TEAC®

Portable USB CD-RW Drive
CD-W28PU

User's manual

To ensure the smooth handling of your warranty please write the serial number of your drive into the box. In the case of warranty you are expected to send it together with a copy of your invoice to your nearest TEAC sales representative.

- Changes in specifications and features may be made without notice or obligation.

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TO THE USER

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to VCCI Rules. Although this device is designed to be used in a home environment, it may cause interference if used near a radio or TV receiver. Be sure to handle the device properly in accordance with this instruction manual.

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SOFTWARE LICENCE AGREEMENT AND LIMITED WARRANTY

DEVICE DRIVER FOR TEAC CD-R/RW UNIT LICENSE AGREEMENT AND LIMITED WARRANTY

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1. BEFORE USING

Thank you for purchasing TEAC USB Portable CD-R/RW unit CD-W28PU. This is a CD-R/RW drive that is used by connecting it to the USB terminal of a personal computer. The drive functions as a device conforming to the USB1.1 when connected to the USB1.1 terminal and as a device conforming to the USB2.0 when connected to the USB2.0 terminal.

A floppy disk drive may be required for installing software when using this drive.

This user's manual describes how to set the CD-W28PU, how to connect it to a personal computer, and how to operate it. Read the instruction manual of your computer as well.
Read the user's manual provided with each software to understand how to use it.

Read this instruction manual carefully before use for proper handling and operations of the CD-W28PU.

1.1 Computers to connect

- A PC/AT compatible machine with a USB1.1 or USB2.0 interface (two or more USB connectors are required when using the USB floppy disk drive for system recovery)
- CPU of Intel Pentium II 266MHz or more
- Main memory of 64MB or more
- Free hard drive space of approx. 800MB or more when writing to the CD-R or CD-RW disc.

– The USB control conforms to one of the following: UHCI (Universal Host Controller Interface), OHCI (Open Host Controller Interface) or EHCI(Enhanced Host Controller Interface) of the USB 2.0. The drive may not operate with some USB interfaces that conform to the OHCI.

– Your PC must conform to a boot from the USB CD-ROM in order to start from a bootable CD-ROM including a recovery CD using the drive.
– It is recommended that you create a boot disk in advance taking into consideration the re-installation (described in System Recovery Procedure) of your OS.
– Refer to the TEAC homepage for the latest information on the operational conformity.

1.2 Conforming OSes (as of October in 2001)

Any one of the following operating systems is required.

- Microsoft® Windows 98 Second Edition
- Microsoft® Windows Me
- Microsoft® Windows 2000 Professional
- Microsoft® Windows XP
- The drive does not conform to Windows 95, Windows 98 and MS-DOS.

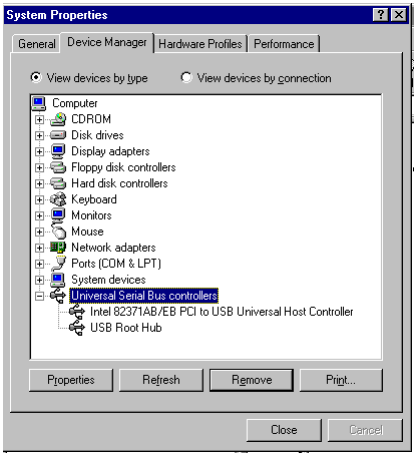
1.3 Checking the USB controller

To use the CD-W28PU in your computer, the USB controller incorporated in the computer must be operating normally. Execute the following steps to check the operation state of the USB controller.

In Windows 98SE or Windows Me

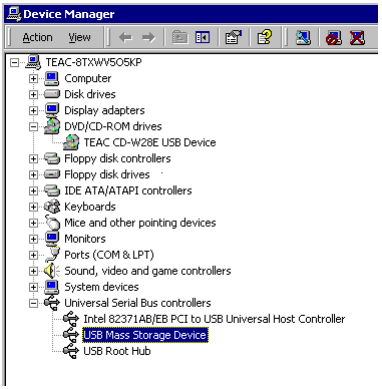
1. Click Start, Settings, Control Panel.
2. Double-click System.
   In Windows Me, System may not appear in the Control Panel. In that case, left-click Display all the Control Panel options to display it.

3. Click the Device Manager tab.
   Confirm that USB (Universal Serial Bus) Controller exists in the device list. The name of the USB controller depends on the PC used (the figure below represents a USB controller provided by Intel).



In Windows 2000

1. Click Start, Settings, Control Panel.
2. Double-click System.
3. Click the Hardware tab.
4. Click the Device Manger (D)... button.
5. Confirm that USB (Universal Serial Bus) Controller exists in the device list.



1.4 Writing media and writing speed

■ Writing speed to the media

The conforming writing speed is indicated on the package of the CD-R/RW media. When writing, write within the scope of the specified writing speed of the media used.

■ CD-R media and writing speed

Data can be appended to the CD-R disc once or up to a maximum of approx. 100 times. The data written cannot be erased, however, it has a wide range of compatibility that allows read by most CD-ROM drives or CD players.

Writing speed: 2x, 4x, 8x

There is no problem in using a media that conforms to 8x speed or more. However, only a maximum of 8x speed can be obtained when using it in this drive.

■ CD-RW media and writing speed

The CD-RW disc can be erased and rewritten. A multi-read CD-ROM drive or a CD player that conforms to CD-RW media is required to read written data.

- 1x, 2x, 4x conforming media: 2x, 4x
- 4x - 10x (High Speed) conforming media: 4x, 8x

Different logos are indicated as shown below on the CD-RW media depending on the conforming speed. When writing to the CD-RW media in 8x speed, use the media indicated as “High Speed” or “4x - 10x”.

Logo mark	Conforming
	1x, 2x, 4x conforming
	High Speed (4x - 10x) conforming

■ Certifieded media

The write operation of the drive has been checked using the following CD-R and CD-RW media. (as of October in 2001)

Media Manufacturer	Type of Media			
	CD-R		CD-RW (74min)	
	74min	80min	10xtype	4xtype
Kodak	●	●	–	–
Sony	●	●	–	–
Taiyo-yuden	●	●	–	–
T D K	●	●	–	–
Hitachi (Maxel)	●	●	–	–
Fuji-Film	●	●	–	–
Mitsui-chemical	●	●	–	–
Mitsubishi-chemical	●	●	●	●
Ricoh	●	●	●	●

● Certified media

– Not-certified media or media of which sale has not been confirmed

Note

The 80-minute media in the above table includes products whose write time is indicated as 79 minutes. The actual write time of some products does not reach 80 minutes.

• Media of which write operation has not been confirmed

This product is designed to operate also with CD-R or CD-RW media that are not shown in the above table, however, note in advance that sufficient write quality may not be assured depending on the combination.

Caution

Even when using media of which write operation has been confirmed, normal write operation may not be performed due to variations of the product lot etc., or a read using other CD-ROM drives or CD players cannot be performed due to the deterioration of the write quality of the CD-R/RW media. It is recommended that you check the contents of data after writing to a CD-R/RW media.

2. PRODUCT OUTLINE

Features of the CD-W28PU

- Easy connection
  Since this product incorporates the interface conforming to the USB2.0 High Speed, it can be connected or disconnected to or from your computer easily even when the power of the computer is on. Furthermore, since this product conforms to the USB1.1, it can be used with most computers that incorporate the USB interface.
  * The operation when connected via a USB hub is not supported.
- High-speed write
  This product enables stable write onto the CD-R/RW media in 8x speed at the maximum when connected to a computer conforming to the USB2.0 by incorporating the interface conforming to the USB2.0 High Speed.
  * When connected to the USB1.1 host controller, a speed of 4x to 6x speed is obtained depending on other specifics.
- Conformance to media manufactured by major media manufacturers
  This product is best tuned to almost all the CD-R and CD-RW media manufactured by major media manufacturers and the media written by this product realizes a very high write quality. Therefore, this drive can be used with little concern for compatibility issues.
- Incorporation of the Just Link function
  This product incorporates the Just Link function which prevents buffer underrun errors that cause a write failure onto the CD-R/RW me-

dia. With this function, write to the CD-R/RW media is assured when connected to the USB1.1 as well as the USB2.0.

- Top loading
  This product sports a top loading mechanism that allows easy loading and ejection of a disc. The top cover can be opened manually or by using software that works with the computer.
- Ready-to-use software is provided

2.1 Procedure before using the CD-W28PU

The procedure outline that must be followed before using the drive is described below. Refer to each section of this document for details of each procedure.

- Open the package and check the accessories.
- Check the names and functions of each section of the drive.
- Connect the drive and the provided AC adapter.
- Start your computer system and connect the USB terminal of the computer to the drive.
- Install the provided device driver and CD-R/CD-RW writing software as required.
- Check that the drive operates normally and keep the enclosed warranty in a safe place after filling it in.

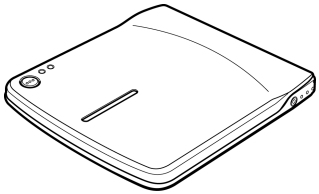
2.2 Precautions when unpacking the package

Open the product packing box and check to make sure that the following components are included. The CD-W28PU is a precision device. Remove it from the box very carefully. Avoid jarring it.

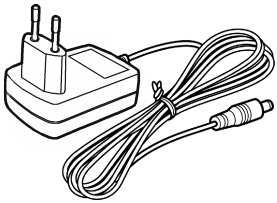
- Check the appearance of the drive to see if there is any damage to the switches or connectors or any other defects.
- It is recommended that you keep the packing box and cushioning material in case of transporting the drive for repair, etc.

2.3 Package List

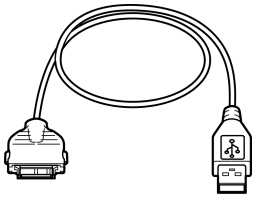
CD-W28PU drive unit



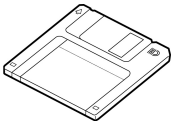
AC adapter



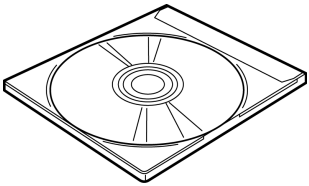
USB interface cable



Recovery driver disk



CD-R/RW writing software

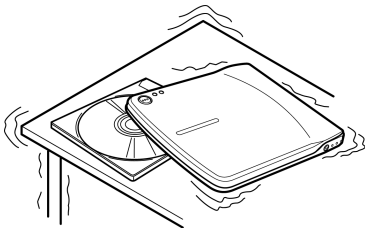


User's Manual
(this document)

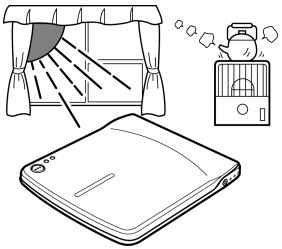
Warranty (see last page)/
User Registration card

3. PRECAUTIONS FOR SETTING AND HANDLING

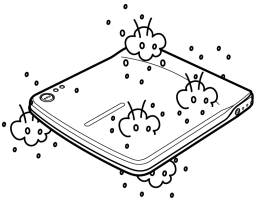
- Place the drive in a stable place without any vibrations or tilt.



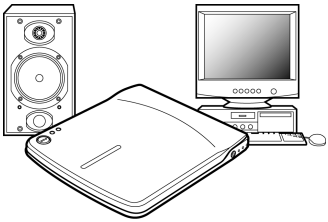
- Avoid placing the drive in a place subject to considerable temperature change such as in direct sunlight or near a heater.



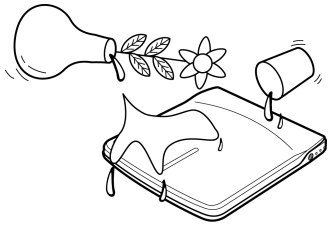
- Avoid placing the drive in a dusty or damp place



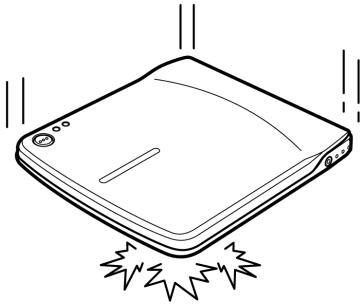
- Do not place the drive very close to an AV device or a display monitor.



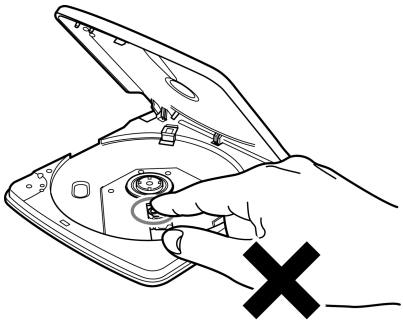
- Do not place a container with liquid such as a vase or cup on or near the drive. If liquid gets inside the drive, it may cause fire or electric shock.



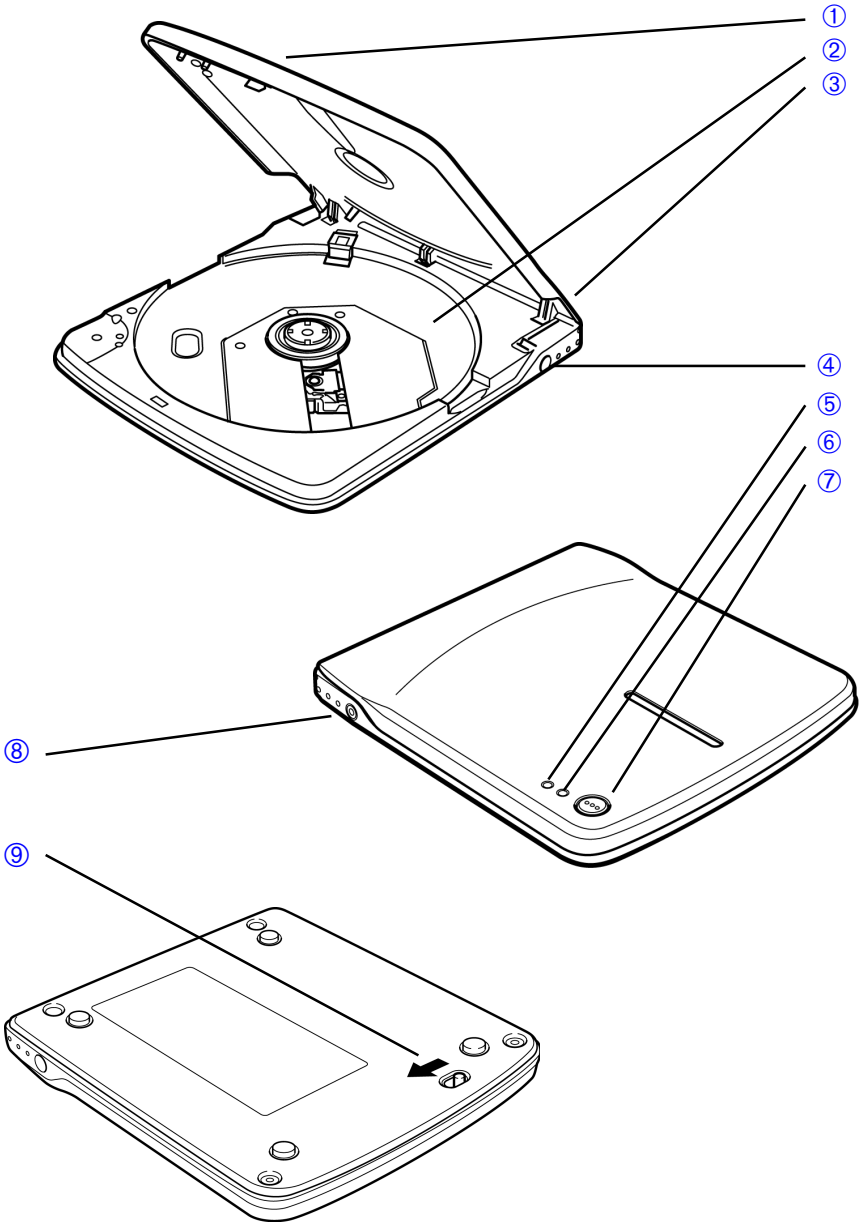
- Do not apply a strong shock to the drive during moving or transportation.
- Do not operate the drive while moving or in a tilted state. This may damage written data or the disc.



- Do not touch the pickup mechanism (internal lens). This will cause a malfunction.



4. NAMES AND FUNCTIONS



① Top Cover

② Disk tray — Set the media with the label face upward on this disc tray.

③ USB connector — Insert the plug of the provided dedicated USB cable.

④ DC-IN connector — Connect the provided dedicated AC adapter.

Warning

Be sure to connect the provided dedicated AC adapter to this connector. NEVER connect other AC adapters.
This drive cannot operate with only the bus power of the USB cable. Be sure to provide power by connecting the provided AC adapter.

⑤ Power/Busy indicator — The green LED indicates the Power status and the operation states of the drive.

When the drive is connected to AC power and the USB port of your PC	Indicator lights
During data write	Indicator lights
During data read	Indicator blinks
When the drive is not connected to the USB port	Indicator goes off

⑥ Write indicator — The amber LED indicates the write state of the drive.

During data write	Indicator blinks
Modes other than the above	Indicator goes off

⑦ Eject button

Press this button to open the top cover.

Warning

An electrical locking mechanism is used in this drive so that an erroneous operation does not open the top cover during write. Make sure that the power is on and the drive is not in operation before pressing the eject button to open the top cover.
If the top cover cannot be opened even when the eject button is pressed or if the top cover needs to be opened when power is not supplied from the AC adapter, use the emergency eject lever at the bottom of the drive.

Warning

Check that nothing is placed on the top cover when ejecting. When normal ejection is impossible, an error message may appear on your computer.
When ejection is not performed normally, open the top cover manually and close it securely after removing anything that may be on the cover.

⑧ Line output jack

Connect this jack to the line input signal of your computer using a ø3.5mm stereo mini plug when outputting the analog audio signal from this drive.
This can be used as an input signal for speakers with a built-in amplifier.

⑨ Emergency eject lever

When ejecting the media with the power off, insert a thin metal rod into the emergency eject lever and slide it in the direction of the arrow shown in the figure to open the top cover.

- Use the eject button instead of the above method except in an emergency.
- Perform this operation with the power off.

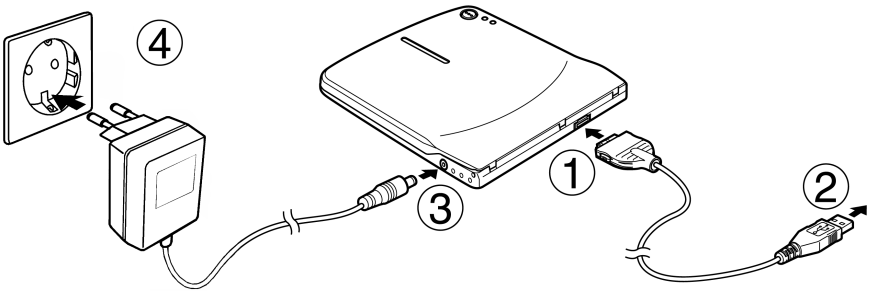
5. SETTING UP THE CD-W28PU

Windows Me, Windows 2000 and Windows XP operating systems have the native drivers for USB 1.1 controller and CD-W28PU. Therefore, when this drive is connected, Windows will automatically install the appropriate driver and the drive will be ready to be used. You do not have to perform any special installation or uninstallation.
However, it is required that the device driver from the driver disk provided in this product be installed when using Windows 98 Second Edition (Windows 98SE).
It is also required that the USB 2.0 driver provided by the host controller supplier be installed first when you use an USB 2.0 host adapter to your system.

Caution

This drive will be recognized as “TEAC CD-W28E” by Windows Device Manager, etc.

5.1 Cable connection



1. Start your PC to make it operable.
2. Connect the dedicated AC adapter to the drive and then connect the AC adapter to the outlet (③④).
3. Connect the drive to your computer using the dedicated USB cable. Insert the smaller plug of the cable into the USB connector of the drive and the bigger plug into the USB terminal of the computer. (①②)

5.2 Driver installation under Windows 98SE

Caution

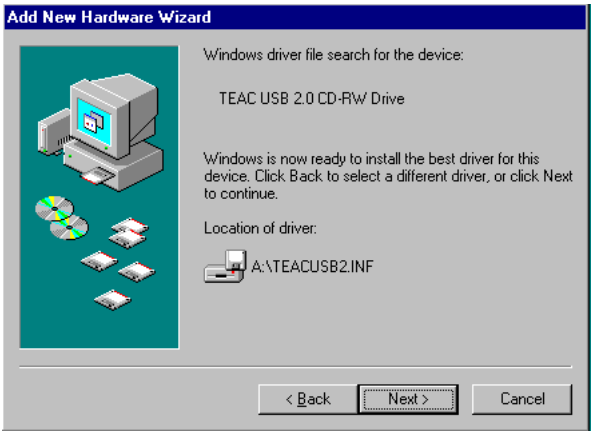
If you use any USB 2.0 host adapter with your system, it is required to install the USB 2.0 host adapter and the driver for it before connecting this drive

1. Connect the dedicated AC adapter to the drive, then connect the USB interface cable between the drive and your computer.
2. Add/New Hardware Wizard starts automatically.

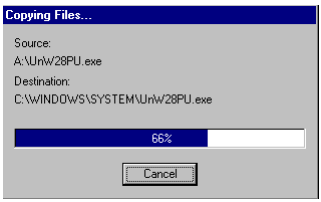
3. Select “Search for the best driver for your device(Recommended)”

4. Insert the dedicated driver disk(a floppy disk) to the FDD of your computer, select FDD, then choose Next.

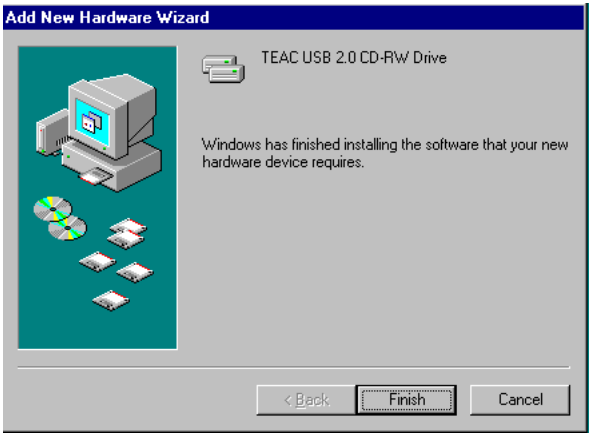
5. When “TEAC USB 2.0 CD-RW Drive” is shown on the Wizard, then choose Next.



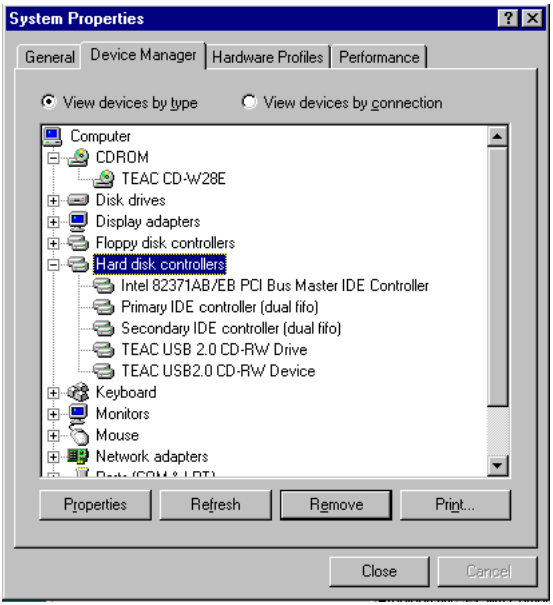
6. The driver installation starts.



7. The setup of the driver is now complete.



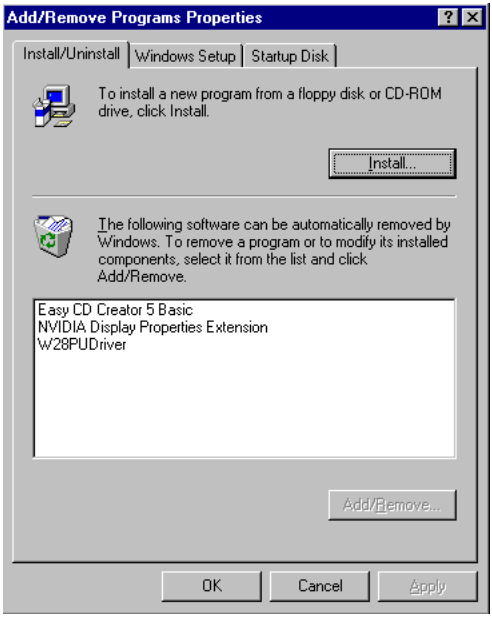
8. You can make sure that the drive has been recognized after connection by using Device Manager.
   "TEAC CD-W28E" at "CD-ROM"
   "TEAC USB 2.0 CD-RW Drive" at "Hard disk Controller"
   "TEAC USB 2.0 CD-RW Device" at "Hard disk Controller"



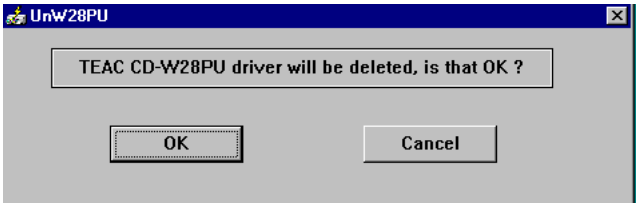
5.3 Driver un-installation in Windows 98SE

You do not have to uninstall (removing the device driver from your computer) the device driver in Windows 98SE under normal conditions. If you want to uninstall the device driver manually, perform the following steps.

1. Disconnect the drive from your computer
2. Open Control Panel, choose Add/Remove Programs Properties, then open Install/Uninstall screen.



3. Select TEAC W28PU Driver, then choose OK
4. Choose OK again on the confirmation screen



5. Click Finish and restart the system.

6. Un-installation of the device driver is now completed.

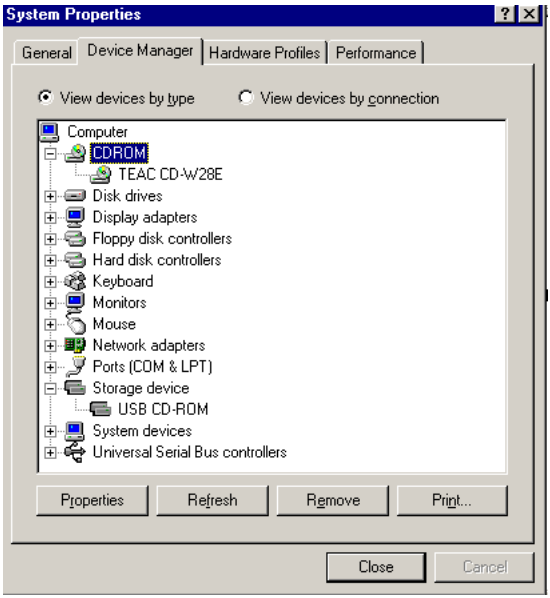
5.4 Driver installation under Windows Me

An appropriate driver will be automatically set when the drive is initially connected in Windows Me. You can make sure that the drive has been recognized after connection by using Device Manager.

Caution

If you use any USB 2.0 host adapter with your system, it is required to install the USB 2.0 host adapter and the driver for it before connecting this drive

“TEAC CD-W28E” at “CD-ROM”
“USB Mass-Storage Device” at “Universal Serial Bus Controller”
“USB CD-ROM” at “Storage Device”



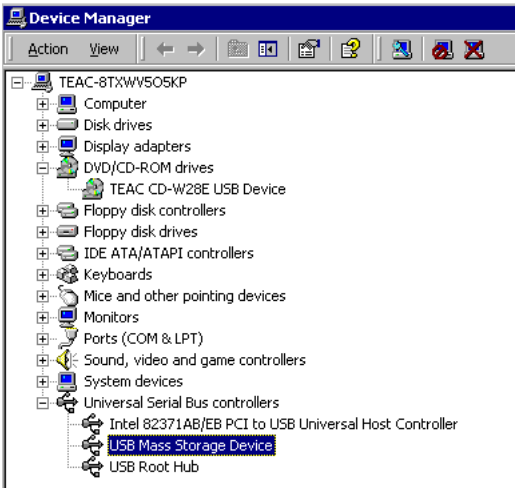
5.5 Driver installation Windows 2000

The USB device drive is included in Windows 2000. When this drive is connected, Windows 2000 will automatically install the appropriate driver and the drive will be ready to be used. You do not have to perform any special installation or uninstallation. You can confirm that the drive has been recognized after connection by using Device Manager.

Caution

If you use any USB 2.0 host adapter with your system, it is required to install the USB 2.0 host adapter and the driver for it before connecting this drive

"TEAC CD-W28E USB Device" at "DVD/CD-ROM Drive"
"USB Mass-Storage Device" at "USB (Universal Serial Bus) Controller"

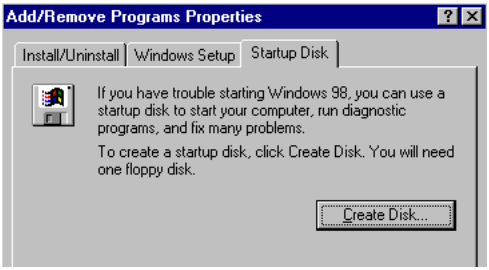


6. SYSTEM RECOVERY PROCEDURE

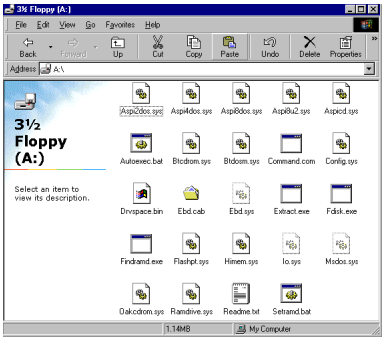
When an abnormality occurs in the computer and reinstallation of the OS is required, the system can be recovered (reinstallation of OS) by using the drive and the provided recovery driver disc. It is highly recommended to make Start Up Disk right now before you have any problem with your computer.

6.1 System recovery of Windows 98SE

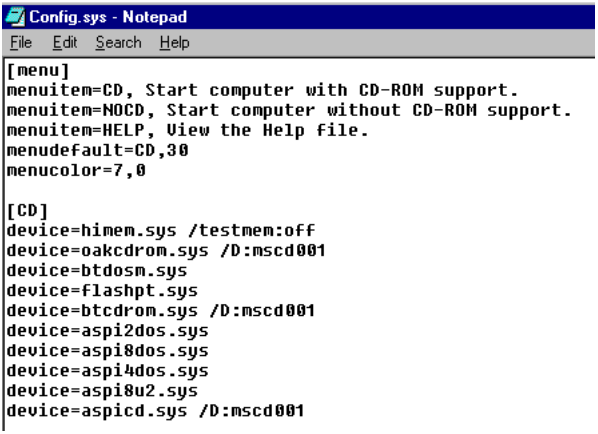
1. Open Control Panel of My Computer
2. Open Add/Remove Programs Properties, choose Startup Disk, then click Create Disk...



3. Insert the Windows Disc into a CD-ROM drive or the CD-W28PU of your computer.
4. Insert a blank floppy disk into FDD of your computer
5. A startup disk is completed.
6. Find out “Config.sys” file in the Startup Disk by using My Computer.



7. Open the Config.sys file by using any editing tool like Note Pad of Windows Accessory.



8. Delete all parameters(lines) in [CD] section except the following two parameters.
   himem.sys /testmem:off
   oakcdrom.sys /D:mscd001
9. Change the parameter of “oakcdrom.sys / D:mscd001” to “tusb_cd.sys / D:MSCD001” , then save the file.
10. Eject the Startup Disk from the FDD of your computer.
11. Insert the dedicated driver disk into the FDD of your computer.
12. Pick out the “tusb_cd.sys” file from the Recovery folder of the dedicated driver disk, then copy it into your computer(e.g. DeskTop or My Documents) .
13. Eject the dedicated driver disk from the FDD, then insert the Startup Disk into it again.
14. Copy the “tusb_cd.sys” file from your computer to the Startup Disk.
15. Your original Startup Disk is completed. Please keep it until the case of emergency
16. In the case of emergency and you need to make the system recovery from Windows CD, insert the Startup Disk into the FDD of your computer.
17. Boot up your computer from FDD, not from HDD.(You may need to change BIOS setup. Please refer to the users manual of your computer.)

18. Boot up starts in MS-DOS mode. Choose “Start computer with CD-ROM support” during the boot up process.
19. Change the drive letter from A: to E:(if the CD-ROM drive or the CD-W28PU is recognized as drive E.)
20. Insert Windows CD in CD-ROM drive or the 28PU, then type “Setup”.
21. Windows 98SE installation starts. Please follow the instructions of Windows.
22. Install necessary drivers which cannot be installed during the system recovery after you install Windows and reboot your computer.

Caution

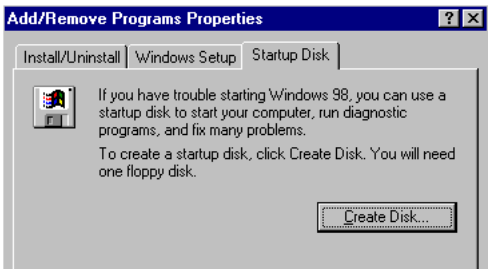
Confirm that the drive is directly connected to your computer, and not via either an USB hub or an USB host adapter when implementing the System recovery.

Caution

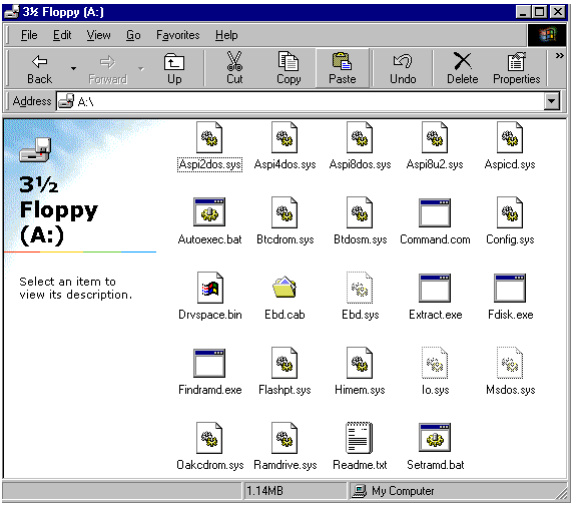
When using the recovery driver disc in the USB floppy disk drive, be sure that the drive and the USB floppy disk drive are directly connected to your computer, and not via either an USB hub (two or more USB connectors are required in your computer) or an USB host adapter.

6.2 System recovery of Windows ME

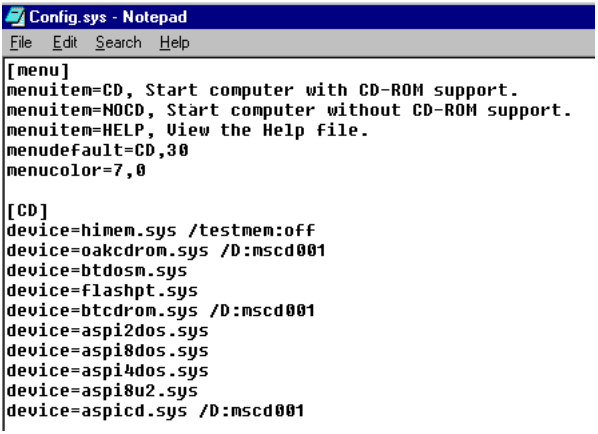
1. Open Control Panel of My Computer
2. Open Add/Remove Programs Properties, choose Startup Disk, then click Create Disk...



3. Insert the Windows Disc into a CD-ROM drive or the CD-W28PU of your computer.
4. Insert a blank floppy disk into FDD of your computer.
5. A startup disk is completed.
6. Find out "Config.sys" file in the Startup Disk by using My Computer.



7. Open the Config.sys file by using any editing tool like Note Pad of Windows Accessory.



8. Delete all parameters(lines) both in [Help] and [CD] section except the following two parameters.
   oakcdrom.sys /D:mscd001
   devicehigh:ramdrive.sys /E 2048
9. Save the file, then eject the Startup Disk from the FDD of your computer.
10. Your original Startup Disk is completed. Please keep it until the case of emergency
11. In the case of emergency and you need to make the system recovery from Windows CD, insert the Startup Disk into the FDD of your computer.
12. Boot up your computer from FDD, not from HDD.(You may need to change the BIOS setup. Please refer to the users manual of your computer.)
13. Boot up starts in MS-DOS mode. Choose “Start computer with CD-ROM support” during the boot up process.
14. Change the drive letter from A: to E:(if the CD-ROM or the CD-W28PU drive is recognized as drive E.)
15. Insert Windows CD in CD-ROM drive or the CD-W28PU, then type “Setup”.
16. Windows ME installation starts. Please follow the instructions of Windows.

Caution

Confirm that the drive is directly connected to your computer, and not via either an USB hub or an USB host adapter when implementing the System recovery.

Caution

When using the recovery driver disc in the USB floppy disk drive, be sure that the drive and the USB floppy disk drive are directly connected to your computer, and not via either an USB hub (two or more USB connectors are required in your computer) or an USB host adapter.

6.3 System recovery of Windows 2000 and Windows XP

1. Prepare four formatted floppy disks.
2. Insert Windows CD into the CD-ROM drive or the CD-W28PU of your computer.
3. Run the “Makeboot.exe” file in the “Bootdisk Folder”.
4. MS-DOS prompt appears on tthe screen of your PC.
5. Make the Startup disks according to the instruction of the O/S.
6. Open the “Txtsetup.sif” file in the 1st disk of the Startup disks, then search the parameter of “USB\VID_0644&PID_0000 = “usbstor”. It is convenient to use the “Find” function of the Edit menu to find the parameter easily. Use “0644” for the Find..
7. Add following parameter just under the line of “USB\VID_0644&PID_0000 = “usbstor”. “USB\VID_0644&PID_1002 = “usbstor”.
8. Save the file.
9. Your original Startup Disks are completed. Please keep it until the case of emergency
10. In the case of emergency and if you need to make the system recovery from Windows CD, insert the 1st Startup Disk into the FDD of your computer.
11. Boot up your computer from FDD, not from HDD.(You may need to change BIOS setup. Please refer to the users manual of your computer.)
12. Follow the instructions of your O/S.

Caution

Confirm that the drive is directly connected to your computer, and not via either an USB hub or an USB host adapter when implementing the System recovery.

Caution

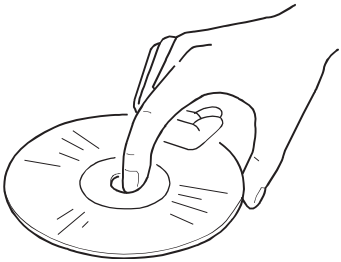
When using the recovery driver disc in the USB floppy disk drive, be sure that the drive and the USB floppy disk drive are directly connected to your computer, and not via either an USB hub (two or more USB connectors are required in your computer) or an USB host adapter.

7. OPERATION

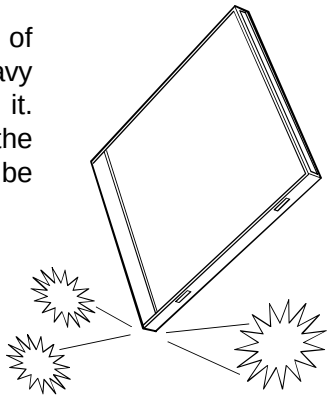
7.1 Precautions in handling the media

Take the following precautions in order to maintain the reliability of data when handing the media.

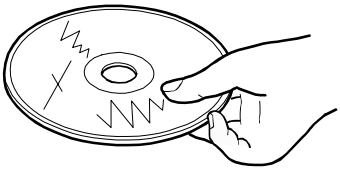
- Hold the disc between the center hole and the outer edge of the disc. Do not touch the surface of the media.



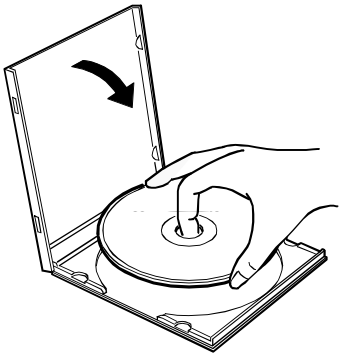
- Do not drop or stack the discs on top of each other. Do not place anything heavy on the disc or give a strong shock to it. When an excessive force is applied to the media, the reliability of data may not be maintained.



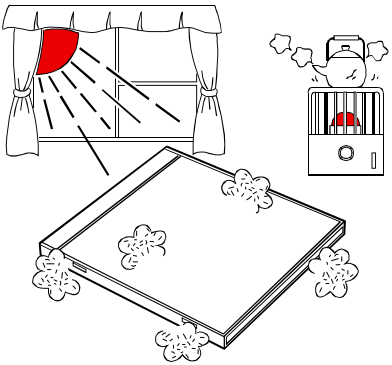
- If the recording surface of the media is marred, data write may become impossible. Do not touch the recording surface of the media.



- Store the disc in a protective case when not in use even for a short period of time in order to protect it from being scratched or damaged.



- Do not keep the media in places that contain dusts, humidity, high temperature, or are in direct sun light.



Caution

Wrong handling of the media may make data unreadable or prevent further writing.

7.2 Connection

Please refer to “5.1 Cable connection”.

- For listening to an audio CD
  When listening to an audio CD by using the speakers of your computer, insert one end of an audio cable into the line output jack of your computer and the other to the line input jack.
  Use a ø3.5mm stereo mini plug audio cable (commercially available).

7.3 Disconnection

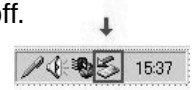
“Hot plug” is supported for the connection between the USB cable and the computer; therefore you don’t need to turn off the computer when you disconnect the CD-W28PU from it, and follow the procedure below.

Caution

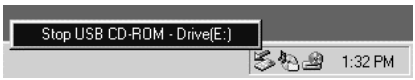
Do not remove and reconnect the drive from or to the computer in rapid succession. The drive may not be recognized. Reconnect the drive approx. 20 seconds after removing.

- In Windows 98SE
  1. Close the program that uses the drive.
  2. Confirm that the WRITE indicator of the drive is off.
  3. Remove the plug of the USB cable from the USB terminal of the computer.

- In Windows Me
  1. Close the program that uses the drive.
  2. Confirm that the busy indicator of the drive is off.
  3. Click the Remove icon on the Taskbar.



  4. Select the removing drive. In this case, place the mouse cursor on the drive name assigned to the drive (G: in this figure) and then left-click it.



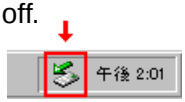
5. The Remove Hardware confirmation message appears. Click the OK button.

6. Remove the plug of the USB cable from the USB terminal of the computer.

Caution Do not remove and reconnect the drive from or to the computer in rapid succession. The drive may not be recognized. Reconnect the drive approx. 20 seconds after removing.

■ In Windows 2000

1. Exit the program that uses the drive.
2. Confirm that the WRITE indicator of the drive is off.
3. Click the Remove icon on the Taskbar.



4. Select the removing drive. In this case, select the drive name assigned to the drive (E: in this figure).

5. The Remove Hardware confirmation message appears. Click the OK button.

6. Remove the plug of the USB cable from the USB terminal of the computer.

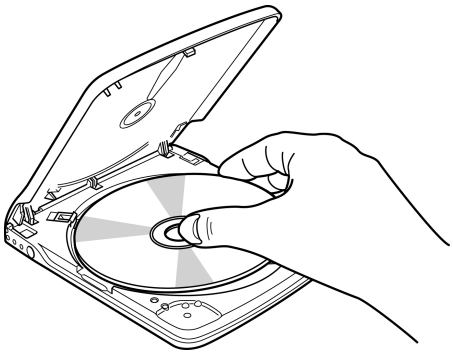
Caution Do not remove and reconnect the drive from or to the computer in rapid succession. The drive may not be recognized. Reconnect the drive approx. 20 seconds after removing.

- The messages indicated may differ depending on the versions of your OS. Refer to the instruction manual, etc. for your computer or OS for details.

7.4 Setting the media

1. Press the eject button of the drive to open the top cover.

2. Place the media on the tray with the label face upward. Align the center hole of the disc with the clamp at the center of the tray and fit the disc in securely by pressing the outer vicinity of the center hole.



3. Close the top cover gently and press the cover down until it is completely locked.

4. When the top cover is normally closed, the media is recognized and made usable after the busy indicator blinks for some seconds.

7.5 Ejecting the media

1. Press the eject button of the drive to automatically open the top cover.

2. Lift the edge of the disc carefully from the tray while pressing the upper section of the clamp.

3. Close the top cover gently until the cover is completely closed. Check that the cover is securely locked.

Caution

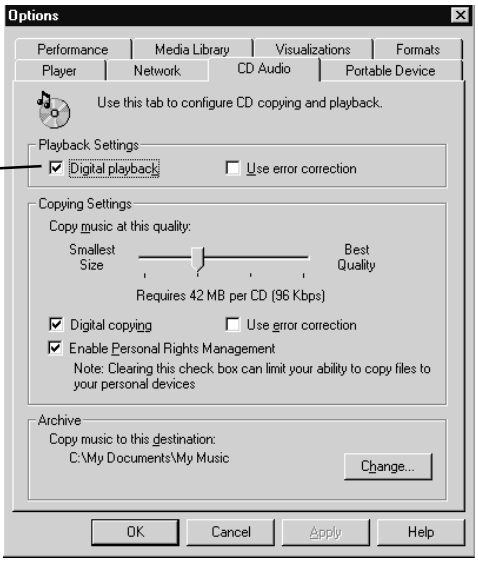
Be careful not to get your fingers caught when closing the top cover.

7.6 Playing back the audio CD

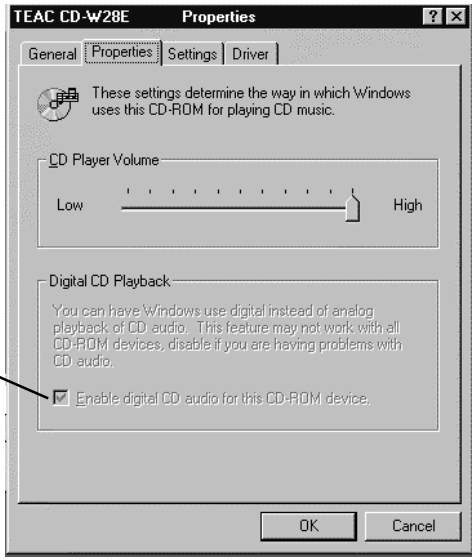
Use Windows Media Player 7 or audio CD playback software such as Microsoft CD Player for playing back the audio CD using the drive. The operation method differs depending on the software and versions. Refer to the operation manual of your computer or software for details.

- Digital playback

In Windows Media Player 7, you will find Digital Playback check box when you click the CD Audio tab in the Option dialog box (see the figure on the right).



In addition, you will find the Enabling Digital Music CD with this CD-ROM Drive check box on the CD-W28E property on Device Manager (figure on the right indicates the example in Windows 2000).



When there is no setting item for the digital playback in your player software, try the above setting.

(1) When the digital playback is enabled
Sound can be output via the sound card incorporated in a computer. In this case, the signal is not output from the line output jack of the drive.

(2) When the digital playback is disabled
Sound can be output from the line output jack of the drive. In this case, sound cannot be output via the sound card incorporated in a computer.

Warning

The setting of the digital playback cannot be performed depending on your environment including your computer, sound card and OS.

7.7 Suspend/resume

- This drive conforms to the OS-based suspend/resume, however, it may not operate properly depending on your PC environment. In such a case, do not use the suspend (standby/sleep mode/hibernation) function with the drive connected to your computer.
- Avoid using the suspend function while the drive is in operation.
- Do not connect or disconnect the drive while the computer is in the suspend mode.

8. DAILY MAINTENANCE

Cleaning the drive

Wipe off soil on the drive using a soft cloth. If soil is persistent, use a cloth dampened with a diluted neutral detergent after squeezing all the water out.

If liquid is allowed into the drive, it may cause a serious malfunction, an electric shock or a fire. When cleaning with liquid, be sure to remove the provided AC adapter from the wall outlet after disconnecting the drive from your computer.

Do not apply solvents such as benzene or thinner. Chemical cleaners for home or industrial use may damage the coating of the drive.

9. SUPPORT AND SERVICE

This product has been produced under strict quality control and you can use it worry-free under normal conditions.
If you need any repair, contact the representative from whom you purchased the drive or our technical service depots.

9.1 Warranty period

The free warranty period of this drive is described in the warranty document. Be sure to include the warranty with the drive when sending it for repair if within the warranty period. Refer to the warranty for details.

9.2 Requests for repair

If you think you need a repair, please let us know the concrete contents of the defect after checking the corresponding operation in accordance with the instruction manual.
When you ship or bring the drive to our sales dealer or service depot, it is most safe to use the original packing box in which the drive was packed when you purchased it. However, damage incurred during transportation is not covered in the warranty.

If the packing box is not available, pack the drive using the following method.

1) Use a corrugated cardboard box, etc. with sufficient margins in width, depth, and height.
2) Insert cushioning material around the drive inside the box to prevent damage due to vibrations or shock during transportation.
3) Attach the warranty within the warranty period.

9.3 Technical Service Depots (Europe)

TEAC Deutschland GmbH, DSPD (Germany)
Technical Support Tel: 0180 5 999 588 (DM 0.24/min (Germany))

Mo-Fr from 8:30 – 20:00 CET
Sa from 10:00 – 16:00 CET

Technical Support Fax: +49 (0) 611 7158 666
Online RMA: http://www.teac.de/RMA
Internet: http://www.teac.de/support

TEAC UK LIMITED, DSPD (U.K.)
Technical Support Freecall: 0800 08 53 704 (U.K. only)

Mo-Fr from 8:30 – 20:00 CET
Sa from 10:00 – 16:00 CET

Technical Support Fax: +49 (0) 611 7158 666
Online RMA: http://www.teac.de/RMA
Internet: http://www.teac.de/support

TEAC FRANCE S.A. (France)
Technical Support Tel: +33 (0) 1 55 59 01 55

Mo-Fr from 9:00 – 16:00 CET

Technical Support Fax: +33 (0) 1 55 59 01 56
Online RMA: http://www.teac.de/RMA
Internet: http://www.teac.de/support
Contact us by email: Support@teac.fr

TEAC Service Centre Poland
Ul. Osiedlowa 31
68-114 Tomaszowo
Technical Support Tel: +48 (0) 68 36 06 300

Mo-Fr from 9:00 – 16:00 CET

Technical Support Fax: +48 (0) 68 36 06 309
Online RMA: http://www.teac.de/RMA
Internet: http://www.teac.de/support
Contact us by email: support_pl@ja.teac.de

All other countries please call:
+49 611 7158 600

10. SPECIFICATION

10.1 General specification

Power consumption	Read/write mode	7.5W
Environmental condition		
Ambient temperature	Operating	10°C to 35°C
	Non-operating	-20°C to 60°C
Temperature gradient	Operating	11°C or less/hour (non-condensing)
	Non-operating	20°C or less/hour (non-condensing)
Relative humidity	Operating	8% to 80% (non-condensingd) Maximum wet bulb temperature: 29°C or lessr
	Non-operating	5% to 95% (non-condensingd) Maximum wet bulb temperature: 29°C or lessr
Vibration		
Operating	Horizontal direction	22.94m/s^2 (0.3G) or less (except during write)
	Vertical direction	1.96m/s^2 (0.2G) or less(except during write)
Non-operating		19.6m/s2 (2G) or less
Shock		
Operating	Horizontal direction	68.6m/s^2 (7G) or less (except during write and audio playback)
	Vertical direction	48m/s^2 (5G) or less (except during writeand audio playback)
During Audio playback		19.6m/s^2 (2G) or less
Non-operating		588m/s^2 (60G) or less (half-sine wave 11ms or less in either case)
Dimensions		133(Wmm)×15(H)mm×146(D)mm (excluding the projection)
Weight		250g (without an interface cable)

10.2 Functional specification

Applicable disc format		CD-DA, CD-ROM MODE1 CD-ROM XA MODE2 (FORM1,FORM2) Photo CD multi-session CD-I, Video CD, CD Extra (CD Plus) CD-TEXT
Applicable disc type	Type	Pressed CD CD-ROM, CD-DA CD-R, CD-RW
	Size	12cm, 8cm
Interface		USB1.1 / USB2.0 (High Speed)
Data transfer speed		USB1.1: 1.5MB/s to 12Mbit/s USB2.0: 60MB/s to 480Mbit/s
Read speed	CD-ROM read	3,600KB/s (maximum at 24 x)
	24 x CAV	CD-ROM (Mode-1) CD-ROM XA (Mode-2, Form-1)
	8 x CLV	CD-ROM XA (Mode-2, Form-2) CD-DA (during digital audio extraction) CD-RW
Write speed	CD-R/RW write	1,200KB/s (maximum at 8 x)
	CD-R	8 / 4 / 2x (CLV)
	CD-RW	8 / 4 / 2x (CLV)
Write mode		Disc-at-once Session-at-once Track-at-once Multi-session Packet write
Access time		110ms (average)
Data buffer		2MB
Line output		0.75Vrms±3dB (at load of 10kOhm) ø3.5 mm stereo mini jack

WARRANTY

Model	Serial No.
CD-W28PU	

Owner's name _____

Address _____

Dealer's name _____ Date of purchase _____

Dealer's address _____

Warranty Period

TEAC Corporation, hereinafter called TEAC, warrants this product against any defect in material and workmanship for two (2) years from the date of purchase by the original retail purchaser. According to the following terms this TEAC product will be repaired without charge of labor and materials by the authorized TEAC service stations, by the authorized TEAC dealers and/or their authorized service stations. TEAC, the authorized TEAC service stations, the authorized TEAC dealers and/or their authorized service stations may decide wether the defective product will be repaired or replaced as a whole or partially. The TEAC dependancies, the authorized TEAC service stations, the authorized TEAC dealers and/or their authorized service stations will also honour this warranty in the other EC and EFTA member states based on the terms in this warranty conditions.

What is Covered and What is Not Covered.

Except as specified below, this warranty covers any defects in materials and workmanship of this product. The following are not covered by the warranty:

1. Damage to or deterioration of the external cabinet.
2. Any unit that has been altered or on which the serial number has been defaced, modified, or removed.
3. Damage, deterioration or malfunction resulting from:
   (a) accident, misuse, abuse or neglect;
   (b) failure to follow instructions supplied with the product;

(c) any shipment of the product. Any damage arising of transportation is the liability of the freight company. Any damage arising of transportation and any implicit and explicit risks are the liability of the freigth company.This is expressivly not a liability of TEAC;
(d) repair or attempted repair by anyone not authorized by TEAC to repair this product;
(e) causes other than product defects, including lack of technical skill, competence or experience of the user. Especially damages which may arise of incidential use respectively by improper ventilation,
(f) damages caused by improper or incorrect installation of software,
(g) periodic check-ups,
(h) maintenance respectively repair of parts due to normal wear and tear,
(i) adoptions or adjustments to the product in order to conform to different national technical or safety standards of any country other than the one for which the product was originally designed and manufactured.

Who May Enforce the Warranty
This warranty may be enforced only by the original retail purchaser.

What We Will Pay For
We will pay all labor and material expenses for items covered by the warranty. Payment of shipping and insurance charge is discussed in the next section of this warranty.

How You Can Get Warranty Service
1. If your unit needs service during the warranty period, please contact the local authorized distributor for this product. If you are unable to locate such a distributor, please contact your TEAC facility at the address indicated below.

2. After identifying the nearest authorized service station for this product the product or any parts believed to be defective must be shipped freight and insurance prepaid to such service station, together with a copy of this warranty certificate and a copy of your sales receipt, showing the date of purchase. Please ensure to fill out the warranty certificate correctly (do not forget the serial number of the product). TEAC reserves the right to refuse the guarantee service if the documents are missing or incomplete in the understanding of this terms. If the necessary repairs are covered by the warranty, and if you have sent the product or parts of it to the nearest authorized service station, the return freight and insurance charges will be prepaid. **Please do not return your unit to the TEAC factory without our prior authorization (see also RMA form)!**

Limitations of Liability and Exclusion of Implied Warranties

Unless considered unenforceable or unlawfull under the applicable national law:

1. TEAC's liability for any defective product is limited to repair or replacement of the product, at TEAC's option and the option of authorized service stations, authorized dealers and their authorized service stations. No one is authorized to assume any greater liability on TEACs behalf. TEAC shall not be liable for any damage to any other properties independant of their virtual or real nature especially there is no liability for any damage to any kind of software and/or any kind of databases caused by TEAC products. Furthermore TEAC is not liable for damages arising out of loss of use, loss of revenue or profits, or any other damages, wether incidential, consequential, or otherwise.
2. All implied warranties or conditions, including but not limited to warranties or conditions of merchantability and fitness for a particular purpose, hereby are excluded.

These warranty terms do not affect any statutory rights of consumers which were granted by the respective national laws.

TEAC Deutschland GmbH, DSPD:
Bahnstraße 12, 65205 Wiesbaden-Erbenheim, Germany
Internet: www.teac.de

TEAC UK LIMITED DATA STORAGE PRODUCTS DIVISION:
5 Marlin House, Marlin Meadow, Croxely Business Park,
Watford, Hertfordshire, WD18 8TE, U.K.

TEAC FRANCE S.A.
17 rue Alexis de Tocqueville, CE 005,
92182 ANTONY CEDEX, France

GARANTIE

Modell | Seriennummer

CD-W28PU

Name des Eigentümers _____

Adresse _____

Name des Händlers _____ Kaufdatum _____

Adresse des Händlers _____

Dauer der Gewährleistung
TEAC Corporation, nachfolgend TEAC genannt, gewährt dem Erstkäufer für dieses Produkt ab dem Datum des Kaufs zwei (2) Jahre Garantie bezüglich jedes etwaigen Defekts an Material und Herstellung. Gemäß der nachstehenden Bedingungen wird das betreffende TEAC Produkt von den autorisierten TEAC Servicestellen, den autorisierten Facheinzelhändlern oder den autorisierten Servicestellen der Facheinzelhändler ohne Berechnung von Material- und Arbeitskosten repariert. Die Servicestelle entscheidet, ob das Gerät als ganzes oder nur die defekten Teile ausgetauscht werden. Die TEAC Tochtergesellschaften, die autorisierten TEAC Servicestellen und die autorisierten Servicestellen der Facheinzelhändler übernehmen die Garantieleistung in den anderen EG- und EFTA-Mitgliedsstaaten im Rahmen der in dieser Garantie definierten Bestimmungen.

Gewährleistungsumfang
Soweit dies nachfolgend nicht ausgeschlossen wird, umfaßt die Gewährleistung alle etwaigen Defekte an Material und Herstellung. Folgendes ist aus dem Gewährleistungsumfang ausdrücklich ausgeschlossen:

1. Schäden am Gehäuse.
2. Geräte, die verändert wurden oder deren Seriennummern verfälscht, verändert oder entfernt wurden.
3. Schäden oder Fehlfunktionen, die auf folgendes zurückzuführen sind:
   (a) Höhere Gewalt, fehlerhafter und/oder nicht bestimmungsgemäßer Gebrauch,
   (b) Gebrauch, der nicht den im Handbuch angegebenen Verfahrensweisen entspricht,
   (c) Transportschäden jedweder Art. Für Transportschäden haftet das Frachtunternehmen. (Alle mit dem Transport verbundenen expliziten und impliziten Risiken sind nicht Bestandteil der Haftung von TEAC.)
   (d) unsachgemäß ausgeführte Reparaturen oder Reparaturversuche durch nicht von TEAC autorisierte Personen und/oder Unternehmen,
   (e) alle Schäden, die nicht unmittelbar als Produktdefekt anzusehen sind, insbesondere Schäden, die durch unsachgemäßen Gebrauch seitens des Anwenders wie beispielsweise unzureichende Kühlluftzufuhr entstanden sind,
   (f) Schäden durch unsachgemäßes Anwenden der Software,
   (g) regelmäßige Inspektionen,
   (h) Wartung bzw. Reparatur von Teilen infolge normalen, betriebsbedingtem Verschleiß,
   (i) Anpassung an national unterschiedliche technische oder sicherheitsrelevante Anforderungen, wenn das Produkt nicht in dem Land eingesetzt wird, für das es ursprünglich konzipiert und hergestellt worden ist.

Wer kann die Gewährleistung in Anspruch nehmen
Gewährleistungsansprüche können ausschließlich vom Ersterwerber des Produkts in Anspruch genommen werden.

Welche Kosten werden übernommen
TEAC übernimmt die Kosten für die im Rahmen einer Garantiereparatur anfallende Arbeitszeit und die Materialien, die im Rahmen dieser Gewährleistungsbestimmungen definiert sind. Frachtkosten und Versandversicherung werden im folgenden Abschnitt diskutiert.

Gewährleistungsabwicklung

1. Falls Ihr Gerät innerhalb der Garantiezeit Service benötigt, wenden Sie sich bitte an Ihren für dieses Produkt autorisierten Fachhändler. Falls Sie in Ihrer Nähe keinen Fachhändler finden, nehmen Sie bitte mit der TEAC Niederlassung Kontakt auf.
2. Ihr Fachhändler teilt Ihnen Namen und Adresse der nächstgelegenen autorisierten Servicestation mit. Schicken Sie das Produkt oder die als defekt vermuteten Teile spesenfrei (Fracht- und Versicherungskosten müssen von Ihnen bezahlt werden) an die Servicestation. Fügen Sie bitte eine Kopie des Kaufbelegs bei und füllen Sie die Garantiekarte vollständig aus (mit Angabe der Seriennummer des Geräts). TEAC behält sich vor, Garantieleistungen abzulehnen, falls Garantiekarte und Kaufnachweis nicht im Sinne der vorliegenden Bestimmungen vorgelegt werden. Falls die erforderlichen Reparaturen von den Gewährleistungsbestimmungen abgedeckt sind und das Produkt zur nächstgelegenen Servicestation geschickt wurde, werden die Kosten für Rückfracht und Versicherung freigemacht. **Bitte schicken Sie das Gerät nicht ohne unsere ausdrückliche Zustimmung direkt an TEAC (siehe auch Rücksendeformular).**

Einschränkungen der Gewährleistung und Ausschluß implizierter Ansprüche
Soweit dies nicht dem jeweils gültigen national anwendbaren Recht widerspricht, sind folgende Ansprüche ausgeschlossen:

1. TEAC begrenzt seine Leistungspflicht aus der Gewährleistung ausschließlich auf Reparatur oder Ersatz nach freier Wahl von TEAC sowie der autorisierten Servicestellen, der autorisierten Facheinzelhändler und deren autorisierten Servicestellen. Weitergehende Ansprüche sind in vollem Umfang ausgeschlossen. TEAC übernimmt keine Haftung für Schäden an anderen Gegenständen realer oder virtueller Natur, insbesondere an Software und/oder Datenbeständen, die durch Defekte in TEAC Produkten verursacht wurden. Weiterhin sind alle Ansprüche aus Mangel an Benutzbarkeit, entgangenem Umsatz und/oder Gewinn sowie alle anderen impliziten und expliziten Haftungen ausdrücklich ausgeschlossen.
2. Alle impliziten Gewährleistungsansprüche und Vorbehalte, einschließlich solcher, aber nicht beschränkt auf diese, wie die Vermarktbarkeit und/oder die Gebrauchsfähigkeit für einen bestimmten Zweck, werden hiermit explizit ausgeschlossen.

Diese Garantiebestimmungen berühren das national festgelegte Verbraucherrecht nicht.

TEAC Deutschland GmbH
DSPD
Bahnstraße 12

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Germany

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