

Servo Systems Division Future Technologies

Masahiko Kudou

Katsuyuki Nakata

Shigeto Murata

The servo systems business of Sanyo Denki started with a two-phase servo motor in the 1950s. Since then, we have taken the customers needs in advance, and have diversified into office automation, energy-saving and automation fields that emerged in the 1970s. Our servo system business has made us famous for our leadership in the field of mechatronics. In recent years, we have changed our focus toward the system-oriented business rather than individual products, and toward an open architecture for the benefit of servo system businesses today and tomorrow. The Servo Systems Division started out production in the Tokyo factory (the present head office location), and as business developed, we moved to a factory in Kawaguchi and then to the Ueda (Midorigaoka) factory. We have also built a dedicated factory for servo motors in Tsuiji, and another for stepping motors in Aoki. The Servo Systems Division now operates five production departments with of Midorigaoka, Tsuiji, Aoki and Kawaguchi.

We have long waited for completion of the new Technology Center for research and development at Ueda Research Park. The new Technology Center will enable us to develop new products with even greater efficiency. Whereas the design and development departments of the Servo Systems Division used to be split across two separate locations, Ueda and Kawaguchi, we now have a totally integrated research and development operation as servo system. We will utilize the new facility and natural environment of the Technology Center to operate the Servo Systems Division as we follow the corporate philosophy come true "the happiness of people".

1997 marked the last year of the first mid-term business plan and we have worked hard to achieve the sales targets set by the marketing department. We shall enter the second mid-term business plan from April, 1998, and shall utilize the fruits of the first mid-term plan to achieve even greater success.

We are investigating the state of the existing market as well as future markets. This allows us to study present products as well as future products based on them, and thus expand into new business areas. Through our target market and products, we can learn where Sanyo Denki is strong and weak. And we can gain synergistic effects by combining our strengths and weaknesses.

As our core business, we manufacture a whole range of AC servo systems with various specifications and system complexity as well as stringent interface compatibility with host systems. These systems are based on the core servo motor, servo sensor, servo amplifier and servo controller technologies that we have developed.

We have built AC servo motors that offer high efficiency, compactness, light weight and high reliability by making innovations in high-performance permanent magnet materials, remarkable advances in design, manufacturing and processing technologies, and developing high resolution, high accuracy and wire-saving servo sensors. Servo amplifiers have greatly helped the progress of semiconductors, application technology and software control technology, allowing servo systems to be made with far fewer parts, more compact, multiple functions, high accuracy and improved reliability.

These AC servo systems have led to the development of high performance, accurate, fast, compact, space saving products that are quicker to adjust and deliver

greater productivity, not only in the fields of hollow-axis servos and high speed servos, but also in industrial robots, FA equipment including NC machinery, OA equipment such as printers and copying machines, and other equipment and machinery such as medical, optical and testing equipment.

We will continue to make even better servo systems through innovation to meet the diverse needs of our customers in terms of characteristics, shapes and functions as applications become increasingly diverse and complex.

We will improve our systems and components and thus boost our servo systems business.

"Servo Systems Division As It Ought To Be"

All sections of the Servo Systems Division got together to discuss how the Servo Systems Division could implement the corporate philosophy of Sanyo Denki, and came up with "Servo Systems Division As It Ought To Be."

Our Servo Systems Division will contribute to society and industry to promote the everlasting business.

- For Society and the Environment...

- We will construct a system that complies with ISO 14000 to reduce environmental load caused by production activities.

- We will strive to develop technologies and products that are environmentally friendly.

- For Customers and Users...

- We will move toward an open architecture and technologies that stimulate potential needs in the market.

- We will supply high quality products that suit the times.

- We will strive to reinforce service both before and after sales, in order to increase customer satisfaction.

- For Suppliers and Vendors...

- We will promote the joint development of good parts.

- We will welcome technical skills, development skills and human resources from outside the company and make full use of them.

- We will strive for mutual cooperation including the provision of instructions in subcontracted production. For Investors and Financial Institutions...

- We will make available our product and technical information.

- We will generate appropriate profits.

- For Competitors and Manufacturers Working in the Same Business...

- We will compete with other companies in technical fields.

- We will enter into technical alliances when the technologies of the companies are mutually beneficial.

- For Employees...

- We will promote technical development, product development and rationalization of production with the help of all employees.

- We will create a comfortable and safe workplace.

- We will carry out training to improve the level of our human resources.

- Businesses of the Servo Systems Division...

Our business covers the field of motion control in mechatronics, mechanism,

software and application products including communication networks. Our business is global in scale.

To implement the "As It Ought To Be " concept of the Servo Systems Division, we will focus on the following points:

- ① Upgrade and train our human resources.
- ② Compete with world's top companies to learn and acquire the technologies that generate profits.
- ③ Improve quality (reduce defective products).
- ④ Rationalize production.
- ⑤ Establish business unit organizations and systems.

Our product development efforts at Sanyo Denki are geared toward developing new technologies. We will plan and implement product development in the following core areas:

- ① Technology to protect the earth's environment
- ② Technology to protect the health and safety of humans
- ③ Technology to use new energies and to conserve energy

We will promote our technical development and product development based on the planning and strategy under the above three directions.

[Fig. 1](#) Applications of servo systems and requires products

Masahiko Kudo
Director
General Manager of Servo Systems Division

Katsuyuki Nakata
Director in charge of servo systems business
Assistant General Manager of Servo Systems Division

Shigeto Murata
Assistant General Manager in charge of Servo Systems Division

Fig. 1 Applications of servo systems and required products

