SONY

2-661-941-**02** (1)
7819901257B

Video Recordable DVD Drive

Operating Instructions

DVDirect™

VRD-MC1

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Safety Regulations

WARNING

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.
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.

CAUTION:

As the laser beam in the VRD-MC1 is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.
The use of optical instruments with this product will increase eye hazard.
The use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

The VRD-MC1 is classified as a CLASS 1 LASER PRODUCT.
The CLASS 1 LASER PRODUCT notice is located on the enclosure.

FCC Compliance:

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 and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment 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 different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

Notes:

If you have any questions about this product, you may call the telephone number listed on the “Support Overview” on page 54. The telephone number below is not for customer service but only for official purposes.

Declaration of Conformity

Trade Name:	SONY
Model No.:	VRD-MC1
Responsible Party:	Sony Electronics Inc.
Address:	16530 Via Esprillo, San Diego, CA 92127 U.S.A.
Telephone No.:	858-942-2230

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION:

The mains plug on this equipment must be used to disconnect mains power.
Please ensure that the socket outlet is installed near the equipment and shall be easily accessible.

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- Manufactured under license from Dolby Laboratories.
  Dolby and the double-D symbol are trademarks of Dolby Laboratories.
- Memory Stick and the memory stick logo are trademarks, or registered trademarks of Sony Corporation.

❑ Our product warranty is valid only when the supplied accessories (including software) are used in the specified or recommended system environment, in accordance with the documentation, and applies only to this DVDirect. Our customer service and user support apply only under these product warranty conditions.

❑ Please note that we cannot accept responsibility for failure of the computer or other devices, incompatibility with special hardware, operating problems caused by improper installation of software, loss of data, discs or other accidental or incidental damage that might occur when using this product.

❑ The guarantee and user support for this product are valid only within the countries or sales regions specified on the warranty card.

❑ Copyright laws prohibit the copying in part or in full of the supplied software and documentation, or loaning the software, without obtaining permission of the copyright holder.

❑ We cannot accept responsibility for any direct or indirect financial damage or loss of profit that might occur when using the supplied software.

❑ The supplied software can only be used with this product.

❑ Specifications of the supplied software may be changed without notice in the interest of product improvement.

Please Record Responsibly

Before copying anything onto a disc, please be sure that you are not violating copyright laws. Most software companies allow you to make a backup or archive copy of software. Check your software's license agreement for details.

Copyrights

- Television programs, films, video tapes, discs, and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws. Also, use of this product with cable television transmission may require authorization from the cable television transmitter and/or program owner.
- This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

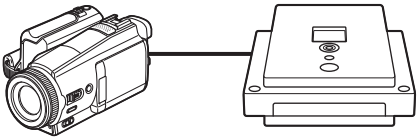
Introducing DVDirect

Features

This DVDirect offers the following features.

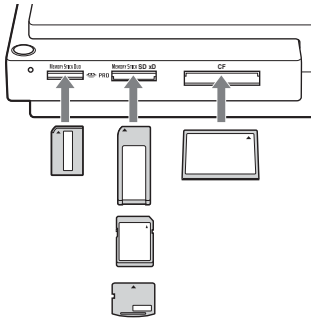
Burning video DVDs

- ❑ You can burn videos on DVDs directly from connected video cameras and AV devices without using a computer.
- ❑ You can burn the entire contents of your digital video camera on DVDs with one-touch of the record button when using the i.LINK connection.



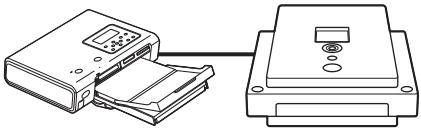
Burning photo DVDs

- ❑ You can archive photos on DVDs directly from memory cards without using a computer.
- ❑ You can record photos as a slide show on DVDs playable on most DVD players.



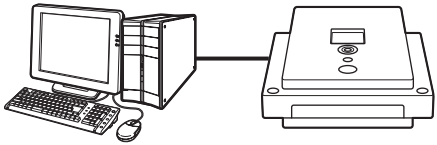
Direct printing operation

You can print out photos burned on DVDs or in a memory card directly by connecting this DVDirect to a PictBridge-compatible printer with the supplied USB cable.



Computer-controlled operation

- ❑ This DVDirect can be used as a high speed DVD/CD drive with Hi-Speed USB (USB 2.0-compatible) interface when connected to a computer by a USB cable.
- ❑ This DVDirect supports high speed recording to the latest format discs such as DVD+R double layer disc or DVD-R dual layer disc.

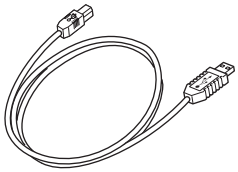


Package Contents

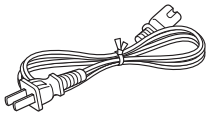
Please confirm that the package contains the following items. If any of these items are missing and/or damaged, please contact your dealer.

- DVDirect

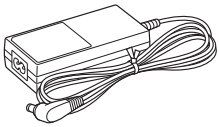
- Hi-Speed USB cable



- Power cord



- AC adaptor (MPA-AC1)



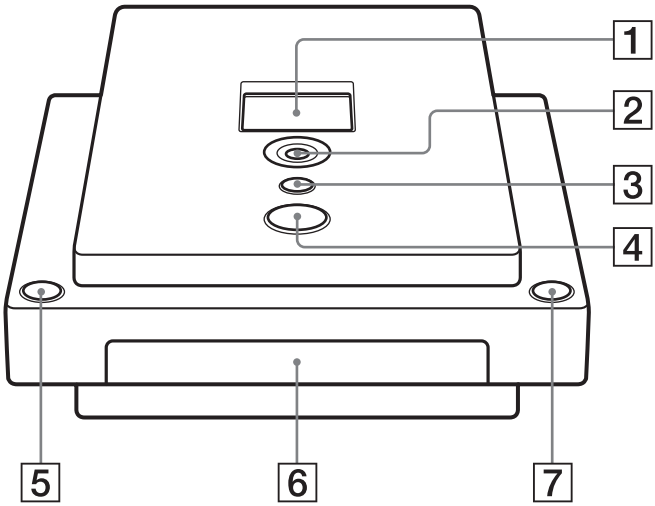
- Quick Start Guide
- Operating Instructions (this document)
- Software disc
- Warranty card

Note

Make sure that you back up the supplied software disc on another disc as the software disc is not sold separately.

Parts and Controls

Front and top panels



1 Display window

Displays a menu screen, images from a playback device or photos from a memory card.

2 ↑↓←→ Cursor/◯ Select button

Selects a function.

3 ⊙ Stop button

Stops recording.

4 ⊙ Record button

Starts recording.
Lights in red when recording.

5 Power button

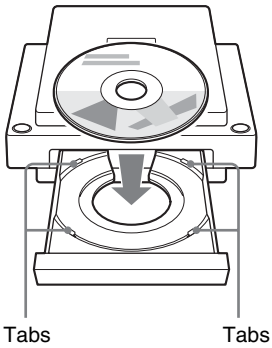
Turns DVDirect on or off.

6 Disc tray

Insert a disc here, label side up.

Hint

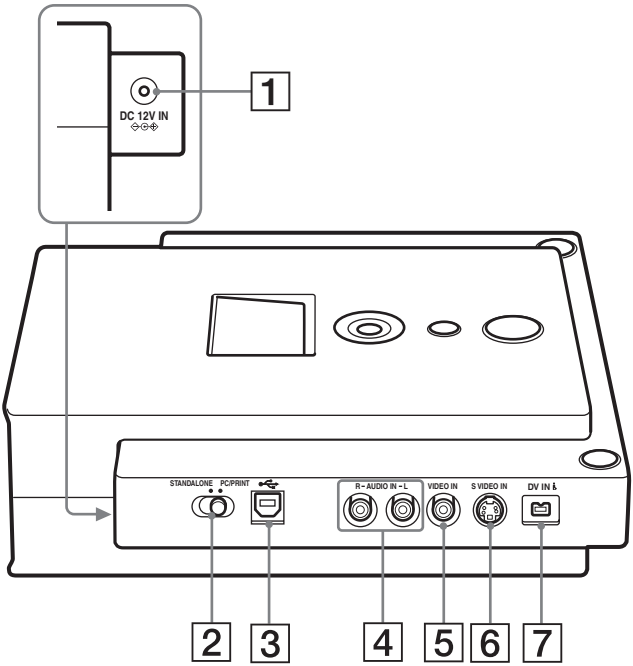
When you insert a disc into DVDirect, make sure it rests flat under the four tabs.



7 Eject button

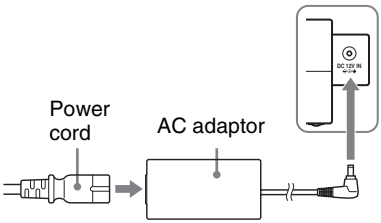
Opens and closes the disc tray.

Left side panel



1 DC IN jack

Connect the supplied AC power adaptor.



Note

- Be sure to use the supplied power cord.
- Do not use damaged cables, such as cables with deformed connectors.

2 Mode switch

Switch to [PC/PRINT] when connecting a printer or computer.

3 USB connector

Connect the supplied USB cable when connecting DVDirect to a computer or printer.

4 AUDIO IN L/R connectors

Connect the audio plugs of an AV cable (not supplied) when connecting DVDirect to a video device, such as a video camera or VCR.

5 VIDEO IN connector

Connect the video plug of an AV cable (not supplied) when connecting DVDirect to a video device, such as a video camera or VCR.

6 S VIDEO IN connector

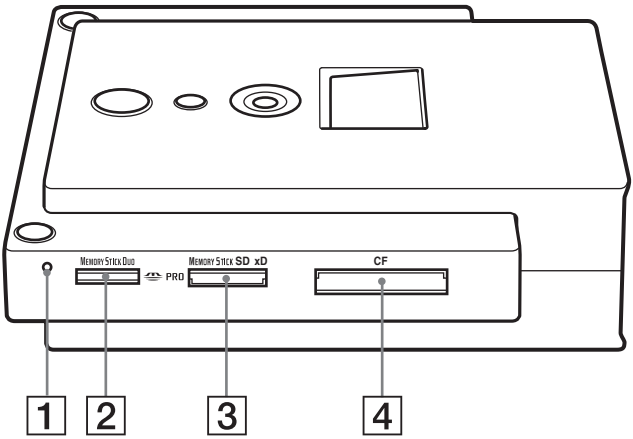
Connect an S VIDEO cable (not supplied) when connecting DVDirect to a video device with an S VIDEO jack, such as a video camera or VCR.

7 DV IN connector (4-pin)

Connect a DV (i.LINK) cable (not supplied) when connecting DVDirect to a digital video camera*.

* For DV/Digital8 camcorder input only.

Right side panel



1 Memory card LED

Lights in amber when accessing the memory card.
Never remove the memory card while the LED is lit.
Otherwise data in the memory card may be damaged.

2 Memory Stick Duo slot

Insert a “Memory Stick Duo.”
Push the “Memory Stick Duo” into the Memory Stick Duo slot until you hear a click.
To remove, push the “Memory Stick Duo” and pull out.

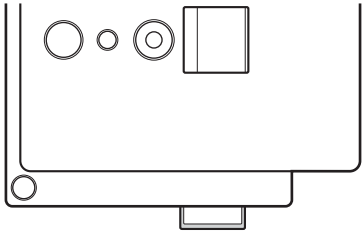
3 Multi memory card slot

Insert a “Memory Stick,” SD Card or xD-Picture Card.
Push each card into the multi memory card slot until you hear a click.
To remove, push the card and pull out.

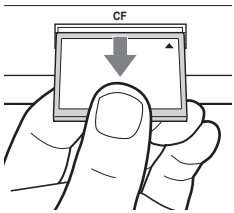
4 CompactFlash Card slot

Insert a CompactFlash.
Push the CompactFlash into the CompactFlash slot.

The CompactFlash stays half inserted.



To remove, pull out the CompactFlash.



Note

You can use the memory card slot for both stand-alone or computer operation.

Using DVDirect without a Computer

About Auto Setup and the Main Menu

DVDirect automatically detects input signals from video connection, memory card and DVD disc right after turning on the power, and displays the appropriate message for preparation of recording in the display window. By following the message, you can automatically move to the recording procedure you intended without the complicated button operation (auto setup function). You can also perform the recording procedure manually by selecting the option from the main menu. You can move to the setup screen (setup menu) for various setting from the main menu.

To display the main menu

Press ← when [← Menu] is displayed in the bottom left of the display window to move to the main menu.

Press ↑↓ to select the desired operation, and press → or ◯ (Select).

Video → DVD: Create video DVD (☞ page 12)
MemoryCard → DVD: Create photo DVD (☞ page 22)
DVD Video Preview: Playback the created video DVD (☞ page 20)
Photo View/Print: Display or print out photos (☞ page 28)
Setup: Various setting (☞ page 32)

Creating a Video DVD

You can use this DVDirect as a stand-alone DVD recorder to burn videos on DVDs directly from a connected video camera or video device such as VCR/ DVR/PVR.
You can play the created video DVD with other DVD devices, or the DVD drives of computers.

One touch recording and video recording

Two types of recording are available to create video DVD; one touch recording and video recording.

Video recording (page 13)
Record video DVD by operating DVDirect and the connected video devices with buttons such as ⊙ (Record) and ⊙ (Stop) of DVDirect, or the play, pause and stop buttons of the video device. Any video devices with video output jack will be recordable.

One touch recording (DV Full Dubbing feature) (page 17)
When connecting your digital video camera* with a DV jack to DVDirect using a DV (i.LINK) cable, you can burn the entire contents of a tape recorded by your digital video camera on a DVD with one touch of ⊙ (Record). DVDirect controls the digital video camera for the whole process, and completes creation of the video DVD.

* DV or Digital8 camcorder only. MICROMV camcorder is not supported.

Writable discs that can be used

To create a video DVD, you can use DVD+R, DVD+R DL (double layer disc), DVD-R, DVD+RW, or DVD-RW disc.
See “Compatible writable discs” for details. (page 47)

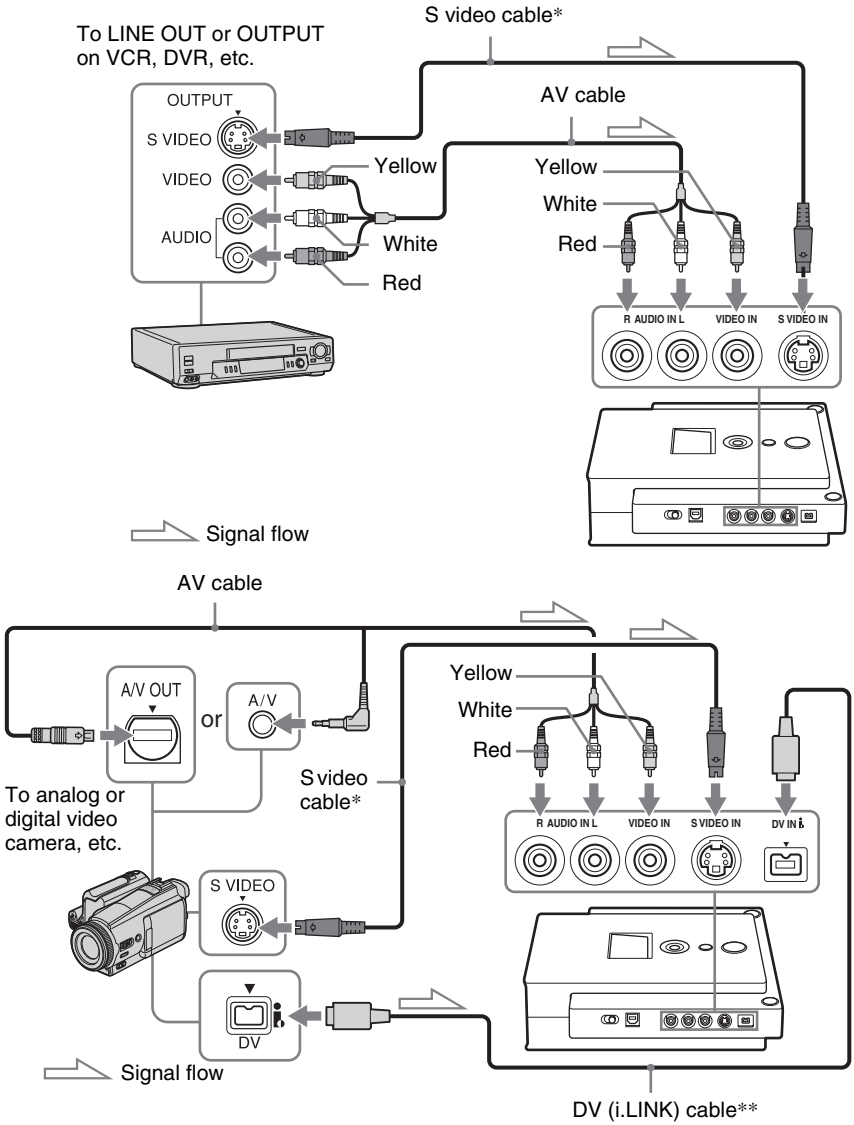
Notes on creating a video DVD

- You cannot record videos with copy protected signals (commercial DVD, VHS software, some programs from satellite receiver or CATV receiver, etc.).
- You cannot make incremental recordings on discs that have been created using a computer or other DVD recorder.

Video Recording

1 Connect the supplied power cord and AC adaptor to DVDirect.

2 Connect your video device to DVDirect with an AV, S-VIDEO or DV (i.LINK) cable (not supplied).



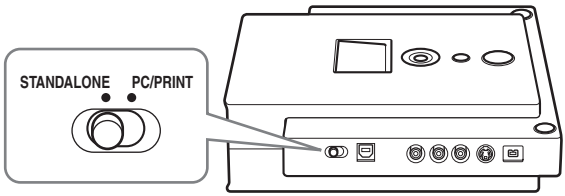
Continued

* If the video camera or VCR has an S VIDEO jack, use an S VIDEO cable (not supplied) for improved picture quality (compared to a video cable). You also need to connect audio cables for sound.

** If the digital video camera has a DV (i.LINK) jack, use a DV (i.LINK) cable (not supplied) for improved picture quality (compared to a video or S VIDEO cable). If you use a DV (i.LINK) cable, you can perform one touch recording (DV Full Dubbing feature) (page 17).

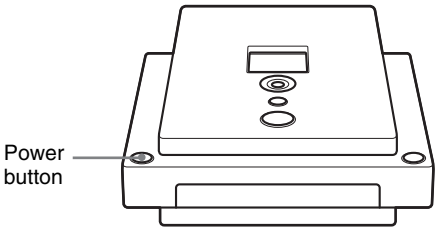
3 Turn on the video device and ready it for playback.

4 Set the mode switch on the left side of DVDirect to [STANDALONE].



5 Turn on DVDirect.

The display window turns on.

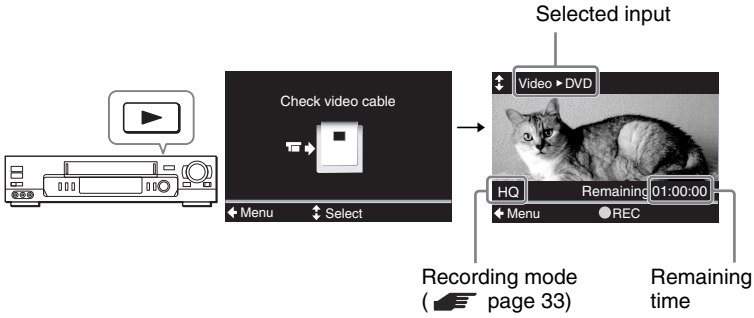


6 Press the eject button, and insert a disc.

A new blank disc will be formatted automatically. Wait until [Formatting the disc.] in the display window disappears, and DVDirect becomes ready for recording.

7 Start playback on the video device.

The image from the connected video device appears in the display window.



Hint

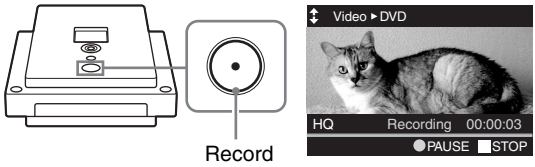
DVDirect detects a video input automatically when you play back video on the connected video device. You can check video playback in the display window.
The selected input is displayed in the top left.

DV ▶ DVD : DV IN is selected.
Video ▶ DVD : VIDEO IN is selected.
S-Video ▶ DVD : S VIDEO IN is selected.

If a video input is not detected correctly (or if the video playback is not displayed), press ↑↓ to select the correct input.

8 Press ⊙ (Record) on DVDirect.

[Recording] appears in the display window and ⊙ (Record) lights up during recording.



Note

If you stop playback on the video device during recording, (i.e. the video signal is interrupted), DVDirect pauses and ⊙ (Record) blinks.
To resume recording, restart playback on the video device. If no video signals are detected for 2 minutes, it stops.

9 Press ⊙ (Stop) to stop recording.

Wait a moment until the display window changes.

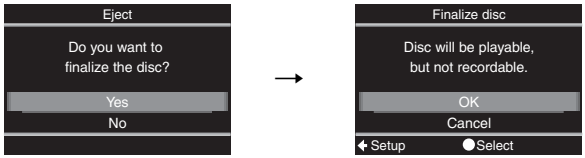
10 Press the eject button to eject the disc.

Hint

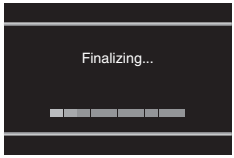
Repeat steps 7 to 9 to continue recording.

Continued

11 The following message appears.



Select [Yes] and press ◯ (Select), and again select [OK] and press ◯ (Select). DVDirect starts finalizing the disc.



Hints

- If you select [No], the disc is ejected without finalizing. This disc is not completed yet and cannot be played with other DVD players or DVD drives of computers. See page 38 for details on finalizing.
- When using a DVD+RW, this message will not appear. (The DVD+RW disc is automatically finalized and ejected.)

12 When finalizing is completed, the disc is automatically ejected.

The video DVD is completed.
You can play the video DVD with other DVD players or DVD drive of computers.

Note

It may take a few minutes to finalize.

To pause recording

Press ⊙ (Record).
To resume recording, press ⊙ (Record) again.

To stop recording

Press ⊙ (Stop).

To further record videos

If you eject a disc without finalizing or DVD+RW disc after recording videos, you can add videos on the same disc later.
Insert the disc to add videos, and then repeat steps 7 to 9.

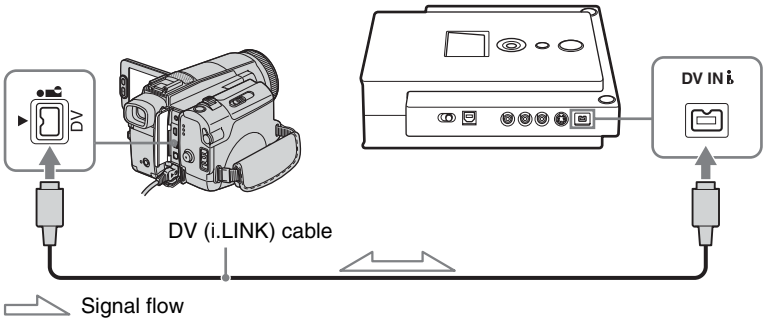
One Touch Recording (DV Full Dubbing)

Note

Before you start recording, change the [DV Full Dubbing setting] to [ON] in the Setup menu. (page 33)

1 Connect the supplied power cord and AC adaptor to DVDirect.

2 Connect your digital video camera* to DVDirect with a DV (i.LINK) cable (not supplied).



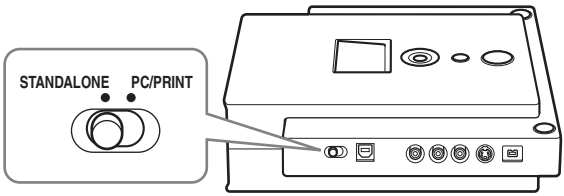
* DV or Digital8 camcorder only. MICROMV camcorder is not supported.

3 Turn on the digital video camera and ready it for playback.

Hint

For most digital video cameras, switch the power/mode button to the playback or "VTR" mode to play the tape or perform dubbing.

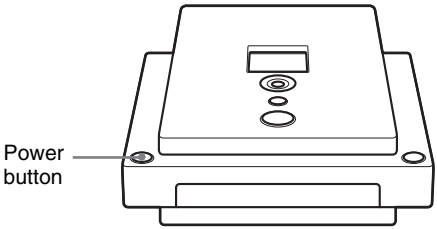
4 Set the mode switch on the left side of DVDirect to [STANDALONE].



Continued

5 Turn on DVDirect.

The display window turns on.

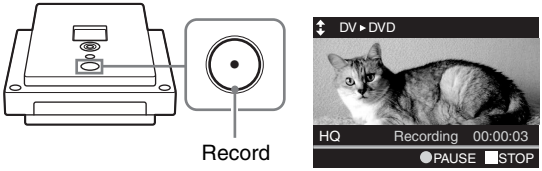


6 Press the eject button, and insert a disc.

A new blank disc will be formatted automatically. Wait until [Formatting the disc.] in the display window disappears and the display window changes.

7 Press ⊙ (Record) to start recording.

DVDirect starts recording at the same time the video camera starts playback. If the video tape is not at the beginning, it is winded back to the start and played back automatically, and DVDirect starts recording.
[Recording] appears in the display window, and ⊙ (Record) lights up during recording.



⊙ (Record) turns off and recording is completed.

Recording stops automatically when playback of the digital video camera ends. Press the eject button to eject the disc, and follow step 11 on page 16.

To pause recording

Press ⊙ (Record).

To resume recording, press ⊙ (Record) again.

To stop recording

Press ⊙ (Stop).

Note

If the DV (i.LINK) cable is disconnected during the recording procedure, DVDirect can no longer detect signals from the video camera depending on the model. In this case, turn on the digital video camera and DVDirect again.

Previewing a Video DVD

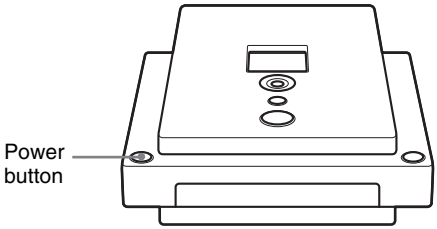
You can play and check the video DVD burned by this DVDirect in the display window on the top of DVDirect.

Notes

- Sound will not be heard when previewing the disc in this DVDirect.
- You cannot output video images to external devices such as TV.
- You cannot play back a disc recorded on a device other than DVDirect or commercial DVD software.

1 Turn on DVDirect.

The display window turns on.



2 Press ← to display the main menu, and press ↑↓ to select [DVD Video Preview], and then press → or ◯ (Select).

3 Press the eject button, and insert a video recorded disc.

For a finalized disc

The video titles recorded on the disc appear in the display window.

Selected title
(highlighted in yellow)

Press ↑↓←→ to select the title you want to view, and press ◯ (Select).
The selected title starts to play.
To stop playback, press ⊙ (Stop).

For an unfinalized disc

The last title on the disc starts to play automatically.

Current title number/
total title number

Press ←→ to select the title you want to view.
To stop playback, press ⊙ (Stop).

Hints

- For a DVD+RW disc, the video titles appear in the display window, as in the case of a finalized disc.
- If you insert a formatted video DVD first, the Auto Setup function (☞ page 11) activates and the video titles will be played automatically.
- For details on titles, see “About title and chapter on a disc” on page 34.

Creating a Photo DVD

You can easily record photos taken by your digital camera on DVDs from a memory card. You can also create a slide show DVD.

Photo DVD to be created

The following types of photo DVD can be created with DVDirect. You can decide which you intend to create according to a message appeared when ejecting the disc.

Photo backup DVD (☞ pages 24, 36)
DVD stored the photos (JPEG file) taken by a digital camera. You can preview the photo backup DVD created by DVDirect with the display window of DVDirect or computer DVD drives.

Slide show DVD (☞ pages 24, 36)
DVD with a photo slide show stored the photos (JPEG file) taken by a digital camera and can be compatible with common DVD video discs. You can play the slide show DVD with commercial DVD players and preview photos as a slide show with a back ground music.

Writable discs that can be used

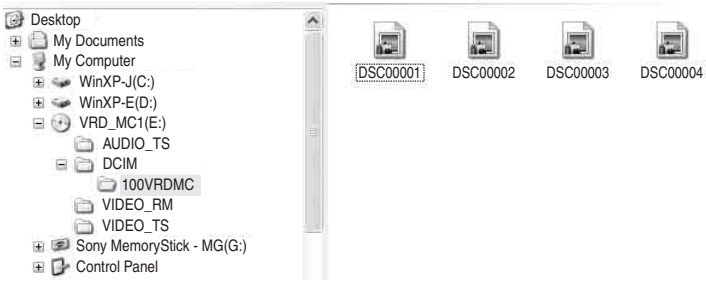
To create a photo DVD, use DVD-R and DVD-RW discs. See “Compatible writable discs” for details. (☞ page 47)

Notes

- It takes more time to create a slide show DVD than a photo backup DVD.
- Up to 2,000 photos can be recorded on one disc.

Storage location of photos in the photo DVD

The following shows the folders and files of photos in the photo DVD on the computer screen.
All photos are stored in the folder 100VRDMC.



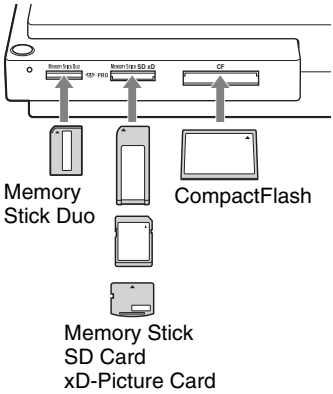
Hints

- File names are automatically created when the photo DVD is created.

Photo Recording

1 Connect the supplied power cord and AC adaptor to DVDirect.

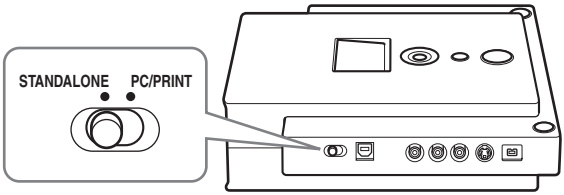
2 Insert the memory card into its corresponding memory card slot.



Notes

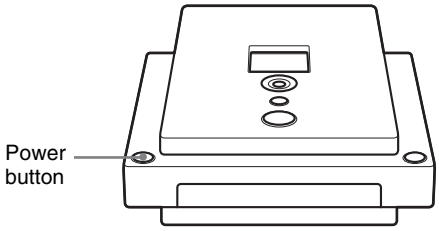
- Insert only one memory card into a memory card slot. Furthermore you cannot use more than one memory card slot at a time.
- Do not insert a “Memory Stick Duo” with a Memory Stick Duo adaptor into the multi memory card slot.

3 Set the mode switch on the left side of DVDirect to [STANDALONE].



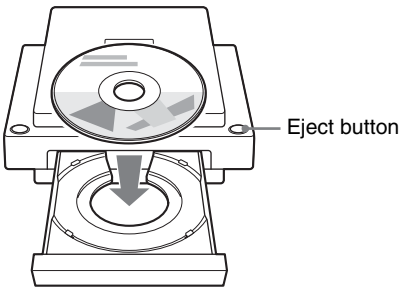
4 Turn on DVDirect.

The display window turns on.

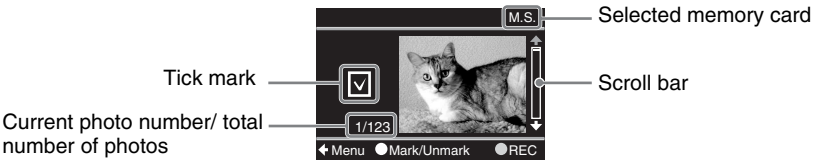


5 Press the eject button, and insert a disc.

A new blank disc is formatted automatically. Wait until [Formatting the disc.] in the display window disappears and the display window changes.



6 Photos in the memory card appears in the display window.



Press ↑↓ to scroll the photos.
Display a photo to record and press ◯ (Select) to release the tick mark.
Press ◯ (Select) again to put a tick mark.

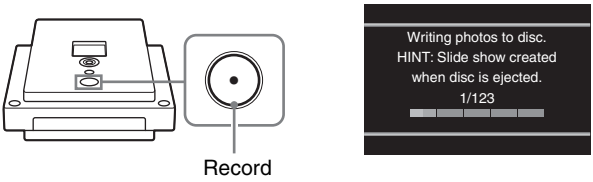
Hint

Tick marks are applied for all photos when inserting a memory card and displaying photos. If you intend to record all photos, just press ⊙ (Record) to start recording.

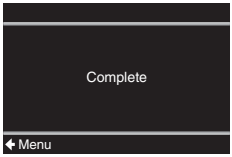
Continued

7 Press ⊙ (Record) to start recording.

[Writing photos to disc.] appears in the display window and ⊙ (Record) lights up during recording.



⊙ (Record) turns off and recording is completed.



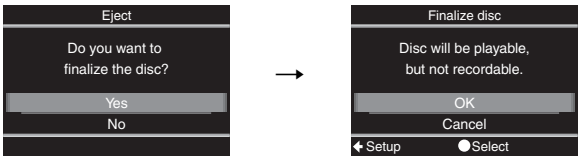
Recording stops automatically when the photos are recorded.

Hint

You can continuously add photos from another memory card on the same disc. In this case, change the memory card, and if you press ⊙ (Record) after the new photo is displayed in the display window, recording will start.

8 Press ← to display the main menu, and then press the eject button to eject the disc.

9 The following message appears.

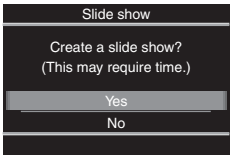


Select [Yes] and press ◯ (Select), and again select [OK] and press ◯ (Select).

Hint

If you select [No], the disc is ejected without finalizing. This disc is not completed yet and cannot be played with other DVD players or DVD drives of computers. See page 38 for details on finalizing.

10 The following message appears.

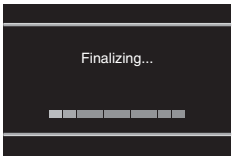


To complete the disc as a photo backup DVD, select [No].
To complete the disc as a slide show DVD, select [Yes].

Notes

- For a photo backup DVD, it takes a few minutes to complete finalizing.
- For a slide show DVD, it takes more time to complete the disc according to the number and size of photos. (E.g. It may take about 10 to 15 minutes to record 100 photo files on DVD.)

11 DVDirect starts finalizing, or a slide show is created and finalizing starts.



12 When finalizing is completed, the disc is automatically ejected.

The photo DVD is completed.

To further record photos

If you eject a disc without finalizing after recording photos, you can add photos on the same disc later. Insert the disc to add photos or photos stored on a memory card to DVDirect, and then repeat steps 6 to 7.

Viewing and Printing Photos

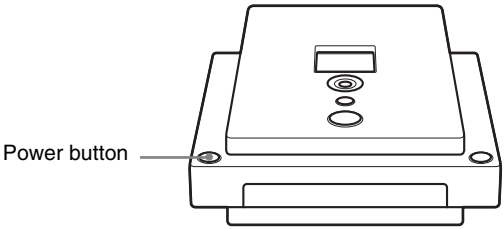
You can view and check the photos recorded on DVD or photos stored in a memory card in the display window on the top of DVDirect.
You can also print out photos in a photo DVD or memory card by connecting this DVDirect to a PictBridge-compatible printer.

Note

You cannot output the photo images to external devices, such as TV.

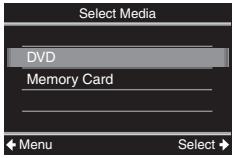
1 Turn on DVDirect.

The display window turns on.

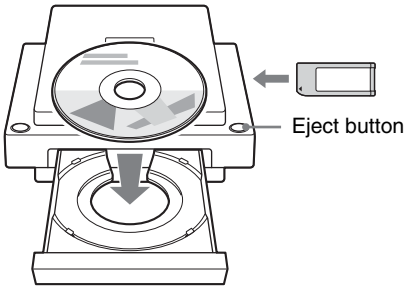


2 Press ← to display the main menu, and press ↑↓ to select [Photo View/Print], and then press → or ◯ (Select).

3 Press ↑↓ to select [DVD] to view the photo DVD, or select [Memory Card] to view the memory card, and then press → or ◯ (Select).

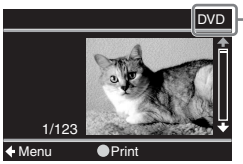


4 Press the eject button and insert a photo recorded disc, or insert a memory card.



5 Press ↑↓ to scroll and view the photos, or display a photo to print.

One photo is displayed in the display window at a time.

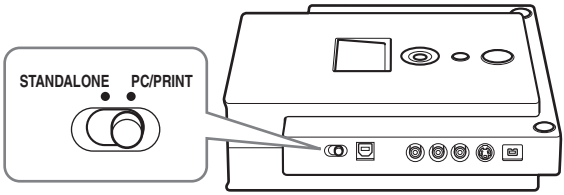


The selected disc or memory card is displayed.

Hint

If you insert the formatted photo DVD first, the Auto Setup function (☞ page 11) activates and the photo on the disc will be displayed automatically.

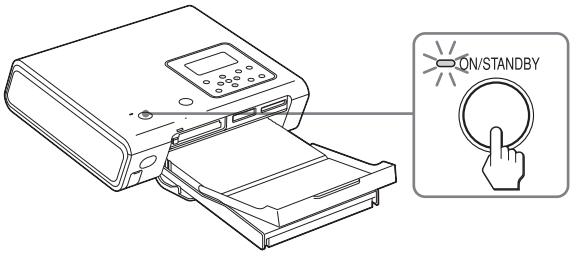
6 Set the mode switch on the left side of DVDirect to [PC/PRINT].



Continued

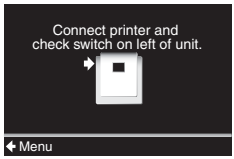
7 Turn on the printer and set up for printing.

Refer to the operating instructions of your printer for setup details. (See connection with a PictBridge-compatible device.)

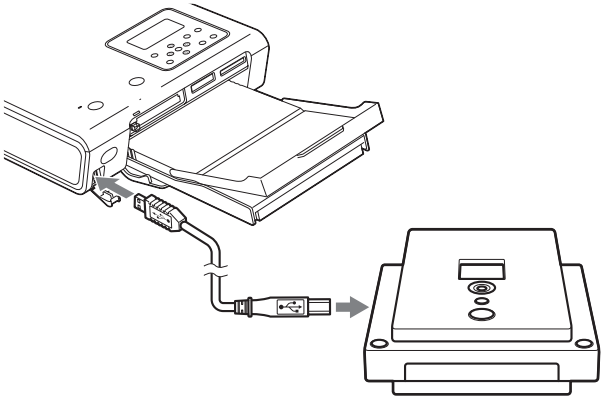


8 Press ⊙ (Record).

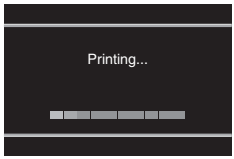
The following message appears.



9 Connect your printer to DVDirect with the supplied USB cable.



10 The printer starts printing.



The message [Printing] will disappear when printing is completed.

Hint

To continue printing other photos, press ↑↓ to scroll and display the desired photo to print, and then press ⊙ (Record).

Notes on viewing or printing photos

- You cannot view or print photos from a photo DVD created by a device other than DVDirect, i.e., a computer created disc.
- With DVDirect, you can view and print photos complied with the JPEG format taken by a digital still camera. Any other photo files (e.g. JPEG files created, edited or finished on a computer) may not be guaranteed to view or print.

Using the Setup Menu

You can change the various setting to create a disc in the Setup menu screen. The following shows the procedure to display the Setup menu.

1 Turn on DVDirect.

The display window turns on.

2 Press ←.

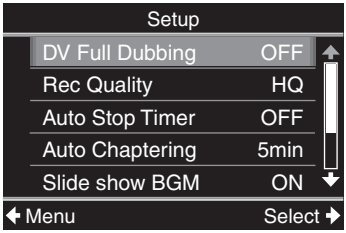
The main menu appears.

Hint

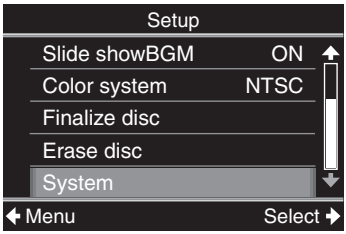
Whenever [← Menu] is displayed in the bottom left during operating DVDirect, the main menu appears if you press ←.

3 Press ↓ to select [Setup], and press → or ◯ (Select).

The Setup menu appears.



Move the cursor by pressing ↑↓ to select items or options to change, and press → or ◯ (Select) to confirm.



DV Full Dubbing

Set [ON/OFF] for the one touch recording feature (page 17).

Setting	Default setting	Feature
ON		Rewinds the tape in the digital video camera automatically, and then start recording from the beginning of the tape.
OFF	✓	Starts recording from the point the tape in the digital video camera has been stopped.

Rec Quality

To create video DVD, you can select the recording quality.

Rec Quality	Default setting	Picture quality	Recording time (approx.)	
			Single layer disc	Double layer disc
HQ	✓	High	1 hour	2 hours
HSP		↑	1.5 hours	3 hours
SP		Standard	2 hours	4 hours
LP		↑	4 hours	8 hours
SLP		Low	6 hours	12 hours

Auto Stop Timer

To create video DVD, you can select the preset time to stop recording automatically.

Setting	Default setting	Feature
OFF	✓	—
30min to 8h		Recording automatically stops when the preset time has passed after starting recording. 30 min, 60 min, 90 min, 2h, 3h, 4h, 6h, 8h are available.

Note

The [Auto Stop Timer] setting is cancelled when the recording is completed, press ⊙ (Stop) during recording, or the power is turned off.

Auto Chaptering

To create video DVD, you can specify a time to create chapter marks automatically in the disc.

Setting	Default setting
OFF	
5min	✓
10min	
15min	

About title and chapter on a disc

DVD contents consist of sections, called titles, and smaller sub-sections, called chapters. When you create a video DVD with DVDirect, a title is created between the points where you start and stop a recording.
When you create a photo DVD (slide show DVD) with DVDirect, a chapter is created for 10 photos.

Video DVD

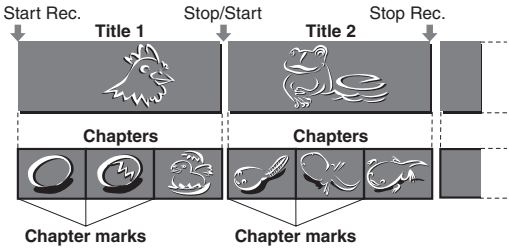
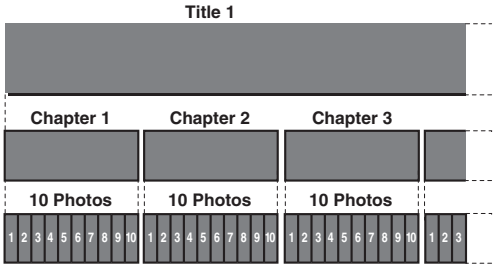


Photo DVD



Note

Up to 49 titles/a disc and 99 chapters/a title can be created. Depending on the condition of the videos or photos, the number decreases.

Slide show BGM

To create photo DVD (slide show DVD), you can select if you record a background music on the disc.

Setting	Default setting
ON	✓
OFF	

Note

Only one background music is pre-installed in DVDirect and cannot be changed.

Color system

Select the color system of the disc.
The disc cannot be played if the color system is different between the created disc and the DVD player.

Setting	Feature
NTSC	Record DVD with NTSC color system.
PAL	Record DVD with PAL color system.

Note

The default setting of the color system is set appropriately in advance according to the shipping destination. Keep this setting.

Continued

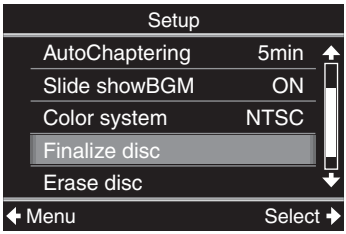
Finalize disc

Finalize a disc that has not been finalized when ejecting. (page 38)

Hint

When you use a DVD+RW disc, you do not need to finalize it.

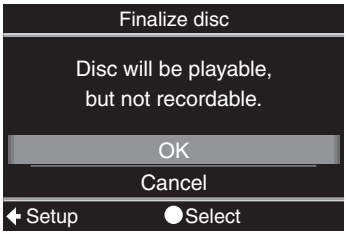
1 Insert a disc to finalize, press ↓ to select [Finalize disc], and press → or ◯ (Select).



The following message appears.

2 Press ↑↓ to select [Yes], and press ◯ (Select).

The following message appears.



3 Press ↑↓ to select [OK], and press ◯ (Select).

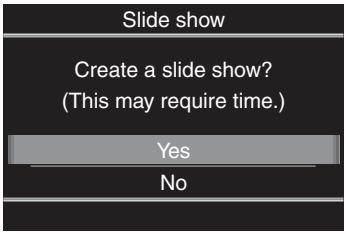
4 DVDirect starts finalizing.

For video DVD

The following message appears.

For photo DVD

The following message appears.

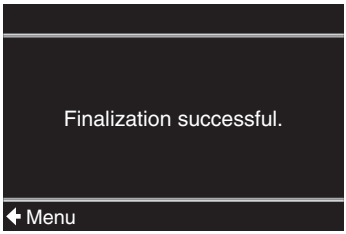


To complete the disc as a photo backup DVD, select [No].
To complete the disc as a slide show DVD, select [Yes].

Notes

- For a video DVD or photo backup DVD, it takes a few minutes to complete finalizing.
- For a slide show DVD, it takes more time to complete the disc according to the number and size of photos. (E.g. It may take about 10 to 15 minutes to record 100 photo files on DVD.)

5 Finalizing is completed.



Continued

What is “Finalize disc”?

To finalize the disc means to make the created disc playable on other DVD devices.

When ejecting a disc immediately after recording, DVDirect gives a message to ask if you wish to finalize the disc or not (☞ page 16).
You can select to finalize the disc or not according to the purpose.
(You can finalize the disc from the Setup menu (☞ page 36)).

Generally complete the disc by finalizing.
The finalized disc can be used like DVD-Video or DVD-ROM discs on a DVD device.

See the following to check if finalizing is necessary according to your purposes.

Discs require finalizing

- To play the created disc on the general DVD players
- To read the created disc on the general DVD drives of computers
- To distribute the created disc
- To complete the disc 100% (no plan to add videos or photos on the same disc)

Discs not require finalizing

- To add videos on the same disc later by DVDirect
- To add photos on the same disc later by DVDirect
- In the middle of creating the disc (not playable on the other DVD devices yet)

The following shows the difference between a finalized disc and an unfinalized disc.

	Finalized disc	Unfinalized disc
Playing on general DVD players	✓	
Reading on DVD drives of computers	✓	
Adding videos on the same disc later		✓
Adding photos on the same disc later		✓

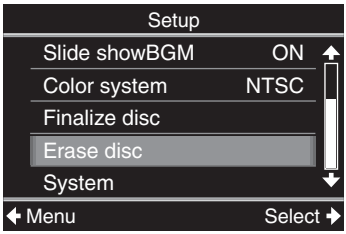
Note

To use a DVD+RW disc, finalizing is unnecessary; no message to finalize appears when ejecting the disc, and there is no need to finalize from the Setup menu.
DVDirect can always add videos on the DVD+RW, and the disc can always be played with a DVD player or the DVD drive of a computer.

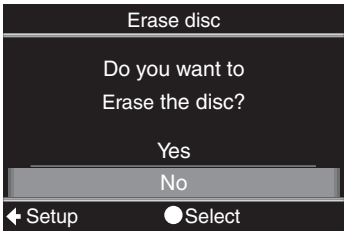
Erase disc

Erase all data recorded in DVD+RW or DVD-RW. The erased disc is reusable as a blank disc.

1 Insert a disc to erase, press ↓ to select [Erase disc], and press → or ◯ (Select).

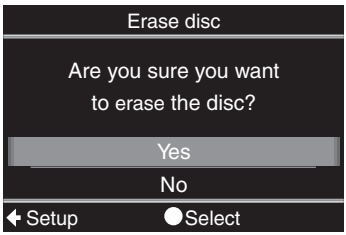


The following message appears.



2 Press ↑↓ to select [Yes], and press ◯ (Select).

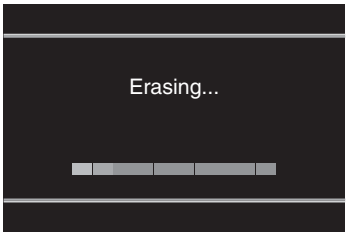
The following message appears.



3 Press ↑↓ to select [Yes], and press ◯ (Select).

Continued

4 DVDirect erasing starts.



Notes

- Be aware that this operation erases all data.
- You cannot erase individual titles or chapters.

5 After erasing is completed, the disc can be ejected.

System

You can check the system software version of DVDirect.
Press ↓ to select [System], and press → or ◯ (Select) to display the version in the display window.

Hint

The system software is the built-in software that makes DVDirect work.

Using DVDirect with a Computer

System Requirements

When using DVDirect with your computer (Drive Mode), the computer system should meet the following requirements[1)].

- ❑ CPU: Pentium III, 800 MHz or higher (with NeroVision Express: Pentium 4, 1.6 GHz recommended)
- ❑ RAM: 256 MB or higher
- ❑ 10 GB free hard disk space or more recommended
- ❑ Operating system:
  Windows 2000 Professional (referred to as Windows 2000),
  Windows XP Home Edition or Windows XP Professional (referred to as Windows XP)
- ❑ Hi-Speed USB (USB2.0) port

1) The above requirements are the minimum necessary requirements to write to disc normally. Under actual operating conditions, the requirements imposed by your software must also be met. For details, refer to your software documentation.

Setting Up the Computer

Installing the software

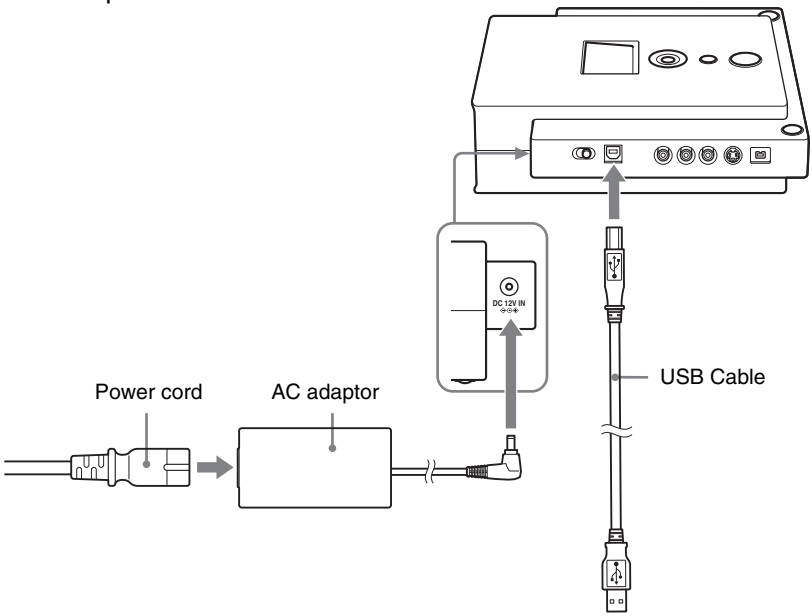
1 Insert the supplied software disc into a drive on the computer.
The installer will start automatically.

2 Click [INSTALL SUITE] button to install the software.

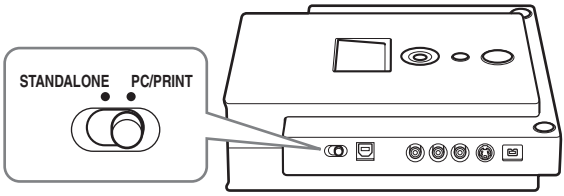
3 After installation is completed, continue to install other options or click [EXIT] to finish installation.

Connecting DVDirect to a computer

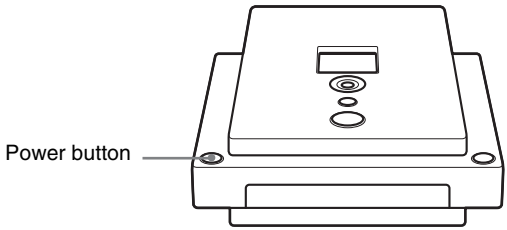
1 Connect the supplied USB cable, the power cord, and the AC adaptor to DVDirect.



2 Set the mode switch on the left side of DVDirect to [PC/PRINT].



3 Turn on DVDirect.



4 Turn on your computer.

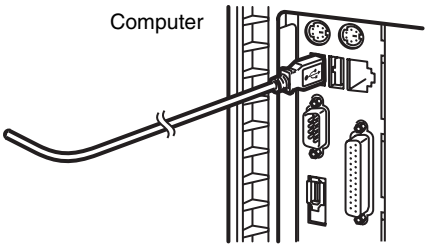
Continued

5 Connect the other end of the USB cable to your computer.

[Drive Mode] appears in the display window.

Note

Please connect DVDirect directly to a USB connector on the computer.



Click [MY computer] and make sure the icon of this DVDirect is added. You can now use DVDirect with your computer.

Disconnection

The disconnection procedure varies depending on your OS.

When your computer detects DVDirect successfully, appears on the Windows task bar. If you want to disconnect DVDirect, you must first stop it by clicking this icon.

1 Click on the task bar, and click DVDirect to be disconnected on the shortcut menu.

2 Operate following the message displayed, if any.

3 Disconnect the USB cable.

Note

If you disconnect the USB cable without performing the procedure above, your computer may operate erratically or data may be damaged. Be sure to perform the procedure above before disconnecting the USB cable.

Using Memory Card slots

If you insert a memory card into the memory card slot of DVDirect when you use DVDirect as an external DVD drive, you can use the memory card as a removable disc for the computer. The memory card is displayed as a “removable disk” icon in the “My Computer” folder on the Windows display.

Notes

- Insert only one memory card into the memory card slot. Furthermore you cannot use more than one memory card slot at a time.
- Do not connect DVDirect and a USB memory card adapter to the computer at the same time, as DVDirect may not work properly.

Using the Bundled Software

Use the bundled software to create or play back CDs and DVDs on your computer with DVDirect.

Launching “Nero StartSmart”

Using “Nero StartSmart”, your central starting point for all your audio, video, data, backup and recording tasks, you can choose a task from several categories, launch Nero applications, tools, and view manuals. (Refer to the manuals or online help of each application for details about their operation.) To launch “Nero StartSmart”, double-click the “Nero StartSmart” icon, or start [Nero StartSmart] in the program menu.

Put a cursor on each icon or application to display the summary in a pop-up window. Click what you intend to use.

Notes on using other software with DVDirect

- Using software other than the bundled software (such as commercially available software, shareware, or freeware) to write data to disc with this DVDirect is not under warranty and Sony provides no customer service.
- Make sure that the bundled writing software and other writing software do not coexist on your computer. Especially if other packet writing software* exists in your computer, the software and/or computer may operate erratically.

* Such as Drag-to-Disc (ROXIO), Direct CD (ROXIO), B’s CLIP (BHA), and DLA (Sonic).

Maximizing Performance

Reaching the highest possible data transfer rate

Make sure that you use high-speed certified discs for which this operation has been guaranteed by Sony. For the latest information about these discs, visit the user support web site. When using discs other than those mentioned above, DVDirect may limit writing speed to preserve a good reading quality.

Updating the system software

We recommend using DVDirect with the latest system software (or referred as firmware) as some problems encountered when using DVDirect can be solved simply by updating the system software. The system software updates are available on the user support web site. See page 54 for details.

Hint

The system software is the built-in software that makes DVDirect work.

Using 48x read/write speed for CDs

The default read/write speed for CDs of this DVDirect is 40× speed. With a single touch, you can make the read/write speed 48× speed.

Notes

- On rare occasions, some discs may not be able to tolerate 48× speed, causing them to break. We recommend that you do not use deeply scratched, brittle, or other discs that may break at 48× speed.
- This function does not guarantee a 48× write speed. Depending on the condition of the disc you are using, the speed may be lower.
- This function does not increase read/write speed with CD-RW discs.

1 Insert a disc into DVDirect.

The read/write speed when you insert a disc is normally 40× speed.

2 Press the eject button for five seconds.

A few seconds later the read/write speed switches to 48× speed.

Hint

When you open the disc tray, the read/write speed reverts to its default of 40× speed.

Additional Information

About Discs

Compatible writable discs

The following writable discs are compatible with DVDirect.

Disc type	Logo	Using without computer		Using with computer	
		Video DVD creation	Photo DVD creation	Write	Read/ Playback
DVD+R		✓		✓	✓
DVD+R DL (Double layer)		✓		✓	✓
DVD+RW		✓		✓	✓
DVD+RW High speed		✓		✓	✓
DVD-R		✓	✓	✓	✓
DVD-R DL (Dual layer)				✓	✓
DVD-RW		✓	✓	✓	✓
CD-R				✓	✓
CD-RW				✓	✓
CD-RW High speed				✓	✓
CD-RW ultra speed				✓	✓
CD-RW ultra speed plus				✓ *	✓

* maximum x16 speed

Continued

	Disc diameters	Read	Write
DVD	12 cm	✓	✓
	8 cm	✓	—
CD	12 cm	✓	✓
	8 cm	✓	✓

Note

Only round discs should be used with this DVDirect. Never use odd-shaped discs (stars, hearts, card shape, etc.), otherwise DVDirect may be damaged.

Recommended writable discs

We strongly recommend that you only use discs for which operation has been guaranteed. You can obtain the latest list of writable discs for which operation with this DVDirect has been guaranteed at the user support web site (see page 54 for details).

Note

You can safely use most disc formats that comply with the appropriate standards with this DVDirect. However, bear in mind that some commercially available discs do not comply with the quality or performance standards that are necessary to use with this DVDirect. If you use such discs, DVDirect may automatically adjust the writing speed, or may not be able to write at all, etc. Even if discs are successfully written, they may cause errors at the time of reading.

Writable discs and compatibility

CD-R discs

Data can be written to this type of disc only once, and once it has been written, it cannot be erased. Music CDs created on CD-R disc media can be played on standard CD players.

CD-RW discs

Data can be written to and erased from this type of disc repeatedly. Typically, a new CD-RW disc can be rewritten about 1,000 times.
Music CDs created on CD-RW disc media cannot be played on a CD player unless it is designed to be CD-RW compatible.

DVD+R, DVD-R, DVD+R DL and DVD-R DL discs

Data can be written to this type of disc only once, and once it has been written, it cannot be erased.
DVD+R DL (double layer) and DVD-R DL (dual layer) discs have two layers on one side and have a double capacity compared to the conventional one-layer disc.

DVD+RW and DVD-RW discs

Data can be written to or erased from this type of disc repeatedly. Typically, a new DVD+RW or DVD-RW disc can be rewritten about 1,000 times.

About playback/reading compatibility

CD-R and CD-RW discs created with DVDirect can be read on most CD-ROM drives. However, some older CD-ROM drives cannot read CD-RW discs.
In addition, CD-R music discs created and finalized with DVDirect can be played on most CD players, however, there are some CD players and automobile CD players that do not guarantee or support playback of CD-R discs.
Further, because of the differences in quality and characteristics between various CD-ROM drive, CD player, CD-R disc, and CD-RW disc manufacturers, playback may not be possible depending on the combination.*

DVD-Video discs created and finalized with the DVDirect can be played back on many standard DVD players. Also, DVD-ROM discs created and finalized with the DVDirect can be played back on almost all DVD drives.
However depending on the combination of the type of your player/drive and the disc, playback/reading may not be supported or may not be possible. In addition, some drives do not support multi-session/multi-border DVD-ROM discs. In these cases, the drive may only read the first session/border of the disc.
Further, because of the differences in quality and characteristics between various DVD drives, DVD players, and disc manufacturers, playback/reading may not be possible depending on the combination.
*Playback compatibility is not under warranty.

Precautions on writing/playing discs

Write speed and compatible discs

- When writing data to disc at high speeds, you must use the appropriate type of disc.
- Set the writing speed on your writing software. For details about the setting procedures, refer to your writing software documentation.
- Writing speed may be adjusted automatically according to the quality of the disc used. Also, writing speed may be limited by the transfer rate of the computer.

DVD region codes

The playback of DVD-Video (DVD discs) is protected and controlled by a region code setting. For using DVDirect to play back DVD-Video on your computer, the region code on the DVD disc, DVDirect and the DVD-Video play back software must be identical.

Continued

With this DVDirect, the region code can be set up to five times, including the initial assignment (RPC phase 2[1)] standard). After setting the region code five times, the setting becomes permanent and can no longer be changed. From this point on, you are only able to play back DVD-Video whose region code matches the one set at the fifth time.

Do not attempt to make unauthorized changes to the region code. Any problems resulting from doing so are not covered by the warranty.

Hint

- You can change the region code of DVDirect on it's properties dialog box that is accessible from the Device Manager.
- The DVDs created in stand-alone operation have the region code “All”.

1) Region Playback Control (RPC) standard.

Playing back DVD-Video

DVD-Video disc playback conditions are sometimes determined by software manufacturers. Because the drive plays back discs as determined by software manufacturers, some drive functions may not always perform as expected. When playing back DVD-Video, refer to the documentation accompanying each disc.

About copy protected DVDs

Most DVD-Video discs on the market are protected against unauthorized copy. Attempting to copy protected discs violates copyright laws.

About copy controlled CDs

This product is designed to play back discs conforming to the Compact Disc (CD) standard. Audio CDs encoded with copyright protection technology are now marketed by various record companies. Be aware that some of these discs do not conform to the CD standard and you may not be able to play them back with DVDirect. When using DVDirect as an audio CD player, only use audio CDs with the following mark. Some of these discs are encoded in such a way as to prevent sampling and/or copy, while others can only be played back under certain conditions. For details, refer to the documentation of your audio CD.

Note on DualDiscs

A DualDisc is a two sided disc product which mates DVD recorded material on one side with digital audio material on the other side.
However, since the audio material side does not conform to the Compact Disc (CD) standard, playback on this product is not guaranteed.

About Memory Cards

About “Memory Stick”

A “Memory Stick” is a compact, portable IC recording medium.
The types of “Memory Stick” that can be used with DVDirect are listed in the table below. However, proper operation cannot be guaranteed for all “Memory Stick” functions.

“Memory Stick” type	Read/Write
Memory Stick	○
Memory Stick (MagicGate/High-speed data transfer compatible)	○*1
Memory Stick Duo	○
Memory Stick Duo (MagicGate/ High-speed data transfer compatible)	○*1
MagicGate Memory Stick	○*1
MagicGate Memory Stick Duo	○*1
Memory Stick PRO	○*1
Memory Stick PRO Duo	○*1

*1 Read/write of data that requires MagicGate functions cannot be performed with DVDirect.

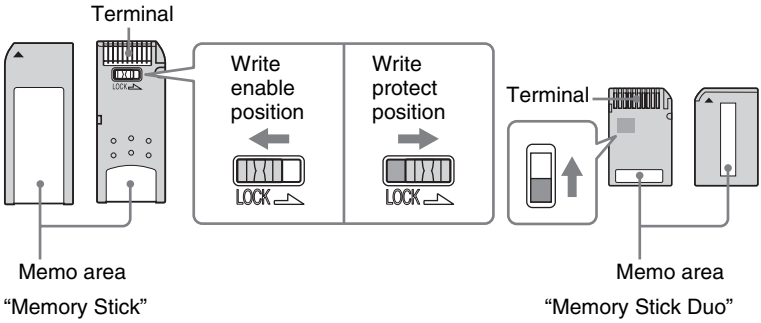
Note

When formatting a “Memory Stick,” use the format function of your digital camera. You can also use “Memory Stick Formatter” in the supplied software disc. To install the “Memory Stick Formatter” into your computer, start the installer “MSfmtInst240.exe” located in the folder “\MSfmt” on the software disc. To launch the installed “Memory Stick Formatter,” access “Memory Stick Utility” folder in the program menu of Windows.
However, a “Memory Stick” formatted by a computer may not be usable depending on the digital camera. In this case, the “Memory Stick” needs to be formatted again by the digital camera.

Continued

Notes on using “Memory Stick”

- You cannot record, edit or delete images if you slide the write-protect switch to LOCK with a fine-tipped object.



The position and/or the shape of the write-protect switch may differ depending on the “Memory Stick” you use.

- Do not remove the “Memory Stick” while reading or writing data.
- Data may be corrupted in the following cases:
  - When the “Memory Stick” is removed or DVDirect is turned off during a read operation
  - When the “Memory Stick” is used in locations subject to static electricity or electrical noise

About the CompactFlash/SD/xD-Picture Cards

With the multi memory card slot of DVDirect, you can use “Memory Stick,” SD Card and xD-Picture Card. With the CompactFlash Card slot of DVDirect, you can use CompactFlash Storage Card (Type I/Type II) and CF+Card (Type I/Type II)-compatible CompactFlash Storage Card. Not all the memory card operations are supported.

Notes on use

- You cannot use CompactFlash Cards with a power specification of 3V (3.3V or less) only. Do not insert other types of CompactFlash Card into the DVDirect’s insertion slot. DVDirect may be damaged.
- When using the ComapctFlash Card adaptor, the write-protected card may not work properly.
- You cannot read the data of the SD Card subject to the copyright protection.

Precautions

Operation and storage conditions

Avoid using or storing DVDirect in a hot or humid location, or where it might be subject to severe vibration or direct sunlight.

Transportation

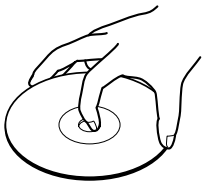
- Please repack DVDirect in its original carton when shipping by itself.
- If DVDirect is to be shipped while installed in a computer, remove any disc beforehand.

Moisture condensation

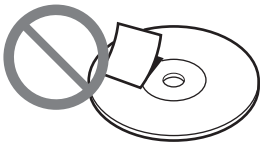
Do not expose DVDirect to sudden temperature changes. Do not use DVDirect immediately after moving it from a cold to a warm location, or raising the room temperature suddenly, as condensation may form within DVDirect. If the temperature changes suddenly while using DVDirect, stop using it, but keep the power on for at least an hour.

Handling discs

- Handle discs only by the edges. Never touch the recording surface.



- Do not affix labels on discs.



- Do not store discs in dusty, dirty or humid locations, in direct sunlight, or near heat-generating devices.
- To protect important data, always keep discs in their cases.
- Do not wipe writable discs using a disc cleaner before recording data. Instead, use a blower to remove any dust.
- Data may not be recorded properly if there are scratches or dust on the unrecorded area of writable discs. Handle discs very carefully.

Handling memory cards

- Do not drop, bend, or submit the memory cards to external shock.
- Do not disassemble or modify the memory cards.
- Avoid touching the terminal of a memory card or contacting it with a metal object.
- Avoid getting liquids on a memory card or using them in areas subject to high humidity.
- Avoid using or storing a memory card in a location subject to:
  - extremely high temperature, such as the hot interior of a car, outdoors exposed to direct sunlight, or a place near a heater.
  - direct sunlight
  - high humidity
  - corrosive substances
  - excessive dust
  - electrostatic or electronic noises
  - magnetic fields
- When storing or carrying a memory card, keep it in its original case to ensure protection of important data.
- Avoid removing a memory card from its slot or turning off the power button while DVDirect is accessing it, as data may be rendered unreadable.

Support Overview

User support web site

You can find the following information on this web site. The information is periodically updated, so we recommend that you visit regularly.

- Information about DVDirect
- Information about the software supplied with DVDirect
- Latest system software (firmware)
- Frequently asked questions
- Troubleshooting guide
- Guaranteed compatible computers
- Guaranteed compatible discs
- Operating instructions
- Others

Accessing the user support web site

Sony Storage Support web sites
(As of March, 2005)

http://sony.storagesupport.com/

About the Bundled Software
Detailed information about the supplied software is available on the web sites of the software manufacturer.

http://www.nero.com

Update the system software

Some problems encountered when using DVDirect can be solved simply by updating the system software (or referred to as firmware). The system software updates are available on the user support web site. Access the site, make sure that there is an update for your DVDirect, and follow the instructions on the screen to proceed with download and installation.

Technical support

Please visit the above web sites that provide technical support and other information on DVDirect and the supplied software. When asking questions using telephone or e-mail, please have the following information available:

- Model number: VRD-MC1
- Serial number
- Date and place of purchase
- Computer maker and model number
- Computer specifications (CPU speed, memory size, OS version, etc.)
- Writing software used (version, etc.)

Local technical support is only available in the specified sales regions. The customers in these regions should be provided with a warranty card for this product. For contact information, refer to the warranty card.

Note that technical support conditions may vary according to the locality, and that charges and/or limited service may apply in some regions.

Specifications

Stand-alone operation

Color system
NTSC/PAL
Recordable discs
DVD+R (video DVD)
DVD+R DL (video DVD)
DVD+RW (video DVD)
DVD-R (video DVD, photo DVD)
DVD-RW (video DVD, photo DVD)
Video encoding
MPEG-2
Audio encoding
Dolby Digital (2ch)
Supported photo file (photo backup)
JPEG, DCF2.0 compliant
Printing
PictBridge compliant, printer connection via USB port

DVD/CD rewritable drive

Maximum write speed* / Recordable discs
DVD+R DL 8x, DVD+R 16x, DVD+RW 8x, DVD-R DL 4x, DVD-R 16x, DVD-RW 6x, CD-R 48x, CD-RW 24x
Maximum read speed
DVD-ROM 16x, DVD-Video 6x, CD-ROM 48x, CD-DA 10x
Buffer capacity
2 MB

* Use discs appropriate to each writing speed.

Interface

DV IN[1)]
4-pin i.LINK (IEEE1394), S100, DVC-SD input
VIDEO input
1 Vp-p/75 ohms
S VIDEO input
Y: 1 Vp-p/75 ohms
C: 0.286 Vp-p/75 ohms
AUDIO input
2 Vrms, Impedance more than 47 kilohms
Memory Card slot
Memory Stick Duo, Memory Stick[2)], SD Memory Card[2)], xD-Picture Card[2)], CompactFlash
USB port
Hi-Speed USB (USB 2.0 compliant)
LCD monitor
2 inch color LCD

[1)] For DV input from DV/Digital8 camcorder only.
You cannot record video from MICROMV or HDV camcorder (HDV format) and other digital video devices having the i.LINK connector. You cannot use the DVDirect by connecting it to a computer with an i.LINK connector.

[2)] Multi card slot

General

Power
DC 12 V (supplied from the DC IN jack)
Consumption
Max. 3.0 A
AC adaptor
AC 100 - 240 V
Use a power cord appropriate to the region or country of use.
Size
Approx. 204 × 65 × 222 mm (W×H×D)
Weight
Approx. 1.75 kg
Operating temperature
5 to 35 ºC

Design and specifications are subject to change without notice.

Screen displays in this manual may not be the same as those of the product.

Sony Corporation Printed in China

http://www.sony.net/