ELECOM

Wireless Optical Mouse

M-D20DR Series

User's Guide

Thank you for purchasing the ELECOM M-D20DR Series wireless optical mouse.
This manual describes the operating instructions and safety precautions for using the M-D20DR Series. Ensure that you have read this manual before using the product. After reading this manual, store it somewhere safe for future reference.
* Except in certain cases, the M-D20DR Series is referred to as "this product" in this manual.

Safety Precautions

■**Meaning of symbols**

⚠WARNING	Failure to observe precautions may result in serious personal injury or death due to fire, electric shock, or other causes.
⚠CAUTION	Failure to observe precautions may result in personal injury due to electric shock or other causes, and may damage other equipment.

- Prohibited action
- Mandatory action
- Situation that needs attention
- Notes and reference information
- Information that is handy to know

Observe these precautions carefully to avoid personal injury, damage, fire, and other problems.

⚠WARNING

- If a foreign object (water, metal chip, etc.) enters the product, immediately stop using the product and disconnect the receiver unit from the PC, and remove the battery from the mouse. If you continue to use the product under these conditions, it may cause a fire or electric shock.
- If an abnormality is found with this product (emission of heat, smoke or abnormal smell from the product), immediately stop using the product, shutdown the PC, and after thoroughly checking that heat from the product will not cause burns, disconnect the receiver unit from the PC, and remove the battery from the mouse. After doing this, contact the retailer from whom you purchased the product.

⚠WARNING

- Do not drop or hit this product.
  If this product is damaged, immediately stop using the product and disconnect the receiver unit from the PC, and remove the battery from the mouse.
  If you continue to use the product under these conditions, it may cause a fire or electric shock.
- Do not attempt to disassemble, modify or repair this product by yourself, as this may cause a fire, electric shock or product damage.
- Do not put this product in fire, as the product may burst, resulting in a fire or injury.
- Do not connect or disconnect the receiver unit with a wet hand, modify the receiver unit or bend it forcibly, as this may cause a fire or electric shock.

⚠CAUTION

- Do not place this product in any of the following environments:
  - In a car exposed to sunlight, a place exposed to direct sunlight, or a place that becomes hot (around a heater, etc.)
  - In a moist place or a place where condensation may occur
  - In an uneven place or a place exposed to vibration
  - In a place where a magnetic field is generated (near a magnet, etc.)
  - In a dusty place
- This product does not have a waterproof structure. Use and store this product in a place where the product body will not be splashed with water or other liquid.
  Rain, water mist, juice, coffee, steam or sweat may also cause product damage.

- **Do not use this product with any device that may significantly affect other equipment in the event that it malfunctions.**
- **If this product is used on a transparent surface such as glass or a highly reflective surface such as a mirror, the optical sensor will not function correctly and mouse cursor movement will become unstable.**
- **When not using the mouse for one month or more, disconnect the receiver unit from the PC.**
- **When you no longer need to use this product, be sure to dispose of it in accordance with the local ordinances and laws of your area.**
- **Avoid looking directly at the light of the sensor as doing so may cause eye damage.**
- **Always keep the receiver unit out of the reach of children as there is a danger that they may swallow it.**

■**Batteries**

⚠CAUTION

- Use AAA alkaline batteries, AAA manganese batteries, or rechargeable AAA nickel hydride batteries with this product.
- If this product will be unused for a long period of time, remove the battery to avoid battery leakage and failure.

■**Cleaning the Mouse**

If the product body becomes dirty, wipe it with a soft, dry cloth.

- **Use of a volatile liquid (paint thinner, benzene, alcohol, etc.) may affect the material quality and colour of the product.**

Cautions for Wireless Equipment

This product is wireless equipment using the entire range of the 2.4 GHz band and it is possible to avoid the band of mobile object identification systems. DS-SS is used for the radio wave method. The interference distance is 10 m. 2.4DS1
The 2.4 GHz band is also used by medical equipment, Bluetooth, and wireless LAN equipment conforming to the IEEE802.11b/11g/11n standard.
- Before using this product, check that there are no other "radio stations"* operating nearby.
- If electromagnetic interference occurs between this product and other "radio stations", move this product to another location or stop using this product.

* Other "radio stations" refer to industrial, scientific and medical devices using the 2.4 GHz band like this product, other radio stations of this type, licensed radio station premises for mobile object identification system that is used in factory production lines, certain non-licensed low power radio stations and amateur radio stations.

⚠WARNING

- Do not use this product with a device that may have a serious function or influence. There are rare cases where an external radio wave at the same frequency or the radio wave emitted from a mobile phone causes this product to malfunction, slow down, or fail to operate.
- Do not use this product in a hospital or other locations where the use of radio waves is prohibited. The radio waves of this product may affect electronic and medical devices (e.g. pacemaker).
- The use of a wireless mouse in an aircraft is prohibited by aviation law because doing so may interfere with flight safety. Turn off the power of the mouse body before boarding an aircraft and do not use it in the aircraft.

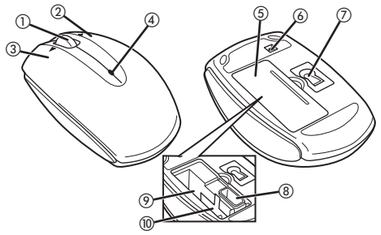
* ELECOM is not liable for any accident or social damages incurred by the failure of this product.

Package Contents

This product's packaging contains the items listed below. Before using the product, check that all items are present. We make every effort to ensure that all products are packaged correctly. However, in the event that an item is missing or damaged, contact the retailer from whom you purchased the product.
- Mouse x1
- Receiver unit x1
- AAA alkaline battery x2
- User's Manual x1

Part Names

■**Mouse**



■**Reciever unit**



①Tilt wheel
The tilt wheel can be turned back and forward with your finger or pressed like a button to operate the PC.
Tilting the tilt wheel to the right or left lets you scroll horizontally.

You must download and install ELECOM MouseAssistant 2 for Windows from our company's web site to use the horizontal scrolling function with Windows.
➲Using the horizontal scrolling and button allocation functions (See reverse)

②Right button
Used for right-click operation.

③ Left button
Used for left-click operation.

④Remaining battery level indicator lamp
Indicates when to replace the batteries.
* When a battery has been inserted, if there are sufficient remaining battery levels, it will illuminate in red for a certain period of time, and if low, it will flash continuously. If the remaining battery level becomes low during use, it will flash continuously in red for a certain period of time..

⑤Battery cover
This cover is removed to install batteries.

⑥Power switch
Used to turn the mouse body on and off.

⑦ Optical sensor
Illuminates red when the mouse body is turned on. When the mouse body is moved, this sensor detects mouse movement.
* Avoid looking directly at the light of the sensor as doing so may cause eye damage.

⑧Receiver unit housing
Used to store the receiver unit.

⑨Battery housing
Batteries are inserted here.

⑩Battery removal sheet
Used to remove the batteries from the battery housing.

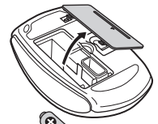
⑪USB connector (Male)
Connected to a PC USB port.

Preparation before Use

Installing·Replacing the Battery

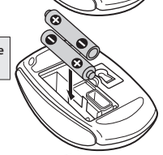
Before using this product, install two AAA batteries in the mouse body.

1 **Remove the battery cover.**



2 **Insert the batteries.**

- **Make sure that the polarity is correct.**



3 **Install the battery cover as before.**



■**Replacing the Battery**

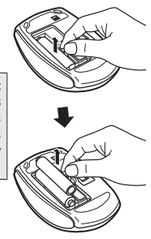
1 **Remove the battery cover.**

2 **Remove the batteries using the battery removal sheet.**

3 **Insert the batteries.**

- **Do not mix different types of batteries or use old batteries with new batteries to avoid battery leakage and failure.**

4 **Install the battery cover as before**



Turning On and Off the Mouse

■**Turning on the mouse**
When using this product, turn the mouse body power on.
Slide the power switch to the ON position.
The remaining battery level indicator lamp is illuminated in red for a certain period.
* When the remaining battery level is low, the remaining battery level indicator lamp is flashed in red for a certain period.



■**Turning off the mouse**
When not using this product, turn the mouse body off to save battery power.
Slide the power switch to the OFF position.

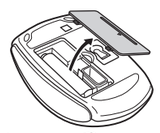
■**Restoring from sleep state**
Move the mouse.

To reduce battery drain, the mouse enters sleep mode automatically if it is left without being operated for a certain period of time with the power or switch turned on.

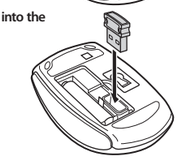
Inserting and Taking Out the Receiver Unit

■**Inserting the receiver unit**

1 **Remove the battery cover.**



2 **Place the receiver unit into the receiver unit housing.**

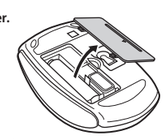


3 **Install the battery cover as before.**

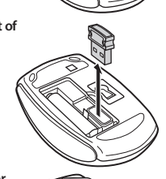


■**Taking out the receiver unit**

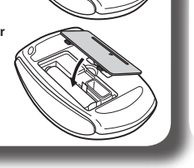
1 **Remove the battery cover.**



2 **Take the receiver unit out of the receiver unit housing.**



3 **Install the battery cover as before.**



When using Windows®

Step1 Check USB ports

Check the USB port on your computer.

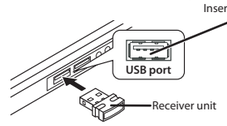


- **Any USB port may be used.**
- **This product can be connected to a USB hub. However, it may not work depending on the power supply capability of the USB hub.**

Step2 Installing the Receiver Unit

1 **Activate the PC**
- If Windows® prompts you to choose an account (a user name) when it starts up, be sure to log on using an administrator account.
- Wait until Windows® has started up completely.

2 **Insert the receiver unit into the USB port of the PC**



- **Carefully check the orientation of the connector and the place where you will connect the receiver unit.**
- **If you feel strong resistance when inserting the receiver unit, check that the shape and orientation of the connector is correct. Using excessive force may damage the connector and cause injury.**

3 **The mouse driver is installed automatically.**

Step3 Checking wheel operation

Check that the mouse scrolls up and down correctly in Windows® Internet Explorer.

1 **From the [Start] menu, select [All Programs], and then [Internet Explorer].**
Internet Explorer will launch.

2 **Display your favourite web site in Internet Explorer and change the size of the window so that the vertical scrollbar appears.**
* The sample website used here is the ELECOM homepage.



3 **Scroll the tilt wheel back and forth.**



The mouse is operating normally if the screen moves up and down as you scroll the tilt wheel.

- **In applications that do not support scrolling, the screen will not move when you scroll the tilt wheel.**

In order to use this product's horizontal scrolling function, you must download and install ELECOM MouseAssistant 2 for Windows from our company's web site.
➲**Proceed to "Using the horizontal scrolling and button allocation functions" on the reverse of this sheet.**

When using Mac OS X®

Step1 Check USB ports

Check the USB port on your computer.

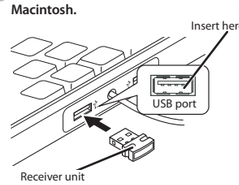


- **Any USB port may be used.**
- **This product can be connected to a USB hub. However, it may not work depending on the power supply capability of the USB hub.**

Step2 nstalling the Receiver Unit

1 **Activate the Macintosh.**
- Wait until Mac OS X has started up completely.

2 **Insert the receiver unit into a USB port on your Macintosh.**



- **Carefully check the orientation of the connector and the place where you will connect the receiver unit.**
- **If you feel strong resistance when inserting the receiver unit, check that the shape and orientation of the connector is correct. Using excessive force may damage the connector and cause injury.**

3 **The mouse driver is installed automatically.**

Step3 Checking operation

Check that the vertical and horizontal scrolling functions are working correctly in Safari.

1 **Click the Safari icon in the Dock.**
Safari will launch.



If Safari is not in the Dock, double-click the Safari icon in the Applications folder.

2 **Display your favourite web site in Safari and change the size of the window so that the vertical and horizontal scrollbars appear.**
* The sample website used here is the ELECOM homepage.



3 **Scroll the tilt wheel back and forth and move it from side to side.**
The mouse is operating normally if the screen moves up and down or from side to side as you scroll or move the tilt wheel.



- **In applications that do not support scrolling, the screen will not move when you scroll the tilt wheel.**
- **In order to use this product's button allocation function with a Mac, you must download and install ELECOM MouseAssistant 2 for Mac OS X from our company's web site.**

➲Proceed to "Using the horizontal scrolling and button allocation functions" on the reverse of this sheet.

Using the horizontal scrolling and button allocation functions

To use the horizontal scrolling function with the tilt wheel of this product, you need to install the ELECOM MouseAssistant 2 that can be downloaded from the ELECOM website.

Obtaining ELECOM MouseAssistant 2

Access the ELECOM website using the following URL and download the latest driver.

http://www.elecom.co.jp/global/download/utility/mouse_assistant/

Installing the ELECOM MouseAssistant 2 for Windows

Before installation....
- **Keep the mouse installed. For details, see "Step 2 - Installing the Receiver Unit" on the front of this sheet.**
- **If mouse utility software from ELECOM or another company is installed, uninstall it.**
- **Login with a user account that has administrative privileges.**
- **It is recommended that all programs (application software) be terminated.**

* Though the subsequent screens of the installation program differ depending on the OS, the procedure is the same.

1 Double-click the downloaded "mouse_driver_xxxx(.exe)".



* The file name may be different depending on the version of the driver.

2 The installer is activated.

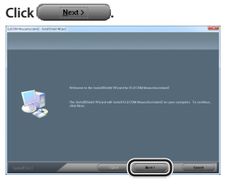
When the "user account control" screen is displayed, click [Permit] or [Continue].

3 Click OK.



- If other mouse utilities have been installed, click Cancel to uninstall them.
- If a previous version of MouseAssistant has been installed, follow the instructions on the screen to uninstall it.

4 Click Next >.



5 Click Install.



6 Click OK.

Installation starts.



7 Click OK.



8 After installation is complete, click Finish to restart the PC.



Now, the installation of the ELECOM MouseAssistant 2 for Windows is complete.

- After restart, mouse functions can be set. Right-click the icon in the task tray or notification area and select [Properties].
  * If the icon is displayed in the Notification Area in Windows® 7, click it and then right click the icon and then click the [Properties].
- For the setting method, see the Help file.

Installing the ELECOM MouseAssistant 2 for Macintosh

Before installation....
- **Keep the mouse installed. For details, see "Step 2 - Installing the Receiver Unit" on the front of this sheet.**
- **If mouse utility software from ELECOM or another company is installed, uninstall it.**
- **Login with a user account that has administrative privileges.**
- **It is recommended that all programs (application software) be terminated.**

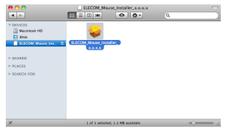
1 Double-click the downloaded "ELECOM_Mouse_Installer_X.X.X.X.dmg".



The disk image is mounted on the desktop and a window is displayed.

* The file name may be different depending on the version of the driver.

2 Double-click the "ELECOM_Mouse_Installer_x.x.x.x" that has been displayed.



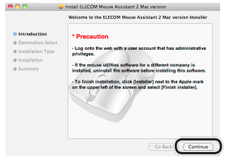
The installer is activated.

3 Click Continue.

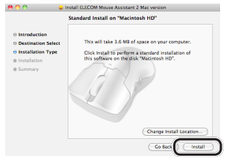


If "MouseAssistant" has been installed, click Cancel and uninstall.

4 Click Continue.



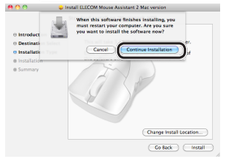
5 Click Install.



6 Enter a user name and password with administrative privileges and click OK.

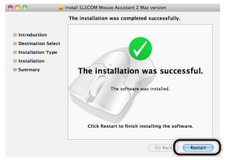


7 Click Continue Installation.



File copying starts.

8 After installation is complete, click Restart to restart the Macintosh.



Now, the installation of the ELECOM MouseAssistant 2 for Macintosh is complete.

- After restart, mouse functions can be set. Clicking the icon registered in the Dock causes the utilities to start. (The icon is only registered in the Dock for the user who installed the software. If you are not the user who installed the software, click [Applications] -> [Utilities] and double-click "ELECOM_Mouse_Util".
- For the setting method, see the help file.

Troubleshooting

When the product appears to be malfunctioning

■When the mouse pointer on the screen does not move, or moves unstably, when the mouse is moved

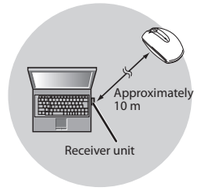
➔It is possible that the reflectivity of the surface on which this product is being used is not suitable for an optical mouse. Use this product on a mouse pad that is designed for use with optical mice.

➔When using this product on a metallic surface such as a steel desk, radio wave outreach may be shortened. In such cases, move the receiver unit closer to the mouse until mouse operation stabilises.

➔It is possible that the receiver unit is not connected correctly to the USB port. Disconnect the receiver unit from the USB port and reconnect it.

➔The receiver unit and the mouse body are too far apart or there is a possibility that the receiver unit is facing in a direction from which it cannot receive radio signals. Adjust the position of the receiver unit.

The operable range of this product is the area within a circle with a radius of 10 m from the receiver unit. Depending on the usage environment, the mouse may not operate even when it is within approximately 10 m of the receiver unit. In such cases, move the mouse closer to the receiver unit until operation stabilises.



➔Interference may occur if multiple units of this product are used together or if this product is used with other wireless devices. In this case, change the channel of other wireless devices.
(Multiple units of this product have an automatic channel avoidance function.)

➔Operation becomes unstable when battery power is low. See "Installing/Replacing the Battery" on the reverse of this sheet, and replace the batteries as soon as possible.
- The alkaline batteries supplied with this product are for checking product operation. These batteries may discharge and drain during storing and shipping.

* When not using the mouse, turn it off to save battery power.

➔It is possible that the standard Windows mouse driver did not install correctly and that this product is detected as an unknown device by Windows®. This product is usually detected as a USB human interface device. If it is detected as an unknown device, see "Removing an unknown device," and after removing the device from Device Manager, repeat "Step 2 - Installing the Receiver Unit" on the front of this sheet.

➔If you have installed drivers and settings utilities produced by the original manufacturer for a previous mouse, uninstall them first. This product may not operate correctly if a driver made by another company is installed. See the instruction manual that was supplied with your previous mouse for uninstall instructions.

➔It is possible that the driver is conflicting with another driver such as that for a laptop touch pad. To use this product correctly, you must delete the touch pad driver. However, if you delete this driver, you may not be able to use the touch pad or touch pad functions. Contact the PC manufacturer for more details.

■The wheel moves, but the mouse cursor does not

➔In certain applications that do not support the scrolling function, the mouse cursor will not move when you move the wheel.

Removing an unknown device

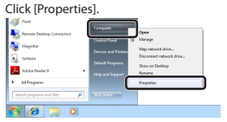
If the standard Windows mouse driver did not install correctly and this product is detected as an unknown device, remove the unknown device from Device Manager, and then repeat "Step 2 - Installing the Receiver Unit" on the front of this sheet.

- **If there are multiple unknown devices, before removing a device, check that it is actually this product. Disconnect the receiver unit and check which unknown device disappears. The device that disappears is this product.**
- **If the unknown device does not disappear even after you have deleted the driver following the instructions below, it is possible that there is something wrong with the PC. Contact the PC manufacturer.**

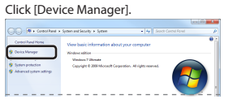
With the receiver unit connected to the PC, follow the procedure below to remove the unknown device.
* Be sure to log on using an administrator account when Windows starts up.
* Screen display may differ depending on operating system, but the procedure remains the same.

1 Display Device Manager.

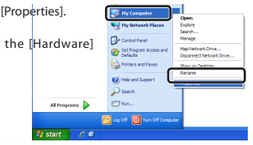
- **Windows® 7 and Windows Vista®**
  1. From the [Start] menu, right-click [Computer].
  2. Click [Properties].



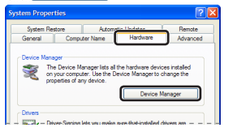
  3. Click [Device Manager].



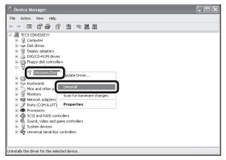
- **Windows® XP**
  1. From the [Start] menu, right-click [My Computer].
  2. Click [Properties].
  3. Click the [Hardware] tab.



  4. Click Device Manager.



2 The Device Manager window appears. Right-click the unknown device, and click [Uninstall].



3 Click OK.

4 Disconnect the receiver unit and restart the PC.



5 Repeat the procedure from "Step 2 - Installing the Receiver Unit" on the front of this sheet.

Uninstalling ELECOM MouseAssistant 2 for Windows

To reinstall ELECOM MouseAssistant 2 for Windows, uninstall the existing version of ELECOM MouseAssistant 2 first.

- **Login with a user account that has administrative privileges.**
- **It is recommended that all Windows programs (application software) be terminated.**

1 From the [Start] menu, select [Control Panel].

The Control Panel appears.

2 Do one of the following:

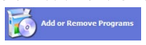
- **Windows® 7 and Windows Vista®**

Under [Programs], click "Uninstall a program".



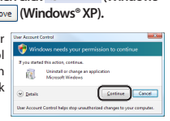
- **Windows® XP**

Click "Add or Remove Programs".



3 Select [ELECOM Mouse Assistant 2] from the list of installed programs, and then click Uninstall (Windows® 7/Windows Vista®) or Remove (Windows® XP).

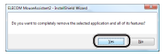
* When the User Account Control screen is displayed in Windows Vista, click the Continue.



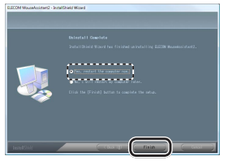
* Though the subsequent screens of the uninstallation program differ depending on the OS, the procedure is the same.

4 Click Yes.

The uninstallation begins.



5 When the software is uninstalled, click Finish and then restart the PC.



This completes the unistallation process.

Uninstalling ELECOM MouseAssistant 2 for Mac OS X

To reinstall ELECOM MouseAssistant 2 for Mac OS X, uninstall the existing version of ELECOM MouseAssistant 2 first.

- **Login with a user account that has administrative privileges.**
- **It is recommended that all programs (application software) be terminated.**

1 Delete the icon that is registered in the Dock.



To remove icons from the Dock, the "Enable access for assistive devices" check box in Universal Access under System Preferences must be selected.

2 Double-click [ELECOM_Uninstall] in the utilities folder in the Finder application folder.



3 Click OK.



4 Type an administrator username and password, and then click OK.



5 When the software is uninstalled, click Restart and then restart your Mac.



This completes the unistallat

Basic specifications

Product name	Wireless Optical Mouse
Article No.	M-D20DR Series
OS	Windows 7 (up to SP1), Windows Vista (up to SP2), Windows XP (SP2 to SP3) Mac OS X (10.5 to 10.5.8, 10.6 to 10.6.7)
Resolution (dpi)	1000
Interface	USB
Radio frequency	2.4 GHz bandwidth
Radio wave method	DS-SS modulation
Radio wave outreach	Non-magnetic substance (e.g. wooden desk): Approx. 10 m Magnetic substance (e.g. metal desk): Approx. 3 m *Test values in the ELECOM environment
Mouse body dimensions	58.0 (W) x 98.0 (D) x 33.0 (H) mm
Receiver unit dimensions	15.0 (W) x 19.0 (D) x 6.5 (H) mm
Operating temperature/ humidity	5 to 40°C, 90% RH max. (no condensation)
Storing temperature/ humidity	-10 to 60°C, 90% RH max. (no condensation)
Batteries	AAA alkaline battery, AAA manganese battery, rechargeable AAA nickel hydride battery
Operating time	Measure of the operating time when an AAA alkaline battery is used Continuous operating time: Approx. 100 hours Continuous standby time: Approx. 170 days Estimated serviceable time: Approx. 46 days (when the PC is operated for eight hours a day and 25% of the PC operation is assigned to mouse operation)

당해 무선설비는 운용 중 전파혼신 가능성이 있음 .

B 급 기기 (가정용 정보통신기기)
이 기기는 가정용으로 전자파적합등록을 한 기기로서
주거지역에서는 물론 모든 지역에서 사용할 수 있습니다 .

廢電池請回收

低功率電波輻射性電機管理辦法
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第十四條
低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。
前項合法通信，指依電信規定作業之無線電通信。
低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Wireless Optical Mouse
M-D20DR Series User's manual
1st edition, September 20, 2010
ELECOM Co., Ltd

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