

Memory Stick Duo ExpressCard™ Adaptor

Operating Instructions

MSAC-EX1



English

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

WARNING

To reduce fire or shock hazard, do not expose the unit to rain or moisture.

For the Customers in the U.S.A.

If you have any questions about this product, you may call:

Sony Customer Information Service Center, 1-800-222-7669 (SONY).

The number below is for the FCC related matters only.

Regulatory Information

Declaration of Conformity

Trade Name : SONY
Model : MSAC-EX1
Responsible Party : Sony Electronics Inc.
Address : 16530 Via Esprillo, San Diego CA
92127 U.S.A.
Telephone number : 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.

Note:

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.

CAUTION



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

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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-  Memory Stick, MagicGate Memory Stick, Memory Stick Duo, **MEMORY STICK DUO**, MagicGate Memory Stick Duo, Memory Stick PRO, **MEMORY STICK PRO**, Memory Stick PRO Duo, **MEMORY STICK PRO DUO**, Memory Stick PRO-HG Duo, **MEMORY STICK PRO-HG DUO**, Memory Stick Micro, **MEMORY STICK MICRO**, M2, **M2**, "MagicGate," **MAGIC GATE**, "ATRAC," "SonicStage" and  SonicStage are registered trademarks or trademarks of Sony Corporation.
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- All other trademarks and registered trademarks are trademarks of their respective holders.
- TM and ® are not mentioned in each case in this manual.

Precautions on use

Pay attention to the following points when using this unit.

- If the body becomes dirty, wipe with a soft cloth. Never use benzine, alcohol, paint thinner or other solvents, which may damage the unit.
- Data cannot be guaranteed if not properly operated.

Table of contents

Precautions on use	4
Features of this unit	6
Checking the included items	8
System requirements	9
Supplied software	10

For Windows

Installing the software on your computer	11
How to use this unit	13
When the removable disk (Memory Stick icon) is not indicated	16
Removing this unit from your computer	21
About "MagicGate" (copyright protection technology)	23
Formatting/initializing the Memory Stick™ media	24

For Mac OS

Installing the software on your computer	25
How to use this unit	27
Uninstalling the device driver	29
Troubleshooting	30
Specifications	31
LIMITED WARRANTY	32

Features of this unit

This unit is the ExpressCard Adaptor and is only compatible with duo-size Memory Stick™ media, and this unit can be used by inserting it into the ExpressCard slot of your computer.

This unit is compatible with the 8-bit parallel interface of the Memory Stick PRO-HG Duo™ media, and also adopts the PCI Express interface allowing data transfer of Max.30 MB/s (240 Mbps) (reading/writing).* You can forward a large amount of recorded data from the Memory Stick™ media to your computer or vice versa.

* The Memory Stick PRO-HG Duo™ media (MS-EX4G) has achieved this transfer speed right after full-formatting this under Sony's proven environment of file-copying time and calculated the time of transferring.

- Following is the actual measurement and condition.

<Computer environment>

Model: VGN-AR92US (VAIO manufactured by Sony)

CPU: Intel Core 2 Duo T7600 2.33 GHz

Chipset: Intel 945PM Express chipset

Main memory: 2 GB

Hard disk drive: 80 GB × 2 (RAID 0)

OS: Windows Vista Ultimate

<Transfer data>

About 922 MB size video file

In addition, data transfer speed varies with size of transferring files, media used, speed of OS or CPU, and other usage conditions; therefore, the transfer speed of 30 MB/s (240 Mbps) is not warranted at all times.

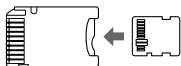
Note

Actual speed of transferring (reading/writing) may vary depending on the combination of this unit and the Memory Stick™ media you use or computer environment.

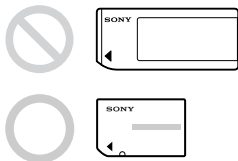
Memory Stick™ media types that can be used with this unit (not supplied)

- Memory Stick Duo™ (without MagicGate)
- Memory Stick Duo™ (with MagicGate)
- MagicGate Memory Stick Duo™
- Memory Stick PRO Duo™
- Memory Stick PRO-HG Duo™
- Memory Stick Micro™ (M2™)*

* Use the specified adaptor, (MSAC-MMD/not supplied), to use the Memory Stick Micro™ media with this unit.



- Standard size Memory Stick™ media cannot be used with this unit.



- Sony does not guarantee this unit will operate with all kinds of Memory Stick™ media. Performance has been verified with any Memory Stick™ media up to 8 GB (MSX-M8GS) (as of July, 2007). Please check the following Web Site to verify which Memory Stick™ media this supports. MemoryStick™ media updates/releases can be found on our Web Site: <http://www.sony.net/memorystick/supporte/>

Checking the included items

The Memory Stick™ media is not supplied.

- **Memory Stick Duo ExpressCard Adaptor (this unit) (1)**

- **CD-ROM (1)**

The CD-ROM contains the following software programs:

- Device driver
- “Memory Stick Formatter” (Windows)
- Operating Instructions (PDF file)

- **Setup Guide (1)**

System requirements

Recommended Windows environment

- OS

Windows XP:

Microsoft Windows XP Home Edition Service Pack 2 or later

Microsoft Windows XP Professional Service Pack 2 or later

Windows Vista:

Microsoft Windows Vista Home Basic

Microsoft Windows Vista Home Premium

Microsoft Windows Vista Business

Microsoft Windows Vista Enterprise

Microsoft Windows Vista Ultimate

- The operating systems mentioned above must be installed on the computer when shipped from the factory.
- Operation is not guaranteed for upgraded operating systems even if they are among those mentioned above.
- ExpressCard slot (standard equipment)
- CD-ROM drive

Recommended Macintosh environment

- OS: Mac OS X v10.4 (10.4.9 or later)

- The operating system mentioned above must be installed on the computer when shipped from the factory.
- Operation is not guaranteed for upgraded operating system even if it is mentioned above.
- ExpressCard slot (standard equipment)
- CD-ROM drive

Note

Operation is not guaranteed for all computers even if they comply with the recommended environments.

Supplied software

The CD-ROM (supplied) contains the following software programs;

Device driver

The device driver must be installed when this unit is used on the computer.

For how to install the device driver, see page 11 (Windows) or 25 (Mac OS).

“Memory Stick Formatter” (Windows)

This is a software program for formatting (initializing) Memory Stick™ media. Formatting deletes all the data recorded on the Memory Stick™ media.

In order to maintain the compatibility of the Memory Stick™ media when using it with compatible products, always use this software when formatting Memory Stick™ media on this unit. See page 24 for details.

Note

Formatting the Memory Stick™ media to which data has already been written will delete the existing data. Be careful not to delete important data by mistake.

Installing the software on your computer

Note

- Be sure to install the device driver from the CD-ROM (supplied) before you insert this unit into your computer.
Do not perform the installation while this unit is inserted into your computer.
Restart your computer when installation is complete, and then insert this unit into your computer.
- Simultaneously with the installation of the device driver, the “Memory Stick Formatter” is also installed on your computer.

In the following example, Windows Vista is used for instructions. Depending on the OS type and the settings on your computer, the screens may look different.

Use the following procedure to install the device driver.
Some of the installation may be automatic.

1 Turn on your computer.

At this point, do not insert this unit into your computer.

Close all running applications.

To install the device driver, you must log on with administrative privileges. Please see the manual of your computer for process to log on the administrative privilege.

2 Insert the CD-ROM (supplied) into the CD-ROM drive on your computer.

“AutoPlay” appears on the screen.

3 Click [Run Setup.exe].

The installer launcher starts up.

4 Click the [Driver] button in the menu.

5 Carefully read the License Agreement, and then click the [Agree] button.

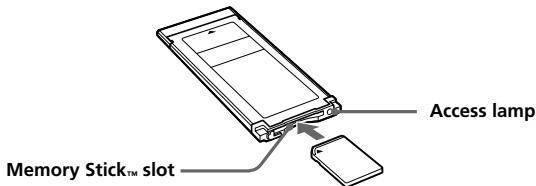
Installation of the device driver starts.

- 6** Click the **[Next]** button as prompted on the screen.
“Ready to install the Program” appears.
- 7** Click the **[Install]** button.
- 8** Click the **[Finish]** button.
The device driver installation is complete, and following this, installation of the “Memory Stick Formatter” starts.
- 9** Select the language on the “Choose Setup Language” screen, then click the **[Next]** button.
- 10** Follow the instructions on the screen and click the **[Next]** button.
- 11** Click the **[Finish]** button.
Installation of the “Memory Stick Formatter” is completed. To use the “Memory Stick Formatter,” select [Start] – [All Programs] – [Memory Stick Utility] – [Memory Stick Formatter].
- 12** Restart your computer.

How to use this unit

In the following example, Windows Vista is used for instructions. Depending on the OS type and the settings on your computer, the screens may look different.

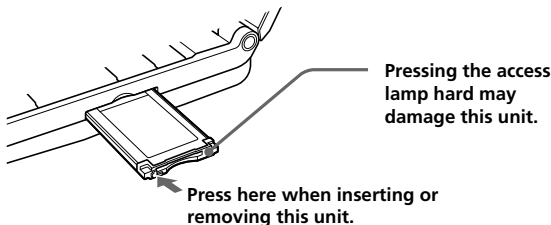
- 1 Insert the Memory Stick™ media into the Memory Stick™ slot on this unit.**



- 2 Insert this unit into the ExpressCard slot on your computer.**

This unit is recognized.

The "Found New Hardware Wizard" starts up and this unit is recognized when using Windows XP.



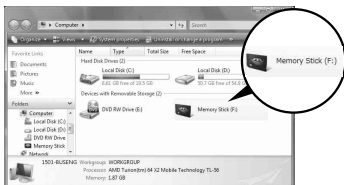
When you insert this unit into your computer or when you remove this unit from your computer, please handle it as shown in the picture. Depending on your computer, the way to remove this unit varies.

Note

Insert this unit completely into your computer. Be sure to insert in this unit oriented correctly to avoid damage.

3 Confirm that this unit is recognized.

- 1 Click [Start] and click [Computer].
- 2 Confirm that the newly recognized “Memory Stick (F:)” icon is shown.



This “Memory Stick (F:)” indicates this unit is inserted into the computer. Depending on your computer, the drive name ((F:) etc.) may differ.

The insertion is complete when the “Memory Stick (F:)” icon is shown. It may take a little while before the “Memory Stick (F:)” icon appears.

4 Drag and drop the data you want to transfer.

Drag and drop the data you want to transfer from your computer to the Memory Stick™ media (this unit) or from the Memory Stick™ media (this unit) to your computer.

Note

When the access lamp blinks, it indicates that data is being accessed. Never remove the Memory Stick™ media, turn off the computer, or remove this unit from the computer while the access lamp is blinking. Doing so may damage the data on the Memory Stick™ media.

When the removable disk (Memory Stick icon) is not indicated

The device driver may have not been installed correctly. Insert this unit into your computer, and then perform the following procedure.

When using Windows XP

Log on as Administrator or using an user ID that has administrative privileges. Please see the manual of your computer for process to log on the administrative privilege.

1 Show the "System Properties" screen.

- ① Click [start].
- ② Click [Control Panel].
- ③ Double-Click [Performance and Maintenance].
- ④ Click the "System" icon.



2 Check if the device driver has already been installed correctly.

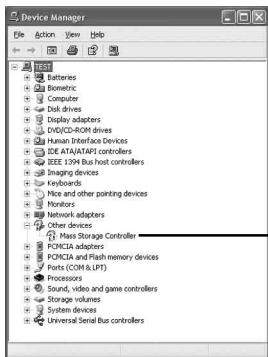


① Click the [Hardware] tab on the "System Properties" screen.

② Click [Device Manager].



The "Device Manager" screen appears.



Check whether [Mass Storage Controller] preceded by the "!" symbol is shown.

3 Delete the registration of device driver if the device driver is not installed correctly.

If you use the procedure described in Step 2 and confirm that [!Mass Storage Controller] is shown, the device driver is not installed correctly.

Use the following procedure to delete this device driver.

Do not delete devices other than [!Mass Storage Controller].

- ① Right-click [!Mass Storage Controller].
- ② Click [Uninstall]. The “Confirm Device Removal” screen appears.
- ③ Click the [OK] button. The device is removed.
- ④ Restart your computer after disconnecting this unit from the computer.

Install the device driver again by performing the procedure from Step 1 on page 11.

Note

If you delete devices other than [!Mass Storage Controller], your computer may no longer operate normally.

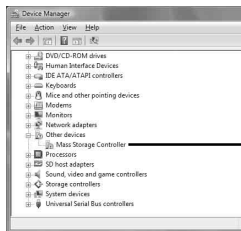
When using Windows Vista

Log on as Administrator or using an user ID that has administrative privileges. Please see the manual of your computer for process to log on the administrative privilege.

1 Show the "Device Manager" screen.

- 1 Click [Start].
- 2 Click [Control Panel].
- 3 Click [Device Manager] of "System and Maintenance."
"User Account Control" appears.
- 4 Click [Continue].

2 Check if the device driver has already been installed correctly.

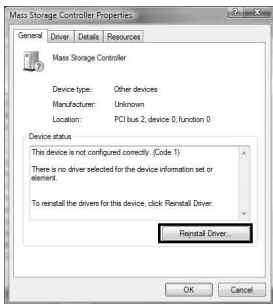


Check if [Mass Storage Controller] preceded by the "!" symbol is shown.

3 If the wrong device driver is installed, reinstall the device driver.

If you use the procedure described in Step 2 and confirm that [!Mass Storage Controller] is shown, the device driver is not installed correctly.

- ① Right-Click [!Mass Storage Controller] and click [Properties].
The “Mass Storage Controller Properties” screen appears.
- ② Click [Reinstall Driver].

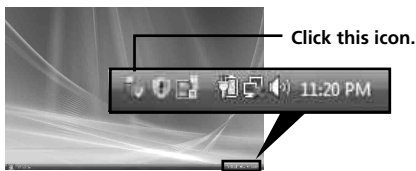


Removing this unit from your computer

Perform the procedure below before removing this unit from the computer.

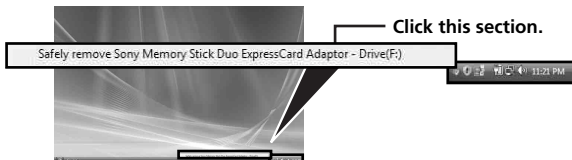
In the following, the screens shown in Windows Vista are used for instructions. Depending on the OS type and the settings, the screens on your computer may look different.

- 1** Click the "Safely Remove Hardware" icon in the task tray in the lower right corner of the screen.



This section is the task tray.

- 2** Click the [Safely remove Sony Memory Stick Duo ExpressCard Adaptor-Drive(F:)].



The drive name ((F:) etc.) may differ depending on the computer used.

3 "This device can now be safely removed from the computer." is displayed and you can remove this unit from your computer.

Note

The indications may be different depending on the OS on your computer.

Note

- When you remove the Memory Stick™ media from this unit, you must first remove this unit from your computer as described above.
 - Do not remove the Memory Stick™ media from this unit while the access lamp is blinking. Data on the Memory Stick™ media could be corrupted.
 - Removing this unit or the Memory Stick™ media in this unit without performing the operations above may cause damage to the Memory Stick™ media. Remove this unit or the Memory Stick™ media after performing these operations.
- Sony will not be liable for any damage caused as a result of not following the instructions above.

Microsoft product screen shots reprinted with permission from Microsoft Corporation.

About “MagicGate” (copyright protection technology)

“MagicGate” is the generic name for a copyright protection technology developed by Sony. Music and other data that require copyright protection can be recorded and played back by using a combination of “MagicGate” compatible Memory Stick™ media and equipment compatible with “MagicGate,” such as this unit.

By using “SonicStage CP” with this unit, you can transfer ATRAC format music data with copyright protection to the Memory Stick™ media.

About “SonicStage CP”

“SonicStage CP” is comprehensive software for enjoying music.

With “SonicStage CP,” you can enjoy music sources such as music CDs, etc., or you can import music into the hard disk of your computer for complete management of your collection.

Furthermore, music data that has been imported into the hard disk of your computer can also be transferred to the Memory Stick™ media by using this unit, so that they can be enjoyed outside the computer environment.

You can download “SonicStage CP” at the following Web Site for free. Serial number indicated at the reverse of this unit is needed to download.
<http://www.sony.net/memorystick/supporte/>

Formatting/initializing the Memory Stick™ media

Formatting deletes all the data recorded on the Memory Stick™ media. Use the “Memory Stick Formatter” software (supplied) to format the Memory Stick™ media.

For details on how to use the “Memory Stick Formatter,” refer to the help supplied with the “Memory Stick Formatter.”

You can download the “Memory Stick Formatter” at the following Web Site.

<http://www.sony.net/memorystick/support/>

Note

If you format the Memory Stick™ media that contains data, the already recorded data will be deleted. Be careful not to inadvertently delete important data.

- 1** Insert the Memory Stick™ media into this unit.
- 2** Insert this unit into your computer.
- 3** Start “Memory Stick Formatter.”
- 4** After confirming that the drive on which the Memory Stick™ media has been mounted is selected, click [Start format].

Note

Never remove this unit from the computer while formatting the Memory Stick™ media. The data on the Memory Stick™ media may be damaged.

Installing the software on your computer

Note

Be sure to install the device driver from the CD-ROM (supplied) before you insert this unit into your computer.

Do not perform the installation while this unit is inserted into your computer.

Restart your computer when installation is complete, and then insert this unit into your computer.

Use the following procedure to install the device driver.

Some of the installation may be automatic.

1 Turn on your computer.

At this point, do not insert this unit into your computer.

Close all running applications.

2 Insert the CD-ROM (supplied) into the CD-ROM drive on your computer.

3 Open the "Mac OS" folder, and double-click the [MSAC-EX1 Device Driver.dmg] file.

The "MSAC-EX1 Device Driver" screen appears.

4 Double click the [MSAC-EX1 Device Driver Installer].

5 Click the [Continue] button on the "Welcome to MSAC-EX1 Device Driver vxxx Installer" screen.

6 Click the [Continue] button on the "Select Destination" screen.

7 Click the [Install] button on the "Easy install to 'xxx'" screen.

8 Type in your "ID" and "password" and click the [OK] button on the authentication screen.

9 Click the **[Continue to install]** button on the install confirmation screen.

Installation of the device driver starts.

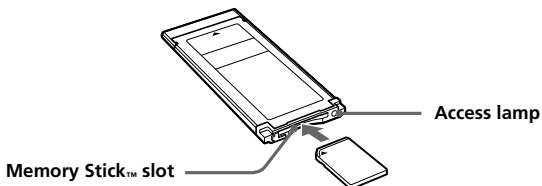
10 After installation is complete, click the **[Restart]** button.

How to use this unit

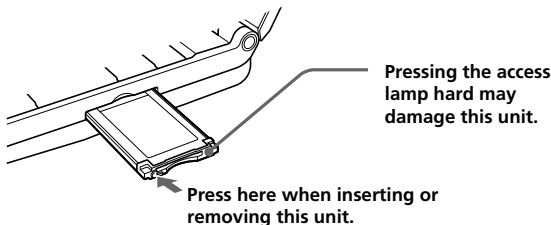
Note

Be sure to install the device driver from the CD-ROM (supplied) before you insert this unit into your computer. Restart your computer following installation.

- 1** Insert the Memory Stick™ media into the Memory Stick™ slot on this unit.



- 2** Insert this unit into the ExpressCard slot on your computer.



When you insert this unit into your computer or when you remove this unit from your computer, please handle it as shown in the picture. Depending on your computer, the way to remove this unit varies.

Note

Insert this unit completely into your computer. Be sure to insert in this unit oriented correctly to avoid damage.

3 Confirm that this unit is recognized.

Confirm that the newly recognized “Memory Stick” icon is shown on the desktop.

4 Drag and drop the data you want to transfer.

Drag and drop the data you want to transfer from your computer to the Memory Stick™ media (this unit) or from the Memory Stick™ media (this unit) to your computer.

5 Remove this unit.

Drag and drop the “Memory Stick” icon on the trash can and remove this unit from your computer.

Note

- The drive icon for this unit does not appear on the desktop unless you insert the Memory Stick™ media into this unit.
- When the access lamp blinks, it indicates that data is being accessed. Never remove the Memory Stick™ media, turn off the computer, or remove this unit from the computer while the access lamp is blinking. Doing so may damage the data on the Memory Stick™ media.

Uninstalling the device driver

- 1** Insert the CD-ROM (supplied) into the CD-ROM drive on your computer.
- 2** Open the "Mac OS" folder, and double-click the [MSAC-EX1 Device Driver.dmg] file.
The "MSAC-EX1 Device Driver" screen appears.
- 3** Double-click the [MSAC-EX1 Device Driver Uninstaller].
Uninstalling of the device driver begins.

Troubleshooting

Symptom	Cause/Solution
The Removable disk icon (Memory Stick) is not displayed.	<ul style="list-style-type: none">• This unit or the Memory Stick™ media is not inserted correctly. → Insert correctly. (Page 13)• The device driver is not or is installed improperly. → Install or remove and re-install the device driver from the CD-ROM (supplied). (Page 11)
The Memory Stick™ media cannot be accessed from Explorer or My Computer (Computer).	<ul style="list-style-type: none">• No Memory Stick™ media is inserted. → Insert the Memory Stick™ media.
The access lamp does not turn on when the Memory Stick™ media is inserted.	<ul style="list-style-type: none">• The connector of the Memory Stick™ media is dirty. → Check for dust or dirt on the connector of the Memory Stick™ media. Remove any foreign matter and re-insert the Memory Stick™ media.

Specifications

Interface: ExpressCard/34

External dimensions	Approx. 34 mm × 5 mm × 75 mm (1 3/8 × 7/32 × 3 in.) (Width × Height × Depth)
Mass	Approx. 22 g (0.8 oz.) (not including Memory Stick™ media)
Operating conditions	Temperature 0 °C to 55 °C (32 °F to 131 °F) Humidity 20 % to 80 % (condensation not allowed)

Design and specifications are subject to change without notice.

If you have any questions/comments related to this product, please visit our Customer Support Web Site at <http://www.sony.net/memorystick/support/>

LIMITED WARRANTY

SONY ELECTRONICS INC. (for U.S. sales) or SONY OF CANADA LTD. (for Canadian Sales) ("SONY") warrants this product against defects in material or workmanship for the time periods and as set forth below. Pursuant to this Limited Warranty, SONY will, at its option, (i) repair the product using new or refurbished parts or (ii) replace the product with a new or refurbished product. For purposes of this Limited Warranty, "refurbished" means a product or part that has been returned to its original specifications. **In the event of a defect, these are your exclusive remedies.**

Term: For a period of **one year** from the original date of purchase of the product, SONY will, at its option, repair or replace with new or refurbished product or parts, any product or parts determined to be defective.

This Limited Warranty covers only the hardware components packaged with the Product. It does not cover technical assistance for hardware or software usage and it does not cover any software products whether or not contained in the Product; any such software is provided "AS IS" unless expressly provided for in any enclosed software Limited Warranty. Please refer to the End User License Agreements included with the Product for your rights and obligations with respect to the software.

Instructions: To obtain warranty service, you must deliver the product, freight prepaid, in either its original packaging or packaging affording an equal degree of protection to the SONY authorized service facility specified. **It is your responsibility to backup any data, software or other materials you may have stored or preserved on your unit. It is likely that such data, software, or other materials will be lost or reformatted during service and SONY will not be responsible for any such damage or loss.** A dated purchase receipt is required. For specific instructions on how to obtain warranty service for your product, product support, online knowledge database, frequently asked questions and free updates via the Internet:

Visit SONY's Web Site:
www.sony.com/service

Or call the **Sony Customer Information Service Center**
1-800-222SONY

Repair / Replacement Warranty: This Limited Warranty shall apply to any repair, replacement part or replacement product for the remainder of the original Limited Warranty period or for ninety (90) days, whichever is longer. Any parts or product replaced under this Limited Warranty will become the property of SONY.

This Limited Warranty only covers product issues caused by defects in material or workmanship during ordinary consumer use; it does not cover product issues caused by any other reason, including but not limited to product issues due to commercial use, acts of God, misuse, limitations of technology, or modification of or to any part of the SONY product. This Limited Warranty does not cover SONY products sold AS IS or WITH ALL FAULTS or consumables (such as fuses or batteries). This Limited Warranty is invalid if the factory-applied serial number has been altered or removed from the product. This Limited Warranty is valid only in the country of purchase, either the United States of America or Canada.

LIMITATION ON DAMAGES: SONY SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY OR CONDITION ON THIS PRODUCT.

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Some states or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This Limited Warranty gives you specific legal rights and you may have other rights which vary from state to state or jurisdiction to jurisdiction.

In the United States contact: Sony Customer Information Service Center, 12451 Gateway Blvd., Fort Myers, FL 33913; www.sony.com/service; or (800) 222-7669 (SONY).

In Canada contact: Sony of Canada Ltd. 115 Gordon Baker Road, Toronto, Ontario M2H 3R6

<http://www.sony.net/>

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