



Environmental Conservation Activities

Reducing the Environmental Impact of Products

Eco-Friendly Products

Both design and manufacturing of Oki products are friendly to the environment. Through energy conservation, resource conservation, miniaturization, a longer life, a reduction of consumables and a reduction of hazardous chemical substances, Oki products contribute to the reduction of environmental impact. Here are some more examples of eco-friendly products provided by the Oki group. The products are shown by segment.

Information Processing Equipment

Compact Integrated Cash Management System

The Integrated Cash Management System “CM21 Series” is a type of cash processing equipment for banking institutions that is also called “open cashier equipment.” Model 120 was newly developed for small branches and small banking institutions. Functionality was reduced to the necessary minimum to keep the width small for a compact footprint, so that it can be installed in

branches with little space. If customers want to upgrade to a higher model, they can easily do so just by adding units for the functions they need.



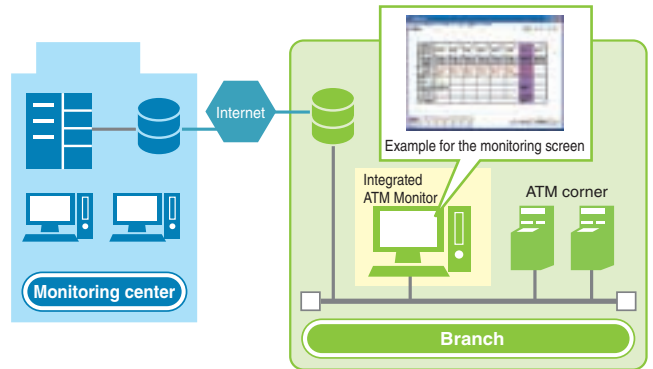
CM21 Model 120

Integrated ATM Monitoring System without Requirement for Monitor Panel

Integrated ATM monitoring systems are used for a centralized operation and control of Automated Teller Machines (ATM) in branches. To prevent customer service from being disturbed by ATM shutdowns, branch staff monitors the operational status and the remaining amount of cash in ATM equipment. Before, it was common to watch the operation of multiple ATMs using a special hardware (monitor panel). The new system, however, realizes this function in the form of a software package that works on general-use computers.

This allows customers to use the branch-internal LAN, PC terminals and other existing infrastructure, eliminating the need for special hardware (monitor panel) and thus cutting the costs for the installation of the system.

Example for the Configuration of an Integrated ATM Monitoring System



Power-saving Thin Rack-Mount Server

The OKITAC9000 RX1600 power-saving thin rack-mount server is a 1U thin-type rack mount server that can accommodate up to two low-voltage processors. By employing low-voltage processors, Oki was able to cut the consumption of electric power to a considerable degree. The server offers the superior processing capabilities of 64 bit computing in a rack space of

only 1U size. It offers a maximum of 16 GB memory, 2 slots high-speed PCI-X and other features, as well as top scalability in its class – all in a thin chassis of only 1U.



OKITAC9000 RX1600

Printers

Desktop Cybernetics Standard (CS)-compliant Printer (Magnetized Railway Ticket Issuing Printer)

Desktop CS-compliant printers issue tickets or seat reservation tickets for railways as they are used in, for example, travel agencies. This printer's footprint is compact enough to make it fit on a desk top. Its capacity, however, is high – it can hold 1.3 times more ticket forms than before.

Because the printer works with direct thermal printing, which

means that heat is applied for printing on a specially treated medium, it does not require ribbons as other printers do.



Desktop CS-compliant printer

Telecommunications Equipment

Portable Video Compression Transmitter

The portable video compression transmitter “MPEG-4 Encoder RS-M” is a compact and light unit that compresses and expands videos from live broadcasting sites in real time. To transmit videos from a location that does not provide transmitting equipment, it is usually necessary to set up large and expensive equipment such as mobile live broadcasting vehicles with transmission equipment on board. With the MPEG-4 Encoder RS-M, live videos can easily be transmitted from the actual site –all that needs to be done is connecting it to a camera. The compact, only 1.2 kg light chassis concentrates a variety of functions necessary for video transmission, enabling easy video transmission over IP networks.



MPEG-4 Encoder RS-M



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Electronic Devices

[Module Components]

● The World's Thinnest Compact Tri-axis Accelerometer Module with Digital Communications Functionality

We developed the world's thinnest*¹⁾ compact tri-axis accelerometer module "ML8950." This module is only 1.4 mm thin and combines an acceleration sensor chip and a sensor control IC chip with digital communications functionality in one package. The small, thin design was realized by using our original micromachining technology*²⁾. Due to size limitations and the issue of shock survivability, tri-axis accelerator modules could not be mounted into small portable equipment such as cell

phones. With the new module, this has become possible. The module is useful in a wide range of fields, such as entertainment and security.

*1) As of August 2004
*2) Micromachining technology: A technology to form micron size mechanical sections on silicon wafer using micro fabrication technology such as lithography and etching in semiconductor ICs.

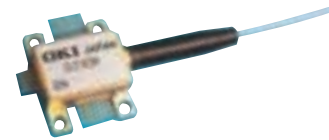


ML8950

● Energy-saving Laser Module with Electro-absorption Modulator for Optical Communications

Among optical and electronic parts for optical communications, laser modules with electro-absorption modulators use thermoelectric cooling devices for temperature regulation. To cut the power consumption from these thermoelectric cooling devices, Oki is developing a laser device with an electro-absorption modulator that works at high temperatures. By

developing a design for an operating temperature of 45 degrees Celsius instead of the usual 25 degrees Celsius, we can cut power consumption to approximately one third.



Laser Module with Electric-absorption Modulator for Optical Communications

[Power Supply Units]

● RoHS-compliant Compact Semi-custom Power Supply Units and Power Supply Units for Broadcasting Equipment

Oki Power Tech Co., Ltd., a group company developing and manufacturing power supply units, developed a naturally-cooled semi-custom power supply unit that complies with the RoHS directive*³⁾ for mechatronic equipment. Standard specifications offer worldwide input support, embedded power factor control circuits and thermal protection functions.

Oki Power Tech further reduced the volume to only half of the old model's volume by making smaller transformer and coils and

modularizing the circuits. RoHS-compliance was also realized for power supply units used in broadcasting equipment.

*3)RoHS Directive: A directive of the European Parliament and the European Commission on restricting the use of specific hazardous substances contained in electric and electronic equipment.

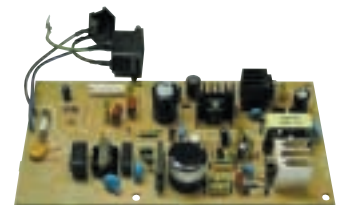


Compact Semi-custom Power Supply Unit

● Energy-saving Power Supply Unit for Compact Impact Printers

Oki Power Tech Co., Ltd. developed a highly efficient power supply unit for impact printers where the material for the switching transformer was changed from ferrite to amorphous material—for the first time in the world. By slimming down the circuits, they were also able to reduce the number of parts used. Compared to previous power supply unit models of the same company, the volume is 1/5 smaller, the conversion efficiency 10% better at standard loads and 20% better at light loads. With the improved conversion efficiency at light loads, power

consumption in stand-by mode could be cut, and combined with the power-saving features of the printer; the Energy Star guidelines in Europe are met.



Power Supply Unit for Compact Impact Printers

[Keyboards]

● Cadmium-free Mobile PC Keyboard

We established a manufacturing process for mobile PC keyboards that are free of cadmium, a substance restricted in the RoHS directive. We also developed a technology to make the keyboards thinner and lighter without sacrificing any functionality. In the future, Oki will aim for overseas expansion, mainly to China, in the mobile PC keyboard field, where customers demand thinner, lighter and more eco-friendly products.

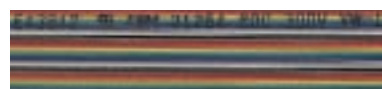


Mobile PC keyboard

[Cables]

● Eco-cables: PVC-free Flat Cables

PVC contains additives based on lead, a substance restricted in the RoHS directive, and one of its main elements is chlorine. When chlorine is burned, dioxin may be generated. Oki Electric Cable Co., Ltd., a group company developing and manufacturing communications cables, etc., produces "Eco-Okiflex" PVC-free flat cables, which offer superior flame resistance, refringence and flexibility.



"Eco-Okiflex" Flat Cable