



and weakness of the McIntyre is its extreme sensitivity; the stick, and therefore the cursor, can be moved by the slightest puff of air, such as that coming from the Macintosh's internal fan. \$350. McIntyre Computer Systems, 22809 Shagbark, Birmingham, MI 48010; (313) 645-5090.

Trackballs

Take the standard mouse, flip it on its back, divide the button in two and place the halves on either side of the ball, enlarge the entire unit three or four times — and voilà, it's a trackball. One button is used like the button on the standard mouse; the other works as a lock feature, allowing users to leave a menu pulled down, for example.

The trackball may be the most ergonomic mouse alternative. It requires no arm movement. And unlike the mouse, which has to be picked up and moved around, trackballs require no more space than is used by the unit's casing. It is ideal for mounting on wheelchairs.

Longtime mouse users may have trouble differentiating between the functions of the two buttons. You may click madly away on one button, forgetting that the other has been used to lock an icon, and wonder why there's no response.

Kensington's Turbo

Mouse ADB lets you leave your hand in one place. When the fingers are on the trackball, the thumb and little finger naturally position themselves over its two buttons. The buttons' mousing and locking functions can be reversed for left-handed people. A "chording" feature, unique to Kensington, provides a user-specified

Command-key function that you invoke by pressing the buttons simultaneously. The large ball is not encased in the body of the Turbo Mouse, but it is heavy enough not to be easily knocked out of the device. The Turbo Mouse measures 4.5 x 5.5 inches, making it the most space-efficient trackball reviewed here. \$169.95. Kensington Microware, 251 Park Ave. S., New York, NY 10010; (212) 475-5200.

The **quadLYNX** trackball from Asher Engineering has an encased trackball that is smaller than the Turbo Mouse's: Some people may find that its size makes the quadLYNX easier to control than the Turbo Mouse. Its two buttons are located below the ball, so accessing the buttons requires some wrist movement. Although the quadLYNX comes in both ADB and non-ADB versions, the documentation covers installation procedures only for the latter. The ADB cord is too short if you want to connect it to the ADB port on the back of the Mac, but it is long enough if it's connected to the keyboard. \$99.95. Asher Engineering Corp., 15115 Ramona Blvd., Baldwin Park, CA 91706; (818) 962-4063.



MicroSpeed's new **MacTRAC** has three buttons located above the trackball: The lock button is sandwiched between two click buttons, allowing equal ease of use by right- and left-handed people. Another welcome feature is a light on the device that signals when the lock button has been pushed. \$99. MicroSpeed, Inc., 44000 Old Warm Springs Blvd., Fremont, CA 94538; (415) 490-1403.



Abaton's **ProPoint** has two buttons on the lower left of the casing. Their significantly different size and shape make it easy to remember which button is which. It's fairly easy for right-handed users to comfortably press both the large click button and the small lock button with their thumb; left-handed people may have to take their fingers off the ball to press

the buttons with their little finger. The ball is removable, but the unit must be picked up and turned over before the ball can be dislodged. \$86. Abaton Technology, 48431 Millmont Drive, Fremont, CA 94538; (415) 683-2226.

Touch Screens

Most Macintosh users input information through a keyboard and mouse-type device and read the result on the computer screen. Touch screens eliminate the middleman, permitting the screen to be used as both an input and an output device, making the computer easily accessible to almost everyone.

Touch screens consist of two primary parts. The screen itself either snaps over the existing screen or is installed between the Mac case and the existing screen. It attaches to a controller, which interprets the touch input. Capacitive touch screens, like the Mac 'N Touch, detect a change in an electric charge caused by the pressure from a user's bare finger or metal stylus. Resistive-membrane screens, such as the Mouse Touch, detect a change in electric flow between layers of Mylar and glass. Resistive-membrane screens can detect pressure from any type of device, such as a mouth-held stick or a gloved finger. In either case, the screen needs to be calibrated through a setup software program to define the relation between the touch screen and the computer screen.

Unfortunately, the standard Macintosh interface with the menu at the top of the screen forces touch-screen users to obscure part of the screen with their hand, and using a touch screen can quickly tire the hand and arm.

The **Mouse Touch** screen from Information Strategies, Inc. (ISI), was selected for use by Unico, an industrial-control manufacturer, because it requires no additional space on a desktop other than that used by the computer. The Mouse Touch is used to select screens, pull down menus, and enter numeric information on an on-

