A NOTE ABOUT KITS....
Kits cannot be returned or exchanged once assembly has begun. All parts supplied EXCEPT batteries.

100 IN 1 STEM LAB KIT
100 STEM experiments in one box. For ages eight and up, kids will learn about basic circuit connections as they construct four initial units (Maze Challenge, Flying Disc, Turbo Air, and Alarm System). Maze challenge allows children to build a carnival classic hand eye coordination game where a metal loop is maneuvered around a metal wire without making contact; difficulty of the wire can be adjusted. Flying Disc allows children to launch a disc spinning into the air. By using the auxiliary pieces designed for Turbo Air children will use the air flow to create a bubble machine (bubble solution not included), vacuum cleaner, or a floating foam ball! Alarm system lets children build a functioning spinning LED light with a loud beeping audio display.

EM4 ROBOT KIT
Owiktik OWI-891
Fun & easy-to-assemble Educational motorized robot kit with four modes: 6-leg walking cricket, motorized transmission trailer, grand rolling Beast and gear driven walking Grandpa-Bot! This 32 piece, 3 speed kit provides entertainment, imagination and education. Multi Ratio Gear Box. Requires one AA battery. Easy assembly and only requires a diagonal cutter and screwdriver. No soldering required. Assembled dimensions: 10.50” x 7.25” x 3.50”. For ages 8+.

LINE-FOLLOWING CAR KIT
Very cool smart tracking robot car kit. Once assembled it will zip along a 15mm wide black line drawn on the ground. Designed to help kids or electronic enthusiasts learn about soldering and simple circuits (photodetector circuit, voltage comparator, motor driving, IR sensor, etc). There is no programming involved, and all of the soldering is beginner-friendly. All the parts you need are included in the kit, except two AA batteries that must be purchased separately.

L.E.D. FLASHER KIT
This kit includes parts and instructions to make a simple 2-LED flasher circuit. A quick and easy project for anyone with basic soldering skills. Requires 9V battery (not included).

ADJUSTABLE LED FLASHER
Two potentiometers adjust the flash rate of two LEDs. 9V operation. Battery not included.

LED CHASER KIT
Build this variable speed LED chaser. 10 leds flash sequentially at whatever speed you set them for. Easy to build kit includes pc board, parts and instructions. Ideal for special lighting effects, costumes, etc. Operates on 3 to 9 volts. PC board is 5” x 2.25".

6-IN-1 EDUCATIONAL SOLAR KIT
An excellent building kit for beginners, teaching children the benefits of solar energy while they create a toy that is fun to play with and requires no batteries. Children use the snap-together plastic parts to build six different motorized working models including an airboat, windmill, puppy, car, and two different planes. No tools required for assembly. Diagonal cutter may be needed to separate plastic parts. Kit includes plastic parts, 75mA solar cell, 1.2V electric motor, wires, springs and instruction book. For children 10+. May require adult assistance.

2X5W AMPLIFIER FOR MP3 PLAYER KIT
Vellimanâ® MK190.
Features big sound from a small unit. Low distortion. Stereo 3.5mm jack input. Volume adjust complete with attractive knob. Slide on/off switch. Blue indicator led. 2 x 5Wrms (10% THD @ 4ohm / supply 14V). Sensitivity: 400mVrms for full output. 30Hz-100kHz (-3dB / 8 ohm) frequency response. Requires 6-14 Vdc / 1A max. power supply (not included). Speaker impedance: 4-32 ohm speaker impedance.

VISIT OUR WEBSITE - WWW.ALELECTRONICS.COM
FLASHING LEDS 5mm  Built-in flashing unit  3-5 Vdc. Diffused. High-brightness.

<table>
<thead>
<tr>
<th>Color</th>
<th>CAT#</th>
<th>Price</th>
<th>100</th>
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<tr>
<td>RED</td>
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<td>.50</td>
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<tr>
<td>GREEN</td>
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<tr>
<td>YELLOW</td>
<td>LED-4Y</td>
<td>.50</td>
<td>.45</td>
<td>.40</td>
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</table>

5MM RGB COLOR CHANGING LEDS
Cycles through red-green-blue and combinations of RGB, yielding purple, white and other hues. 5mm water-clear package. Great for attention-getting displays, and jewelry.

**Slow Rate** -- fades in and out of each color approximately every 5 seconds. Operates on 3.5Vdc.

**CAT# LED-276**  65¢ each • 10 for 55¢ each • 100 for 40¢ each

**Rapid Rate** -- changes color every second for ten seconds, then changes color three or four times per second for ten seconds.

**CAT# LED-231**  60¢ each • 10 for 50¢ each • 100 for 40¢ each

**Fluttering** -- cycles through RGB colors at a very fast rate, giving the impression of a fluttering red / blue light. Milky-white in off-state.

**CAT# LED-232**  2 for $1.00 • 100 for 40¢ each

PRESS-FIT MOUNTING CLIPS FOR LEDS

**2 PIECE HOLDER FOR 5MM LEDS**  Black plastic. Mounts in 6.3 mm hole.

**CAT# HLED-4**  10 for $1.20 • 100 for 9¢ each • 1000 for 8¢ each

**CLIPLITE HOLDERS FOR 5MM LEDS**  Colored polycarbonate lens diffuses and increases viewing angle. Mounts in 0.25” hole in panels of 0.06” to 0.125” thickness. X= R (RED), G (GREEN), Y (YELLOW), C (CLEAR)

**CAT# HLDCL-X**  3 for $1.05 • 100 for 28¢ each • 1000 for 23¢ each

**CLIPS FOR 3MM LEDS**  1 piece holder. Mounts in 4.5mm hole.

**CAT# HLED-5**  10 for $1.00 • 100 for 8¢ each • 1000 for 7¢ each

3 WATT LEDS ON HEATSINK
Ultra-bright, high-power, long-life LEDs mounted on 20mm dia. star-type aluminum disc which serves as a heatsink and provides solder spots to simplify connection.

**Note:** Sensitive to misuse. No guarantee after voltage has been applied.

3 WATT LEDS

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
<th>CAT#</th>
<th>Each</th>
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<tbody>
<tr>
<td>COOL WHITE</td>
<td>18000-20000K. 3.2-3.4V, 700mA.</td>
<td>LED-248</td>
<td>1.68</td>
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<tr>
<td>WARM WHITE</td>
<td>3500-4200K. 3.2-3.4V, 700mA.</td>
<td>LED-249</td>
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<tr>
<td>AMBER</td>
<td>600-610nm. 1.9-2.3V, 700mA.</td>
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<td>460-470nm. 3.2-3.4V, 700mA.</td>
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<td>IR</td>
<td>940nm. 1.5-1.7V 700 mA.</td>
<td>LED-256</td>
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**DRIVER FOR 3W LEDS**
The 3 watt LEDs above can be operated on 12 Volts using this driver. Operate on 12 Vac or 12 Vdc.

**CAT# LD-3**  $3.25 each • 10 for $3.00 each

**LENSSES FOR 1W, 3W & 5W LEDS**
20mm lens in a 23mm plastic holder. Works well with our 1W, 3W and 5W LEDs, with & without star pc board ie. LED-248, LED-249, LED-5BL.

| 60° viewing angle | CAT# LNS-57 | $1.50 each • 10 for $1.35 each |
| 45° viewing angle | CAT# LNS-58 | $1.50 each • 10 for $1.35 each |

500 piece red, green, blue, yellow and white 5mm LED assortment. 100 pieces of each color. Clear plastic divided box with locking lid.

**CAT# LED-K2**  $10.00 kit

300 piece red, green, blue, yellow (amber) and white 3mm and 5mm LED assortment. All are clear in off-state. 5mm LEDs, 20 pcs each color. 3mm LEDs, 40 pcs each color. Clear plastic divided box with locking lid.

**CAT # LED-K1**  $8.00 kit
INCANDESCENT LAMPS

Bare leads
Insulated leads

3MM GRAIN-OF-WHEAT, T-1
1.5V, 40Ma 10” insulated wire leads
CAT# LP-3 $1.25 each • 100 for 98¢ each
1.5V, 75mA 30” insulated wire leads
CAT# LP-41 4 for $1.00 • 100 for 19¢ each
3V, 55mA 10” insulated leads
CAT# LP-4 $1.25 each • 100 for 98¢ each
5V, 60mA 11” insulated leads
CAT# LP-5 $1.25 each • 100 for 98¢ each
5V, 115mA bare wire leads
CAT# LP-715 2 for $1.50 • 100 for 67.5¢ ea.
12V, 45Ma 10” insulated leads
CAT# LP-6 $1.25 each • 100 for 98¢ each

3MM, T-1 SPECIAL
14V, 40mA 3mm, bare wire leads
CAT# LP-23 3 for $1.00 • 100 for 20¢ each
500 for 18¢ each • 1000 for 14¢ each

T-1 3/4 5MM DIAMETER LAMPS

<table>
<thead>
<tr>
<th>VOLTS</th>
<th>AMPS</th>
<th>CAT#</th>
<th>EACH</th>
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<tr>
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<td>LP-327</td>
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14V MINI BAYONET BASE LAMP

#1815 lamp. 14.0 volts, 0.200 amps.
CAT# LP-1815 75¢ each
100 for $67.50

BAYONET BASE LAMP SOCKETS

PC / solder leads.
CAT# LS-17 2 for $1.00

For use with #44, 47, 1815 etc… standard mini-bayonet base lamps.
CAT# LHL-37 2 for $1.00

12 VDC FLASH ASSEMBLY

Bright xenon strobe assembly for highway emergency signal. Approximately 80 flashes per minute.
12Vdc operation.
Horseshoe flash tube (31.5 x 16 x 6mm) mounted on 65 x 75mm pc board. On/off switch. Easy to connect.
See hook-up diagram on-line spec sheet.
CAT# FSH-13 $4.50 each
10 for $4.00 each

EL BACKLIGHTS

For backlighting displays, control panels, special effects and model lighting. Flexible, produces practically no heat. Operates on 80-120Vac & will run off of inverter or standard “house” electricity.

2.8" x 2.2"
Salmon color in off-state. Glows white when energized. Solderable pins.
CAT# EL-15 3 for 99¢ 100 for 20¢ each

1.2" x 2.6"
Glows green when energized. Ivory off-state. Solderable pin.
CAT# EL-26 3 for 99¢ • 100 for 20¢ each

FLASHLIGHTS

170 LUMEN WORK LIGHT -- BRIGHT
Nebo 6327 LarryC. EXTREMELY BRIGHT! Equipped with new C-O-B LED technology, it outputs 170 lumens of intense light. The 180° rotating magnetic clip allows for hands-free lighting. The reinforced plastic body design is water and impact-resistant. Top-positioned, ON/OFF button. Powered by 3 AAA batteries (included). 6.375” long. Includes retail box. Comes in red, blue, black or yellow (no choice of color).
CAT# FL-170 $8.99 each

PORTABLE LED LANTERN LIGHT
Battery operated, light-weight portable LED lantern light. Ultra-bright led light is useful for camping, hiking and emergency situations. Features: 360-degree illumination, adjustable light setting. Easily collapses to 5" high, expands to approximately 7.40" high. 3.4" dia. magnetic base conveniently attaches to metal fixtures. Requires 3 AA batteries (not included).
CAT# PLL-1 $6.95 each

1W LED W/ REFLECTOR IN HOUSING

This good looking fixture is a great beginning for a shelf or display lighting project. Bright, white 1 Watt LED enclosed in a rugged black and yellow hard plastic housing with a conical reflector and a clear plastic front lens. Overall dimensions, 2.16” diameter x 3.45” long. Two wire leads. Operates on 3 Vdc @ 300 mA. For higher voltages use a dropping resistor.
CAT# LMP-26 $2.50 each
10 for $2.25 each