High-Tech Toys 2019

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Agenda

● Present toys & gadgets
  ○ No particular selection
  ○ No particular order
● Share experiences
● Jump in with comments or questions
High-Tech Toy

● Defined
  ○ Novelty to others
  ○ *Necessity* to us
  ○ Requires all spare cash

● Overwhelming
  ○ More than can be presented or purchased
Buyer Beware

- Lily Camera 2014
- Following drone
- GPS wristband
- Great video
- Fake footage
- Bankrupt 2017
Tech Trends

- AI Foundations
- Intelligent Apps and Analytics
- Intelligent Things
Tech Trends

Digital Twins
Cloud to the Edge
Conversational Platform
Immersive Experience
Tech Trends

Mesh

Blockchain

Event-Driven

Continuous Adaptive Risk and Trust
Gadget of the Year

- Nitecore TUP 1000
- 1-1000-lumens
- Constant-current
- USB charging
- $61
mySKY™

• Celestial navigator
• Aims to object
• Identifies in sky
• Science video content
• Mouse to the real world
• $299

Year 2008
My EDC Flashlight

- ThorFire TG06S
- Dual fuel
  - Lithium 14500
  - Alkaline/Li AA
- 500-Lumen (3v)
- $17 ($10 on sale)
Top Drawer Flashlight

- **FURY INTOLED™**
- Auto-dimming
- Dual fuel
  - Lithium 18650
  - CR123A
- 1500-lumens
- $216
Flashlight

DUAL SWITCH TECHNOLOGY
The world's first flashlight with on/off activation from either the side or tail switch

ADVANCED LED TECHNOLOGY
A brilliant, 130 lumen LED exceeding the output of most tactical lights

MOMENTARY PULSE
Rapidly pulsing the light disorients suspects without revealing the officer's position

YEAR
2008

RECHARGEABLE
Low maintenance lithium ion cells are resistant to extreme temperatures

GRENADE GRIP
No-slip pattern for confidence in wet conditions

COOLING FINS
Machined aluminum thermal sink draws heat away from the lamp module

OPTIMIZED LAW ENFORCEMENT BEAM
A focused primary beam penetrates darkness up to 120 yards, a secondary 12 foot pool illuminates the immediate periphery

SERRATED LENS SHROUD
Notches alert the user if the light is activated while standing lens down on a surface
Apps of the Year

- Free mobile apps
  - eNIFOG
  - eAUXFOG
- Hardcopy at HRO
  - $16
Memory

Year 2002

- CF Cards $0.339/MB
- SDRAM $0.098/MB
- Memory Stick $0.624/MB
- Secure Digital $0.568/MB
- SmartMedia $0.436/MB
- Microdrive 1GB $223
USB Drive

- 5x 1-GB
- $13
- $0.002598/MB
- 1/240th 2002 price
Chromebook

- Google Pixelbook
  - i7, 16-GB RAM, 512-GB
- Runs Android, too
- $1321
- (Most < $300)
Lantern

- 400 Lumen
- Remote Phosphor LEDs
- 4D batteries
- 1000-hr night light
- $30
Lantern

- Wind-up
- 4-hours runtime
- 5 LEDs
- Wall mount
Honorable Mention

- **UST 60-Day LED Lantern**
- 508 Lumens on High Setting
- 60 Days Low Mode
- Glows in dark
- 6 “D” batteries
- $54
Generators

- Weight loss
- Inverted outputs
- CPU controlled throttle
- $0.53/watt
- ($0.58/watt last year)
Power

- Goal Zero Yeti 3000
- 3024-Wh/280-Ah
- MPPT included
- WiFi remote port control
- $3000
Batteries

- **Year 2002**
  - **Premium Alkaline AA**
    - Now 3.123-Amp-Hr
      - (2.8-Amp-Hr last year)
    - Surpasses 2.9 Lithium
      - (2.7-Amp-Hr last year)
  - **D-size Alkaline**
    - 18.9-Amp-Hr
  - **Rechargeable**
    - Lithium polymer
      - Highest energy density
    - Ni-MH very popular

![ENERGIZER NO. L91](ENERGIZER.COM)
Batteries

- AA test charts follow
- Capacity tests
  - 300-mAh
  - 100-mAh
- Cost
  - How many mAh per penny?
MAH per penny (300 MAH discharge rate)
Amazon basics has the best value
100 MAH Discharge Test

Energizer Lithium: 3152
Duracell Quantum: 2064
Energizer: 2026
Duracell: 2012
Rayovac Fusion: 1844
Amazon Basics: 1593
Rayovac: 1465
Eveready Silver: 1279
Harbor Freight: 275
Dollar General: 193
Rechargeable Batteries

- Nanowire lithium
  - Silicon nanowires hold more lithium
- 10x existing charge
- 20-day cellphone capacity
Backcountry Comms

- Garmin inReach Mini
- Not PLB
- 4-oz
- Pairs smartphone
- Fees ($12-100/mo)
- $350
Dual-Band HT

- ICOM IC-91AD
- VHF
- UHF
- D-STAR digital
- PC remote control
- $450
Personal Locator

- Ocean Signal PLB1
- Registered PLB
- COSPAS/SARSAT is very reliable
- No messaging
- No fees
- $280 + batt repl
MURS Radio

Year 2002

- Where is MURS?
  - 5-Ch
  - 150-MHz
- 2nd year MIA
Hot Tub Hammock

- Gas water heater, water pump, battery, strainer, treatment pellets & fondue pot
- 158 backers pledged $77,706
PDA

Year 2002

- Handspring Treo 90 $299
- COMPAQ IPAQ H3950 $599
- RIM 957 Blackberry $479

Gartner projects 15.5 million PDAs will be shipped in 2002
  - Up from 2001 sales of 13 million units
  - Far cry from the 2000 shipment growth of 114 percent

- Palm held 57% of the PDA operating system market in 2001
  - Pocket PC at 18.5%
Mobile Phones

- **3G digital GPRS**
  - Combined phone and organizer
    - Microsoft Word and Excel
    - Internet Browser
    - Windows Media Player
    - Instant Messaging

- **Satellite**
  - Iridium
    - Concentrating on maritime & aviation
  - Globalstar
    - Finished 1st year of continuous service
    - $0.17/minute package rates
Cellphone

- iPhone
- iPod
- Camera (2-MP)
- Wi-Fi
- AT&T crippled
- Great display
Best Phone

- Samsung Galaxy S9 Plus
- 3500-mAh
- Android 8
- Excellent low-light cameras
- $425
Emergency Tool

- BodyGard tool
- Crank power
- Blinking light
- Radio
- Siren
- Pill box
- $22

Year 2008
Best Laptop

- Huawei MateBook X Pro
- Intel Core i5 - i7
  - 8th gen
- 13.9-inch 3K
  - Odd 3,000 x 2,080
- $925
Blu-ray beats HD-DVD

- Goldmund Eidos 20 BD
- AC-Curator power
- Mechanical grounding
- Magnetic damper
- Less picture jitter?
- $16K
  - Sixteen thousand and 00/100 dollars
Best 4K TV

- Samsung QE65Q9FN
- Full Array Local Dimming (FALD)
- QLED Quantum Dots
- Great HDR
  - Upscaling
- $2998
Year 2002

TV

- Sampo 42” Plasma display
- Fan-less video monitor
- Built-in speakers and amplifier
  - Features BBE® and SRS® Surround Sound processing
- Slim 3.74” design
- $3700
Game Console

- PS4 Pro
- First 4K HDR Sony console
- No Ultra HD Blu-ray?
- Best online deals
- $399
Fitness Tracker

- Moov Now
- NO
  - Heart rate
  - Waterseals
- YES
  - Cheap $58
  - 6-mo battery
  - Steps, sleep, fitness, running technique
Camera

- Nikon Coolpix S51c
- 8-MP digital sensor
- Wireless to Flickr
- E-mail built-in
Camera

- Nikon Z6
- 24.5-MP
- Shooting: 12-fps
- Movies: 4K@30p
- 273-point autofocus
- $1997
Tablet

- iPad Pro 11
- Laptop power
- Pencil clips on
  - Finally!
- Missing 3.5mm jack
- $794
Watch

- Samsung Galaxy Watch
- Tizen OS
- Battery: 4-days on 46-mm
- $208
VR Headset

- HTC Vive
- Partner: Valve
- 1080p screen per eye
  - 110-degree FOV
- Play space
  - 13x13-feet
- $499
Noise-Cancelling Headphones

- Sony WH-1000XM3
- 30-h battery
- USB-C charging
- $294
Alarm! Clock

- Jig-saw alarm
- Throws pieces in the air & sounds off
- The “Wakee” assembles puzzle to turn it off
- $97

Year
2008
sUAS (Drones)

- **Models**
  - DJI Phantom 4 Pro $1499
  - Autel Robotics EVO $999
  - DJI Mavic 2 Zoom $1249
  - Parrot Anafi $699
  - DJI Mavic Air $799
  - DJI Spark $499
  - Yuneec Typhoon H Pro $1899
  - Ryze Tello $99
- **Racing**
- **Toys**
- **Cameras**
- **Small v. large**
- **Load-carrying**
- **Tethered**

- FAA 14 CFR §107 regulations
Test Instrument

- Impulse 7000DP Defibrillator/Pacemaker Tester
- AED compatibility
- 12-lead ECG simulation
- $6000
Wenger Giant Swiss Army Knife™ V1.0

- Year 2008
- 85-tools
- $1400
Knife Contents

- 2.5” 60% Serrated locking blade
- Nail file, nail cleaner
- Corkscrew
- Adjustable pliers with wire crimper and cutter
- Removable screwdriver bit adapter
- 2.5” Blade for Official World Scout Knife
- Spring-loaded, locking needle-nose pliers with wire cutter
- Removable screwdriver bit holder
- Phillips head screwdriver bit 0
- Phillips head screwdriver bit 1
- Phillips head screwdriver bit 2
- Flat head screwdriver bit 0.5mm x 3.5mm
- Flat head screwdriver bit 0.6mm x 4.0mm
- Flat head screwdriver bit 1.0mm x 6.5mm
- Magnetized recessed bit holder
- Double-cut wood saw with ruler (inch & cm)
- Bike chain rivet setter, removable 5mm allen wrench, screwdriver for slotted and phillips head screws
- Removable tool for adjusting bike spokes, 10mm hexagonal key for nuts
- Removable 4mm curved allen wrench with phillips head screwdriver
- Removable 10mm hexagonal key
- Patented locking phillips head screwdriver
- Universal wrench
- 2.4” Springless scissors with serrated, self-sharpening design
- 1.65” Clip point utility blade
- Phillips head screwdriver
- 2.5” Clip point blade
- Golf club face cleaner
- 2.4” Round tip blade
- Patented locking screwdriver, cap lifter, can opener
- Patent locking philips head screwdriver, cap lifter, can opener
- 2.5” Clip point blade
- Golf club face cleaner
- 2.4” Round tip blade
- Patented locking screwdriver, cap lifter, can opener
- Mineral crystal magnifier with precision screwdriver
- Compass, straight edge, ruler (in./cm)
- Telescopic pointer
- Fish scaler, hook disgorgers, line guide
- Shortix laboratory key
- Micro tool holder
- Micro tool adapter
- Micro scraper - straight
- Micro scraper - curved
- Laser pointer with 300 ft. range
- Metal saw, metal file
- Flashlight
- Micro tool holder
- Phillips head screwdriver bit 1.5mm
- Screwdriver .8mm
- Fine fork for watch spring bars
- Reamer
- Pin punch 1.2mm
- Pin punch .8mm
- Round needle file
- Removable tool holder with expandable receptacle
- Removable tool holder
- Special self-centering screwdriver for gunsights
- Flat phillips head screwdriver
- Chisel-point reamer
- Mineral crystal magnifier, fork for watch spring bars, small ruler
- Extension tool
- Spring-loaded, locking flat nose-nose pliers with wire cutter
- Removable screwdriver bit holder
- Phillips head screwdriver bit 0
- Phillips head screwdriver bit 1
- Phillips head screwdriver bit 2
- Flat head screwdriver bit 0.5mm x 3.5mm
- Flat head screwdriver bit 0.6mm x 4.0mm
- Flat head screwdriver bit 1.0mm x 6.5mm
- Magnetized recessed bit holder
- Tire tread gauge
- Fiber optic tool holder
- Can opener
- Patented locking screwdriver, cap lifter, wire stripper
- Reamer/awl
- Toothpick
- Tweezers
- Key ring
Solar Power

Year 2002

- 75-Watts
- $359
- 4.78/watt
  - ($4.65/watt last year)
Flexible Solar

- 50-watt
- 18-volt
- ETFE Surface
- Bends 260-deg
- $90
- $1.80/watt
  - 38% 2002 price
Q&A

- Questions
- Answers
- Comments
- Wrap Up
Thank You