

SOLAR KITS

Photon Solar Racer Kit

Model AK-590

Learn all about solar energy and how to convert it to useful applications. You will build this exciting sleek solar car that runs on a high efficiency solar cell. Have your friends build one too and have fun racing them. No soldering required.

The solar car comes in clear plastic. The car can be painted any color scheme that you desire (paint is not supplied). Photo is painted to illustrate how your car could look.



Space Explorer Solar Kit

Model 101-SP

This vehicle is the "sport utility" type of solar car able to slowly rumble like a tank over grass, small stones or obstacles, and up slopes up to 40 degrees. The Space Explorer comes complete with solar panel and 18 exciting experiments. Size is approximately 8" long by 4 1/4" wide. It can also operate on 2 "AA" batteries (not included).



Solar Sport Racer Kit

Model 110-SO

The Solar Sport Racer Kit is fun and easy to build. This kit has 9 exciting experiments to help you gain practical knowledge of solar power. The kit comes complete with high energy solar panel and can even run on 2 "AA" batteries (not included).



Solar Educational Kit

Model AK-530



Now you can experiment with solar energy . . . the energy source of the future. Our solar educational kit is designed to let you build your own solar models. This kit comes complete with:

- Solar cell module
- Solar energy booklet explaining the whys and hows of solar energy.
- Small DC motor
- Screws and nuts
- Wire with motor clips
- Colored spinner discs
- Paper airplane and bird models
- Plastic turntables with 4 sizes: 5/8", 1", 1 1/2" and 2"
- Plastic fan-spinner

The solar cell modules, when placed in direct sunlight or close to incandescent light, provide the electrical energy for countless practical applications. Solar energy uses are limited only by your imagination!

Solar Power Training Course

Model SK-20

Learn the why's and how's of solar energy. Find out how you can harness the power of the sun to convert light into electricity into a multitude of uses: light a bulb, sound a buzzer, power a fan and many others. The solar cell comes complete with 8 solar cells, electric motor, propeller, buzzer, light bulb, wires and hardware. Training manual included.



OWI ROBOT KITS

None of our OWI Kits require soldering (unless otherwise noted).

HYPER PEPPY MV-969 (Sound/Touch Sensor)

Explore the fundamentals of robotics with this informative, intelligent and entertaining robot kit. If it comes in contact with an object or hears a loud noise (such as hands clapping) via its touch/sound sensor, Hyper Peppy will automatically reverse, then turn left before embarking on a new course.

Assembled Electronic Printed Circuit Board.
Movement: 3 wheels driven by a DC motor, ratchet mechanism. Control: Sound sensor including condenser microphone/transistor.
"AA" x 2 each (not included).

OWI - 969K (PCB Unassembled) - Soldering Req'd



Soccer Robot MV-982 (Wired Control)

There will be many hours scoring goals on the living room coffee table with SOCCER ROBOT. SOCCER ROBOT has six operational kicking mechanisms and includes a control box and ball. It runs forward, backward, turns left or right, and executes 360 degree turns. It will even help develop your hand/eye coordination skills.

Assembled Electronic Printed Circuit Board.
Movement: 6 legs driven by 2 DC motors in a crank motion. Control: Wire remote.
"AA" x 2 each (not included).



SUMO ROBOT OWI-9647 (Infrared Sensor)

Now OWIKIT brings the Sumo tradition to your home. The super warrior, SUMO ROBOT, can be controlled to assail and overpower its opponent or retreat to prepare for battle. An infrared sensor beam is emitted when detecting an opponent. Upon detection, it instructs the brain of SUMO to "charge", thereby creating a bonafide wrestling match!

Movement: 2 tractor style wheels powered by 1 DC motor. Control: Infrared sensor/detectable range: approx. 350mm (max.). "AA" x 2 each (electronic circuit), "AA" x 2 each (mechanical) (not included).



MOON WALKER II MV-979 (Light & Sound Sensor)

Moon Walker II begins to walk when it detects a change in light intensity or sound commands, and continues its four-legged voyage until instructed by an internal timer to stop.

This kit presents an engaging opportunity to learn about some of the mechanics, operation and history of robots. When assembled, this robot uses a phototransistor to sense changes in light (such as turning on a lamp) and a condenser microphone to sense changes in sound (such as clapping). It converts those stimuli into electrical signals to power a motor, and the robot walks forward for a preset time. When it stops, affecting another change in area light or sound may activate it again. The sensors may be adjusted for different sensitivity levels. Printed circuit board pre-assembled. "AA" x 1 (not included).

OWI - 979K (PCB Unassembled) - Soldering Req'd



CYCLONE MV-965 (Wireless Remote Control)

Powered by a wireless remote radio controller, Cyclone responds instantly to commands of 'spin', 'swivel', 'forward', 'backward', 'left', or 'right'. Six different frequency settings offer a multitude of challenges, including speed races or timed, maze competitions. Control sticks afford the user complete control even as Cyclone swivels wildly from left to right. Cyclone provides basic knowledge of wireless remote controllers, principles of gear mechanism and is destined to windstorm users to a world of fun!

"AA" x 4 each (body), "AA" x 2 each (controller) (not included).



SPIDER III OWI-9727 (Infrared Beam)

With its radical walking style, this intelligent robot avoids interference by emitting an infrared beam which detects obstacles in its path. It then sends command signals in the form of electronic pulses to alter the rotating direction of its motor to evade these obstacles. Printed circuit board pre-assembled.

"AA" x 2 each, 9V x 1 each (not included).

OWI - 972K (PCB Unassembled) - Soldering Req'd



HYPER LINE TRACKER OWI-9737 (Infrared Sensor)

This cyber bug possesses a sonic tracking system, and is fortified with a multitude of sensors: photo transistors to detect a black line, tracking memory to memorize its last track of the black line, and two red LEDs that to tell you which side of the light sensor is activated.

Hyper Line Tracker follows a designed course. By using an infrared emitter, light sensor circuitry, and tracking memory, it demonstrates how robots "see" a pathway. Make a path with a black felt tip marker or black tape and watch how infrared sensors enable the robot's motors to make course corrections. Printed circuit board pre-assembled.

"AA" x 4 each (not included).

OWI - 973K (PCB Unassembled) - Soldering Req'd



TURBO 2000 OWI-6567 (Optional Solar Power)

This OWIKIT explores propulsion principles and includes mini-construction projects that teach the basic principles of electricity and solar energy (optional).

Put the pedal to the metal and be amazed with this lightning fast speedster. You'll be blown away by its serious air propeller and its direct motor drive for "speed" - or by its "power/torque" when down shifting. The solar panel (sold separately) is juiced with a 1.4V, 350mA source of pure power. For the educationally-minded guardians, this fire plug kit includes mini-construction projects that teach basic principles of electricity and solar energy (optional).

"AA" x 2 each (not included).



KNIGHT INVADER OWI-6577 (Solar Power)

Knight Invader is a super race car that includes mini-construction projects, teaches the basic principles of electricity, and demonstrates three different modes of propulsion.

This sleek super racer has it all and a little more. KNIGHT INVADER can blow a fierce force of air to propel it off the starting line and challenges any contender to try and keep up with it when changed into direct motor drive. When on a mission, KNIGHT INVADER can secretly change its transportation mode to solar power (sold separately).

"AA" x 2 each (not included).



SOLAR CAR OWI-6577 (Triple Action)

Sleek, powerful, unearthly, and very cool . . . this futuristic solar car is an exciting way to demonstrate the use of alternative energy. It features and aerodynamic sports car shell design, a 4-wheel chassis, a powerful 1.4V, 350mA solar cell (included) and a transparent plastic body that can be painted or left clear to display the car's inner mechanical construction. The steerable front axle, rear wheel and adjustable (directional/angle) solar panel mount are all independent parts, allowing for separate solar projects.

The Triple Action Solar Car Kit is also available: (1) The two-way battery source allows for battery or solar power; (2) the kit design is an aerodynamic racer or tractor; and (3) it features a multi-speed transmission. "AA" x 1 pc. (not incl.).



ELEMENTARY TECHNOLOGY CURRICULUM

(Beginner Experience Series Only)
OWI-ELEM

A "teacher-friendly" learning guide about robotics and/or electrical technology that provides activities, concepts, and research assignments. Over 30-page curriculum.



OWIKIT TEACHKIT OWI-RETC

A complete teacher resource written by teachers for student experimentation with all OWIKIT robots (except 007 Arm)! Capture students interest in simple and advanced robotics. Over 110 pages long, complete with answer keys, appendix and teacher guides.



ROBOTICS TECHNOLOGY CURRICULUM for ROBOTIC ARM TRAINER RTC-007

This curriculum combines reproducible, printed student activities for OWI's Robotic Arm Trainer with PC/Mac computer Concepts of Robotics in Worldwide Web format. Includes software and over 25 pages.



SOCIETAL IMPACTS of COMPUTERIZATION TEACHKIT

OWI-SIC

A must for grades 6-12 computer teachers who try to help their computer students understand value conflicts and ethical choices associated with electronics communication. Over 40 pages & 1 diskette that is PC/PowerMac compatible.



OWI ROBOT KITS

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AMPHIBIOUS SOLAR VEHICLE OWI-688 (Solar Power)

This kit introduces the fundamentals of solar power through hands-on experiments. The sun or any intense mobile light can power the solar battery (included). A multiple function switch (solar [1.4V, 350mA] or battery) allows this kit to be energized day or night, indoors or outdoors. The user can explore different types of energy and energy conversion with this land and water vehicle. Learn what materials solar batteries are made from and the characteristics of solar batteries, advantages, and disadvantages of solar power.



SOLAR BATTERY OWI-608 (Solar Power)

Have fun in the sun with our safe, encapsulated mini-solar panel. This sturdy panel will endure handling without breakage or cell damage traditionally associated with solar cells. Create various experiments by exposing and positioning the panel at the energy source. Intended for use to familiarize students or hobbyists with fundamental silicon solar cell principles, and practical applications of solar cells. Mounting bracket not included.
Current: 350mA. Voltage: 1.4. Compatible with: OWI-654, OWI-655, OWI-6567, OWI-6577.



ROBOTIC ARM TRAINER OWI-007 (Wired Control)

The Robotic Arm Trainer teaches the basic robotic sensing and locomotion principles while testing your motor skills as you build and control the arm. You can command this unit with its five switch wired controller with lights to grab, release, lift, lower, rotate wrist, and pivot sideways 350 degrees. After assembly, observe the dynamics of gear mechanisms through the transparent arm. Five motors and five joints allow for flexibility and fun! For educators and home schoolers, you'll find the robotics technology curriculum and personal computer interface useful tools.
"D" x 4 each (not included).
IBM PC Interface - (IBM-007) • Curriculum - (RTC-007)



NAVIUS MV-938 (Programmable)

Navius is controlled by black and white patterns on a disk, which are read by an infrared sensor. Particular patterns activate either of two wheels or make the robot pause. These on/off commands illustrate the basic principles of binary coding. To change a movement program, the operator simply creates a new disk pattern.
Printed Circuit Board Movement: 2 Wheels driven by 2 DC motors. Control: Infrared sensor, infrared photo interrupter, transistors, and IC.
"AA" x 2 each, 9V x 1 each (not included).



WAO II MV-961 (Programmable)

WAO II is an intelligent robot with a four-bit micro-computer. Through its 26 keys, you can input a motion program. There are 8 movement command keys, 4 program keys, and 3 demonstration keys. WAO II also has a pen mechanism in the middle of its body which allows it to draw simple letters and designs.
Assembled Printed Circuit Board Movement: Programmable through keyboard or personal computer by utilizing an optional interface (sold separately).
"AA" x 3 each, 9V x 1 each (not included).



WAO G MV-968 (Limited Edition)

By building and programming WAO G, you can set up membership functions and learn basic logic control principles. Also, WAO G can draw straight lines, circles, and even words by putting a pen into its penholder.
The keyboard consists of 26 switches, which are used to input a series of commands. There are 8 movement command keys, 4 program keys, and 3 demonstration keys.
"AA" x 3 each, 9V x 1 each (not included).
Limited Edition IBM PC Interface - (WII-IBM)



BEAMSTER OWI-209K (Beginner Soldering)

Beamster is a new Beginner Soldering Series kit requiring only a soldering iron and a few tools to create a multi-functional flashlight. BEAMSTER is ideal for emergency or everyday use aboard a boat, during camping, or while at a scout meeting. Activating the light is as easy as adjusting the four position slide switch: Beam or halogen light, fluorescent lamp (full power), fluorescent lamp (energy saving power), or off. It also features a 90 degree adjustable halogen light head, and a magnet on the back so you can mount it in a hands-free position.
Specifications: Power: "AA" x 4 each (not included). Fluorescent Tube: U tube 5W, Bulb: Halogen Bulb 5.2V - 0.5A. Dimensions: 180mm x 54mm x 38mm



AM RADIO OWI-215K (Beginner Soldering)

Make it, then listen to your favorite radio station and appreciate your accomplishment. Students and hobbyists place electronic components and learn basic principles of radio wave technology and soldering skills with this hands-on AM RADIO circuit board kit. Place your components/resistors, condensers, and integrated circuits together, then solder them on a functional circuit and 'voila', an AM RADIO!
Specifications: Control: 2 AM radio frequencies 535kHz - 1605kHz. Power Source: "AA" x 2 each (not included). Body size: 235mm x 80mm x 240mm.



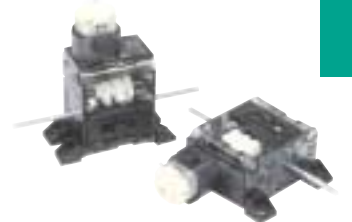
S-CARGO OWI-936K (Limited Edition - Soldering)

A condenser microphone and a printed circuit board control this OWIKIT. Each time its sound sensor hears your command, it reacts. Command it to spin left, stop, proceed forward, and stop.
S-Cargo is a sequential command, two-wheeled robot. Using the hand-held sound activator, clapping your hands or making any other loud sound controls it. For each sound S-Cargo will begin a new action. The sequences of commands are forward, stop, clockwise spin, and stop.
"AA" x 1 each, 9V x 1 each (not included).



SELECTABLE GEAR BOX OWI-GB25 (One Touch Selector)

A great Science Fair project item! If you need speed variations, then look no further. Drive pulleys, cars, wheels, or fans with high torque or speed. Adjustable mounting brackets allow for flexibility in project application. With one touch of the slide switch, three gear ratios are possible: 6.8:1, 45.97:1, 310.74:1 or 17.68:1, 119.52:1, 807.93:1.
Motor Performance at maximum efficiency: Voltage: 1.5 - 3.0. Speed: 6,992 RPM. Current: 0.663A. Voltage: 6.02GCM 0.591MM. Size: 60mm (L) x 25mm (H) x 35mm (H). Weight: 143 g.



COMPUTER INTERFACES

WII-IBM - PC Interface & Software for WAO II or WAO G

Connects to an IBM compatible computer's parallel port; download routines from BASIC programs. Eliminates repetitive code entry.

WII-AP - Apple II Interface & Software for WAO II

Connects to an Apple II, IIe, II+ or GS computer. Software allows programming in BASIC (Applesoft II Basic required). Edit, transfer, save and load any movement program.

IBM-007 - Interface & Software for Robotic Arm Trainer

Features programming, saving, editing, and downloading capabilities. Computer or manual control. System Requirements DOS: PC 386 (or better), parallel port, DOS 4.2 (or higher), 2MB RAM min., and 300k hard disk free space. System Requirements for Windows: Windows compatible mouse, Windows 95 or 98, 4MB RAM min, 4MB hard disk free space.