

REVIEW OF OPERATIONS



Consolidated net sales in fiscal 2002, ended March 31, 2002, decreased 16.7 percent year

on year to ¥575,029 million. Sales in the electronic materials and components segment dropped sharply due to the continuation of soft demand for components, prolonged mainly by substantial customer inventory reductions. More generally, this reflected the sudden slowdown in demand during the year, following explosive growth in mobile phone sales and robust IT demand in the previous year. The recording media & systems segment saw sales increase, albeit slightly. Increased demand for optical discs and sales of recording equipment, which started in the autumn of the year ended March 31, 2001, outweighed falling demand for audiotapes and videotapes.

Electronic Materials and Components Segment

Sales in this segment were ¥432,951 million, down 21.6 percent from the previous year. Overall, the segment was affected by inventory corrections at TDK's customers in a broad range of categories. These corrections were prompted by two main factors: the slowdown in the U.S. economy from the fourth quarter of the previous fiscal year, and a global downturn in IT investment. Prolonging the correction period has been a huge surplus of inventories across a broad spectrum of electronic components. An overly optimistic outlook for worldwide demand for mobile phones and PCs, which has driven advances in digital networking technologies, was to blame for this situation.

Electronic Materials



Ferrite cores



Ferrite magnets



Multilayer chip capacitors



Rare-earth magnets

[Product Overview] Multilayer chip capacitors are produced by alternately stacking extremely thin layers of internal electrodes (palladium or nickel) and dielectric material (titanic acid, barium or titanium oxide). These capacitors are used mainly to store electrical energy and suppress voltage fluctuations, as well as to eliminate electromagnetic interference, or “noise.”

Ferrite is a ceramic material consisting of a crystalline structure of ferric oxide and a metallic oxide such as nickel or zinc. Ferrite is used in two main applications. One is cores for transformers and coils to help raise efficiency and performance. Ferrite is also used in motor magnets for office equipment, audio and visual equipment, and automobiles. TDK also manufactures rare-earth magnets. Compared to ferrite magnets, these magnets are able to store a much larger amount of energy relative to their size. As such, they are instrumental to the production of smaller and lighter motors for HDDs and other products.

[Results] Sector sales decreased 23.7 percent to ¥161,846 million.

In **capacitors**, multilayer chip capacitors, which account for the majority of sector sales, saw sales drop markedly due to falling demand for use in PCs and peripherals and mobile phones; this area posted a significant rise in sales in the previous fiscal year. Cushioning the fall somewhat was a slight rise in demand for multilayer chip capacitors for automotive applications, fueled by the increasing use of electronic systems in automobiles. But sales for this application still constitute a small proportion of overall sales of this product.

In **ferrite cores and magnets**, ferrite cores for use in data-communications devices such as ADSL (Asymmetric Digital Subscriber Lines) devices, which saw strong demand in the previous fiscal year, recorded a sharp drop in sales. The main factor for this downturn was a drop-off in IT investment-related demand. Deflection yoke cores and flyback transformer cores, both key components in TVs and computer monitors, saw sales fall, as competition intensified. Magnet sales decreased overall, too. Lower demand for use in motors for PCs and peripherals and AV products was the main reason. During the year, sales of ferrite magnets for automotive applications were largely the same as the previous year thanks to their increasing use in automobiles and favorable exchange rates.

Electronic Devices



Coils (inductors)



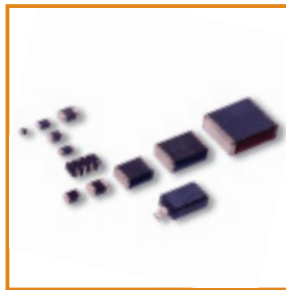
Chip varistors



High-frequency components



DC-DC converters



Chip beads

[Product Overview] This sector can be broken down into three broad categories: inductive devices, high-frequency components, and power supplies and other products. Inductive devices are coils that are made by physically winding wires around a core or using printing or thin film formation processes to form a coiled pattern, and are used to maintain a stable electrical current. Other categories of inductive devices are EMC components, such as noise filters, which combine coils (inductors) and capacitors to protect circuitry from interference; and transformers used to step up and down AC voltage.

In high-frequency components, TDK produces isolators that use ferrite to control signal movements, and VCOs (voltage-controlled oscillators) that produce frequencies required for signal transmission and reception in mobile phones. This category also consists of diplexers that split and combine signals of differing frequencies in mobile phones.

In power supplies, TDK offers switching power supplies that convert alternating current into direct current, DC-AC inverters that convert direct current into alternating current, and DC-DC converters that alter DC voltages.

[Results] Sector sales decreased 27.0 percent to ¥105,937 million year on year.

Inductive devices, the largest product category in this sector, recorded lower sales, despite a slight increase in demand for use in automotive applications. This result chiefly reflected falling demand in the key markets for audio and visual products, PCs and peripherals, and communications.

High-frequency components recorded a relatively large decrease in sales, compared with other products. Hurting sales was the marked slowdown in demand for mobile phones, which account for a high proportion of sales of these components.

In **other products**, sales were largely flat year on year. Falling sales of chip NTC thermistors and other products, which reflected lower mobile phone demand, were offset by strong demand for DC-DC converters for video game systems.

Recording Devices



GMR heads

[Product Overview] The main products in this sector are magnetic recording heads used in HDDs. Magnetic recording heads read signals stored on disks using magneto-resistive elements. A magneto-resistive element is a material whose electrical resistance varies according to the magnetic field. At present, GMR (giant magneto-resistive) heads are the mainstream in the HDD head market. These heads boast an extremely high magneto-resistive effect, greater than that of MR heads. Products in this sector also include heads for FDDs and thermal printer heads.

[Results] Sector sales were ¥147,004 million, 13.1 percent down on the previous fiscal year. In the first half of the year, HDD head sales fell on account of two main factors. One was TDK's delay, relative to competitors, in supplying mainstream 30 gigabyte/disk HDD heads. This resulted in TDK losing market share. The other factor was the scaling back of HDD production by TDK's customers, which was prompted by lackluster PC demand. In the second half, sales rose dramatically relative to the first half, enabling TDK to limit the extent of sales declines for the year as a whole. The second-half turnaround was attributable to TDK regaining some lost market share by gradually increasing shipments of its well-received 40 gigabyte/disk HDD heads. In other heads, a market slowdown and other factors led to a fall in sales.

During fiscal 2002, HDD demand edged down, while HDD head demand fell by more than 10 percent. This is a direct reflection of a rapid increase in the areal recording density of HDD heads, which has resulted in fewer HDD heads on average being used per HDD. While stronger

demand for HDDs is expected for use in products other than PCs and servers, the downward trend in the number of heads per HDD is likely to continue for the time being. Under these circumstances, TDK aims to capture greater market share by quickly delivering reliable products to meet customers' needs.

Semiconductors and Others



ICs for LANs



Anechoic chamber

[Product Overview] Sales in this sector are derived primarily from ICs used in modems and LANs, factory automation equipment and anechoic chambers. U.S.-based TDK Semiconductor Corp. designs ICs for cable TV set-top box modems, LAN devices and other ICs used for communications. Factory automation equipment mostly represents systems that accurately place electronic components on circuit boards at an extremely high rate of speed. Anechoic chambers are spaces designed to prevent reflections of electromagnetic radiation and are mainly used to evaluate and test for EMC.

[Results] Sector sales decreased 29.3 percent to ¥18,164 million. This reflected a marked decrease in sales of semiconductors for WAN/LAN and set-top box modems due to the continuing downturn in the semiconductor market. In the previous fiscal year, communications infrastructure equipment and PCs drove demand for semiconductors. Limiting the extent of the overall fall in sector sales were higher sales of anechoic chambers and measurement systems. These product lines benefited from the increasing digitalization of products and the use of higher frequencies.

Recording Media & Systems Segment



CD-Rs



DVD-RW



Tape-based data storage media for computers

[Product Overview] The main products in this segment are audiotapes, videotapes, optical discs and software. Optical discs are accounting for an increasing share of sales as the world moves into the digital era. TDK offers several types of optical discs: write-once CD-Rs and CD-RWs that can be recorded repeatedly. The optical discs category also includes DVD-R, DVD-RAM and DVD-RW discs. Although they have the same 12cm diameter as their CD-type counterparts, these discs can hold large volumes of data, making them ideal for storing moving images as well as for backing up computer data. Other product lines in this segment are recording equipment, including CD-R/RW drives and CD players that can playback MP3 files downloaded from the Internet, and tape-based data storage media for computers.

[Results] Segment sales edged up 3.2 percent to ¥142,078 million. This growth was attributable to higher sales of CD-Rs, which generate the bulk of TDK's optical media sales. In this product category, higher volumes more than offset falling year-on-year sales prices. Other reasons for segment growth were the yen's depreciation and higher recording equipment sales due to the start of sales in Europe, following launch in the U.S. in the autumn of fiscal 2001. Moreover, sales of tape-based data storage media for computers rose, spurred on by the launch of a new product line based on the LTO (Linear Tape-Open) standard, following verification of TDK's LTO products during the year. TDK intends to work on gaining verification for more new standards as a way of driving further growth in this storage media area. Hampering further growth in the segment was the long-term decline in audiotape and videotape sales due to the rising popularity of optical media and DVD software.