

MULTI-CHANNEL MINI RF OPTICAL MOUSE

USER'S MANUAL

Model #: DC-2038

Important Ergonomic Information

Some experts believe that using any mouse or trackball may cause serious injury to hands, wrists, arms, neck, or back. If you feel pain, numbness, or weakness in these areas, see a qualified health professional.

TO REDUCE THE RISK OF INJURY, FOLLOW THESE PRECAUTIONS:

- Take frequent breaks, get up and walk around several times every hour.
- Vary your tasks throughout the day.
- Keep your shoulders relaxed with your elbows at your side. Position your keyboard and mouse so you do not have to reach.
- Adjust your chair and keyboard so your upper arms and wrists are straight.
- Avoid resting your wrists on sharp edges.

System Requirement

- Mouse compatible with standard Microsoft mode
- 3rd button and wheel function require Win98/98SE/2000/Me/XP

Before you begin

- Keep this installation guide for future reference! It contains Important Troubleshooting Information.
- Keep your old PS/2 mouse as a back-up device.

Getting Started

Congratulations on your purchase of the multi-channel RF (Radio Frequency) optical mouse. By using the advanced RF technology, a 360° of operation is possible, and no line-of-sight is required between the receiver and the mouse. This mouse provides a high resolution of 800dpi, which will bring users the best operation accuracy and efficiency, especially for a display resolution at 1024*768 or higher. Since it has a double operation speed, it requires only 1/4 operational space comparing to that required by a 400dpi mouse.

Owing to the integration of multi-channel solution, this mouse is also an idea pointing device to be used in an office without considering the arrangement of desk to desk, or in a meeting room where two or more attendants are operating their own RF wireless mice.

Package Contains

Your DC-2038 Mouse package includes the following:

1. A multi-channel RF optical mouse (Transmitter)
2. A thumb size USB receiver
3. A user's manual

Note: If any part of this package is missing, please contact your dealer for a replacement immediately.

Precaution

! The optical mouse *cannot* work on a glass or mirror surface. Avoid operating this mouse on a glossy surface, otherwise, this mouse may not operate normally.

! For consideration of saving battery power, it is strongly recommended to operate an optical mouse on a bright surface with fine texture to obtain lower power consumption. A very dark surface will cause higher power consumption.

! For optimal performance, place the receiver at least 8 inches or 20 centimeters away from other electrical devices, such as a computer, a monitor, speakers, or other external storage drives.

! For a better transmission distance, avoid to use this device on a metal plate or desktop because a large surface of iron, aluminum, copper and other metal will be a shielding or ground to the RF antenna of the mouse and receiver. Operating on a metal may cause the transmission distance shorter.

! If your notebook computer has a metal (contains Al or Mg) case, the metal housing of the LCD panel will isolate partial radiation of the RF signal from the mouse. This will possibly result in reducing the distance of transmission when you operate the mouse right in front of the notebook, and the receiver is connected on the back of the notebook. However, the RF mouse should work properly while you are operating the mouse just beside your notebook computer.

Installation Guide

Step 1. Connecting the Receiver

By using this RF optical mouse, you need to keep a free USB port for the included receiver.

Please follow the steps below to finish the connecting:

1. Prepare your original Microsoft Windows CD.
2. Plug the USB connector end of the receiver into a USB port.
3. Turn your Notebook on if it was turned off. Then, follow the instructions of Windows to complete the registration of a new USB device.

Step 2. Setting up connection between mouse and receiver

This RF wireless mouse provides 10 different RF channels, and 256 identification codes to avoid interference with other radio devices, or other same model of RF wireless mice.

Before you go on, make sure that the mouse is in standby mode, i.e., the red light on the bottom of the mouse is on. If it is not, press any key to wake it up.

1. Press the Connect button on the receiver once (refer to Fig.1 for the location of Connect button.) The LED inside the receiver will light up to confirm the activation of Connect button.

The LED will stay on for around 7 seconds to indicate that the receiver is waiting for a new configuration of ID and channel. If no configuration message is received during this time, the receiver will turn off the LED without any change of ID and channel. If a valid configuration message is received before the end of wait time, the receiver will turn off the LED as well, and validate the new ID and channel.



Fig. 1

2. Press the “Connect” button on the mouse once (refer to Fig.2 for the location of the “Connect” button.) The red light will go off, and turn on again upon releasing the Connect button. (**Warning:** Be sure **NOT** to depress the Connect button for more than 1.5 seconds when doing mouse connection.)

There will be a duration of around 10 seconds for the mouse to get connect with the receiver. As soon as The mouse is known by the receiver, the LED on the receiver goes off, and the mouse is ready to operate.



Fig. 2

Note:

Since the transmission is one way from the mouse to the receiver, and in order to avoid possible interference of other RF devices, we urge you to put the mouse as close as possible to the receiver when you are connecting the mouse to the receiver.

Operation Guide

Charge the mouse

This mouse comes with a Li-ion polymer battery, which is not user replaceable. This battery should last the whole life span of the mouse if the mouse is recharged properly. So, users not only can save a lot of money for periodically replacing batteries, but also conserve the environment.

It is recommended to charge the battery to full before you start using the mouse. The required charging time is:

3 hours on a charger base,

7 hours from an AC adapter, or

14 hours from a USB extension cord.

The Li-ion polymer battery inside the mouse is well protected both on charge and discharge.

Warning!

During charging the mouse, it is recommended to turn off the mouse by sliding the power switch to off position. (Refer to Fig. 2 for the location of the power switch.)

Battery low indication

When the voltage level of the battery goes down under the preset level, the scrolling wheel will flash whenever the mouse is operated.

If the mouse is not recharged, and is kept operating for a certain amount of time, the internal protection circuit will shut off the power. At this time, the mouse is not operable.

Users now should place the power switch to off position, and charge the mouse immediately. Should the case occur, the internal controller might **not** be able to keep track of the current ID and channel. And after charging the mouse to full, users may have to re-connect the mouse to the receiver.

Power on and off the mouse

This wireless mouse is designed specially for the purpose of travelling, so it comes with a power switch. To turn on the mouse, simply slide the power switch to the **ON** position, and to the **OFF** position vice versa. (Refer to Fig.2 for the location of power switch.)

Operations on power saving mode

In order to conserve battery power, the mouse is designed to reduce power consumption gradually from standby mode to flash mode, and eventually to sleep mode, if it is not operated.

Standby mode – As soon as the mouse stops moving, it enters standby mode immediately, and sticks to this mode for up to 30 seconds, if no operation is done.

Flash mode – After 30 seconds (typically) of standby, the mouse enters into flash mode by intermittently activates and deactivates the optical sensor. The lag time between cursor running and the mouse movement is well controlled to be ignored, if the surface on which the mouse resides is suitable for an optical mouse. The flash mode lasts for up to approximate 20 minutes for the convenience of prompt moving operation.

Sleep mode – If the mouse is left intact for around 20 minutes, it goes to sleep mode and shuts down the optical sensor to maintain minimum power consumption. No moving operation is possible in this mode.

Wake up the mouse

This mouse can work promptly under standby and flash modes as it wasn't in there. So, users might not be able to tell the existence of these two modes. But, in sleep mode, users have to press any button to wake up the mouse for normal operation.

Unlike almost all other wireless mice, clicking button to wake up the mouse will not cause a valid button activation which might result in an unexpected Windows operation depending on where the cursor rested.

GENERAL SPECIFICATIONS

- 800dpi hardware resolution
- Digital radio frequency transmission
- 10 channels of different radio frequencies
- 256 ID for further avoidance of interruption
- Power on/off through the connect switch
- 3 buttons design with scrolling wheel
- Ergonomic design for comfortable grip

Electromagnetic Characteristics (EMC)

This unit complies with Part 15 of FCC Rules.

Operation is subject to following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.



Tested To Comply

With FCC Standards

- **CE - Type acceptance:** ETS 300 220 short range devices
- **VCCI approval (Japan)**

Transmitter

- Distance: 3 feet typical
- Power: 3.7V DC (Lithium-ion polymer rechargeable battery)
- Radio frequency: 27 MHz ISM band
- Dimensions: 89.5*52*35 mm
- Weight: 96 grams

Receiver

- Interface: USB
- Power: 5V DC, 100mA MAX connected to host computer
- Dimensions: 63*22*17 mm (without counting the extended USB connector)
- Weight: 16 grams

ELECTRIC SPECIFICATIONS

- Operating Voltage Transmitter: 3.7V DC (powered by battery)
 Receiver: 4.5 to 5.5V DC (powered by USB port)
- Operating Current Transmitter: 30mA, operate on a white paper
 Receiver: 30mA typical
- Standby Current Transmitter: 4 m A @ 30 seconds
- Flash mode Current Transmitter: below 2.8mA @ around 20 minutes.
- Sleep Mode Current Transmitter: below 330µA
- Modulation Type FSK
- Transmission Rate 5K bps
- Error Detection 8-bit CRC

Troubleshooting

1. Mouse does not function

- If mouse is not functional, please turn off the computer first.
- Check the receiver and make sure it is firmly attached to the USB port of the computer.
- Restart the computer again. After system is started, please establish the connection between the mouse and the receiver by following **Step 2** of the installation guide.

2. Reducing Interference with Other Wireless Devices

- Reducing Interference with Other Wireless Devices:
All 27MHz radio-based devices are subject to interference from other 27MHz radio-based devices, such as cordless telephones, cordless baby monitors, and cordless toys. It may help to move the receiver unit and the base unit of other

wireless devices (such as cordless telephone cradle) as far apart as possible. You may need to try several times for a location that is best in your operating environment.

- Move the receiver and the mouse closer to each other so that the receiver is relatively shorter in distance to the mouse than to other 27MHz transmitters. You may need to re-establish the “connection” by following **Step 2** of the installation guide.

Note: Avoid to use this device on a metal surface as a large surface of iron, aluminum, copper, or other metal may act like a shielding to the RF antenna of the mouse and the receiver.

3. Interference with other RF wireless mouse

If the interference comes from other same model of RF wireless mice, please follow **Step 2** “Setting up connection between mouse and receiver” of the installation guide to switch to a new RF channel. A new identification code is also generated upon the completion of channel switching.

Normally, the effective transmission distance is about 3 feet, depending on the environment. If the effective distance between the mouse and the receiver is bad, try to Change the location of the receiver.

4. If you have difficulty connecting the wireless mouse:

- Increase the distance between the set of wireless mouse and other radio device units.
- Turn off the other wireless devices, or their base units, that are in close proximity to the receiver of this wireless mouse.
- Try connecting the wireless mouse and its receiver again.
- To verify that your device is connected and working properly, open a document and Try the device.

Federal Communication Commission Interference Statement

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.