Microsoft
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Ventas & Sistemas Ltda.

Bogota D.C.
Lunes, 15 de Diciembre de 2003

Señores
SUPERINTENDENCIA DE VALORES
Ant. Sr(a) Director(a)
La ciudad

Referencia: Observaciones al proyecto de evaluación de la licitación 01 de 2003

Respetado(a) Señor(a) Director(a).

OBSERVACIONES AL PROYECTO DE EVALUACION DE LA LICITACION 01 DE 2003 EN LO REFERENTE AL RECHAZO DE LA PROPUESTA PRESENTADA POR VENTAS Y SISTEMAS LTDA.

Con todo comedimiento y atención, acudo a este honorable despacho a fin de poner en su conocimiento los siguientes aspectos:

1. Con ocasión de la vigencia del Decreto 2170 de 2002, el cual fue expedido por el gobierno nacional para combatir la corrupción, la contratación pública ha tenido un viraje total, en cuanto a la exigencia de ciertos documentos que antes eran necesarios y que ahora, previo el cumplimiento de ciertos aspectos técnicos y de mercado, ya no lo son y por lo tanto la entidad tiene el recurso de solicitarlos de acuerdo con los siguientes postulados.

2. Este despacho rechazó la propuesta presentada por la sociedad VENTAS Y SISTEMAS LTDA., porque, no presentamos los certificados de registro de los precios unitarios de referencia.

3. En cuanto a este aspecto, el decreto referido en el parágrafo del artículo 4, señala: "En desarrollo de lo previsto en el inciso segundo (2$^{do.}$) del numeral quince (15) del artículo 25 de la Ley 80 de 1993, *los documentos y requisitos allí relacionados podrán ser solicitados por las entidades en cualquier momento, hasta la adjudicación.*" (Negrilla y cursiva son mías)

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4. A su turno, el inciso segundo (2do.), numeral 15 del artículo 25 de la Ley 80 de 1993, reza: "La ausencia de requisitos *o la falta de documentos referentes a la futura contratación o al proponente, no necesarios para la comparación de propuestas, no servirá de título suficiente para el rechazo de los ofrecimientos hechos.*" (Negrilla, cursiva y subrayado fuera de texto)

5. El numeral dos (2) del artículo 4 del Decreto 2170 de 2002, dice: "*La oferta más favorable será aquella que, teniendo en cuenta los factores técnicos y económicos de escogencia y la ponderación matemática precisa y detallada de los mismos,* contenida en los pliegos de condiciones o términos de referencia, *resulte ser la más ventajosa para la entidad,* sin que la favorabilidad la constituyan factores diferentes a los contenidos en dichos documentos y *siempre que la misma resulte coherente con la consulta de precios o condiciones mercado, de conformidad con lo establecido en el artículo 6 del presente decreto.* (Negrilla y cursiva fuera de texto)

6. A su turno, el artículo 6 dice: "De la consulta de precios o condiciones del mercado. La consulta de precios o condiciones del mercado en los procesos de selección, se surtirá a través del Registro Único de Precios de Referencia (RUPR-SICE) a que se refiere la Ley 598 de 2000 para el caso de los bienes o servicios registrados. ..."

7. La consulta del RUPR-SICE, es un medio idóneo para establecer los PRECIOS o CONDICIONES del mercado en procesos de selección, pero de ninguna manera es un instrumento válido para el RECHAZO de las ofertas en los procesos de contratación administrativa. El hecho de que por cualquier razón no se hubieran anexado los certificados a los documentos que acompañan la oferta, no faculta a la administración para RECHAZAR la oferta, así esté escrito en el pliego de condiciones, por cuanto, tal condición estaría violando las normas que rigen la contratación administrativa, en cuanto a los aspectos objetivos de contratación y lo que las normas han denominado "OFERTA MÁS FAVORABLE".

8. Una cosa es *no haber acompañado* el RUPR-SICE y otra muy diferente es *no tenerlo,* la primera hipótesis faculta al oferente y le da los beneficios consagrados en el parágrafo del artículo 4 del Decreto 2170 de 2002, en armonía con el inciso segundo (2do.) del numeral 15 del artículo 25 de la Ley 80 de 1993, esto es, que ustedes como entidad contratante pueden solicitarlo en cualquier momento hasta

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la adjudicación, lo cual no afectaría el estudio de nuestra oferta y la segunda hipótesis, afectaría los términos de contratación, así el oferente tenga la "OFERTA MÁS FAVORABLE", por cuanto, la norma exige el registro del contratista.

9. El numeral primero (1ro.) del artículo 25 de la Ley 80 de 1993, es enfático en afirmar que para la escogencia de contratistas, se cumplirán y establecerán los procedimientos y etapas estrictamente necesarios para asegurar la SELECCIÓN OBJETIVA de la PROPUESTA MÁS FAVORABLE y el hecho de que ustedes impongan como requisito de RECHAZO de la oferta un documento cuya finalidad es como ya se anotó " la consulta de precios o condiciones del mercado", se debe basar única y exclusivamente en la **OMISIÓN** de dicho registro (no tenerlo) y no en la falta de acompañamiento físico del documento requerido, porque, como ya lo afirmamos en el numeral inmediatamente anterior, estarían violando el principio de economía consagrado en el artículo 25, numeral 15, inciso 2, en armonía con el artículo 4 del Decreto 2170 de 2002 en su parágrafo, en virtud de que las normas referidas, permiten anexar el documento hasta la adjudicación.

10. Los anteriores argumentos tienen respaldo no solamente en la doctrina, sino en jurisprudencia reciente del honorable Consejo de Estado, en donde se ha permitido a los contratistas acompañar los documentos previstos en las normas citadas, teniendo siempre en cuenta el criterio de SELECCIÓN OBJETIVA DE LA PROPUESTA MÁS FAVORABLE, contenido en el artículo 25 íbídem y en los preceptos del artículo 4 del Decreto 2170 de 2002.

PETICIÓN

Por lo expresado anteriormente, me permito solicitar los registros citados en el numeral 2.1.8. del capítulo II del pliego de condiciones titulado CERTIFICADO CONTRALORÍA GENERAL DE LA REPÚBLICA, para que ustedes se sirvan revocar íntegramente el acto mediante el cual se produjo el RECHAZO de la oferta presentada por la sociedad VENTAS Y SISTEMAS LTDA. y como consecuencia de ello, deberán tener en cuenta la citada OFERTA, para los efectos legales de contratación contenidos en la Licitación Publica 01 de 2003.

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OBSERVACIONES AL PROYECTO DE EVALUACION DE LA LICITACION 01 DE 2003 EN LO REFERENTE A PROPUESTA PRESENTADA POR LA UNION TEMPORAL REDCOMPUTO LTDA Y SISTETRONICS LTDA.

Observaciones de orden Jurídico

1. Si bien es cierto la oferta de Ventas y Sistemas Ltda. Fue rechazada jurídicamente por no anexar el registro de precios (SICE/RUPR) solicitamos a su despacho revisar de forma objetiva y justa para todas las partes el Articulo 47 de la resolución 5313 de la ley No 598 de 2000 (julio 18) que dice:
   (...en el cual se hace constar que el proveedor inscribió los precios de sus bienes y servicios y se indicara el precio registrado. Los usuarios lo podrán imprimir en medio físico, con el fin de aportarlo al proceso o procesos contractuales en los que desee participar.

   Parágrafo. Las ofertas presentadas por los consorcios y uniones temporales, deberán adjuntar, los certificados de registro de los consorciados o integrantes de la unión temporal que hayan realizado el registro de precios.

   La oferta de la Unión Temporal solo presenta los registros de precios (SICE/RUPR) de uno de sus integrantes (Redcomputo Ltda.) por lo tanto estaría incumpliendo la norma, por lo tanto esta oferta NO es HABIL JURIDICAMENTE.

Observaciones de orden Técnico.

En cuanto a lo mínimo solicitado en los pliegos de condiciones en le ítem 1 (equipos de computo se solicita que:

"1.3.1.2.5   Monitor a color que trabaje con resoluciones entre 640 x 480 y 1024 x 768 o superior y al menos 17"."

La oferta de la U.T. Presenta en el anexo No 2 (dos), folio No 107 la siguiente repuesta. **"resolución de 1024*768 0.28 DP"** y no cumple con la resolución del monitor de 640*480 solicitada en los pliegos como requerimiento mínimo, y de acuerdo con el numeral

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2.2.6 ANEXO DE PREGUNTAS Y RESPUESTAS

Los ofertantes responderán el anexo de preguntas y respuestas que se encuentra en el Anexo 2., adjuntando toda la documentación que considere de interés. La no entrega, no diligenciamiento o diligenciamiento parcial del Anexo 2 a este pliego, dará lugar al **RECHAZO** de la propuesta por parte de la entidad.

En cuanto a lo mínimo solicitado en los pliegos de condiciones en le ítem 3 (equipos portátiles se solicita que:

1.3.3.2.17 Peso no superior a 3.3 kg.

La oferta de la U.T. Presenta en el anexo No 2 (dos) Folio 132 la siguiente respuesta "Peso 3.2 kg" este ofrecimiento carece de validez ya que los modelos de portátiles con pantallas de 15" TFT poseen en peso de 7.69 lb (3.49 Kg) tal como se anota en los catálogos anexos (pagina 11 del catalogo anexo). Por lo tanto esta oferta no cumple con lo mínimo requerido por la entidad.

Con lo anteriormente expuesto la oferta de la unión temporal NO cumple técnicamente.

Sin otro particular

José Raúl Díaz Sabogal
Representante Legal
Ventas y Sistemas Ltda.

Overview
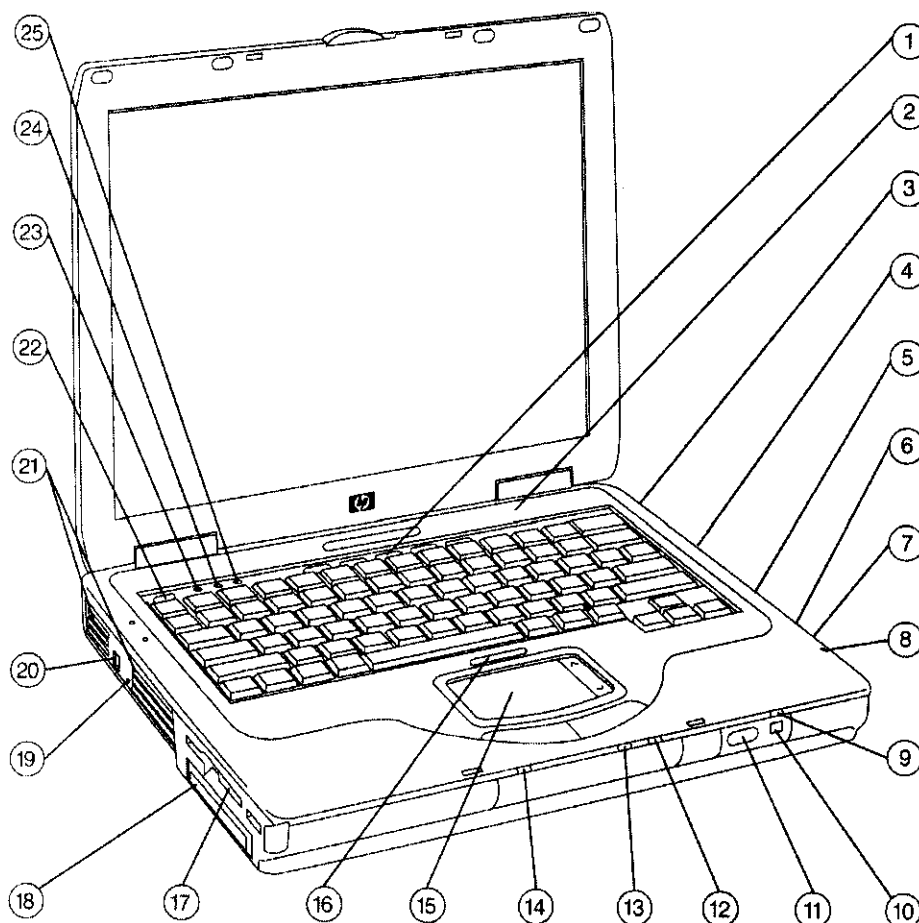
1. Easy Access Buttons (5)
2. Stereo Speakers
3. USB Port (1)
4. Fixed Optical Drive
5. Audio In
6. Headphone
7. Volume Control
8. Mute Lock LED
9. Wireless LED
10. Wireless On/Off Button
11. Fast IR
12. Battery Charging LED
13. Hard Drive Activity LED
14. System Drive LED
15. Touch Pad
16. Touch Pad On/Off Button
17. Diskette Drive
18. PC Card Slot (1)
19. 1394 Port
20. RJ-11 (Modem)
21. Air Vents
22. Power Buttons
23. Cap Lock LED
24. Num Lock LED
25. Keypad LED

QuickSpecs

Overview
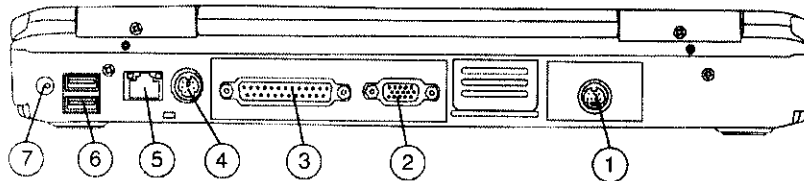
1. S-Video
2. VGA Video
3. Parallel Port
4. PS/2 Port

5. RJ-45 (NIC)
6. USB Ports (2)
7. DC In

What's New

- Mobile Intel Pentium 4 processors - up to 3.06 GHz
- Optional DVD+RW optical drive

At A Glance

- Mobile Intel Pentium 4 processors - up to 3.06 GHz
- Intel® Celeron®processors - up to 2.4 GHz
- 15-inch TFT XGA and 14.1-inch TFT XGA display
- Configurations as light as 7.07 lb/3.2 kg and as thin as 1.73 in/4.39 cm (14-inch panel)
- 256MB or 512MB DDR SDRAM (266 MHz), Upgradeable to 1GB
- Up to 80 GB (4200 rpm) hard drive
- Integrated NIC, V.92 modem, and available 802.11b and 802.11g Wireless LAN
- Full-size keyboard with 5 Quick Launch Buttons
- Microsoft Windows XP Professional or Microsoft Windows XP Home.
  NOTE: Microsoft Windows 2000 driver support via web
- Includes a one-year, Worldwide Warranty - Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

What's Special

- Mobile Intel Pentium 4 and Intel Celeron processors
- All-in-one convenient design
- Powerful Proven Technology
- USB 2.0 and IEEE 1394

QuickSpecs

Standard Features

Processors and Chipset One of the following:	3.06 GHz Mobile Intel Pentium 4 processor with 533-MHz Front Side Bus and 512-KB L2 cache	
	2.8 GHz Mobile Intel Pentium 4 processor with 533-MHz Front Side Bus and 512-KB L2 cache	
	2.66 GHz Mobile Intel Pentium 4 processor with 533-MHz Front Side Bus and 512-KB L2 cache	
	2.3 GHz Mobile Intel Pentium 4 processor with 400-MHz Front Side Bus and 512-KB L2 cache	
	2.6 GHz Intel Celeron with 400-MHz Front Side Bus and 256-KB L2 cache	
	2.4 GHz Intel Celeron with 400-MHz Front Side Bus and 256-KB L2 cache	
	Chipset: ATI Radeon IGP 345M (RS200MP) / ALI M1535+	
	NOTE: Mobile Intel Pentium 4 processor supports enhanced Intel SpeedStep™ technology.	

Displays	Internal	15-inch color TFT XGA with 1024 x 768 resolution (up to 16.7M colors internal)
		14.1-inch color TFT XGA with 1024 x 768 resolution (up to 16.7M colors internal)
	External	Up to 32-bit per pixel color depth. Supports 640 x 480, 800 x 600, 1024 x 768, 1280 x 768, 1280 x 1024, or 1600 x 1200 resolutions up to 100-Hz refresh rate, dependent upon monitor capability, and resolution and color depth settings

Memory	Standard	256 MB (266 MHz) DDR SDRAM (256 MB SODIMM in slot 1) or 512 MB (266 MHz) DDR SDRAM (256 MB SODIMM in slots 1 and 2)
	Maximum	1 GB (266 MHz) DDR SDRAM (512MB (266 MHz) in slots 1 and 2)
	NOTE: 256MB of DDR (64MB standard shared video memory)	
	NOTE: Up to 64MB shared video memory user configurable	

Communications	10/100 NIC is integrated on the system board Integrated 56K (V.92) modem 802.11b on select models 802.11g "pre-standard G" (availability dependent on country regulations) Wireless on/off Button NOTE: Pre-Standard G: This notebook uses and is compatible with 54g products.

Keyboard	Full-size desktop-compatible keyboard; special feature hotkeys for instant access to toggling between internal and external displays, or simultaneous displays and brightness. Oversized keys and separate cursor control keys (87 keys) – 101-key compatible

Easy Access Buttons	Five - One Touch Quick Launch Buttons

Pointing Device	Touch pad with on/off button and dedicated scroll up/down surface

PC Card Slots	One Type II PC Card slot with support for 16-bit PCMICIA and 32-bit Cardbus.

QuickSpecs

Standard Features

Storage	Fixed Diskette Drive	1.44 MB Diskette Drive
	Primary Hard Drive	80-GB 4200 rpm SMART Ultra ATA Hard Drive 60-GB 4200 rpm SMART Ultra ATA Hard Drive 40-GB 4200 rpm SMART Ultra ATA Hard Drive 30-GB 4200 rpm SMART Ultra ATA Hard Drive
	Fixed Optical Drive	DVD/CD-RW combo Drive DVD Drive CD Drive DVD+RW Drive

Audio	Integrated Speakers, Volume control & Mute buttons, AC/97, SoundBlaster Pro compatible, 16-bit stereo sound

Multimedia	Dual Speakers and 16-bit stereo sound Dedicated Hardware and Hotkey volume controls Headphone-out port Microphone-in port Software MPEG1 support, MPEG2 and DVD DVD/CD-RW Combination Drive (on select models) DVD-ROM Drive with movie playback software (on select models) CD-ROM Drive (on select models) S-video Port IEEE 1394 Port (on select models) USB 2.0 Ports (on select models) 4X AGP graphics 64MB of DDR (Double Date Rate) shared video memory

Interfaces	PC Card	1 Type 1/II
	Enhanced Parallel EPP/ECP	1
	PS/2	1
	S-Video (NTSC/PAL)	1
	VGA	1
	1394	1
	Port Replicator – select models	1
	Headphone/Line-out	1
	Microphone-in	1
	DC Power	1
	RJ-11 (modem)	1
	RJ-45 (NIC)	1
	Infrared Port – select models	1 (4 Mb/s support) (IrDA 4 MB compliant. IR performance will vary depending on performance of IR peripherals and application used.)
	USB 2.0	3
	LED status indicators	8

- System power
- Battery charging
- Hard drive activity
- Caps lock
- Num lock
- Keypad
- Wireless
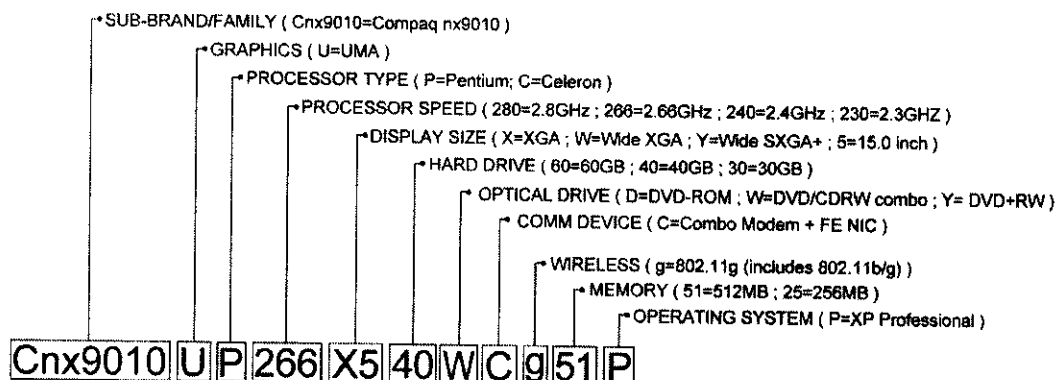- Mute Lock

QuickSpecs

Standard Features

Graphics

UMA architecture – ATI Mobility™ Radeon™, AGP 4x and 3D Architecture, MPEG2 and DVD playback, standard 16MB shared w/128MB main memory, 64MB shared w/256MB or more main memory, configurable up to 64MB.

Operating System

Microsoft Windows XP Pro, preinstalled or
Microsoft Windows XP Home (limited language availability) preinstalled
NOTE: Microsoft Windows 2000 Driver support via web

Software

Intervideo WinDVD Playback Software
Roxio Easy CD Creator (on CDRW, DVD/CDRW)
Safety and Comfort Guide
Acrobat Reader
Reference Guide
One touch button software
Symantec Norton Anti-virus
HP Help and Support
Microsoft Office on select models
NOTE: Symantec Norton Antivirus 2003 (Complimentary 60 days Live Update)

System Recovery

Each unit is shipped with a recovery CD kit containing a system restore and Operating System CD. These CDs allow users to either recover or repair the notebook operating system without losing personal data. The Operating System CD also provides the option of reinstalling the operating system software provided with the notebook. (erases hard disk and restores the manufacturer installed image)

Security

Power-on Password
Kensington MicroSave security slot; accepts 3rd party security lock devices

Power Supply

External 90-Watt AC adapter, power cord included.

Battery

The HP Compaq Business Notebook nx9010 provides up to 2 hours of battery life using the standard 8-cell Lithium-Ion battery, 4.4Ahr and Smart Battery Technology (provides accurate, instantaneous battery status).

NOTE: Actual results may vary with product model, configuration, and individual usage. Hewlett-Packard testing of a HP Compaq nx9010 with an Intel Celeron 2.0 GHz + CPU, Windows XP Pro, 15.0-inch XGA LCD, 256 MB RAM, 20-GB HDD, DVD, Lithium-Ion battery, and NIC/modem, achieved an overall Business Winstone 2002 BatteryMark score of 2h 20m Business Winstone® 2002 BatteryMark™ Version 1.0 units. Winstone® is a registered trademark and BatteryMark™ is a trademark of Ziff Davis Publishing Holdings Inc. in the U.S. and other countries. Copyright 2002 Ziff Davis Media Inc. All Rights Reserved. System parameters followed test recommendations: panel brightness 50%, power management scheme - Laptop/Portable, hard drive, standby and video timers set to never.

NOTE: This test was performed without independent verification by eTesting Labs Inc. eTesting Labs Inc. makes no representations or warranties as to the result of the test. BatteryMark is a trademark of Ziff Davis Publishing Holdings Inc., and affiliate of eTesting Labs Inc., in the U.S. and other countries.

Power Conservation

Hibernation
Instant-on via Standby
One custom level of power conservation
Energy Star Compliant

Service and Support

HP Services includes a one-year, Worldwide Limited Warranty, pick-up or carry-in; upgraded warranty and toll-free 7 x 24 hardware technical phone support available.

NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

QuickSpecs

Standard Features

- SUB-BRAND/FAMILY (Cnx9010=Compaq nx9010)
  - GRAPHICS (U=UMA)
    - PROCESSOR TYPE (P=Pentium; C=Celeron)
      - PROCESSOR SPEED (280=2.8GHz ; 266=2.66GHz ; 240=2.4GHz ; 230=2.3GHZ)
        - DISPLAY SIZE (X=XGA ; W=Wide XGA ; Y=Wide SXGA+ ; 5=15.0 inch)
          - HARD DRIVE (60=60GB ; 40=40GB ; 30=30GB)
            - OPTICAL DRIVE (D=DVD-ROM ; W=DVD/CDRW combo ; Y= DVD+RW)
              - COMM DEVICE (C=Combo Modem + FE NIC)
                - WIRELESS (g=802.11g (includes 802.11b/g))
                  - MEMORY (51=512MB ; 25=256MB)
                    - OPERATING SYSTEM (P=XP Professional)

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Cnx9010 U P 266 X5 40 W C g 51 P
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Models

Cnx9010UC240X430DC25P
P/N DH908U#ABA

Display	14-inch color TFT XGA
Processor	2.4 GHz Intel Celeron
Cache Memory	256 KB, L2 Cache
Standard Memory	256 MB (1 DIMM) 266 MHz DDR
Maximum Memory	1024 MB (266 MHz) DDR
Hard Drive	30 GB
Optical Drive	DVD ROM Drive
Diskette Drive	1.44MB Diskette Drive
Communications	Type III Mini PCI 56K (V.92) modem, (LOM) integrated 10/100 NIC
Graphics	ATI Radeon IGP 345M Integrated UMA architecture ATI 4X AGP 3D accelerator
Audio	16-bit stereo sound integrated speakers
Operating System	Microsoft Windows XP Pro
Warranty	One Year

Cnx9010UP230X540WC25P
P/N DH909U#ABA

Display	15-inch color TFT XGA
Processor	2.3 GHz Mobile Intel Pentium 4
Cache Memory	512 KB, L2 Cache
Standard Memory	256 MB (1 DIMM) 266 MHz DDR
Maximum Memory	1024 MB (266 MHz) DDR
Hard Drive	40 GB
Optical Drive	DVD/CD-RW Drive
Diskette Drive	1.44MB Diskette Drive
Communications	Type III Mini PCI 56K (V.92) modem, (LOM) integrated 10/100 NIC
Graphics	ATI Radeon IGP 345M Integrated UMA architecture ATI 4X AGP 3D accelerator
Audio	16-bit stereo sound integrated speakers
Operating System	Microsoft Windows XP Pro
Warranty	One Year

Standard Features

Cnx9010UP266X540WCg51P
P/N DH910U#ABA

Display	15-inch color TFT XGA
Processor	2.66 GHz Mobile Intel Pentium 4
Cache Memory	512 KB, L2 Cache
Standard Memory	512 MB (2 DIMM) 266 MHz DDR
Maximum Memory	1024 MB (266 MHz) DDR
Hard Drive	40 GB
Optical Drive	DVD/CD-RW Drive
Diskette Drive	1.44MB Diskette Drive
Communications	Type III Mini PCI 56K (V.92) modem, (LOM) integrated 10/100 NIC Integrated 802.11g (pre-standard) WLAN
Graphics	ATI Radeon IGP 345M Integrated UMA architecture ATI 4X AGP 3D accelerator
Audio	16-bit stereo sound integrated speakers
Operating System	Microsoft Windows XP Pro
Warranty	One Year

Cnx9010UP280X580YCg51P
P/N DH912U#ABA

Display	15-inch color TFT XGA
Processor	2.8 GHz Mobile Intel Pentium 4
Cache Memory	512 KB, L2 Cache
Standard Memory	512 MB (2 DIMM) 266 MHz DDR
Maximum Memory	1024 MB (266 MHz) DDR
Hard Drive	80 GB
Optical Drive	DVD+RW Drive
Diskette Drive	1.44MB Diskette Drive
Communications	Type III Mini PCI 56K (V.92) modem, (LOM) integrated 10/100 NIC Integrated 802.11g (pre-standard) WLAN
Graphics	ATI Radeon IGP 345M Integrated UMA architecture ATI 4X AGP 3D accelerator
Audio	16-bit stereo sound integrated speakers
Operating System	Microsoft Windows XP Pro
Warranty	One Year

QuickSpecs

Options

Storage	USB 16MB Disk on Key	DF517A
	IBM 1GB Microdrive	217390-B25
	USB Diskette Drive	230330-B25

Memory	128MB (266 MHz) DDR RAM Memory Upgrade	DC388B
	256MB (266 MHz) DDR RAM Memory Upgrade	DC389B
	512MB (266 MHz) DDR RAM Memory Upgrade	DC390B

Expansion	Simple Port Replicator (USB 2.0)	F4808B

Power	Primary Battery Pack	F4809A
	AC Adapter 90W	F4813A#ABA
	Auto/Truck Adapter 90W	DC303A

Carrying Cases	Executive Nylon Case	DC916A
	HP Top Load Nylon Carrying Case	DC915A
	HP Top Load Leather Carrying Case	DC917A

Security	PC Card Biometrics ID Device	146805-B25
	PC Card Smart Card Reader	135646-B25
	Security Cable Lock	294316-B21

Input/Output Devices	External 10-Key Numeric Keypad (PS/2)	294317-B21
	USB/PS2 Keyboard	118003-009
	USB/PS2 Mouse	103180-B22
	USB Travel Mouse	F2100A

QuickSpecs

HP Compaq Business Notebook nx9010

Memory

HP Compaq Business Notebook nx9010

Standard Memory Plus Optional Memory
Support for up to 1024 MB total of DDR SDRAM memory is available with the installation of optional DDR SDRAM Memory Kits.

Memory	Slot 1	Slot 2
256 MB	256 MB	-
384 MB	256 MB	128 MB
512 MB	512 MB	-
768 MB	512 MB	256 MB
1024 MB	512 MB	512 MB

NOTE: This chart does not represent all possible memory configurations. Due to the non-industry standard nature of some third-party memory modules, we strongly recommend using only Compaq branded memory modules to ensure compatibility.

Following are memory options available from Compaq:

- 512-MB (266 MHz) Memory Upgrade   DC390B
- 256-MB (266 MHz) Memory Upgrade   DC389B
- 128-MB (266 MHz) Memory Upgrade   DC388B

QuickSpecs

Storage

Drive Support

System Drive Support	Quantity Supported	Drive Supported
1.44-MB Diskette Drive	1	Dedicated diskette drive
DVD/CD-RW Combo Drive	1	Dedicated optical drive
DVD+RW Drive	1	Dedicated optical drive
DVD-ROM Drive	1	Dedicated optical drive
Max CD-ROM Drive	1	Dedicated optical drive

Hard Drives		
80-GB Hard Drive	1	Dedicated hard drive bay
60-GB Hard Drive	1	Dedicated hard drive bay
40-GB Hard Drive	1	Dedicated hard drive bay
30-GB Hard Drive	1	Dedicated hard drive bay

Technical Specifications

System Unit	Dimensions (HxWxD)	14.1-inch TFT panel displays	1.73 x 12.96 x 10.72 in (4.39 x 32.92 x 27.23 cm)
		15-inch TFT panel displays	1.93 x 12.96 x 10.72 in (4.90 x 32.92 x 27.23 cm)
	Weight	14.1-inch TFT panel displays	7.07 lb (3.2 kg)
		15-inch TFT panel displays	7.69 lb (3.49 kg)

NOTE: * = Weight varies by configuration.

	Stand-Alone Power Requirements	Nominal Operating Voltage (Li-Ion)	14.4 V (8-cell)
		Average Operating Power	29.7 W Desktop
		Peak Operating Power	82 W on AC 55 W on DC
		Power in suspend mode	< 1000 mW
		Power in hibernation mode	< 100 mW
	Power Supply	Rated Input Voltage	100 to 240 VAC
		Rated Input Current	4.74 A
		Rated Frequency	50 to 60 Hz
	Temperature	Operating	50° to 95° F (10° to 35° C)
		Non-operating	14° to 140° F (–10° to 60° C)
	Relative Humidity	Operating	10% to 90% relative humidity, non-condensing
		Non-operating	5% to 90% relative humidity, 101.6° F (38.7° C) Maximum wetbulb temperature
	Shock	Operating	10 G, 11 ms, half-sine
		Non-operating	60 G, 11 ms, half-sine
	Vibration	Operating	0.5 G zero-to-peak, 10 to 500 Hz, 0.25 oct/min sweep rate
		Non-operating	1.0 G, zero-to-peak, 10 to 500 Hz, 0.5 oct/min sweep rate
	Maximum Altitude (unpressurized)	Operating	0 to 10,000 ft (0 to 3,048 m)
		Non-operating	0 to 30,000 ft (0 to 9,144 m)

14.1-Inch Color TFT XGA Display	Dimensions (H x W)	11.22 x 8.46 in (28.5 x 21.5 cm)	
	Diagonal Size	14.1 in (35.81 cm)	
	Mounting	Internal Panel Supports, Side Mounted	
	Number of Colors	Up to 16.8M	
	Contrast Ratio	150:1	
	Brightness	120nt typ	
	Pixel Resolution	Pitch	0.264 x 0.264 mm
		Format	1024 x 768
		Configuration	RGB stripe
	Backlight	Edge Lit	
	Character Display	80 x 25	
	Total Power Consumption	4.2W	

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15-Inch Color TFT XGA Display	Dimensions (H x W)	11.8 x 9 in (30.4 x 22.8 cm)	
	Diagonal Size	15 in (38 cm)	
	Mounting	Internal Panel Supports, Side Mounted	
	Number of Colors	Up to 16.8M	
	Contrast Ratio	150:1	
	Brightness	150nt typ	
	Pixel Resolution	Pitch	0.297 x 0.297 mm
		Format	1024 x 768
		Configuration	RGB stripe
	Backlight	Edge Lit	
	Character Display	80 x 25	
	Total Power Consumption	5.0W	
	Viewing Angle	+/-35° degrees Horizontal, +15°/-35° Vertical (typical)	

Hard Drives

80-GB (4200 rpm)	Drive Weight	0.22 lb (99 g)	
	Capacity	80 GB	
	Height	0.374 in (9.5 mm)	
	Width	70 mm	
	Interface	ATA-5	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
		Security	ATA Security
	Seek Time (typical reads, including settling)	Single Track	3 ms
		Average	13 ms
		Maximum	24 ms
	Rotational Speed	4200 rpm	
	Logical Blocks	156,301,488	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	Security	ATA Security

60-GB (4200 rpm)	Drive Weight	0.34 lb (155 g)	
	Capacity	60 GB	
	Height	0.374 in (9.5 mm)	
	Width	70 mm	
	Interface	ATA-5	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
		Security	ATA Security
	Seek Time (typical reads, including settling)	Single Track	3 ms
		Average	13 ms
		Maximum	25 ms
	Rotational Speed	4200 rpm	
	Logical Blocks	117,210,240	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	Security	ATA Security

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40-GB (4200 rpm)			
	Drive Weight	0.21 lb (95 g)	
	Capacity	40 GB	
	Height	0.374 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
		Security	ATA Security
	Seek Time	Single Track	3.0 ms
	(typical reads, including	Average	13 ms
	settling)	Maximum	25 ms
	Rotational Speed	4200 rpm	
	Logical Blocks	78,140,160	
	Operating Temperature	41° to 131° F (5° to 55° C)	

30-GB (4200 rpm)			
	Drive Weight	0.22 lb (99 g)	
	Capacity	30 GB	
	Height	0.374 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
		Security	ATA Security
	Seek Time	Single Track	2.5 ms
	(typical reads, including	Average	12 ms
	settling)	Maximum	23 ms
	Rotational Speed	4200 rpm	
	Logical Blocks	58,605,120	
	Operating Temperature	41° to 131° F (5° to 55° C)	

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Audio	Hardware	Implementation	Connexant SmartAMC CX20468-21 AC97 CODEC
		Audio Signal Link to CPU	Audio CODEC (AC) link
		Full Duplex	Full duplex audio recording and playback
		Stereo Inputs	Line In - 10K Impedance (min.)
		Mono Inputs	Microphone - 10K Impedance (min), with Port Replicator only.
		Stereo Outputs	Headphone jack, internal speaker, S/PDIF for Port Replicator only
		Analog Frequency Response	20 Hz - 20 kHz
	Audio Output Quality	Frequency Response	300 Hz - 20 kHz
		Signal to Noise Ratio	>94dB
		Total Harmonic Distortion	-50 dBFS (PC2001(Mobile PC) protocol)
		Noise Floor	
		Play/Record Sampling Rate(s)	7 kHz to 48 kHz
		AD/DA Resolution	Stereo full-duplex audio codec with 18-bit resolution
	Stereo Speaker	Amplifier Power	2-Watts (Normal), 2.5Watts (Maximum)
		Speaker Impedance	4-Ohms +/- 15% at 1KHz
		Frequency Response	530 Hz - 20 kHz

Diskette Drive	Diskette Size	3.5 in	
	Height	0.5 in (12.7 mm)	
	Bytes per Sector	512	
	Sectors per track	High density	18 (1.44 MB)/15 (1.2 MB)
		Low density	9
	Tracks per side	High density	80 (1.44 MB)/80 (1.2 MB)
		Low density	80
	Read/Write heads	2	
	Access Times	Track-to track (high/low)	3 ms/6 ms
		Average (high/low)	94 ms/174 ms
		Settling time	15 ms
		Latency average	100 ms

External AC Adapter without Power Faction Correction	Weight	0.67 lb (0.304 kg)	
	Power Supply (Input)	Operating Voltage	100 to 240 VAC RMS
		Operating Current	1.7 A RMS
		Operating Frequency Range	47 to 63 Hz AC

Lithium-Ion Battery Pack (8-cell)	Dimensions (L x W x D)	5.25 x 3.63 x 0.75 in (13.4 x 9.2 x 1.9 cm)	
	Weight	0.96 lb (0.43 kg)	
	Energy	Voltage	14.8 V
		Amp-hour capacity	Typical 4.4 Ah
		Watt-hour capacity	Typical 64 Wh
	Temperature	Operating	32° to 140° F (0° to 60° C)
		Non-operating	–4° to 140° F (–20° to 60° C)

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DVD/CD-RW Drive	Center Hole Diameter	15 mm	
	Disk Diameter	12 cm, 8 cm	
	Disk Thickness	1.2 mm	
	Track Pitch	1.6 µm	
	Access Times (typical reads, including settling)	Random CD	< 110 ms
		Full-Stroke CD	< 210 ms
		Random DVD	< 130 ms
		Full-Stroke DVD	< 225 ms
	Audio Output Level	0.7 – 0.9 Vrms	
	Cache Buffer	2 Mbytes (minimum)	
	Data Transfer Rate (typical, including settling)	CD-R (24X)	3600 KB/s (150 KB/s at 1X CD rate)
		CD-RW (10X)	1200 KB/s (150 KB/s at 1X CD rate)
		CD-ROM (24X)	3600 KB/s (150 KB/s at 1X CD rate)
		DVD (8X)	10,800 KB/s (1352 KB/s at 1X DVD rate)
		Normal PIO Mode 4 (single burst)	16.6 MB/s
	Start-up Time	Single	< 9 seconds (typical)
		Multi-Session	< 30 seconds (typical)
	Stop Time	< 6 seconds (typical)	

DVD-ROM Drive	Center Hole Diameter	0.59 in (1.5 cm)	
	Disk Diameter	12 cm/8 cm	
	Disk Thickness	1.2 mm	
	Track Pitch	0.74 µm (DVD)/1.6 µm(CD)	
	Access Times (typical reads, including settling)	Random (typical)	< 125 ms DVD Media
		Full-Stroke (typical)	< 225 ms DVD Media
		Random (typical)	< 100 ms CD Media
		Full-Stroke (typical)	< 175 ms CD Media
	Cache Buffer	512 KB/s (minimum)	
	Data Transfer Rate (typical, including settling)	Max 24X CD	3600 KB/s (150 KB/s at 1X CD rate)
		Max 8X DVD	10,800 KB/s (1352 KB/s at 1X DVD rate)
	Start-up Time	< 12 seconds Typical	
	Stop Time	< 3 seconds Typical	

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DVD+RW Drive	MultiBay Drive	Dimensions (H x W x D)	0.5 x 5.21 x 4.97 in (1.27 x 13.25 x 12.61 cm)
		Weight	0.55 lb (0.25 kg)
	Center Hole Diameter	15 mm	
	Disk Diameter	12 cm/8 cm	
	Disk Thickness	1.2 mm	
	Track Pitch	0.74 μm	
	Access Times (typical reads, including settling)	Random CD	< 175 ms
		Full-Stroke CD	< 285 ms
	Audio Output Level	Line-out	0.7 Vrms
	Cache Buffer	128 KB/s (minimum)	
	Data Transfer Rate (typical, including settling)	DVD+R (2X max write)	2700 KB/s
		DVD+RW (2X max write)	2700 KB/s
		CD-R (16X max write)	2400 KB/s (150 KB/s at 1X CD rate)
		CD-RW (8X max write)	1200 KB/s (150 KB/s at 1X CD rate)
		CD-ROM (24X max read)	3600 KB/s (150 KB/s at 1X CD rate)
		DVD (8X max read	10,800 KB/s (1352 KB/s at 1X DVD rate)
		Normal PIO Mode 4 (single burst)	16.6 MB/s
	Start-up Time	< 15 seconds	
	Stop Time	< 6 seconds	

24X CD-ROM Drive	Applicable Disk	CD-ROM (Mode 1, 2 and 3), CD-XA ready (Mode 2, Form 1 and 2), CD-I ready (Mode 2, Form 1 and 2), CD-R (read only), CD Plus, Photo CD (Single and Multi-session), CD-Extra, Video CD, CD-WO (fixed packets only), CD-Bridge	
	Center Hole Diameter	0.59 in (15 mm)	
	Disk Diameter	12 cm, 8 cm	
	Disk Thickness	0.047 in (1.2 mm)	
	Track Pitch	1.6 μm	
	Access Times (typical reads, including settling)	Random	< 110 ms
		Full-Stroke	< 220 ms
	Audio Output Level	Line-out	0.7-0.9 Vrms
	Cache Buffer	128 KB	
	Data Transfer Rate (typical, including settling)	CD-ROM	3600 KB/s Maximum
	Start-up Time	< 10 seconds	
	Stop Time	< 5 seconds	

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Integrated Conexant 56K ACLink Modem	Form Factor	Integrated on motherboard
	Power Management Support	APM Revision 1.2, ACPI
	Approvals/Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE Mark, Other Countries
	Data Mode Capabilities	V.92 (a-law, mu-law)
		K56flex (a-law, mu-law)
		V.8bis
		V.80
		V44.bis, MNP5 (Compression)
		V42.bis, MNP5 (Compression)
		V.42 (LAPM, MNP2-4) (Error Correction)
		V.34 (file date: 10/96)
		Optional symbol rates: 2800, 3429 Asymmetric Symbol rates
		Synchronous primary channel data signaling rates: 3600, 31200 Automatic rate re-negotiation V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J
	Fax Mode Capabilities	TIA-578-S (Class 1)
		T.30, T.4 (Group 3)
		V.17
		V.29
		V.27ter
		V.21 Channel 2
	Command Set	V.250 (Partial)
		TIA-602
		Identification: +GMI, +GMM, +GMR
		Port control: +IPR, +ICF, +IFC, +ILRR
		Modulation: +MS, +MR, +MA
		Error control: +ES, +ER, +EB, +ESR, +ETBM
		Data compression: +DS, +DR
		V.251

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Integrated 10/100 NIC	NIC Device Driver Name	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter
	Data Link Layers	IEEE 802.2 LLC
		SNAP
	Ethernet Features	10 Mbps Ethernet: IEEE 802.3 standard 10BASE-T
		100 Mbps Ethernet: IEEE 802.3u standard 100BASE-TX
		Full Duplex at 10 and 100Mbps
		Auto-Negotiation
		Wake on LAN from Standby (S3)
		Lower Power State on Link Loss
	Software support	IBM LAN Server Version 1.2, 1.3, 2.0, 4.0
		Microsoft NT 3.51, NT 4.0. Microsoft Windows 2000
		Novell Netware 3.1x, 4.x, 5.x
	Protocol support	TCP/IP
		Novell IPX/SPX and Microsoft compatible
		Novel IPX ODI
		Microsoft NetBEUI
		IBM DLC

HP 802.11b WLAN	WLAN Standard	802.11b
	Frequency band	2.4 GHz
	Data rates	1, 2, 5.5, and 11 Mbps
	O/S Support	Microsoft Windows XP Professional
		Microsoft Windows XP Home
		Microsoft Windows 2000
	WiFi-certified	Yes (802.11b; WPA pending)
	Interface	MiniPCI Type III
	Chipset	Intersil Prism 2.5
	Security	Support for 802.1x authentication types EAP-TLS, PEAP, EAP-MD5, EAP-TTLS; support for up to 128 bit WEP encryption

HP 54g WLAN W450	WLAN standard	IEEE 802.11b, 802.11g
	Frequency	2.4 GHz
	Data rates	802.11b: 1, 2, 5.5, and 11 Mbps
		802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54 Mbps
	O/S Support	Microsoft Windows XP Professional
		Microsoft Windows XP Home
		Microsoft Windows 2000
	WiFi-certified	Yes (802.11b, WPA; 802.11g pending)
	Interface	MiniPCI Type III
	Chipset	Broadcom 4306B0/2050 chipset
	Security	Support for 802.1x authentication types EAP-TLS, PEAP, EAP-MD5, EAP-TTLS; support for up to 128-bit WEP encryption, WPA

NOTE: Driver upgrade may be required for ratified IEEE 802.11g standard compliance. Visit www.hp.com/support/ to obtain driver updates for your notebook.

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