



Consolidated net sales in fiscal 2001, ended March 31, 2001, rose 2.3 percent year on year to ¥689,911 million. Sales in the electronic materials and electronic devices sectors rose sharply on the back of the explosive popularity of mobile phones, expanding demand in IT-related areas, and the increasing digitalization of products. These gains were negated somewhat, however, by poor performances in the recording devices sector and the recording media & systems segment.

ELECTRONIC MATERIALS AND COMPONENTS

ELECTRONIC MATERIALS



Product Overview ▶ Multilayer chip capacitors are produced by alternately stacking extremely thin layers of a conductor (palladium or nickel) and dielectric material (titanic acid barium or titanium dioxide). 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. In transformers and cores ferrite improves efficiency by concentrating magnetic energy. Ferrite is also used in motor magnets for office equipment, audio and visual equipment, and automobiles. TDK also manufactures rare-earth metal magnets. Compared to ferrite, 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 ▶ Sales in the electronic materials sector increased 21.3 percent to ¥212,133 million.

Multilayer chip capacitors, which account for the majority of capacitor sales, posted a sharp increase in sales due to brisk demand from manufacturers of PCs and peripherals and mobile phones. Demand triggered by the digitalization of audio and visual equipment also spurred growth. A slowing U.S. economy in the fourth quarter of the fiscal year, however, hampered sales as customers in a broad range of markets reduced their inventories. This difficult environment is expected to extend into the current fiscal year as well. The medium-term outlook, however, is encouraging as the digitalization of products is likely to increase demand in a variety of fields. In line with this outlook, TDK started operations in May 2001 at its new Kitakami Plant, which is located in northern Honshu.

In *ferrite cores and magnets*, sales were held to a modest gain despite strong growth in demand for cores required by data-communications devices, notably ISDN (Integrated Services Digital Network) and ADSL (Asymmetric Digital Subscriber Lines) devices, as high-speed and broadband infrastructures were put in place. Results also benefited from steady growth in the digital household appliance and information and communications markets. Negating these gains were lower sales of deflection yoke cores and flyback transformer cores, both key components in TVs and computer monitors, due to severe competition.

Sales of ferrite magnets declined, as volumes were flat and sales prices dropped. In the first half of the year, volumes grew due to solid demand from manufacturers of small motors used in automobiles and office equipment. From the latter half of the third quarter, however, volumes dropped as customers reduced inventories. In metal magnets, falling prices caused sales to decrease marginally year on year despite growth in volumes.

ELECTRONIC DEVICES



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 noise reduction filters, which combine inductors and capacitors, to protect circuitry from interference; and transformers used to step up 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 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 ▶ Sales in this sector increased 12.5 percent to ¥145,216 million as a result of growth in most product categories. The largest product category is inductive devices, which represents

inductors (coils), EMC (Electromagnetic Compatibility, or "noise reduction") components, and transformers. TDK's total sales of inductive devices increased by around 10 percent over the previous fiscal year. Sales of coils rose substantially due to increasing demand in the audio and visual products, office equipment and communications markets. Furthermore, sales of EMC components surged due to expansion in output of audio and visual products and communications equipment. Transformers did not perform as well, with sales decreasing despite significantly higher demand from manufacturers of communications devices. Limiting transformer results were lower sales of deflection yokes and transformers as TDK's products became less cost competitive.

In high-frequency components, sales soared, rising by over 30 percent year on year. This performance reflected increased production capacity to serve the rapidly expanding mobile phone market as well as the success of R&D programs that targeted mainly components used in GSM-format mobile phones, which represent a significant market segment. However, mobile phone demand began to taper off in the last few months of 2000 and then dropped sharply in the fiscal year's fourth quarter.

In other products, demand increased for chip NTCs and chip varistors for PC peripherals and mobile phones. Robust demand for DC-DC converters and DC-AC inverters for PC peripherals and mobile phones also contributed to the higher sales in this sector.

RECORDING DEVICES



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. 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 ▶ Sales in this sector declined 15.7 percent to ¥169,140 million and earnings deteriorated sharply. There were several contributing factors within an environment in which the rate of progress has been remarkable, with the annual increase in areal recording density soaring from 60 percent to 100 percent. One factor was that TDK misjudged the new technologies required to match market trends and thus failed to develop in a timely fashion the products customers sought. A second factor was falling production yields of new areal-recording-density GMR heads as TDK commenced volume production in the latter half of the fiscal year's second quarter. In addition, there was a six-day suspension in production of these heads in Japan following record-setting rain in mid-September 2000. As a result, TDK's share of the HDD head market fell. Production yields showed signs of improvement around the end of 2000. However, this good news coincided with drastic inventory corrections by customers as they reacted to the slowdown in the U.S. economy.

TDK's HDD head business is an integral element of the company's Exciting 108 medium-term plan. TDK aims to expand its market share by building on its technological edge in this field. Unfortunately, TDK's inability to take the right actions enabled other companies to catch up in fiscal 2001. The Company was thus unable to set itself apart. This situation also prevented TDK from obtaining all the potential benefits of its March 2000 acquisition of Headway Technologies, Inc. To achieve its Exciting 108 goal, TDK will quickly overhaul its worldwide HDD head R&D organization to earn the trust of customers by meeting their demands in a more accurate and timely manner.

SEMICONDUCTORS AND OTHERS



Product Overview ▶ Sales in this sector are derived primarily from ICs used in modems and LANs, factory automation equipment and anechoic testing chambers. U.S.-based TDK Semiconductor Corp. designs ICs for cable TV set-top boxes, 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 testing chambers are spaces designed to prevent reflections of electromagnetic radiation and are mainly used to test products for susceptibility to electromagnetic interference.

Results ▶ Sector sales rose 21.6 percent to ¥25,706 million. In semiconductors, which account for a large proportion of sales, TDK Semiconductor recorded sales growth in ICs for LANs and set-top box applications. The design of communication ICs is a forte of this subsidiary. Noise-reduction anechoic testing chambers and measurement systems also posted higher sales, which were driven by the increasing digitalization of products and the use of higher frequencies.

RECORDING MEDIA & SYSTEMS



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 manufactures several types of optical discs: write-once CD-Rs and CD-RWs that can be recorded repeatedly. TDK also produces 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.

Results ▶ Segment sales decreased 7.4 percent year on year to ¥137,716 million, reflecting a number of factors. First, the long-term decline in audiotape sales continued due to the rising popularity of optical media. Second, CD-Rs, which generate the bulk of TDK's optical media sales, recorded lower sales. While CD-R demand increased due to their application in a broader range of areas, higher production levels created a supply glut, triggering a pricing offensive by some industry players. The resultant precipitous fall in prices dragged down sales. A third factor was lower sales of videotapes as unit prices fell while volumes were largely unchanged. Severely impacted by this difficult environment, the segment posted an operating loss.

TDK previously saw CD-Rs as a growth driver as recording media demand shifts from analog to digital. Results in the past fiscal year have altered TDK's view. Now, the main theme is to turn earnings around by pushing ahead with the consolidation of production bases and focusing on next-generation, value-added optical media products.