



HP Notebook & Tablet PC Product Overview



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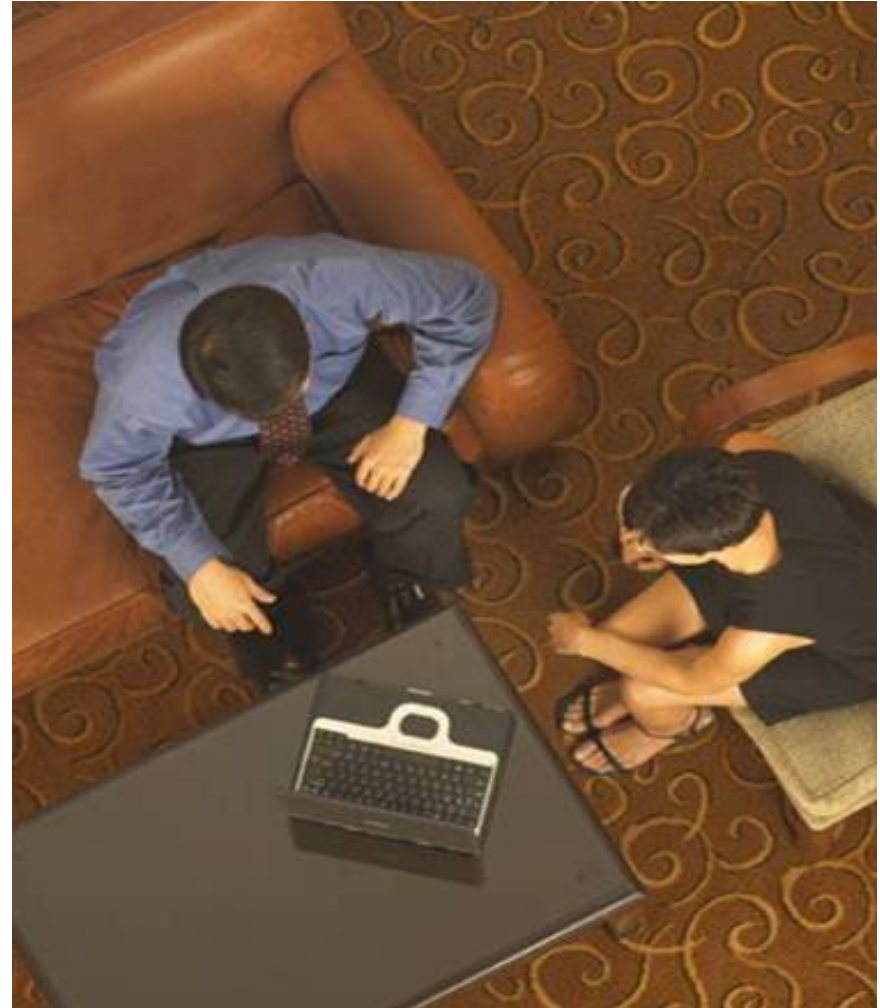
Hewlett-Packard

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Agenda

- reliability testing
- core technologies
 - wireless wide area networks
 - security
- product overview & comparisons
- operating systems
- supporting options
- HP advantages
- comments/feedback





Notebook Reliability & Testing

Human Factors Testing

Enhances HP's capabilities to define, design, develop and deliver compelling customer-centered products, services, and solutions

- **Over 50 Human Factors Engineers** across HP with eight advanced customer-centric design centers located across the nation, serving all HP divisions with a total of 423 years of experience
- Engineers gather customer information during product design phases and partner with divisions across HP to make customer information actionable



Audio and video equipment, and one-way mirrors, to observe how products are used

- Simulated environments to look at products and how they are used

Notebook Validation Tests

Did You Know?

Every platform program goes through an average of 47,000 hours of testing before being released



Hinge/Clutch tests

Hinges and clutches are tested in the robotic room, where notebooks are exercised automatically to simulate years of use

- 30,000 open close cycles (this is the same as opening and closing the notebook 30 times every day for 6 years)

Keyboard tests - “Cruncher”

A keyboard cruncher is designed to simulate 7years of keyboard use by subjecting the keyboard to 20 million key presses

Electrostatic discharge tests

This test ensures that notebooks withstand incidental contact with static electricity

- 15000 volts are applied to various points on the notebook to check the notebook's ability to withstand ESD

Infrared heat tests

In order to ensure that each notebook is designed to dissipate heat properly, an infrared thermal profile is created

- The heat profile reveals areas where high heat could cause potential problems

Drop tests

Accidental drops and rough usage that can occur as part of normal use

Display tests

Every notebook goes through a display test designed to ensure that the brightness and focus of the display meets specification





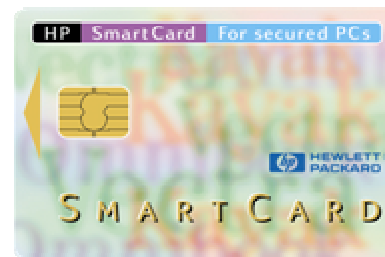
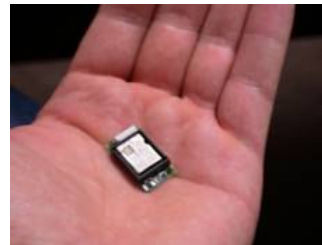
Core Technologies



Core Technologies



- Pentium M
 - Banias & Dothan
 - New naming scheme
- Centrino
- Networking
 - Intel Wireless
 - Atheros Wireless
 - Bluetooth
 - Broadcom GB NIC
 - wWAN
- Secure Digital (SD)
 - HP USB Digital Drive
- TCG TPM



Protectools





Core Technologies

wWAN Solutions



wWAN Technology Matrix

Point of comparison: dial up connections via modem = 56 kbps

Networks	WWAN	Speed	Carriers	Coverage
GSM	GPRS	20 - 40 kbps	T-Mobile	Nationwide
CDMA	1xRTT (CDMA 2000)	50 - 70 kbps	Sprint & Verizon	Nationwide
GSM	EDGE	100 - 140 kbps	AT&T	Nationwide
CDMA	1xEV-DO (CDMA 2000)	300 - 500 kbps	Verizon	Limited

HP wWAN Offering Matrix

WWAN	Offering	Carriers	Cost
EDGE	Sony Ecrisson GC82	AT&T	\$250+ airtime
GPRS	Sierra Wireless Aircard 750	AT&T	\$266 + airtime
CDMA2000	PCS Connection Card Novatel Wireless	Sprint	\$178 + airtime
GPRS	Sierra Wireless Aircard 750	T-Mobile	\$371 + airtime
CDMA2000	Sierra Wireless Aircard 555	Verizon	\$347 + airtime

After purchasing your wireless card, call HP Wireless at 1-877-261-6066 to select an airtime plan.

www.hp.com/go/wan

Why HP for wWAN?

Of the four major laptop manufacturers profiled in this study, **only Hewlett-Packard is able to provision CPC modems that it ships with its products to customers**. Other laptop manufacturers must refer their customers to wireless operators to provision CPC modems that are shipped with their products or direct those customers to the operators to purchase the modems separately.

Laptop manufacturers are able to directly provision their customers onto the wireless network of their customer's choice. That means that when a customer receives their laptop, they are immediately able to turn it on and connect to the wireless network that they have chosen. The benefits of such a model, to operator and manufacturer alike, are obvious – and the **key benefit is that the customer is immediately satisfied** because they receive an immediate and complete wireless computing and connectivity solution.

In-Stat: June 2004: Wireless WAN Solutions for US Business Users



Core Technologies

Security



HP Client Security Offerings

1. BIOS level passwords
 1. Admin
 2. Drive Lock
 3. Power On
2. Pre-boot Smart Card
3. PC Card Smart Card/Integrated Smart Card Readers
4. Trusted Platform Module (TPM)
5. ProtectTools
6. Absolute Software – CompuTrace
7. Cable Locks

www.hp.com/security





Product Lineup

“nc” series

Tablet PC

“nx” series

Rugged



HP compaq Business Notebooks – “nc” series



Designed for lower total cost of ownership!



Ultra portable: nc4010

- 1 spindle, ~ 3.5 lbs
- 12” display
- Announced: March 2004



Thin & Light: nc6000

- 2 spindle, ~ 5.5 lbs
- 14” display
- Announced: October 2003



Performance/Mobile Workstation: nc8000/nw8000

- 3 spindle, ~ 6.5 lbs
- 15” display
- Announced: October 2003



HP compaq nc4000/nc4010

Key Features

- Sleek new industrial design
- Intel Pentium M processors
- ATI Radeon IGP 350M chipset with UMA graphics
- 266-MHz DDR system memory
- **Larger internal battery pack (6-cell vs. 4-cell)**
- Dual pointing devices
- Integrated MiniPCI wireless LAN (optional)
- Integrated Bluetooth (optional)
- Gigabit network controller (10/100/1000)
- Integrated secure digital (SD) slot
- **Innovative travel battery design**
- Support for new line of HP docking

- 12.1-inch XGA display with magnesium enclosure
- 100% keyboard
- USB 2.0
- Self powered external MultiBay
- Common image and accessories

nc4010

- Processor refresh
- Intel Wireless
- TPM
- Integrated smart card reader
- New industrial design to match the nc6000/nc8000

No image change

HP compaq nc6000

Key Features

- Sleek new industrial design
- Intel Pentium M processors
- **ATI Mobility Radeon 9600 graphics controller with up to 64MB DDR VRAM**
- 333-MHz DDR system memory
- Optional
 - Integrated MiniPCI wireless LAN including "Centrino"
 - Integrated Bluetooth
 - Integrated passive smart card reader
 - Embedded security with TCG support
- Support for 80GB hard drive
- **Integrated secure digital (SD) slot**
- Quick Launch buttons – wireless, presentation, and quicklock
- 14.1-inch XGA display with magnesium enclosure
- 100% keyboard
- Dual pointing devices
- USB 2.0
- Common MultiBay
- Over 6 hours of battery life
- Dual battery support
- Legacy (serial/parallel) support
- 2 PC card slots
- Common Image and accessories
- Gigabit network controller (10/100/1000)

HP compaq nc8000/nw8000

Key Features

- New Industrial Design
- Highly expandable form factor
- Intel Pentium M processors
- Intel 855PM chipset
- **15" Display Panels**
- 333-MHz DDR system memory
- **ATI Mobility Radeon 9600 Pro graphics controller with support for up to 128MB of video memory**
- Gigabit network controller (10/100/1000)
- Integrated MiniPCI wireless LAN
- Integrated Bluetooth (optional)
- Integrated secure digital (SD) slot
- Integrated IEEE 1394
- TCG* (trusted computing group) compliant security socket
- Optional integrated passive smart card reader

HP Tablet PC TC1100



Tablet PC: TC1000

- 1 spindle, ~ 3 lbs/4lbs
- 10.4" display
- Transmeta
- Announced: November 2002



Tablet PC: TC1100

- 1 spindle, ~ 3 lbs/4 lbs
- 10.4" display
- Intel
- Announced: November 2003

HP compaq Tablet PC TC1100

Key Features

- **Intel Pentium M 1.0GHz and Celeron 800MHz**
- Intel 855PM chipset
- NVIDIA, GeForce 4 Go 420 32MB (4X AGP)
- 266/333-MHz DDR, up to 2GB Max
- 30GB to 80GB HDD
- **Integrated secure digital (SD) slot**
- Better wireless
 - Greater available integrated Type III MiniPCI Wireless LAN choices
 - Integrated Bluetooth (optional)
 - Fast IR port
- **Battery-free, Pressure Pen**
- Innovative Slate Convertible Hybrid design with detachable keyboard
- Magnesium enclosure
- Long battery life
- Warm swap battery support
- Handwriting superiority
- Docking profiles for Extended Desktop
- Self powered external MultiBay
- Common notebook accessories
- USB 2.0

HP compaq Business Notebooks – Transactional/Small-mid Business



Latest technology at a great low price!



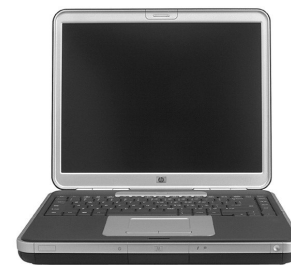
Value Mobility: nx5000

- 2 spindle, ~ 5.5 lbs
- 14" and 15" displays
- Pentium M and Celeron M
- Announced Feb 2004



Performance Mobility: nx7010

- 2 spindle, ~ 6.5 lbs
- 15.4" display
- Pentium M
- Announced April 2004



Desktop Replacement: nx9110

- 2 spindle, ~ 8 lbs
- 15" and 15.4" displays
- Pentium 4
- Announced Feb 2004



Desktop Replacement: nx9500

- 2 spindle, ~ 9 lbs
- 17" display
- Pentium 4
- Announced June 2004



HP Compaq nx5000 key features



Intel Pentium M processors, (only Pentium-M processors are branded Centrino)

1.4Ghz and 1.6Ghz (400Mhz FSB)

Intel Celeron M processor 1.2Ghz (400Mhz FSB)

Intel 855GM chipset

266MHz DDR System Memory (2 slots)

Maximum 2GB of RAM
(2 x 1GB SODIMMS)

Hard drives:

30,40GB, 4200 rpm and
40 & 60GB 5400 rpm

Internal 6 or 8-cell lithium-ion batteries.
Optional MultiBay 8-cell battery

3 Quick Launch buttons-
Quicklock, Wireless on/off, and
Presentation mode

Integrated Intel Extreme Graphics 2 (UMA) up to 64MB
dynamically allocated by the video driver

Optimized for 15-inch SXGA-wide-viewing angle,

15.0 XGA, or 14.1-XGA

Integrated 10/100 NIC 56K V92 modem

Integrated wireless LAN options:
Intel PRO/Wireless 2100 802.11b or
HP W500 802.11a/b/g or
Bluetooth

2 JBL Pro branded speakers

Touchpad with left/right button

**Integrated Secure Digital (SD) /
Multimedia Card (MMC) slot**

Choice of MultiBay
DVD+RW/R, DVD/CD-RW, DVD or CD

External USB or MultiBay diskette drive



Size: 1.38-1.44 x 10.83 x 12.83 inch / 3.52-3.67 x 2.75 x 32.6 cm
Weight : 5.75 lbs/2.61kg (15", weight saver & 6-cell pack), 5.44lbs/2.51kg (14", weight saver & 6-cell), **6.41lbs/2.91kg** (15", MultiBay device & 8-cell)



HP Compaq nx7010 key features



Centrino Technology 1.4 and 1.6-GHz

- Mobile Intel Pentium-M
- MiniPCI integrated - Intel PRO wireless
- Intel 855PM Chipset

15.4-inch WXGA, WSXGA+ display with wide-viewing angle

Durable aluminum enclosure

1394 and USB 2.0

Integrated 10/100 NIC
56K V92 modem

Integrated Secure Digital (SD) slot

Available Integrated
Bluetooth

Choice of DVD/CD-RW or DVD

333 MHz DDR System Memory

Maximum 2GB of RAM ((2)
1GB SODIMMS)

Touchpad with dedicated scroll

Internal 8-cell lithium-ion batteries

Hard drives: 40, 60, 80GB, (4200
rpm)

ATI mobility Radeon 9200 Discrete graphics controller with 32 or
64MB of DDR SDRAM



Size: 1.36 x 10 x 14.0 inch / 3.45 x 25.4 x 35.56 cm
Weight : 6.5 lbs/ 2.948kg



HP Compaq nx9110 Key Features



Mobile Intel Pentium 4 up to 3.06-GHz *at launch*
533-MHz processor FSB

15.4-inch WXGA display with wide-viewing angle or 15-inch display

Maximum 2GB of RAM ((2)
1GB SODIMMS)

Durable aluminum enclosure

Hard drives:
30GB, 40GB, 60GB, 80GB, 4200 rpm,
60GB, 80GB 5400 rpm

5-in-1 Reader

HP USB Digital Drive

Touchpad with dedicated up/down
scroll

Integrated 10/100 NIC
56K V92 modem and available integrated
Bluetooth

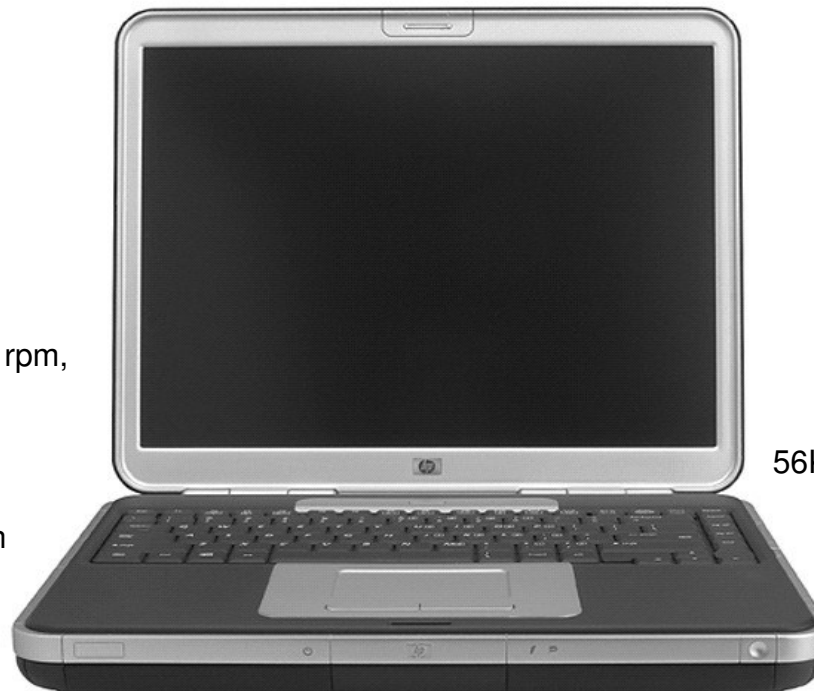
USB 2.0 (3 ports) & 1394

Internal 8-cell & 12 cell lithium-ion batteries

Choice of DVD+RW/R, DVD/CD-RW, DVD or
CD

ATI Mobility Radeon 9000 integrated graphics

Size: 1.80 (456mm) x 11.18 (284mm) x 14.25 (362mm) inch
Weight : **8.28 lbs/** 3.76kg





HP Compaq nx9500 Key Features

Intel Pentium 4 processors with Hyper-Threading Technology and 800-MHz Front Side Bus

Maximum 2.0-GB of memory – with dual-channel support

User removable hard drive: 60 GB, 4200 rpm or 80 GB, 5400 rpm

NVIDIA GeForce FX Go5700 discrete graphics solution with 64 MB or 128 MB of dedicated memory

Optical hard drives, DVD+RW, DVD/CDRW

Integrated communications: modem, 10/100 LAN, and 802.11g

Five-in-one media slot with support for SD, MMC, Memory Stick, Memory Stick Pro, and Smart Media

Four USB 2.0 ports

Durable magnesium enclosure and composite base



17-inch WXGA+ display

Full-size desktop keyboard deck with numeric keypad



Rugged Solutions



HP Rugged Solutions



- Designed to use just about anywhere: rain, extreme temperatures, dust, exposure to long term vibration or in the middle of nowhere
- Great tool for users in industries such as field repair and service, public safety, utilities, and for use within the military and federal government branches
- It sets the industry standard for rugged reliability through rigorous testing, sound and proven designs, and delivers performance without sacrificing durability



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Rugged Industry – Defined

Terminology:

- **Commercial** – The product may have some rugged type features but **DOES NOT** meet or exceed compliance with the MIL-STD-810F test. These products are not engineered for this purpose.
- **Rugged Lite** – The product has rugged characteristics or features but **DOES NOT** meet or exceed compliance with the MIL-STD-810F test. The product is “**designed**” against the MIL-STD-810F test procedures but does not meet “**compliance**”. Passing the MIL-STD-810F requires a different level of engineering in order to pass.
- **Rugged** – The product has rugged characteristics and features and **DOES** meet or exceed compliance with the MIL-STD-810F test.
- **Ultra-Rugged** – The product **DOES HAVE** rugged characteristics and features and **OVER** exceeds compliance with the MIL-STD-810F test.

With HP Rugged, you're either MIL-STD-810F compliant or you're not! HP classifies Rugged by being compliant with all specifications and testing under the MIL-STD-810F test.



Rugged Industry – Defined



- **IP (Ingress Protection)** A set of enclosure protection standards established by the International Electrotechnical Commission. Expressed as a two-digit number, the IP rating describes the ability of an electrical enclosure to withstand penetration from solids and liquids according to the following table:

FIRST NUMBER (SOLIDS)		SECOND NUMBER (LIQUIDS)
0	No protection	No protection
1	Protected against objects > 50 mm (hands)	Protected against dripping water or condensation
2	Protected against objects > 12 mm (fingers)	Protected against sprays of water 15° from vertical
3	Protected against objects > 2.5 mm (tools/wires)	Protected against sprays of water 60° from vertical
4	Protected against objects > 1 mm (small tools)	Protected against splashing water
5	Protected against dust, limited ingress	Protected against low pressure jets of water
6	Totally protected against dust	Protected against heavy seas (shipdeck)
7	N/A	Protected against the effects of immersion
8	N/A	Protected against submersion

A rating of IP 68, therefore, would indicate a dusttight device that can withstand total submersion in water.

Our HP Rugged Tablet PC tr3000 and HP Rugged Notebook nr3600 are both IP 54. This means “Protected against dust, limited ingress” and “Protected against splashing water.”



Ruggedized Notebook – nr3600



The HP Rugged Notebook nr3600 is designed to offer rugged wireless computing capability to the field user that requires more durability.

Highlights

- **1.7 GHz Intel Pentium 4 processor** with 512 K L2 Cache
- Intel 845MP Chipset
- 256MB (266Mhz DDR SDRAM) Standard – **1GB maximum**
- Shock mounted 2.5-inch **40GB Ruggedized removable hard disk drive** with optional heater
- Swappable media bay accepts internal 24X CD, 8X DVD, CDRW, DVD/CDRW combo, second battery or 3.5-inch diskette drive.
- **12.1-inch TFT XGA Outdoor transmissive ColorVue® display** with Touchscreen
- ATI MOBILITY RADEON with 32 bit color rendering and 3D graphics and integrated 16MB SGRAM
- **Integrated Wireless – WPAN, WLAN, WWAN**
- PC card slot for (1) Type I, II, or III card with 32 bit card bus
- Built-in RJ-11 and RJ-45
- 2.36 x 12 x 9.8-inch , **7.9 lbs.**



Ruggedized Tablet – tr3000



The HP Rugged Tablet PC tr3000 is designed to offer truly mobile rugged wireless computing capability to the field user in specific vertical market applications that require more durability.

Highlights

- **933 MHz Ultra Low Voltage Mobile Intel PIII** with 512K L2 cache
- 256 to **640 MB Low Voltage SDRAM** (256MB, 384MB, or 640MB options)
- Shock mounted **2.5" 40 GB Hard Disk Drive**
- **8.4-inch TFT SVGA Outdoor Transmissive display** with Digitizer Control Panel Touchscreen
- **Integrated Wireless – WPAN, WLAN, WWAN**
- PC Card slot for (1) Type I or II card with 32 bit Card Bus 2.1 interface.
- Digitizer Control Panel Touchscreen
- 1.65 x 7.2 x 10.6-inch, **3.7 lbs**





Operating Systems





Operating System - updates

- **NC Series –**

- W2K: drivers available
- WXP: pre-install + drivers available
- Linux: certification only
 - Red Hat: nc8000, nw8000
 - SuSE: nc6000, nc8000, nw8000

- **NX Series –**

- W2K: drivers available
- WXP: pre-install XP and XP Home + drivers available
- Linux– N/A

- **Tablet –**

- W2K: N/A
- WXP: pre-install + drivers available
- Linux: N/A

- **Rugged –**

- W2K: drivers available (nr3600 only)
- WXP: pre-install + drivers available
- Linux: N/A



Supporting Products



Common Expansion Solutions

A Full Line Of Affordable Common Expansion Solutions For A Wide Range Of User Needs



External MultiBay External Drive Support

- USB 2.0 interface
- Support for MultiBay devices
- Security slot
- Boot support



Port Replicator Cable Management

- Legacy port replication
- USB 2.0 (2) and 1394¹
- Multimedia ports
- NIC pass through
- DVI-D & VGA port



Advanced Port Replicator No Compromise Desktop Functionality

- Legacy port replication
- USB 2.0 (3) and 1394¹
- Multimedia ports
- NIC pass through
- DVI-D & VGA port
- Integrated MultiBay
- Monitor stand option

¹ port replicators pass functions directly from the notebook. DVI, 1394 and TV out are not enabled on all notebooks. 1394 not supported by Solutions and Technology Conference & Expo

Common Options – notebooks

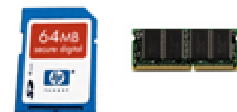
Common Across Product Families

- Lowering Total Cost Of Ownership
- Simplified Purchases And Deployment
- Reduced Spare Parts Inventory
- Fewer Options To Support
- Investment Protection



Don't forget the carrying cases!!

Docking	MultiBays	Image	Power options	Memory
<ul style="list-style-type: none"> • Port replicator • Advanced PR • MultiBay cradle 	<ul style="list-style-type: none"> • DVD+RW • DVD/CD-RW combo • DVD-ROM • CD-ROM • Diskette drive • Removable hard drive • Batteries 	<ul style="list-style-type: none"> • Windows XP Pro • Windows 2000 	<ul style="list-style-type: none"> • AC adapters • auto & airline adapter • battery charger 	<ul style="list-style-type: none"> • DIMMS • SD



HP Notebook Expansion Base

Experience a desktop PC without sacrificing the flexibility of a mobile platform.

HP Notebook Expansion Base

- 6 USB 2.0
- S-Video & Composite Out
- SP/DIF
- Headphone out
- Modem/Ethernet
- Serial port
- Built in Altec Lansing speakers



Tablet Options

Unique to Tablet PC

- Transitions from hallway or meeting to the office and back
- Discreet, digital note taking with pen in meeting room
- Productivity with keyboard in the hotel or the office



Increase productivity with a digital camera!!

Docking Station

- MultiMonitor support
- Port Replication
- Variety of viewing and writing capabilities

Keyboard & Pen

- Detachable Keyboard
- Extra pens

Executive Cases

- Tablet only
- Tablet + Keyboard
- Ruggedized



Tablet “durable” cases



Durable Grip: \$99

- flexible, lightweight, snug case
- add “grip”
- bump resistant
- latex free, easy clean
- shoulder strap

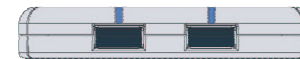
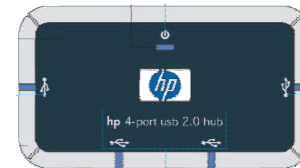


Rugged Field Case: \$149

- molded plastic casing
- top cover for added protection
- rain and dust resistant
- hand strap
- shoulder strap

“Cool” Options

- HP USB Digital Drive: \$89
- DVD+RW Multibay: \$399
- 4 USB Port Hub: \$49
- Tablet Pens: \$49
- Wireless/Rechargeable optical mouse: \$49
- 40GB USB External Hard Drive: \$199



Rugged Accessories

Expansion Accessories

- Tablet PC Office Dock
- Tablet PC Vehicle Dock
- Notebook Vehicle Dock



Notebook Media Bay

- DVD/CDRW
- DVD-ROM
- CD-ROM
- 2nd Battery
- Diskette drive



Tablet PC USB Devices

- USB CD-ROM
- USB Floppy
- Backlit Keyboard
- USB to Serial Adaptor



Power options

- Vehicle adapter & power cord
- External battery charger
- Secondary Batteries





HP advantages



HP advantages



- **Extensive product testing – ~47K hours per platform**
- **Extensive innovation – ~ 17K patents worldwide**
- **Breadth of product offerings –**
 - **tablet PC to ultraportable to thin/light to desktop replacement to mobile workstation to rugged**
- **Magnesium casing –**
 - **more durable than composite plastic:**
- **Secure Digital Cards – “better together”**
- **Commonality – lower TCO through common pre-installed images, options and docking**
- **Security offerings –**
 - **BIOS passwords, pre boot Smart Card, PC Card Smart Card/Integrated Smart Card, Finger print Readers, TPM, Protect Tools, cable locks, CompuTrace**
- **Manageability – single, web-based console**
 - **HP Client Manager, HP Insight Manager, HP OpenView, Novadign, Altiris**



Comments, feedback, input ...



Thank you!



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