repair, or alter the reader/writer yourself

Do not, under any circumstances, attempt to dismantle, repair, or alter the reader/writer yourself. You may not only permanently damage the reader/writer and/or your computer, but may also cause fire or personal injury through electrical shock.

### Operating and storage environments

- Do not place the reader/writer close to heat sources or in direct sunlight; in dusty, dirty, or humid locations; under precipitation such as rain; or leave it in a vehicle with the windows closed.
- If the reader/writer interferes with the reception of radio or television signals, move the reader/writer away from the radio or television.
- When using the reader/writer, do not wrap it in cloth, sheets, or covers as this may cause a malfunction or fire.

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# Troubleshooting

Before consulting your Sony representative, verify the following.  
If the problem still persists, consult your local Sony dealer.

Problem	Solution
The computer does not detect the reader/writer.	→ Your computer and the reader/writer may not be properly connected. Disconnect the reader/writer from the computer and reconnect it.
The removable disk icon does not appear.	→ Your computer and the reader/writer may not be properly connected. See “Connecting the Reader/Writer to a Computer” and make sure the connection is correct. → A USB device other than the reader/writer is connected to the USB port on the computer.
The memory card cannot be accessed with Windows Explorer or My Computer.	→ No memory card is inserted. Insert a memory card properly.
The computer does not recognize the memory card	→ The memory card is not fully inserted. Insert the card completely. → The memory card is not inserted straight. Remove the card and insert it again.
The read/write speed is slow.	→ The speed may vary depending on the environment or the memory card being used. This is not a malfunction.

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# Specifications

## USB transfer rate

Full-speed (12 Mbps)

High-speed (480 Mbps)

This high-speed transfer rate is a theoretical value for the USB standard.

Actual performance is dependent on the device.

## Power requirements

4.75 V to 5.25 V DC

## Current consumption

Max. 500 mA

## Access indicator

Lit during the memory card insertion.

Blinks on access.

## Operating environment

Temperature: 5 °C to 40 °C

(41 °F to 104 °F)

Humidity: 30% to 80% RH

## Storage environment

Temperature: -30 °C to + 60 °C

(-22 °F to +140 °F)

Humidity: No condensation

## Dimensions (W × H × D)

Approx. 31.7 × 11.2 × 57 mm

(1 <sup>1</sup>/<sub>4</sub> × <sup>15</sup>/<sub>32</sub> × 2 <sup>1</sup>/<sub>4</sub> inches)

(excluding protrusions)

## Mass

Approx. 17 g (0.60 oz.) (TYP)

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# Technical Support

- For customers in Europe

Refer to “Sony at your service” of the EUROPEAN GUARANTEE

INFORMATION DOCUMENT or check on-line under

□ <http://www.sony-europe.com/>

