

Photo above shows ultra-compact fuel cell battery, with notebook PC (not yet available)
An ultra-compact reformer module (below)

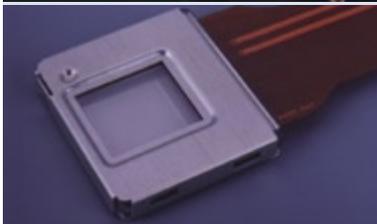


Photo above shows fingerprint sensor incorporated in cellular phone (not yet available)
Fingerprint sensor (below)



An OEL display (pilot model)

Fuel Cells

ULTRA-COMPACT FUEL CELL BATTERIES FOR USE IN MOBILE APPLIANCES

Casio is in the process of developing an ultra-compact fuel cell battery for use in notebook PCs, digital cameras and other mobile information equipment. The fuel cell battery under development is about the size of an ordinary rechargeable lithium battery, but has a lifetime about four times as long.

Casio's fuel cell battery utilizes a reformer module to efficiently produce high-purity hydrogen from methanol. The Company has succeeded in miniaturizing its reformer module, making it suitable for adoption in mobile appliances. Large cost reductions were achieved by using glass instead of silicon in the production of the module. We have already developed an ultra-compact module, which incorporates a heater and all the other parts required for actual operation. We will continue with our development efforts to realize the early commercialization of this product.

Fingerprint Verification

FINGERPRINT SENSOR WITH LCD DISPLAY

Fingerprints are drawing attention as a means of personal identification in electronic commercial transactions. Last year, applying knowledge and expertise cultivated in its TFT business, Casio succeeded in tests of a unit that combines a fingerprint sensor and an LCD. Casio has reduced the size of the image sensing elements to raise the transmission factor without any deterioration in screen visibility and sensor photosensitivity. Consequently, Casio's compact LCD screen is ideally suited for incorporation in mobile data devices. It is possible to take a fingerprint reading from wet or dry fingers, and the precision of the reading remains at the same high level regardless of brightness of the location, allowing for use both indoors and outdoors. We expect sales of this product, as a security item, to show a continuous upward trend in years to come.

Organic Electroluminescent Display

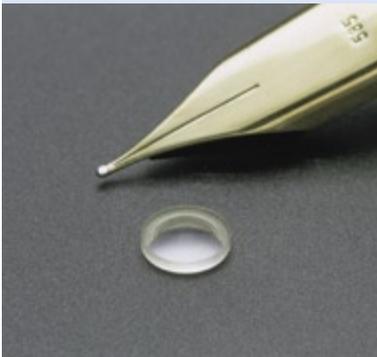
POLYMER-BASED OEL DISPLAY UTILIZING HAST TECHNOLOGY

Casio is currently developing an organic electroluminescent (OEL) display that fulfills the requirements of next-generation displays. The OEL display does away with the need for backlighting required by liquid crystal display, features an ultra-thin design, with low power consumption. Utilizing our proprietary hyper amorphous silicon TFT (HAST) technology, we have created a polymer-based OEL display that allows for high productivity at low-cost. In 2004, Casio succeeded in creating the world's first polymer-based triple-layer OEL display that offers an enhanced brightness and stronger contrast, as well as improved image quality. We will work to further develop this technology, with the aim of building OEL displays into our next-generation core display business.



Paying for purchases at a store with an Offica™ watch (Top)

G-Shock GWS-900, compatible with "Speedpass™" settlement system (Bottom)



New transparent ceramic lens makes possible even more compact digital cameras.

Cashless Payments via Wristwatch

TIMEPIECES INCORPORATING CONTACTLESS IC CHIPS*

Casio has recently developed wristwatches which incorporate contactless IC chips for cashless payment systems, such as the Offica™ system developed by JCB Co., Ltd., a leading international credit card brand. Working together with JCB, Casio launched trials of its new watch in June 2004. Wearers of this watch need only to raise their arms to pay tolls or gain admittance to locked offices.

Three companies – Casio, ExxonMobil Yugen Kaisha, and JCB Co., Ltd. – jointly developed the G-Shock series GWS-900, which is compatible with the electronic settlement system "Speedpass™." This system has been implemented at the self-service stations of the ExxonMobil group. Domestic sales of the watch on its online shopping website "e-casio" began in October 2004. Drivers can purchase gasoline merely by raising the GWS-900 watch to the readers that have been installed at gasoline service stations.

Casio will continue to develop new mobile data processing features for watches to afford greater convenience to wearers in their daily lives, and cultivate new markets.

*FeliCa®, a contactless smart-card system developed by Sony Corp.

Ceramic Lenses

THE WORLD'S FIRST TRANSPARENT CERAMIC LENS

Using the transparent ceramic Lumicera™ created by Murata Manufacturing Co., Ltd., Casio has developed the world's first transparent ceramic lens. Noting that Lumicera™ offers the same level of transparency as optical glass, its refraction rate far exceeds that of optical glass, and it boasts superior durability, Casio aimed to use this material to create ultra-thin zoom lenses for digital cameras. Using proprietary technology, the Company made various improvements to this material, and used the ceramic lens to create an ultra-compact camera – the Exilim Card EX-S100 – launched in September 2004. The new ceramic lens has enabled us to create a digital camera with an optical zoom lens that is approximately 20% thinner than our existing models.