




# Control/Information Systems and Electronic Devices



Consolidated net sales in this group increased 4.7% to ¥302,643 million. In the plant control systems area, social infrastructure systems recorded favorable sales performance, although sales for the area were essentially unchanged from the previous term. Sales in the information equipment area increased, mainly owing to robust demand for magnetic disks. Exports of organic photoconductive drums also contributed to improved results. In the electronic devices area, sales of discrete devices were unchanged, integrated circuits (ICs) increased slightly, and power modules advanced as a result of growth in integrated gate bipolar transistor (IGBT) shipments.



Fuji Electric has led the industry in developing turbidimeters that use an in-house developed scattered-light method for counting particles. When a laser is beamed through a water sample, the scattered light pulses of each particle are detected, enabling the measurement of low turbidity levels.



We delivered an advanced water purification system to the Kunijima Waterworks in Osaka. The system integrates comprehensive capabilities, from ozone generators to power distribution systems and monitoring control systems. Intermediate and advanced-stage treatment utilizing ozone purification provides the highest level of safety for drinking water.

## PLANT CONTROL SYSTEMS

In the plant control systems area, Fuji Electric's extensive product line up comprises social infrastructure-related systems, such as water treatment equipment and systems; tunnel monitoring and ventilation systems; electric power system controls and automated electric power distribution systems; factory automation (FA) systems for large-scale factories; and measuring control systems for a wide variety of industrial plants.

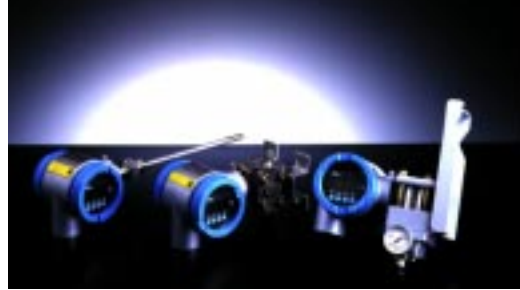
Despite curbs on public-sector capital investment, orders of public and infrastructure-related systems were firm. In water treatment systems, Fuji Electric received large-scale orders for advanced water purification systems for the construction of new treatment plants as well as for drainage treatment electrical equipment and monitoring systems to be used in the renovation of water purification plants. In addition, we delivered a number of highly sensitive particle-counting turbidimeters that were newly developed and help to further improve water quality.

Orders for social infrastructure systems remained in line with the previous term because of restrained public-sector capital investment, which led to a decline in orders for road-related works. However, sales exceeded the previous term's level, supported by the delivery of electrostatic precipitator equipment for road tunnels and remote road-monitoring and control system equipment for highways.

Sales of power systems declined from the previous term. The measuring control systems area was also stagnant, despite strong



We installed a remote road-monitoring system on the Hokuriku Expressway for the Japan Highway Public Corporation. This is our first large-scale centralized facility-information control system for the Highway Public Corporation.



Based on our fiber-optic field instrumentation (FFI) system, which has demonstrated solid performance in petroleum refineries and chemical plants, we developed an optical fieldbus system with superior anti-noise characteristics. The system has been delivered to a pilot plant of the Shell International Oil Products (SIOP), and we are working toward further market penetration.

Fuji Electric provided the power distribution system for the Akashi Kaikyo Bridge in Japan, the world's longest suspension bridge. Our system supports safe transportation by ensuring a stable supply of energy for such electronic equipment as street lights, traffic surveillance equipment and security communications.



demand for garbage treatment facilities. Among new products, we are developing an optical fieldbus system that conforms with IEC standards.

In FA systems, sales decreased as a result of a drop in large-scale contracts for lasers, inspection devices and conveyance systems. In measuring instruments, Fuji Electric concentrated its operations and established Fuji Electric Instruments Co., Ltd. as a manufacturer specializing in these instruments. These measures have created a business structure capable of a rapid response to market changes and customer needs.

#### INFORMATION EQUIPMENT

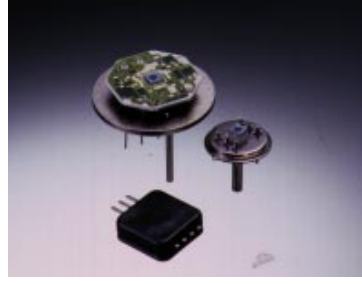
Fuji Electric's main products in the information equipment area encompass magnetic disks for hard disk drives, and photoconductive drums for copiers and printers.

In magnetic disks, we expanded and strengthened production lines to meet market requirements for higher density and higher capacity and introduced next-generation products. As a result, sales increased in spite of sluggish demand for PCs in the second half of the term.

Sales of photoconductive drums posted strong growth, supported by a rise in exports of such new products as organic photoconductive drums with enhanced performance. To reinforce our magnetic disk production system, we completed construction of a manufacturing facility at our domestic manufacturing base and built a factory in Malaysia. These facilities began full-scale operation in the current fiscal year.



Fuji Electric has developed an all-silicon chipped insulated gate bipolar transistor (IGBT) that can directly measure the temperature at contact points and protect against excessive heat. This intelligent power module currently offers the lowest cost, highest dependability and easiest system planning.



Our semiconductor pressure sensors meet the strict requirements for reliability in automotive applications. We reduced size and weight by completely integrating the sensor and signal processing circuits onto a single chip.

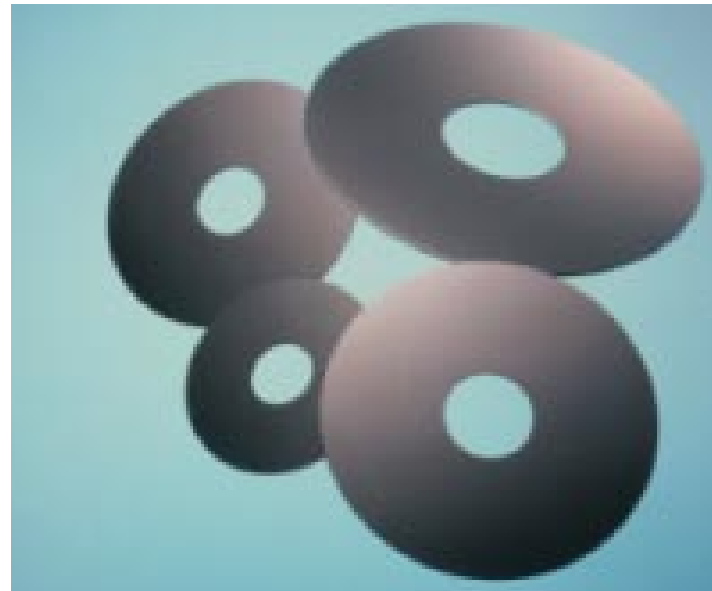
## ELECTRONIC DEVICES

Our major products in the electronic devices area comprise power devices, discrete devices and integrated circuit (IC) products.

Sales of power modules surged strongly due to a rise in orders for our insulated gate bipolar transistor (IGBT) modules, used primarily in numerical control (NC) machine tools and inverters. However, sales of discrete devices remained flat because of deteriorating market conditions for PCs and peripheral equipment.

In IC products, overall sales grew only slightly. Although both power ICs used in video cameras and mobile telephones and automotive pressure sensors recorded a solid sales increase, it was offset by stagnant demand in the second half of the term.

During the fiscal year, we developed the R Series of third-generation intelligent power modules (IPMs), which have applications for inverters and many other fields. These IPMs are able to directly measure the temperature at contact points and protect output drivers against excessive heat. In the area of switch-mode power supply ICs, one of Fuji Electric's main strengths, the Company made further advances in the development of miniaturization, power conservation and low turn-on resistance technologies. Consequently, many of these devices have been incorporated in notebook PCs, mobile telephones and digital cameras.



In magnetic disks, through improvements to layer consistency by finer control of disk surface roughness and texture precision, we have minimized the flying height of the head. This enables a density of 3.2 gigabits/inch<sup>2</sup>, creating the possibility of a 3.5-inch hard disk with 4.0 gigabyte memory capacity.