

Microwave Tubes and Radar Components

Main Products

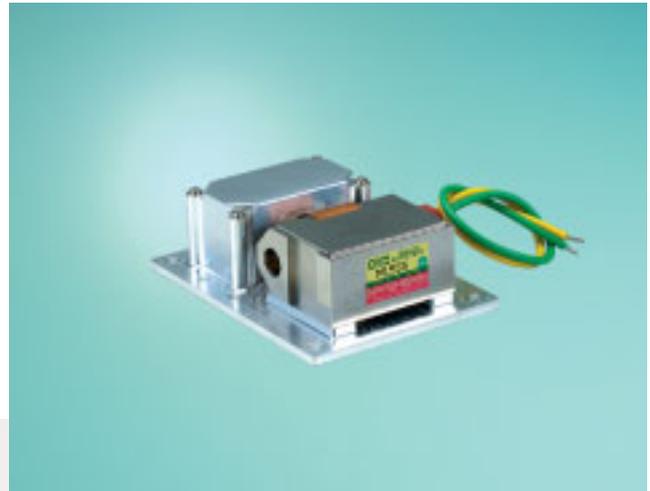
This division covers broadly the following two fields: electron tubes and radar components for defense and meteorology (governmental-use) field, and marine-, avionics-, and ground-related radars (consumer-use) field.



M1466A is a magnetron for a LINAC (Linear Accelerator) mainly used for a radiation therapy for cancer. The peak output power is 2.6 MW and a high frequency stability is demanded.

[Business Results in Fiscal 2006]

Sales of "electron tubes and radar components for defense and meteorology" decreased considerably due to inventory adjustment of large-sized electron tubes by major customers. Sales was ¥2,240 million (18% decrease from last year). Sales of consumer-use large-sized electron tubes of "electron tubes and radar components for marine radars" field increased strongly due to the booming shipbuilding industry. However, sales of small- and middle-sized electron tubes remained unchanged, resulting in sales of ¥1,970 million (1% decrease from last year). As a result, total sales of this division were ¥4,220 million (7% decrease from last year).



M1555 is an S-band magnetron for a marine radar. The peak output power is 30 kW. Its spurious emission level is decreased and it outputs a clean S-band microwave.





MAF1611B is an X-band magnetron for a marine radar. The peak output power is 4 kW. Its spurious emission level is decreased and it outputs a clean X-band microwave.

• Governmental-use Products:

Demand for governmental-use products is expected to continue increase based on our proven track record and the perspective that there will be no replacement of electron tubes by semiconductors for the time being. Consequently, we expect both sales and profits will continue to grow steadily.

However, as the national defense program shifts (surface-to-air missile defense system), sales of our main products, radars for the avionics field in secondary phase will decrease.

• Consumer-use Products:

The global shipbuilding market is expected to be active because transportation of large amounts of resources concentrating on China and expansion of multilateral transportation due to globalization. Responding to these circumstances, demand for large-sized marine radars is expected to grow. In the market of small-/middle-sized radar devices, which have a high share in this division, we will focus on custom-tailored design. In addition, we will improve the lineup of new products complying with the incoming Spurious Regulations and attempt to expand the share of large-sized marine radar devices to maintain its leading share of the global market.

As for other markets, that is, for the avionics market in which increase in demand for small aircrafts is expected and ground radar market in which the number of electron tube manufacturers is decreasing, we will actively promote our products.

From fiscal 2007, we will offer magnetrons and electron tubes for a medical irradiator LINAC used for a radiation/electron therapy for cancer. Furthermore, we will promote application to advanced security systems or application of electron tubes into X-ray fluoroscopic systems. By using semiconductor element (silicon carbide, SiC) that we have developed, we will promote development of further miniaturized, lightweight, innovative solid-state, and high performance and environmentally-friendly radar devices.



NJK2301 is an electron gun for a LINAC (Linear Accelerator) mainly used for a radiation therapy for cancer. An iridium-coated and Ba-impregnated cathode is installed into this electron gun and it achieves the operation with a high electron current density.