

**If you can move your head,  
you can move your world.**

## **Introducing HeadMaster.**

**Access to the Apple Macintosh  
for the physically disabled.**

If your hands are disabled but you have good head control, you can now operate one of the most popular personal computers -- the Macintosh. Introducing **HeadMaster** from Personics, an add-on hardware/software device which replaces both the Macintosh keyboard and Apple's famous "mouse." HeadMaster is based on a remarkable new technology developed by Personics for typing and moving the cursor using only your head. No broad head movement. No mouth stick. Just turning the head a few degrees.

HeadMaster is fast and effortless to use. It's inexpensive to purchase -- only \$795. Best of all, HeadMaster lets people whose hands are paralyzed operate popular software programs. Not special needs software, but the same programs used in businesses, educational institutions, and households everywhere.

### **HeadMaster Magic -- move the cursor where you look on the screen.**

The Macintosh is controlled by rolling the mouse on the desk surface next to the Mac. Every move made with the mouse moves the cursor on the screen in exactly the same way. Rather than entering commands through the keyboard, the operator points the cursor to words with the mouse and selects them by clicking the mouse button. The Macintosh easier to use than other personal computers because all software programs use this basic "point and select" technique, reducing learning time and keyboard activity.

HeadMaster replaces the mouse with a lightweight **headset**. The headset moves the cursor where you look on the screen! Look to the right and the cursor moves right. Look down and to the left and the cursor instantly follows. A small **control unit** sits on top of the Macintosh. It measures the change in angular position of the headset hundreds of times per second, and translates these into cursor commands. The result is fast, smooth, and accurate cursor motion on the screen. In fact, even faster than the mouse itself. A **mouth switch** which plugs directly into the headset replaces the mouse button. Point with the headset and lightly puff the mouth tube. It's that easy.

## HeadMaster from Personics Common Questions and Answers

**Q: What physical disability is HeadMaster designed for?**

**A:** HeadMaster is designed primarily for quadriplegics, but is also used by individuals with cerebral palsy, ALS (Lou Gehrig's disease), severe arthritis, and burns. Anyone who has temporarily or permanently lost the use of their hands but retains normal head control would be well-suited to the HeadMaster system.

**Q: When was HeadMaster introduced and how many units are in use today?**

**A:** Personics began shipping HeadMaster in April, 1986. Hundreds of people throughout the world are now using HeadMaster. Leading figures in the rehabilitation engineering field have consistently rated HeadMaster among the best adaptive computer aids available, and *the* best for the Apple Macintosh.

**Q: How can HeadMaster be evaluated by before making a purchase commitment?**

**A:** Personics offers a 30-day evaluation period so customers can determine whether their particular disability allows them to use HeadMaster effectively. If HeadMaster does not meet the customer's needs, for whatever reason, it can be returned to Personics for a complete refund. There is absolutely no risk.

**Q: How does HeadMaster replace the mouse and keyboard functions?**

**A:** The mouse is replaced with a new technology from Personics. A headset moves the cursor where the operator looks on the screen! The cursor instantly follows head rotation as you look from one spot to another. A mouth switch plugged into the headset replaces the mouse button. A click of the mouth switch is just like a click of the mouse. Special software called ScreenTyper replaces the physical keyboard with a small image of the keyboard on the bottom of the screen. You type by moving the cursor to a ScreenTyper character with the headset. The character selected by clicking the mouth switch appears instantly in your document.

**Q: Does HeadMaster work with all standard Macintosh hardware and software programs?**

**A:** HeadMaster works with all Macintosh computers and accessories, including the 512K and Mac Plus. It works with all Apple software programs for the Mac, including MacWrite, MacPaint, MacDraw, MacTerminal, and MacProject. HeadMaster also works with nearly every software program developed by other companies, including Microsoft, Lotus, and Borland. Contact Personics with any questions about software compatibility.

**Q: How much head motion is required to move the cursor around the screen?**

**A:** With practice, you'll operate HeadMaster proficiently with just a few degrees of head rotation. The head motion required is so subtle that someone watching you may think the system tracks eye movement.

**Q: How accurate is cursor control with the headset?**

**A:** The headset produces smooth and accurate cursor movement, just like the mouse. You can easily insert the cursor between two letters in a word, and even hit an individual pixel! Sophisticated algorithms which reside in the control unit translate head rotation into cursor movement. The algorithms track not only the amount but the *rate* of head rotation. That way the system can tell whether you want to move the cursor quickly across the screen, or slow the cursor down to approach your target.

**Q: How long does it take to master the HeadMaster technique?**

**A:** A period of learning and adjustment is required to become proficient and comfortable, generally several days depending on the disability. The initial feeling of operating the computer with the head is unusual for anyone. Most users move the head more than necessary at first, overshooting and undershooting targets. With practice, however, moving the cursor with the headset is actually faster than using the mouse.

## HeadMaster from Personics More Questions and Answers

**Q: Is the headset comfortable, particularly over long sessions with the Macintosh?**

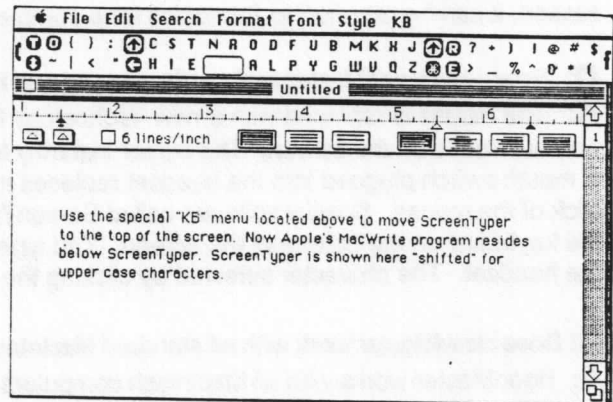
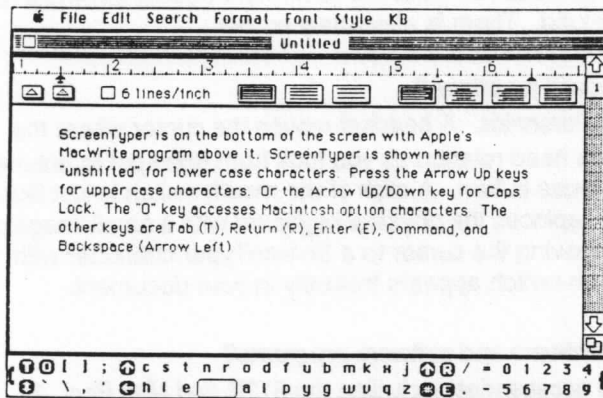
**A:** Yes. The headset weighs 3 oz. and adjusts to fit different head sizes. Unlike stereo headphones, the headset does not have to rest on your ears. Instead, it rests comfortably above or in front of the ears. Its design accommodates eyeglasses. An elastic chin strap can be used to keep the headset in place.

**Q: Is it necessary to sit perfectly centered to the Macintosh screen?**

**A:** No. It doesn't matter where your head is relative to the Mac. Adopt any posture. Sit close to the Mac, or further back. Lean to the left or to the right. The control unit measures only changes in the angular position of the headset caused by rotational movement of the head. All other movement of the body is ignored.

**Q: What does ScreenTyper look like on the Macintosh display?**

**A:** ScreenTyper takes up less than one inch at the bottom or the top of the screen display, leaving the rest of the screen for your document. ScreenTyper contains all lower case, upper case, and Option characters.



**Q: Why isn't ScreenTyper in the standard "QWERTY" layout like a computer keyboard?**

**A:** Reason #1 is speed. The QWERTY layout is more familiar to touch typists. But it isn't as fast for typing with the head as ScreenTyper. The ScreenTyper layout reduces the amount of head movement needed to type. The space bar is located in the middle of ScreenTyper with the most commonly used characters surrounding it. Less frequently used characters are located further to the sides. If you're used to QWERTY, there is a learning period to become comfortable and proficient with this new layout.

Reason #2 is convenience. A QWERTY layout would cover up a large portion of the screen to accommodate five rows of keys. ScreenTyper has only two rows and covers less than an inch of the screen.

**Q: How does the headset work?**

**A:** Three ultrasonic transducers housed in the headset receive a signal transmitted from the control unit. By comparing the signal received at three points on the headset, changes in the angle and rotation of the head are tracked. The control unit takes hundreds of measurements per second to detect the slightest change in headset position. These changes are translated into the same "mouse" electronic signals.

**Q: Does HeadMaster require any modification to Macintosh software or hardware?**

**A:** None at all. The control unit plugs into the mouse port. ScreenTyper is installed on your System. The Mouse can be plugged into the HeadMaster control unit and used interchangeably with the headset.

**Type 15 words per minute with a keyboard on the screen. No mouth stick.**

The physical keyboard is replaced with an image of the keyboard characters along the bottom or top inch of the screen. HeadMaster's keyboard is called **ScreenTyper**. Typing is done by pointing the cursor to a character and puffing lightly into the mouth switch. The character instantly appears in your document. ScreenTyper is installed as a "desk accessory," so it's ready to use no matter what software program you're running.

**Operate hundreds of Macintosh software programs right "off-the-shelf".**

Word processing with Apple MacWrite or Microsoft Word. Drawing and designing graphics with Apple MacPaint and MacDraw. Keeping an electronic calendar with Borland's Sidekick. Dialing the telephone automatically with Borland's PhoneLink. Budgeting with spreadsheet programs such as Microsoft Excel. Accessing data bases with MacTerminal and a modem. Accounting. Data base management. Games. Educational software. HeadMaster gives you access to the entire world of Macintosh.

**HeadMaster is only \$795. Purchase a Macintosh and it costs even less.**

HeadMaster's price of \$795 includes all hardware and software components to replace the keyboard and the mouse, plus several accessories and services.

- headset
- control unit
- puff switch
- ScreenTyper software
- alternative switch adapter
- installation & operation manual
- replacement mouth tubes
- toll-free help hotline
- 30-day no-risk evaluation period
- one-year warranty

If you don't own a Macintosh, Personics can provide a complete turnkey system -- the HeadMaster Workstation. Configure your HeadMaster Workstation with any combination of Apple Macintosh hardware and software. The 512K or Macintosh Plus. An 800K external disk drive or 20-megabyte hard disk. Imagewriter II Printer. Modem. MacWrite. MacPaint. Etc. Personics is an authorized Apple dealer. Call us for a price quote. You'll save on HeadMaster when you purchase your Macintosh from Personics.

**HeadMaster is available right now directly from Personics.**

Call us toll free at 800-445-3311 (In Massachusetts: 800-447-1196). Or write to Personics at 2352 Main St., Building Two, Concord, Massachusetts, 01742. We invite inquiries from rehabilitation engineers, hospitals, occupational therapists, physicians, educators -- anyone who is involved in adapting computer equipment for the physically disabled. Personics accepts government, university, and corporate purchase orders.

**Take advantage of our 30-day no-risk evaluation period.**

When your HeadMaster arrives, try it for 30 days. If it doesn't meet your needs, return it for a full refund. There is absolutely no risk. Your satisfaction is guaranteed.