

new products



Mobile Robot Guides Itself on Mesh Floors Of High-Tech Plants

Shinko Electric Co. is selling a mobile robot for high-tech factories that takes the shortest route to assembly areas, without using optical tapes or electromagnetic cables to guide it.

The trackless robot can be loaded with up to 44 pounds of computer memory chips

Written by Akihiro Sato, Nori-hiko Shirouzu, Junko Ikeda, and Doug Tsuruoka of AP-Dow Jones.

or biological samples on a tray mounted on top of its body. It is designed to run on mesh floors in "clean rooms," in semiconductor or biotechnology-product factories. Mesh floors are used in these rooms in conjunction with air-filtering systems, to keep out dust particles.

The robot determines its position by using ultrasonic sensors. It then automatically computes an appropriate direction for itself with an integrated-circuit card inserted into a slot in its body.

The IC card carries details of the clean room, including the location of specific assembly areas, loading and unloading points, the width of aisles and points in production lines. Data can be easily altered by the use of a 16-bit microcomputer manufactured by NEC Corp.

Users can also give instructions to the robot through remote control.

When more than one robot is used in a room, each model can avoid the other by moving aside or spin-turning when face-to-face with the other.

The product automatically carries and removes loads with an arm-shaped manipulator on top of its body. The arm uses an optical sensor attached to its tip to set accurate positions for loading and unloading.

The robot is 3.3 feet long, 2.1 feet wide and 5.7 feet high, including its robotic arm. It weighs 551 pounds and costs 15 million yen (\$104,311).

Loader With Longer Reach Handles Semiliquid Material

Komatsu Ltd. has started marketing a loader with a longer reach and wider range of uses.

Company officials said the new product, the WR11, has a reach of 4.8 feet and a dumping clearance of 10.5 feet, which company officials said is the longest in this class of machine.

Because of its use of a special mechanism, called parallel linkage, it can lift or lower its bucket or fork without changing angles and can thus carry semiliquid loads like wet concrete.

The machine is relatively quiet, officials said, making it suitable for use in urban areas. The company decided to develop the product in view of growing demand from the general construction, industrial disposal, manufacturing and scrap handling industries.

Gate Array Works at Rate Of Four Billionths of Second

Fujitsu Ltd. said it has developed a 4,000-gate array with ultrafast electron mobility transistors.

The device, designed to be used with a 16-bit computer multiplier, has a multiplying speed of 4.1 billionths of a second at normal room temperature—faster than similar gate arrays made out of gallium arsenide. The fastest of such gallium-arsenide semiconductors run at 6.8 billionths of a second, industry sources said.

The new Fujitsu gate array has 4,096 basic gates distributed in 32 rows, containing about 128 gates each. Input and output functions are delegated to 156 cells arranged near the gates themselves.

The company created the new gate array in conjunction with a project sponsored by the Ministry of International Trade and Industry. The project is meant to promote high-speed calculating systems for scientific purposes.

Space Heater Has Electronic Monitor, Runs on Kerosene

Mitsubishi Electric Corp. has devised a kerosene space heater that maintains temperature at a comfortable level.

The "forced flue" space heater circulates warmed air by burning kerosene, without diminishing the oxygen level of a room. It draws clean air from outside the room and blows its exhaust outside.

Users can change the temperature by touching the surface of a "hot" or "cold" panel. The heater adjusts the temperature upward or downward, automatically burning the proper amount of fuel to keep an area at the desired temperature.

The heater also can tell if its exhaust pipe is accidentally detached from its body by monitoring electric current flows through a lead wire mounted in its exhaust pipe. It immediately stops burning kerosene if the pipe is detached by relaying signals to its built-in microcomputer.

The heater comes in seven different sizes. The largest model is 1.8 feet high, 2.4 feet wide and 1.5 feet deep. Weights range from 48.5 pounds to 61 pounds.

Prices vary according to size from 112,000 yen (\$779) to 173,000 yen. The company expects to sell 60,000 units a year.

Versatile Calculator Doubles As a 410-Entry Phone Book

Seiko Instruments Inc. will soon sell a credit card-sized computerized telephone directory with an unusually large memory capacity.

The Phone Card 410 stores up to 410 names and telephone numbers. It also functions as a conventional calculator.

The directory locates a series of phone numbers beginning with a specific letter of the roman alphabet through the use of an alphabetical code prefix entered before each number. By punching in the first letter of a code name, the device immediately calls up the series of numbers in that category on its liquid crystal display panel. For more accurate search capability, the

user can also punch in the second letter of the name or code.

The unit also automatically arranges code names in alphabetical order in its memory bank after a code name is entered.

The directory is two inches wide, 2.5 inches high and two-tenths of an inch thick. It weighs 1.2 ounces. It's priced at 3,900 yen (\$27).

'Humane' Surveillance Unit Keeps Tabs on the Elderly

Soken Corp. has developed what it calls a "humane" surveillance system designed to prevent senile people from wandering away from attendants, thus reducing the risk that they will get into accidents.

The SK Guard System enables nurses to look after the elderly without locking them up or violating their privacy. It is considered more sophisticated than video monitoring systems now in use in some nursing homes.

The system consists of a small electronic radio wave radiator which can be worn as a bracelet or pendant, as well as a receiver and an alarm device. The wave generator is worn by the senile person. It relays its radio waves to a fixed receiving station if the person passes a pre-designated boundary line.

The receiver transmits signals to the alarm device installed at the nurse's desk. It then warns the staff with an electronic sound or a flash. The system can also be programmed to lock the gate automatically when an elderly person with a transmitter approaches it.

The system is priced at 1.5 million yen (\$10,430). The price includes a receiver and three radio alarm units.

The wave-radiator measures approximately one inch on a side and weighs one-third of an ounce. The receiver is 23 inches long, 20 inches wide and six inches high. It weighs 6.6 pounds. The alarm device is four inches wide, six inches long and 3.1 inches high. It weighs 10 ounces.

The system will be marketed in the near future, its developers say.

Genetic Engineering Yields A Lower-Cost Animal Feed

Sanraku Inc., a leading maker of alcoholic beverages, has developed an inexpensive biotechnology method to mass-produce tryptophan, an amino acid used in animal feed.

Use of tryptophan, a highly nutritious substance, has been limited because of the expense in producing grades suitable for animal feed. Tryptophan in animal feed currently costs about 2,700 to 3,700 yen (\$19 to \$25) a pound. The new Sanraku method promises to reduce the cost to around 900 yen a pound.

The most likely application of tryptophan will be as an additive to corn in the preparation of cattle feed.

The Sanraku process involves the use of recombinant DNA. Two of the basic ingredients are glucose and anthranilic acid, the maker says. The company is still refining its manufacturing process, and there is no indication yet when the mass-produced tryptophan will be marketed.

Headphones Make TV's Stereo Sound Portable

Now you don't have to sit in front of your TV to enjoy its stereo sound system. With Sanyo Electric Co.'s videocassette recorder and remote headphones, you can and wander into other rooms and still enjoy the hi-fi effect.

Company officials said the optional headphone can be hooked up with a small remote control panel for stereo listening.

It is made possible by equipping the VCR with an FM transmitter. But that's only half of it. The other is an FM tuner and amplifier built into the remote unit.

The system's other features include an index scan which plays back in numerical order the first five seconds of each program recorded. The maker says that use of an improved videohead makes the unit's slow playback clearer than in its previous models.

The unit's suggested domestic retail price is 140,000 yen (\$973).

Bread Maker for the Home Does All of the Hard Work

Sanyo Electric Co. will start marketing a fully automated home bread maker in Japan next month.

All the user has to do is pour in water, dry yeast and fortified flour in the shaft, and push the start button. The bread will be ready a few hours later.

The unit performs all the procedures on its own, from kneading to baking. The full process should take two-and-a-half to three-and-a-half hours, depending on how the user likes the bread done.

The unit not only kneads the dough without noise but also shapes the bread in an aesthetically pleasing manner. Other features include a digital timer that allows the user to preset the baking process.

The product's suggested domestic retail price is 37,000 yen (\$257).

Corrosion-Resistant Paint Lasts More Than 20 Years

Kawasaki Steel Corp. has created a low-cost paint containing a mixture of resin and tiny stainless steel flakes, which resists corrosion.

The company said the new product, called Phoenix, offers "a super-long service life," of more than 20 years.

"This can mean great savings when the paint is applied to structures that serve under harsh conditions and require constant protective maintenance," it said.

As the paint dries and hardens, the micron-sized stainless steel flakes form a laminated film that acts as a protective barrier against corrosive chemicals, gases, heat or light.

The flakes also give the paint film strength and abrasion resistance, the company said.

Hitachi Sets Up a London Lab to Develop Software

TOKYO—Hitachi Ltd. has set up a laboratory for software development in London, aiming ultimately to export mainframe computers to Europe, a company spokesman said.

The lab is part of Hitachi Europe Ltd., the company's European marketing arm.

Until now, Hitachi has exported mainframe and other large computer systems to Europe to be sold under the brand names of other companies. Setting up its own software development team indicates "Hitachi's desire to market mainframe computers on its own, under its own name," a spokesman said.

ニューヨーク
ウォールストリートジャーナル
弊社掲載記事