



## THE MARKET

Wherever we turn today, we find electronics. In the home, in the office, in the car, on the beach, life increasingly revolves around the tools and toys of the electronic revolution which have created one of the biggest growth industries in the world.

Where there are electronics, there is TDK, a \$US5 billion global organisation firmly established right in the core of world electronics developing and producing components that are critical to the world in which we now live.

Sharper television and computer images; higher recording densities in sight, sound and data; smaller and lighter mobile phones; more reliable data communications; more efficient motor vehicles - all are now as synonymous with TDK as the quality audio and video tapes for which the company is best recognised in Australia and all are in synergy with a corporate motto of "contributing to culture and industry through creativity."

## ACHIEVEMENTS

In the early 1930s, Dr Yogoro Kato and Dr Takeshi Takei invented ferrite, a ceramic material of exceptional electromagnetic properties. This is the discovery on which TDK was founded and the core from which many of today's electronic technologies and developments have evolved. It led to the formation in 1935 of TDK (Tokyo Denki Kagaku Kogyo Co. Ltd) as the first company to commercially produce and market ferrite and the creation, nearly 50 years ago, of magnetic recording tape.

Ferrite and ferrite derivatives have become the vital recording medium for audio cassettes and it was TDK's introduction of the SD (Super Dynamic) cassette that made high fidelity recording possible for the first time on a cassette. In 1969 the SD audio tape was chosen for recording the conversations of US astronauts during the first manned moon mission. It recorded those celebrated words of Neil Armstrong "one small step for man..."

In 1973, TDK's Yasuo Imaoka successfully adhered a cobalt compound to the surface of an ordinary ferric oxide particle and produced a magnetic material called 'Avilyn'. Avilyn was initially used in video tape and its creation was hailed as one of the foremost inventions of the 20th Century.

Most of the company's breakthroughs occur in areas that only an electrical engineer can fully appreciate. Progress may be in the form of larger capacitance in a multilayer ceramic capacitor or filters to handle higher signal frequencies. But the end benefits are crystal-clear cellular phones that



are lighter with longer battery life; smaller portable computers with greater memory; sturdy, lightweight video cameras; and smaller, better performing electrical components in motor vehicles.

TDK has melded its skills in circuit design, semiconductor-related technologies and mounting technologies in creating PC Cards that have become indispensable to business people who use mobile information and communication equipment.

While readily recognised as the world's largest supplier of audio and video tape products, TDK is also the largest PC Card supplier in Japan and Europe, and one of the top suppliers in the United States.

TDK is currently commercialising flexible, amorphous solar cells. Combined with low-volt-

age circuitry and other advances, this may lead to wristwatch-sized devices with remarkable capabilities.

## HISTORY

It has taken TDK a mere 60 years to rise from being a tiny Japanese firm specialising in magnetic materials to the electronics giant it is today with 29,747 employees in sales and production bases in 21 countries.

It was during Japan's recovery from the Second World War the company began serious research into recording tape. It began producing magnetic recording tapes in 1952 and within a year

TDK's first audio tape was on the market.

In 1966, TDK became the first Japanese company to market cassette tape, establishing a recording bridgehead it still holds today. By 1972, TDK succeeded in developing its own high-coercivity magnetic material that it released as Avilyn.

In turn, this was further developed into Super Avilyn, or SA, which has become an industry 'alignment' standard.

TDK tapes began arriving in Australia in the early 60s and immediately commanded a dominant market share, first in reel-to-reel tape, then in audio cassette and Super Avilyn VHS video tape.



Local subsidiary TDK (Australia) Pty Ltd was established in 1979 and by 1985 TDK could claim 50% market share of Australian cassette tape sales. In that same year, Super Avilyn was hailed as one of Japan's top inventions of the century.

### THE PRODUCT

Everyone recognises a TDK cassette or videotape but they represent one of the few finished products the company makes.

TDK's products are based on three core technologies — materials technology, driving product development in magnetic materials; process technology, encompassing the sintering, forming, layering and mass-production of products and components; and circuit design technology. The ability to make once-separate technologies work with one another is a core TDK strength, one that leads to next-generation products and technologies.

Aside from developing products for the communications, home entertainment and automotive industries, in the past decade TDK has made strong inroads into the computer market, especially with read/write heads for hard and floppy disk drives. Today, industry observers estimate that one in every two read/write heads is a TDK product.

TDK is also an industry leader in magneto-resistance (MR) head development which is initiating a new era of recording density that will soon be indispensable to all high-storage capacity computers. TDK predicts MR will be a major growth area for the company in the future.

### RECENT DEVELOPMENTS

As the world's largest producer of video tape, TDK has a product that will continue to sustain a still-growing global market as the electronic age spreads deeper into Third World nations. But now the digital era has arrived and with it the new-age optical storage and recording media of CD-ROM, CD (Compact Disc), CD-R (Compact Disc Recordable), CD-RW (Compact Disc Rewritable), MD (MiniDisc), DVC (Digital Video Cassette) and DVD (Digital Versatile Disc).

One of the first companies to produce optical discs, TDK ranks among the industry leaders in Magneto-Optical (MO) disc production and is the world's largest CD-R manufacturer. It is also a market leader in producing both DVC cassettes and raw materials for DVD discs.

Sales of MiniDiscs, the most widely used type of MO product, are increasing in line with the demand for MiniDisc players, particularly in computer



applications. Similarly, the demand for CD-Rs for audio and computer CD-ROMs is growing at a tremendous rate.

### PROMOTION

The use of innovative marketing strategies like the "TDK Does Amazing Things to My System" advertising campaign helped establish TDK as the most-recognised tape brand in Australia. This widely recognised jingle has continued to be used as an underlying theme in all radio and TV advertising.

Recognising its strong brand awareness in the crucial 18-25 year demographic, TDK will continue to focus a major part of its marketing at the 'youth' market, establishing a strong and loyal user base for many decades to come. As attitudes change and the market evolves, so will TDK in its advertising and promotional campaigns. Recent examples are the successful "Evolve to TDK" campaign that depicts concepts and images which will lead us into the 21st Century.

### BRAND VALUES

Cultivating valuable new technologies from the seeds of small possibilities, TDK has developed a wealth of original products that contribute to the lives and cultures of people around the world. Whatever direction markets and electronics will take, the company's absolute commitment to creativity will allow it to supply the products required today and tomorrow.

TDK's brand image covers hundreds of thousands of products including multimedia and data products like MiniDisc, CD-Rs,



DVD-Rs and modem/LAN PC Cards.

Whatever the product group, TDK's underlying philosophy has been to produce products of unrivalled quality and standard — an ideal that will continue into the next millennium.

### THINGS YOU DIDN'T KNOW ABOUT TDK

- The name TDK stands for Tokyo Denki Kagaku Kogyo (Tokyo Electro Chemical Company).
- When Neil Armstrong first walked upon the moon in July 1969, his famous words "one small step for man, one giant leap for mankind" were recorded on a TDK SD audio cassette.
- TDK's DF2814 modem is hailed as the world's first 'International Modem' for PCMCIA.
- Most cassette deck manufacturers use TDK's High/Type II and Metal/Type IV formulations as the reference to which they align their cassette decks.
- TDK's adhering of a cobalt compound to the surface of a ferric oxide particle to produce Avilyn (a very important magnetic material used exclusively in TDK's video and audio tape) was hailed one of the top inventions of the 20th Century.
- TDK was the major sponsor to the first IAAF World Games at Helsinki in 1983 and has sponsored these games ever since.