

. . . a miniature display, the size of a quarter, that matches the viewing performance of a 21-inch color computer monitor.

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INITIAL PUBLIC OFFERING
RAISED \$2.2 MILLION.



■ Displaytech's ChronoColor™ Miniature Display, pictured above, measures less than one inch diagonally.

BMDO-FUNDED R&D ENABLES SMALLER DISPLAYS, BIGGER IMAGES

From switchable color filters to miniature displays, devices developed by Displaytech, Inc. (Boulder, CO), use ferroelectric liquid crystal (FLC) technology funded through the BMDO SBIR program. Displaytech's innovative research and promising display products led to the company's successful initial public offering in 1996, which raised \$2.2 million. Today, Displaytech is commercializing BMDO-funded technology in two areas.

First, Displaytech found a way to shrink color displays based on cathode ray tube (CRT) technology. Applying its patented FLC technology, the company used BMDO funding to develop an electrically switchable red-green-blue (RGB) color filter. The company's FLC-based RGB FASTFilter™, which won *Photonics Spectra's* Circle of Excellence award in 1995, turns the black-and-white images on a miniature television tube into full-color pictures. Current technology cannot manufacture miniature color television tubes.

Used with a CRT or a charge-coupled device display, the RGB FASTFilter could help produce new head-mounted color displays. In addition, the same filter may help develop color, palm-held computers and 3-D displays for flight simulation and entertainment.

In the second area, Displaytech applied BMDO-funded FLC technology to produce a color, high-resolution, video-capable electronic miniature display. The FLC-based ChronoColor™ Miniature Display demonstrates an image that, when magnified, compares favorably with the highest resolution 21-inch color monitors. The miniature display quality is also comparable to that of active-matrix liquid crystal displays used in laptops, but the smaller product features lower production costs and greater compatibility with standard integrated circuit components.

Measuring less than one inch diagonally, the miniature display can be used in a wide range of products, including laptop and notebook computers, wireless communications devices, medical devices, and video games. Displaytech has already built a 1,280 x 1,024 pixel miniature display for demonstration purposes and expects to offer a display with 256 x 256 pixel resolution to selected end-product manufacturers in early 1997.

ABOUT THE TECHNOLOGY

Developed for BMDO optical computing and space-based applications, Displaytech's FLCs switch 100 times faster than conventional liquid crystal displays. Thinly layered on a silicon chip, they construct dense arrays of very small pixels. Standard fabrication technology for complimentary metal oxide semiconductor memory allows cost-effective production of FLCs. The Department of Commerce awarded Displaytech a \$1.7 million Advanced Technology Program contract in 1994 to develop low-cost volume manufacturing technology.