THE FUTURE OF ROBOTS IS NOW

MEET THE RB5X

Not so very many years ago, when you spoke about robots, you spoke in the future tense. And in those days, no one was quite sure what that future might hold.

When they peered into the unknown, when they looked ahead to the days of machines that could "think" and do things that previously only humans could do, their vision was often clouded by misconceptions and not a little bit of fear.

Today, we are living the future that was only a vague image even 20 years ago and our vision of robots is becoming more focused. We have seen robots take their places in factories, freeing their human co-workers from dangerous, menial, or boring tasks. We have also lined up to see movies — such as **Star Wars** — that portray robots as friendly, funny human companions.

Then in September 1982, RB Robot Corporation introduced the world's first mass-produced, general-purpose robot designed specifically for home use. The RB5X Intelligent Robot is small and mobile, completely programmable, with a hardware design that is easily adapted and enhanced. Its usefulness as a smart tool in the home or business is immediately evident.

Consumers are ready now for the robots they could only vaguely imagine a few short years ago. And instead of regarding them with suspicion, people are much more likely to eagerly ask such questions as "What does it do? How will it help me?"

Over the next six months, we at RB Robot Corporation will be answering these questions with some remarkable options that greatly expand the versatility of the RB5X. The public wants hard-working, multi-task personal robots. And RB Robot Corporation stands ready to deliver.

VOICE RECOGNITION

We currently offer a voice recognition option for owners of Apple II+ computers who are interested in making their RB5X's respond to spoken commands. Users communicate with their robots using a headset, a computer, and a cable hookup between the computer and the robot. We are developing an option, using an off-the-shelf speech recognition device and radio communication, that will allow users to communicate through the computer directly to the robot, eliminating the need for the cable hookup. This option is scheduled for release during the third quarter of 1983. Voice recognition that is fully resident on the RB5X is scheduled for release during the fourth quarter of 1983.

SOUND SYNTHESIS

In addition to the currently available do-it-yourself instructions for adding speech synthesis to the RB5X, we will provide a fully supported off-the-shelf option by third quarter of 1983. This option will include a standard synthesis chip that provides an unlimited vocabulary based on the 64 phonemes that make up most spoken language. A speaker inside the robot and a programmable sound generator also enable the RB5X to reproduce any sound, including sirens, whistles, and music.

VACUUM CLEANER
(Available third quarter 1983)

The RB5X's vacuum attachment connects to the lower skirt of the robot and has a variable height adjustment for handling different floor surfaces and carpet textures. While the vacuum is driven by the robot, it has its own vacuum motor and its own batteries. It can be used in conjunction with standard RB5X self-learning software or a pattern program written for a specific environment.

RADIO COMMUNICATIONS
(Available third quarter 1983)

We will offer two different designs for an RB5X radio communications option. One is a half-duplex option that includes a transceiver board inside the robot, which sends signals to a base unit containing a modem and its own transceiver. This design allows the RB5X to communicate with a computer in the same room, through a modem to a remote computer, or directly to another robot. The second design is similar to the first, although it is full-duplex, allowing the simultaneous sending and receiving of data. This design is based on a second microprocessor, the 6502, which interrupts the robot's standard INS8073.

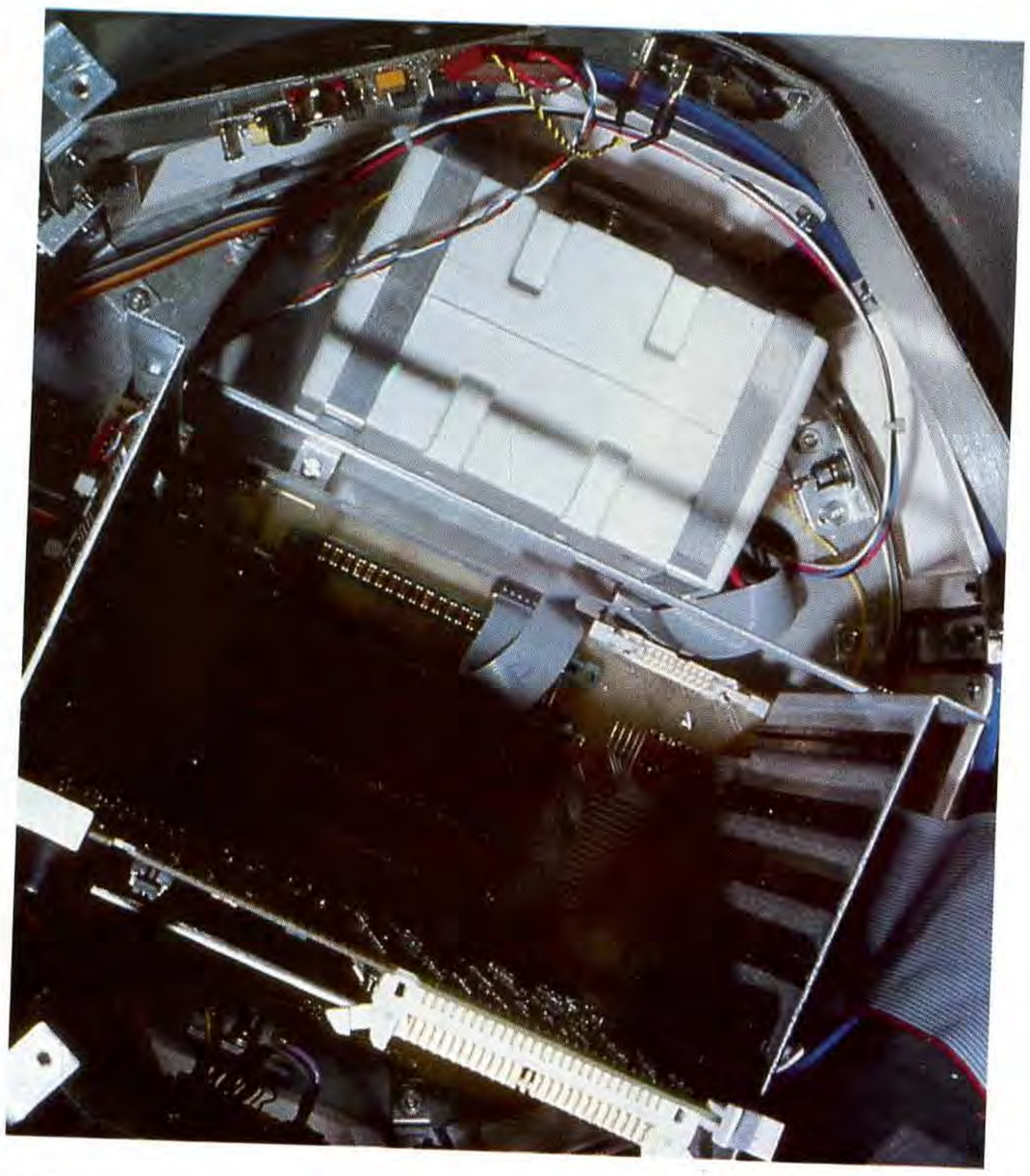
We are also exploring the possibility of remote communication without radio waves, using infrared signals instead. While this is a line-of-sight technique that does not allow communication through walls or around corners, it is an easier system to implement and has simpler electronics.

THE RB ARM
(Available third quarter 1983)

The RB arm has five axes of motion and folds completely inside the robot when not in use. It can be controlled directly by software or programmed using a separate teaching pendant, which attaches by cable to the robot and then detaches once the arm has been taught a particular task. (This pendant can also be used to program motion for the robot itself.) In addition to lifting and carrying up to 12 ounces, the RB arm can also be programmed to reach around and turn the robot off.

LOGO
(Available third quarter 1983)

In addition to its many "adult" applications, LOGO is quickly becoming the most popular language for teaching children about computer graphics. Instead of the standard "turtle," once RB5X speaks LOGO, children will have a friendly, versatile robot to use in their studies. This will provide a particular advantage in the teaching of computer sciences in grades K through 12.



THE RB TRAILER
(Available third quarter 1983)

The RB5X can be fitted with a small cart, making it ideal for delivering and picking up mail in a work environment or hauling such things as groceries or small children. Using specially written software or its standard self-learning programs, the RB5X can be trained to trace a specific route and to announce its arrival using its horn or a speech synthesis option.

NAVIGATION TECHNIQUES
(Available fourth quarter 1983)

We are currently investigating two different navigation techniques that tell the RB5X in which direction it is moving. One method involves adding a compass and providing for the electronic interpretation of compass readings. The other involves the addition of a controlled, rotating sonar sensor, enabling the robot to scan around it without turning its body.

EPROM OPTIONS
(Available third quarter 1983)

The RB5X currently supports 2K EPROM and in the third quarter of 1983 we will offer EPROM options, such as self-diagnostics, robot games, and others.

FIRE DETECTOR & EXTINGUISHER
(Available fourth quarter 1983)

For use in home and business settings, a robot equipped with a fire detection and extinguishing option can sense both temperature and the rate of change of that temperature. For example, it can tell the difference between a person or an animal walking by (simple body warmth), a stove turned on for cooking (relatively hot but not changing dramatically), and a fire (very hot and getting quickly hotter). It then seeks the fire and issues a blast of CO_2 to put it out.

RB ROBOT CORPORATION

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