

Technology of the Month

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February 25, 2006

Pleo, the Robotic Dinosaur

- \$199 – available end of 2006
- 14 servo joints with force feedback
- 38 touch, sound, light, and tilt sensors
- Fluid walking motion, ability to avoid obstacles, will not walk end of table
- Cough, blink, chomp, twitch, sigh, and growl
- Rechargeable battery and SD memory card
- Happy and sad algorithms



<http://www.ugobe.com/pleo/index.html>

Small Web Server

- 3 by 4 by 1 inch
- HTTP and FTP servers
- 10/100 base-T ethernet
- USB
- 2 - RS-232 ports
- 2 – analog inputs
- 16 digital I/O lines
- Compact flash slot
- \$500



Lego Mindstorms NXT

- \$250 – available August 2006
- PC and Mac compatible
- 32-bit microprocessor
- Dot-matrix display
- USB and Bluetooth enabled
- 3 interactive servo motors
- 4 sensors: ultrasound, sound, light, and touch
- Intuitive programming software by LabVIEW



<http://mindstorms.lego.com/>

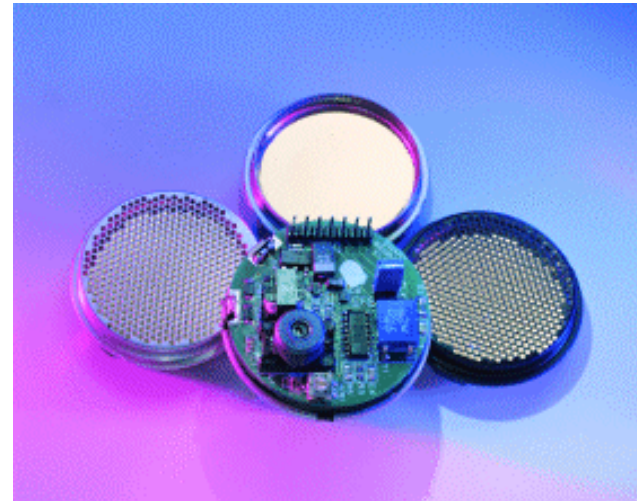
RS-232 to Ethernet

- 10/100 base-T
- RS-232 or RS-422/485 port
- TCP server and client
- User Datagram Protocol (UP)
- 4-GPI/O pins
- Configure via web, serial, or Windows
- Starter kit available
- 1.5 watts



Ultrasonic Ranging System

- Based on Polaroid technology
- Includes transducer and drive module
- Non-contact ranging from 6 inches to 40 feet
- Sensors, components, and kits available
- Full and mini sizes available



ZigBee Mesh Networking

- AT-style command set
- UART and JTAG communication
- Works on 2.7 to 3.6 volts
- Small form factor
- Development kits available - \$429
- 8-GPI/O lines
- 2-analog inputs
- Integrated antenna
- Hardware encryption



http://www.lemosint.com/scripts/zigbee_etrx_module.asp

OQO Ultraportable PC

- Runs Windows XP @ 1 Ghz
- 30 Gb hard drive
- 512 Mb RAM
- Color display
- USB, Firewire, and wireless ports
- 4.9 by 3.4 by .9 inches – 14 oz
- Thumb keyboard, track stick, mouse buttons, digital pen, thumb wheel



<http://www.oqo.com/hardware/basics/>

DualCor PC

- Runs Windows XP and Windows Mobile
- 40 Gb hard drive
- 1 Gb RAM
- 800 by 480 color touch screen display
- 3 - USB, VGA, Compact flash slot
- 6.5 by 3.3 by 1.2 inches – 14 oz
- Mouse buttons and pointer stick
- Speaker and microphone connectors
- \$1500 – available 1Q 2006



USB Converters

- Several chips and evaluation models available:
 - Serial - with and without connectors
 - Serial - DIP module
 - Serial - with on-board accelerometer
 - Parallel interface
 - CAN bus
 - Wireless



Little PC

- 1.5 Ghz Celeron and P3 models
- Fanless
- 12 vdc operation
- LAN, USB, Firewire, audio, serial, and video
- Heat sink case
- CD / DVD
- Optional solid-state hard drive
- Runs Windows or Linux



FM Radio USB Dongle

- Based on Silicon Lab's MCU 8051 Toolstick demo kit - \$10
 - Integrated development environment
 - Configurator
 - Keil assembler, C compiler, and debugger
- Reference design – not a real product



Virtual Wire

- Wireless transceiver
- 916 Mhz
- 100 – 300 foot range
- TTL serial input – 19.2 kbaud
- Low power sleep mode – 25 ua
- 3v or 5v – 16 v input voltage



Linux SBC

- ColdFire MCF5282 processor
- Credit card sized
- Connects directly to sensors, switches relays – 57 I/O lines
- 8 10-bit A/D
- 10/100 BaseT ethernet
- 3 serial ports
- CAN port
- SD connector
- \$199



Contributed by Kevin Appert

<http://www.steroidmicros.com/micros/micro.aspx?ID=WF-5282>

SODIMM SBC

- ColdFire MCF5282 processor – 66 or 80 Mhz
- 2.66 by 1.5 inches, 1 watt
- Connects directly to sensors, switches, relays – 57 I/O lines
- A/D, CAN port, 3 serial ports, SPI, I²C, PWM
- 10/100 BaseT ethernet with onboard PHY
- 16 Mb RAM, 4.5 Mb Flash, 64 Kb nonvolatile memory
- JTAG and free Eclipse IDE & development tools
- Starts at \$150



Contributed by Kevin Appert

<http://www.emacinc.com/som/som5282em.htm>

Digital Capacitor

- Xpress CA157XS
- 1.5 Farad
- “Give your system the power boost it needs.”
- Complete with blue neon light
- \$50



Contributed by Kevin Appert

<http://shop3.outpost.com/product/4655668#detailed>

Ultracapacitor Module

- 2600 Farad, 16.2 volt



Contributed by Jeff Fox

<http://www.maxwell.com/go/largecells.php>

Inside TiVo



Contributed by Kevin Appert

<http://www.9thtee.com/insidetivo.htm>