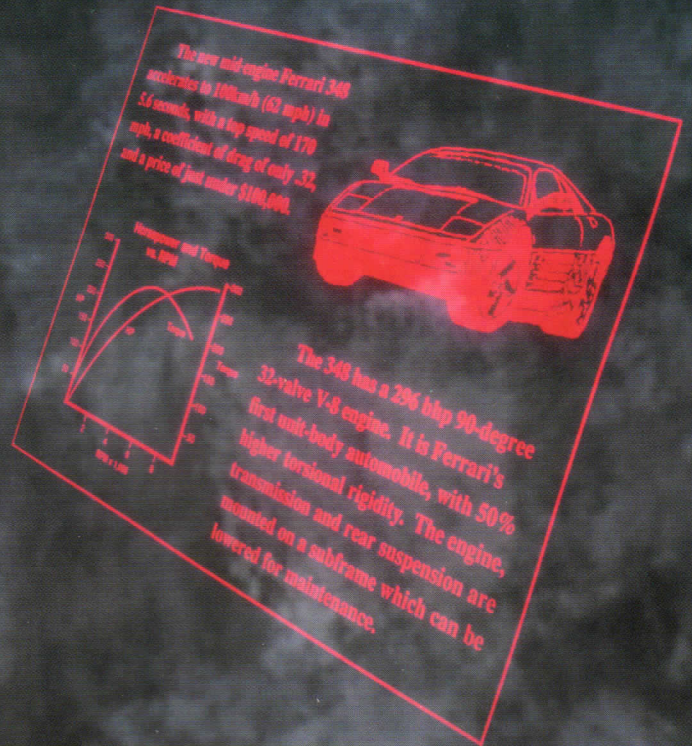


The Private Eye™

A large screen in a small box



You Can:

- Make Big Products Small
- Give Small Devices A Full Screen
- Provide Hands-Free View of Information
- View Information Privately



REFLECTION
TECHNOLOGY

What Is The Private Eye?

Virtual Screen.

The Private Eye™ is a full-size display that fits in the palm of your hand. The virtual screen is a 12 inch image that appears to float a few feet in front of the user. Employing a unique, patented technology, it weighs only 2¼ ounces and can be battery-powered for portability.

Quality And Clarity.

The Private Eye presents a sharp, vibrant red image on a deep black background. It displays 720 x 280 pixels, which can be formatted as 25 lines with 80 characters per line, or can be used to show crisp bitmap graphics. Its quality and contrast substantially exceed that of a standard CRT screen.

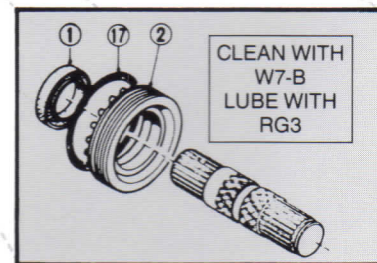
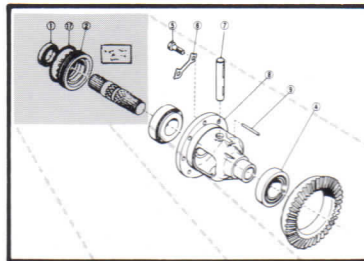


The Private Eye is a full-size display that fits in the palm of your hand.

FRONT COVER: The Private Eye's image appears to float a few feet in front of the user. Its quality and contrast substantially exceed that of a standard CRT.

Flexible Viewing.

The product designer can select the most suitable way to carry, position, and view the Private Eye. When built into a handheld device, it can be raised to the eye when needed. If mounted on a headset for hands-free viewing, it can be positioned so that it does not block the user's field of view. It can also be worn on the wrist, or around the neck.



Electronic zoom in Private Eye products allows users to easily shift between overview and detail.

Easy-to-use Design.

The Private Eye is ergonomically well-designed, reliable, and easy-to-use. The only control is a focus knob to accommodate individual vision characteristics. Using the Eye for extended periods is like using a CRT, except that there is no radiation emitted or high voltage present.

Multiple Interfaces.

The Private Eye's electrical interfaces are as simple as those typically used with a standard CRT or LCD. Available interfaces include a high-speed serial cable interface, an IBM PC™ bus interface, and a custom integrated circuit which can handle all the interfacing tasks in a host device. Special purpose interfaces can also be provided.

Low-Cost And Reliable Technology.

The Eye applies current technology in a unique way, to create a durable, reliable product. All components are produced by standard, high volume manufacturing processes. As a result, its cost is comparable to that of an LCD (liquid crystal display) in the same resolution and quantity.

Prototyping Platform Available.

Deciding how to apply a new technology is often harder than building the products needed. The best ideas don't emerge until designers, engineers, and marketers have been able to "kick around" a number of product concepts.

The "PC Private Eye" is a low-cost toolkit that supports this interactive development process. It turns a standard PC into a prototyping platform for new Private Eye product ideas, simply by plugging in the included interface card.

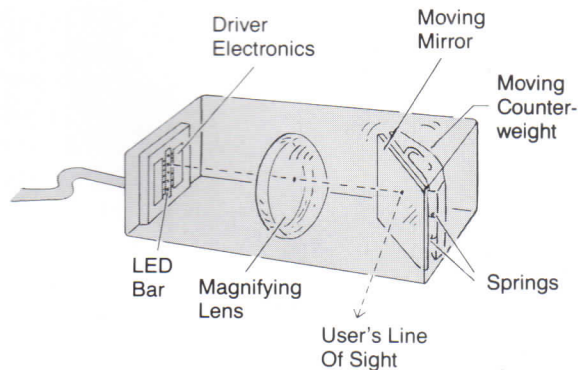
How Does It Work?

The basic display mechanism of the Private Eye consists of a linear array of 280 LEDs (light emitting diodes), a magnifying lens, and a counterbalanced resonant vibrating scan mirror. At any instant, the user, looking into the mirror, sees a magnified vertical line of LEDs. These correspond to one column of the full image. As the mirror swings, the apparent location of the vertical line of LEDs sweeps horizontally from one edge of the virtual screen to the other. Although only one column of the screen is visible at any instant, the user's eye perceives a full screen of information.

Electronic timing ensures that the proper LEDs for each column are illuminated at the correct time as the mirror swings. The mirror is driven at resonance by a tiny voice-coil motor, and is counterbalanced to absorb nearly all of the mechanical vibration.

The inherent sharpness of the light emitting elements creates a magnified image of remarkable clarity and definition. The present model is monochrome red on a black background — future models will include gray scale, higher resolution, and eventually full color.

The Private Eye is covered by a number of United States and foreign patents.



An Award-Winning Product.

DESIGN NEWS

A grand prize winner in the 10th Annual Excellence In Design Awards.

Popular
Science

THE BEST OF
WHAT'S
NEW

An award granted for significant new technology.



Honoring the 100 most significant new products and achievements.

What Will It Do For You?

Electronic Books.

Develop Portable Electronic Books. The Private Eye's high resolution and large image make it the ideal display for an electronic book. This product provides text, graphics, and animated images to people wherever they are.

Radio Pagers, Faxes, And Other Mobile Data Displays.

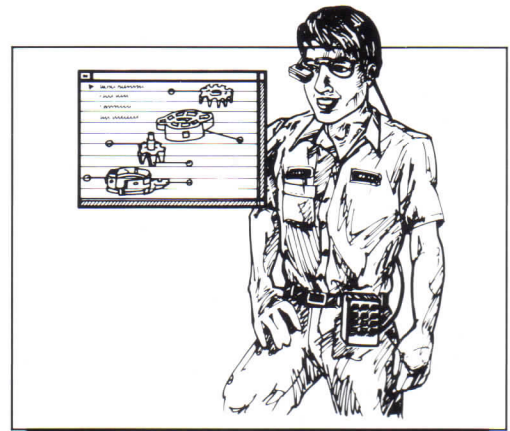
Build A Full Screen Mobile Data Device. The Private Eye can be built into mobile data devices, such as handheld, paperless fax machines and full screen radio pagers. Typical users include doctors receiving patient records, drivers needing maps, or salespeople needing product documentation.

These devices allow users to view text and graphics, scroll through copy, even "zoom-in" on selected portions. Stored documents can be printed later.



Handheld Instruments.

Create Miniature, Portable Instruments. Electronic instruments can be both easier to travel with and easier to use, with a Private Eye built-in or on a headset. These new instruments can be smaller, yet they can provide a much larger display screen.



Electronic Maintenance Manuals.

Develop An Electronic Manual That Is Hands-Free. With Private Eye electronic manuals, the user doesn't have to look away from the work at hand in order to view information. Manufacturing and repair workers requiring mobility can carry and view text and diagrams from a complete set of manuals, wherever their work takes them.

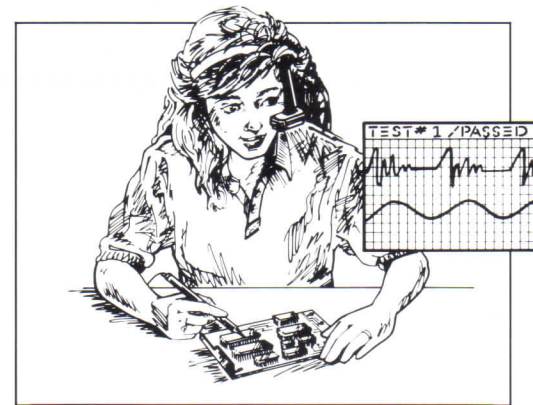
New portable information products can access data via mainframe links, CD-ROM databases, wireless links (RF or IR), or hardwired connections to PCs.

In cramped, inaccessible, or dimly lit areas ranging from the inside of a wiring closet to the top of a utility pole, users can now have unlimited access to information.

Remote Displays.

Access Hands-Free Information From A Remote Display. The Private Eye can be attached to existing non-portable computers or instruments to provide a remote, hands-free display of data, signals, or other information. The communication link can be either through a wire or wireless receiver.

Users can see the information where they are working, and move about unencumbered by stationary displays. Applications include engine analyzers, electronic test instrument readouts, process control displays, and patient monitoring systems.



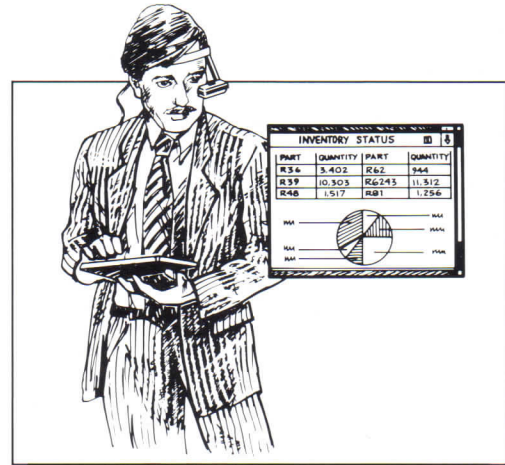
Pocket Computers.

Create A Pocket Computer That Is More Useful And Private.

Pocket, handheld, and palmtop computers can now have full-size, easy-to-read screens.

These products will be able to display and manipulate large spreadsheets, show complete reports, and present output in graphical form, all while allowing information to be viewed privately.

In addition, by separating the screen from the computer, more space is available for the keyboard.



You can develop truly new and unique products. The Private Eye lets you:

- **Make Big Products Small.**
Make large products fully portable. Add a remote display to a non-portable product. Users can take information with them anywhere.
- **Give Small Devices A Full Screen.**
Enhance small products by adding a full screen display. Handheld devices can now display high-resolution graphics and large amounts of text.
- **Provide Hands-Free View Of Information.**
Create a hands-free display of information that can be seen while engaged in other tasks. Users have freedom of movement and action.
- **View Information Privately.**
Maintain confidentiality when viewing sensitive information.

Pocket Terminals.

Access Information From Remote Databases.

The Private Eye can be built into a pocket-size terminal for use in a car, an airplane, or a hotel room. People using this terminal can access electronic mail, office mainframes, or information services such as Compuserve™ for everything from airline reservations to stock quotes.

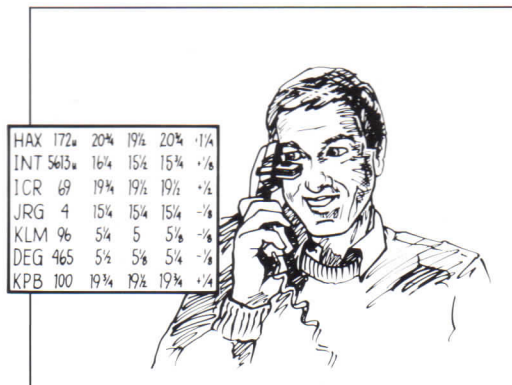
Telephone Displays.

Convert A Telephone Into A Terminal.

The Private Eye can be built into a telephone handset. Coupled with modem or fax circuitry, a standard or cellular phone can be converted into a terminal. For example, stockbrokers can receive daily trading information when out of the office, or salespeople can obtain a customer file from their central database.

Games.

Develop New 2-D And 3-D Video Games. Video games developed for the Private Eye can be much more exciting and engaging than traditional video games, since the image will float in space in front of the viewer's eyes. The image will be much larger and more detailed than that found on today's handheld video games.



Products and Specifications



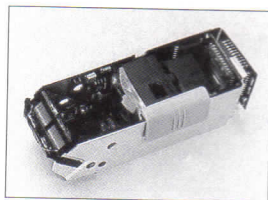
Private Eye.

Housed in an attractive and rugged plastic case, the Private Eye is suitable for most business, consumer, and industrial environments.

The dovetail mount attaches to an optional headset or to a customer-designed accessory, such as a wristband, necklace, etc.

A focus adjustment lets each user view the image comfortably. The Private Eye may be used with or without eyeglasses.

The Private Eye comes equipped with a 5' flexible cable using the Reflection Technology Serial Interface (RTSI). All control circuitry is self-contained. The host device need only provide Data, Clock, Synch, and +5 volts. The Eye contains a full screen buffer memory, and refreshes itself continuously until new data is received.

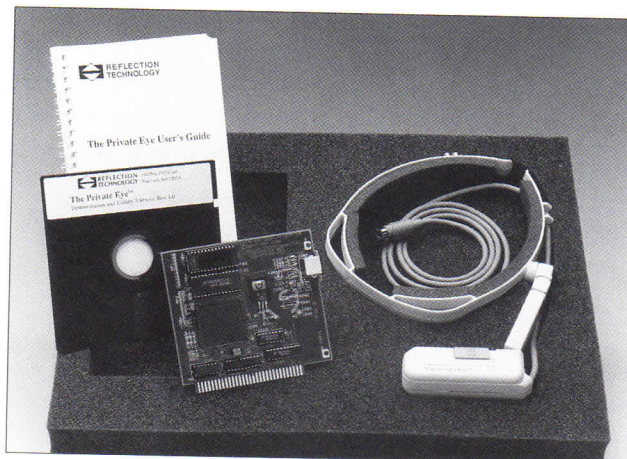


Private Eye Subchassis.

The Private Eye mechanism and electronics are optionally available in a subchassis.

This subchassis can be combined with customer

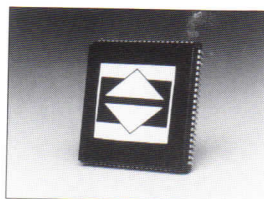
designed electronics to create a complete handheld product in a single package.



PC Private Eye.

The PC Private Eye is IBM Color Graphics Adapter (CGA) compatible. It provides the product designer with a complete prototyping environment, providing demonstration and evaluation capability for new product development. The PC Private Eye is compatible with standard applications software in addition to offering custom Private Eye operating modes.

Included: Private Eye display, headset (suitable for both right and left eye viewing), an IBM PC-compatible Video Adapter card, demonstration software, and documentation. A 6' extension cable is available as an option.



Private Eye Display Controller (PEDC).

The PEDC integrated circuit simplifies the interface between the Private Eye and a host

device. It resides in the host device and generates the signals required by the RTSI serial cable connection to the Eye. The PEDC communicates easily with most 8-bit or 16-bit processors.

A number of operating modes are provided for maximum flexibility in design. In addition, the PEDC provides compatibility with standard IBM PC Color Graphics Adapter (CGA) software.



REFLECTION
TECHNOLOGY

DISPLAY UNIT SPECIFICATIONS

Resolution	720 H x 280 V pixels; corresponds to 80 text characters x 25 lines with 9 x 11 font
Image Size	21.8° x 14.2° (included angles); equivalent to 12" monitor at viewing distance of 24"
Contrast	70:1 nominal
Brightness	2 foot-lamberts nominal
Focus Range	10" to infinity (user adjustable)
Internal Refresh Rate	50 Hz nominal
Data Update Rate	0 to 8 MHz (host-determined); equivalent to 0 to 30 screens per second
Interface Protocol	Reflection Technology Serial Interface (RTSI)
Power	1/3 watt typical
Size	1.2" high x 1.3" deep x 3.5" long
Weight	2.25 oz. without cable; 3.75 oz. with cable
Cable	5' with 8 pin mini-DIN connector
Operating Temperature	32°F to 104°F (0°C to 40°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Humidity	5 to 95% relative humidity (operating and storage)
Water	Resistant to fresh water spray
Shock	Withstands 3' drop

PC PRIVATE EYE VIDEO ADAPTER CARD

Hardware Compatibility	IBM PC/XT/AT (8-bit or 16-bit bus slot)
Software Compatibility	IBM Color Graphics Adapter (CGA). Will co-exist with MDA, Hercules, EGA, or another CGA display
Operating Modes	CGA text (80 columns x 25 lines; 40 columns x 25 lines); CGA graphics (640 x 200; 320 x 200); Private Eye graphics (720 x 280)
Interface Card Size	4.5" x 4.25" (less than IBM half-size)

Your Private Eye product ideas can best be explored by using the PC Private Eye for prototype development. Order a PC Private Eye with the card below.

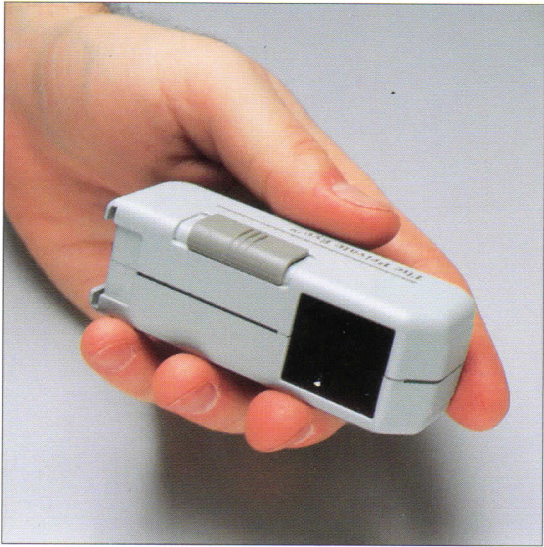
OEM pricing is available.

1. Please add me to your mailing list. _____
2. I would like to order the PC Private Eye @ \$795.* _____ Please include 6' extension cable @ \$39. _____
Cash _____ C.O.D. _____ Qty. Purchase Order # _____ Qty.
3. I am interested in: _____ a current application _____ a future application _____ information only
4. Please describe your application: _____

5. When might this product be introduced? _____ Likely annual quantities? min. _____ max. _____

NAME/TITLE _____ COMPANY _____ PHONE _____ () _____
STREET _____ CITY _____ STATE _____ ZIP _____

*Massachusetts companies add 5% sales tax. Foreign orders must be prepaid. Orders may be placed in writing only (no phone orders please) using: cash, company purchase order with credit references, or authorization for C.O.D. (C.O.D. charges additional). This order is subject to Reflection Technology's standard terms and conditions.



Companies that have introduced Private Eye products are gaining visibility, competitive advantage, and market share. Their users appreciate the benefits of the Private Eye in many applications.

You can join them by developing a Private Eye product for your customers now.



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