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Technology Required for Overseas

Our fourth middle-term plan has now passed the midpoint of its second year. Our Sales Headquarters is working to expand sales in overseas markets as a major plan activity. They have been establishing sales centers in other countries, among other measures they are undertaking to expand sales overseas.

Meanwhile, all the Sanyo Denki divisions have been gradually raising their overseas-oriented sales figures. The Cooling Systems Division, for example, has increased the share of sales going to overseas markets to approximately 64% of sales. We are also making progress in developing new customers and new markets in other countries.

One question that arises is what kinds of technology will be required when developing overseas markets. Let us consider the case of products from the Cooling Systems Division.

Customers have recently shown a particular increase in demand for lower noise, lower power consumption, and higher performance. These qualities have always been in demand, but the demands have lately involved more vigorous requests for responses in terms of technology. There are also more and more cases where orders hinge on the extent to which we can satisfy such requirements.

(1) Noise reduction

Products in the information processing, communications, and audio-visual areas are expected to show consideration for the customer, which is why low-noise products are in such demand. The reason for this is that products that require cooling are increasingly being placed in offices and homes or near people's dwellings.

Servers used to be installed in segregated spaces, but the growing numbers of small to medium-sized 1U and blade servers mean that servers are being placed in the same rooms as customers. This has brought demand for even greater noise reduction.

The communications field is also seeing base stations being placed near residential areas. There have accordingly been requests to make the equipment less noisy.

Audio-visual products are typically used in the quiet environment of the home. Moreover, the production of sound is a principal function of such products. This makes lower-noise components essential. People are paying more and more attention to this aspect in the plasma display panel (PDP), projector, and rear-projection TV markets.

We are also encountering cases where we must not simply reduce noise, but also need to improve the sound quality. Demands of this kind come from new, more advanced market segments where the goal, rather than reduction just of the amount of sound and sound pressure, is more the reduction in specific sound ranges that are unpleasant to the ear.

(2) Lower power consumption

Measures to address environmental needs have lately become a major topic, and greater energy savings are being required of customer products that make use of Sanyo Denki products. Measures include energy conservation in fans and restrictions on power consumption by devices overall. This has caused demand

Products

for components that consume less power.

(3) Measures to reduce noise and conserve energy

Sanyo Denki is addressing market needs for lower noise and reduced power consumption by examining the design of fan blades and frames. At the same time, we have also optimized fan speeds to reduce noise and taken measures to cut down on energy waste.

Speed control methods have so far included the use of dual-speed fans and voltage control to meet requirements. More recently, we have increasingly been adopting pulse width modulation (PWM) control. PWM control was initially used for ultra-high end devices in storage systems and large servers, but now it is even being incorporated into personal computers. We have joined this movement and developed a line-up of PWM control products that can provide PWM control solutions for fans of all sizes.

What the audio-visual market is seeking is the reduction of fan blade noise and switching sound, rather than fan speed control through PWM. We are working on the technological measures to meet these needs, as well. We are also working on improvements in this area that will reinforce the efforts to optimize sound quality. As all this indicates, sound has become an important element in the selection of fans.

(4) Performance improvement

The growing capacity of information processing and communications combined with advancing miniaturization are increasing the density of devices. This is bringing a growing necessity for forced air cooling to prevent CPU and control circuit burnup, maintain the life of device components, and so on. There is also demand for larger air volume and higher static pressure than ever before. Furthermore, the move toward more intelligent devices of various kinds is bringing the use of forced air cooling for equipment that previously never employed fans.

(5) Measures to improve performance

Measures to address performance improvement include the development of various products, including the development of new motors for high-speed fans, the development of 38mm thick fan products, and the development of counter rotating fans. In these ways, we are pursuing the development of whole series of high performance products. We have been able, as a result, to bring to market products with performance upgraded significantly over previous versions.

These demands from the market represent excellent opportunities for addressing needs in order to turn them into orders for new business. Resolving technical issues ahead of other corporations and turning solutions into products sooner is also assuring our profits.

The geographical boundaries between markets are now disappearing. If we can develop the ability to deal with the technical requirements of the resulting overseas markets, we will have more products that can also be launched on the market in Japan.

Sanyo Denki has accumulated technology, new methods, and equipment that we will employ. If necessary, we will even make use of outside organizations. We intend to bring all our strengths to bear in these undertakings.