TRACKBALLS: STATIONARY MICE

T urn a mouse on its back, rub its tummy, and it won't run around. That's the principle behind trackballs.

Essentially mice that do not require desk space to move around on, trackballs still offer the mouse's cursor control and precise movement for menu selection, drawing, and even character input via macros. Instead of moving the mouse around on your desktop, you move the trackball around in its stationary housing. This article looks at three of these alternate input devices: Fulcrum's Trackball Plus and Honeywell's comLYNX and microLYNX trackballs.

As with their more mobile cousins, the electronic rodents, trackballs can be attached to your PC a number of ways. The Trackball Plus and the comLYNX attach to a PC serial port, while the microLYNX, with the keyboard plugged into its cable, attaches to the PC's keyboard port. The trackballs' inner workings, like those of the mice, are also varied: the two Honeywell trackballs have mechanical position sensors, and the Fulcrum device uses an optical mechanism.

As with other cursor control devices, all trackballs do not yet work with *Windows*, even if they can emulate a Microsoft Mouse. If you're working with *Windows* applications, make sure the device you're interested in will work with them before making your purchase decision.

The only other drawback is that holding down a button and moving the trackball at the same time can be awkward (a problem that Honeywell's comLYNX solves by adding an extra "toggle" button). Otherwise, trackballs have the same advantages as mice.

Trackballs are priced equivalently to mice and do the same job. Whether you choose to use an immobile mouse or a hy-
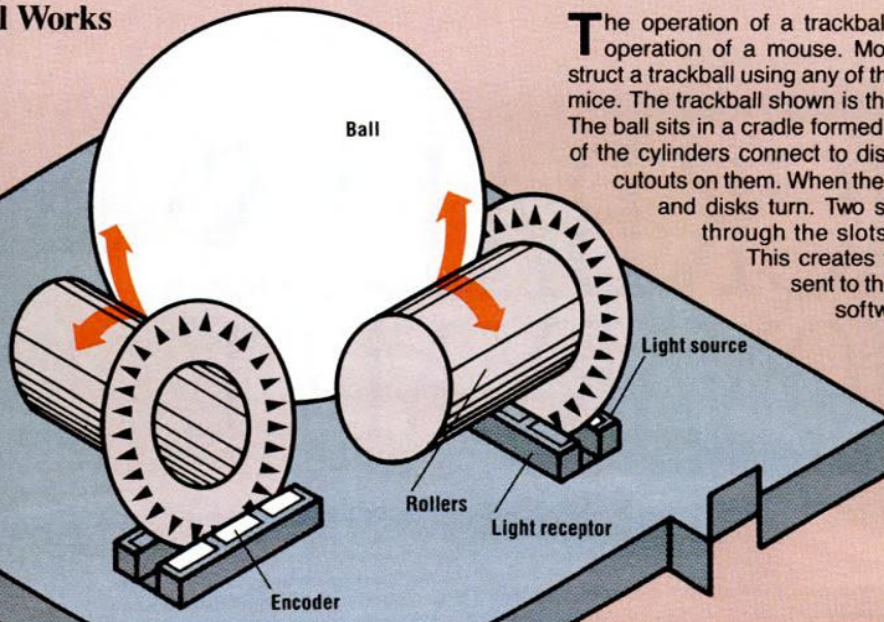
If you're hooked on mice but not tidy enough or blessed with enough desk space to use one, try a trackball. It's a mouse that can't scurry around.

How a Trackball Works

Ball

The operation of a trackball is very similar to the operation of a mouse. Moreover, one could construct a trackball using any of the technologies used for mice. The trackball shown is the optomechanical type. The ball sits in a cradle formed by three cylinders. Two of the cylinders connect to disks with equally spaced cutouts on them. When the ball spins, the cylinders and disks turn. Two sets of LEDs send light through the slots onto photodetectors. This creates the waveforms that are sent to the computer and that the software interprets.

Light source

Rollers

Light receptor

Encoder

perkinetic one may be a matter of personal style. If you don't want a mouse scurrying across your desk, you may find that a trackball fits your alternate input needs.

FULCRUM COMPUTER PRODUCTS

Fulcrum Trackball Plus

Fulcrum Computer Products' Fulcrum Trackball Plus is a cursor-control device with a multiple personality. Though it works like a Microsoft Mouse that stays in one place, the $95 Trackball Plus can also emulate other devices.

The Trackball Plus is built with an optical positioning mechanism, so there are few parts to wear out. It has six buttons, all on top of the unit. The buttons are labeled 1, 2, 3, 4, A, and 5. The A button is designed to work as an alternate cursor key for work in such CAD programs as *Auto-CAD*).

STARTUP The trackball is a cinch to install. With the computer turned off, you plug the product's serial connector into an available COM port and plug its separate DC power supply into a regular power socket. Boot up, and you're ready to go.

Your first attempt to make practical use of the unit might be frustrating, however, especially if you rely on the manual for guidance. The highly technical documen-

tation is not clearly organized and lacks clear, step-by-step startup instructions.

Press buttons 1, 2, 3, and 5 all at the same time, and you enter a mode selection phase. You then press one or more buttons to select the emulation you want; for instance, you press button number 3 to get the Microsoft Mouse mode. Four of the buttons are extra baggage in the Microsoft Mouse mode, but they come into play with other emulations.

MODES AND DRIVERS The Trackball Plus starts out in the mode that emulates the Summagraphics tablet. To change to

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another emulation mode, you simply send the unit a software-initiated command.

The Trackball Plus comes with driver options: for Microsoft Mouse emulation and for Mouse Systems mouse emulation. With the Microsoft Mouse mode selected, you must load the Mouse driver. After that you will be able to use the trackball as a mouse. The Trackball Plus emulation driver was one of the few that I tested that functioned with *Windows*.

You must hold down a button to mark text or move a graphic item ("dragging" the cursor) as you do with a mouse. But it's somewhat difficult to hold down the button as you use the trackball to drag, an operation that's easier with a mouse. Honeywell's comLYNX solves this problem with a middle push button that toggles on so you don't have to hold one of the other buttons down continuously. According to a Fulcrum representative, the company plans to implement such a "toggle button" through the driver in a future upgrade.

Aside from this drawback, the Trackball Plus works well, with precise cursor control fairly easy to achieve. CAD users who want the option of emulating a variety of mouse and digitizing pad products will find that the compact, low-priced Trackball Plus can help them get the widest flexibility out of their system without taking up much desk space or requiring much of an investment.

HONEYWELL INFORMATION SYSTEMS INC.

comLYNX
microLYNX

The microLYNX and the comLYNX trackballs, from Honeywell Information Systems, are as identical as twins with this single exception: they hook up to different parts of your PC. The microLYNX connects to the PC's keyboard port along with your keyboard, whereas the comLYNX attaches to a serial port. Both these products sell for $169.

Each of the units has a large, black trackball mounted in an 8½- by 3-inch beige housing. Below the trackball, three push buttons serve various functions de-

PC MAGAZINE Trackballs: Summary of Features
(Products listed in ascending price order)

	Fulcrum Trackball Plus	comLYNX	microLYNX
List price	$95	$169	$169
Size of housing (inches)	4½ × 5	8½ × 3	8½ × 3
Position sensors	Optical	Mechanical	Mechanical
Interface	Serial	Serial	Keyboard
Number of buttons	6	3	3
Power supply	External	External	None*
Menu generator	None	None	None
Software included	None	Pop-Up Menu†	Pop-Up Menu†
Mouse emulation	Microsoft, Mouse Systems	Microsoft	Microsoft

Applications Supported

	Fulcrum Trackball Plus	comLYNX	microLYNX
Microsoft Windows	●	○	○
1-2-3	●	●	●
Microsoft Word	●	○	○
WordStar	○	●	●
WordPerfect	○	●	●
AutoCAD	●	●	●
VersaCAD	●	●	●
PC Paintbrush	●	○	●
Freelance Plus	●	○	○
Dr. Halo	●	●	○
PageMaker	●	○	○
Ventura Publisher	●	○	○

PC — Indicates Editor's Choice. ●—Yes ○—No *Uses PC's power supply. †The Pop-Up Menu is a separate memory routine that produces a pop-up window in which you can program the trackball button macros and adjust cursor speed.

pending on how the unit is configured.

When you first power up, the unit's default is set in text mode. Turning the trackball produces the same effect as pressing the cursor keys. The three push buttons are fully programmable, and you can set them to produce up to 30 characters each as macros. You can also choose to adjust the cursor movement speed when in the text mode.

THE "DRAGGING DILEMMA" For graphics programs, both the microLYNX and comLYNX units emulate a Microsoft Mouse. You use them to move the cursor and perform a "dragging" movement to mark text or to move a graphic item. The two outer push buttons located below the ball operate like the mouse's buttons, which you hold down in order to perform a "drag."

But trying to hold a button down while moving around the trackball is at best a difficult maneuver. Honeywell has solved this problem on the comLYNX by using a third push button between the two outer ones. You press the middle button first, then one of the outside buttons, and that generates the same effect as if you held down the outside button continuously. Pressing any of the three push buttons releases the dragging effect. This feature is

■ TRACKBALLS

The Fulcrum Trackball Plus (left), from Fulcrum Computer Products, offers precise cursor control and the ability to emulate a wide variety of mice and digitizing pads. The comLYNX (center) and microLYNX (right), from Honeywell Information Systems, emulate the Microsoft Mouse but do not work with Windows.

EDITOR'S CHOICE

• Fulcrum Trackball Plus

Trackballs still have a way to go, but of the three reviewed here the nod goes to the Fulcrum Trackball Plus. While its $95 price is as low as the least-expensive mouse, it also emulates a wide range of other input devices, such as the Microsoft Mouse, the IMSI OptiMouse, and numerous digitizing tablets, such as the Summagraphics Bit Pad, the Houston Instrument Hipad, and the Tektronics Plot 10. Flexibility and value give it the edge over the competition.

not included on the microLYNX.

Both trackballs come with two sets of programs. The first is a driver that enables the trackballs to emulate the Microsoft Mouse. (They do not, however, work with *Windows*.) The second program is a separate memory routine that produces a pop-up window in which you can program the trackball button macros and adjust cursor speed.

The comLYNX came through with an unreadable disk, which was replaced by the vendor too late for us to review for this issue. However, I was able to work with the microLYNX. The software works just fine, and the text mode set-up program is both easy and intuitive. The clearly written manuals describe adequately how to operate the units.

Overall, these trackballs are viable alternatives to standard mice. While they are larger than mice, their stationary habits should make them easier to live with. Until the microLYNX finds a better way to drag, such as using a third button, my nod goes to the comLYNX. **PC**

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