

Reviewer's Guide

Lexmark T420d

Duplexing Monochrome Laser Printer



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The information contained in this document was examined carefully and is believed to be accurate as of its date of publication.

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A Note to Reviewers from Lexmark

This brief guide provides information to help you publish a review of Lexmark's T420d monochrome laser printer. We hope you'll find it useful. We'd like your feedback and look forward to your published review.

For your convenience, this guide is divided into three parts:

- Part I: Information for your readers
- Part II: Testing the printer
- Part III: Additional resources

Photos: High-resolution product photographs are available at http://www.lexmark.com/US/virtual_press_room/t420d_image_bank.html.

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Part I: About the T420d

This section contains materials that you may find of interest when researching your review story.

Key Editorial Statement

Fast. Small. Versatile. Affordable. Breakthrough. These words describe the Lexmark T420d laser printer. Rated at 22 pages per minute (ppm), the T420 models offer standard duplex printing, time to first page (TTFP) output in 10 seconds, and a 50,000 paper per month duty cycle in a small desktop package—all for just \$649¹.

Lexmark T420d: A World's First

The Lexmark T420d is the world's first sub-\$650 laser printer that includes automatic both-sides-of-the-paper duplex printing as a standard, no-extra-cost feature.

Source: Lexmark

What's the Big Deal about Duplex Printing?

How about cutting your paper cost by half? That's what printing on both sides does. Duplex printing is a tree's best friend, utilizing the front and back of each page for printing output.

Most users don't think much about duplex printing. That's because this capability has never been widely available—and certainly never available at such a low price.

Who Is the T420d for?

The T420d printer is designed to meet the needs of departmental and small-business users who demand the crisp output that only a laser printer can provide, but who want it in an easy-to-use, high-quality printer. In addition, with the ability to print on both sides, the T420d is a great way to cut costs, a fact of life that every company is facing, regardless of size.

¹ Estimated U.S. street price; actual prices may vary.

Top Features: Bullet Point Chart

Many reviews include a chart identifying a product's top features. Here are the top cool things you may want to include about the Lexmark T420d and T420dn printers.

Lexmark T420d, T420dn Features
<ul style="list-style-type: none"> • Automatic both-sides duplex printing at no extra cost • Smaller, faster, and more feature rich than hp LaserJet 2200 • 22 ppm output; 10 seconds to first page • Overlay support eliminates need for pre-printed forms • USB and parallel ports; T420dn adds Ethernet connection • Up to 50,000 page-per-month duty cycle • Works with Windows, Macintosh, Linux and Unix

Source: Lexmark

Overview of the T420d and T420dn

As you've seen, the T420 is actually a family of two printers. The base T420d model is complemented by its twin, the Ethernet-ready T420dn. Both models offer duplex-printing capability. This chart differentiates the two models.

T420 Model Highlights					
Model	Est. street Price	Ports	Std. RAM	Max. RAM	CPU
T420d	\$649	USB, parallel	16MB	272MB	200MHz
T420dn	\$1,039	USB, parallel, Ethernet	32MB	288MB	200MHz

Source: Lexmark

Beating the Competition: HP, Xerox Can't Keep Up

Lexmark's T420d is faster, smaller and offers more standard features than Hewlett-Packard Co.'s identically priced hp LaserJet 2200. The T420d also beats Xerox, Kyocera, and Brother. Here are the facts to back up Lexmark's position:

Lexmark vs. HP T420d vs. LaserJet 2200		
	T420d	LJ 2200
Price²	\$649	\$649
Duplex printing	Standard	\$100 Option
Speed	22 pgs. / min.	19 pgs. / min.
Size (WxHxD)	16" x 10.2" x 16.7"	16" x 10" x 17.1"
Footprint	267 sq. in.	274 sq. in.
Cost per page	\$0.0193	\$0.0198
Duty cycle	50,000 pgs. / mo.	40,000 pgs. / mo.
Time to first page	10 seconds	<15 seconds
Std. memory	16 MB	8 MB
Processor	200MHz	133MHz
Resolution	1200 quality	1200 x 1200

Source: Lexmark for T420d; hp Web site for LaserJet 2220³.

Speed comparison. The network models of several comparably priced printers were given the same files to print. When comparing the total print times of all files used in the test, the results were as follows:

The Lexmark T420dn performed

- 232 percent faster than the Hp LaserJet 2200dn
- 145 percent faster than the Brother HL-1870N
- 118 percent faster than the Xerox Phaser 3400N
- 96 percent faster than the Kyocera Mita FS-1900N

² U.S. street prices are estimates; actual prices may vary.

³ <http://h10010.www1.hp.com/wwpc/us/en/un/WF05/18972-236251-236263-14638-28861.html>

Speed test comparisons were performed by QualityLogic Inc., an independent, third-party testing firm retained by Lexmark to perform an industry-standard suite of printer performance tests.

Positioning the Printers in Lexmark's Product Line

The letter/legal-size T420 printers target small to medium businesses, especially those users need of a small footprint. The T420d fits several vertical industries' needs where desk or store space is at a premium, such as retail, healthcare and financial services companies. The following bullets and chart identifies Lexmark's entire monochrome laser product line as of February 2002 and let's you see where the T420d and T420dn fit.

- The affordable E320 targets home, home-office, and small-business users with its USB and parallel connectivity while the E322 adds built-in Ethernet
- The look-alike T520, T522, T620, and T622 (the "T" series) are perfect departmental printers; the four models offer a range of output speed and options such as stapling, bin sorting, and the ability to connect Lexmark's flatbed copier/scanner/fax multifunction unit
- The "W" series offers large-format printing and high monthly duty cycles

Lexmark Monochrome Laser Printers				
Model	Web Price	Max. Media	Speed (ppm)	Maximum Resolution
E320	\$299	8.5" x 11"	16	600 x 600
E322	\$419	8.5" x 11"	16	600 x 600
E322n	\$619	8.5" x 11"	16	600 x 600
T420d	\$649*	8.5" x 11"	22	600 x 600†
T420dn	\$1,099*	8.5" x 11"	22	600 x 600†
T520	\$699	8.5" x 11"	20	1200 x 1200
T522	\$899	8.5" x 11"	25	1200 x 1200
W812	\$1,499	11" x 17"	26	600 x 600†
T620	\$1,159	8.5" x 11"	30	1200 x 1200
T622	\$1,489	8.5" x 11"	40	1200 x 1200
W820	\$2,099	11" x 17"	45	1200 x 1200

Source: Lexmark

*Street price
†1200 IQ print quality

Reader Info Box

The information in this table may be useful as you compile information for your review's reader information box.

Reader Info Box <i>Lexmark T420d, T420dn</i>	
In brief	Lexmark's T420d is the world's first laser printer with duplex printing as a standard feature for less than \$650. With its ultra-compact size, duty cycle of 50,000 pages per month and speed of 22 ppm, the T420d is the only printer that many small businesses or corporate departments will ever need.
Price⁴	T420d, \$649 T420dn (network-ready), \$1,099
Weight	30.3 lbs.
Dimensions	16" x 16.7" x 10.2" (W x D x H)
Speed	Up to 22 ppm or up to 12 page sides per minute when duplexing; TTFP in less than 10 seconds
Warranty	One year limited LexExpress
Vendor	Lexmark International Inc., Lexington, Ky.
Web site	www.lexmark.com

The Bottom Line

If the question is "why pay more and get less?" then the answer is the Lexmark T420d and T420dn duplexing monochrome laser printers. For an estimated street price of \$649, the T420d is smaller, faster, and has a five percent lower cost per page than the identically priced Hp LaserJet 2200. However, the T420d rates at 50,000 pages per month, fully 25 percent more than the 40,000 page duty cycle of the hp LJ 2200. And, of course, the T420d offers both-sides automatic duplex printing for the base \$649 price. You would have to pay an extra \$100 to get duplexing in the hp LaserJet 2200.

⁴ U.S. street prices are estimates; actual prices may vary.

Part II: Conducting Your Review

Setting-Up the Printer

First, find a suitable spot for the printer. It's important to make sure you have at least three inches of clearances to the right of the printer to ensure adequate ventilation.

Getting the T420d out of the box and ready to print couldn't be simpler. The printed *Setup Guide* includes many drawings that will guide your readers through the process.

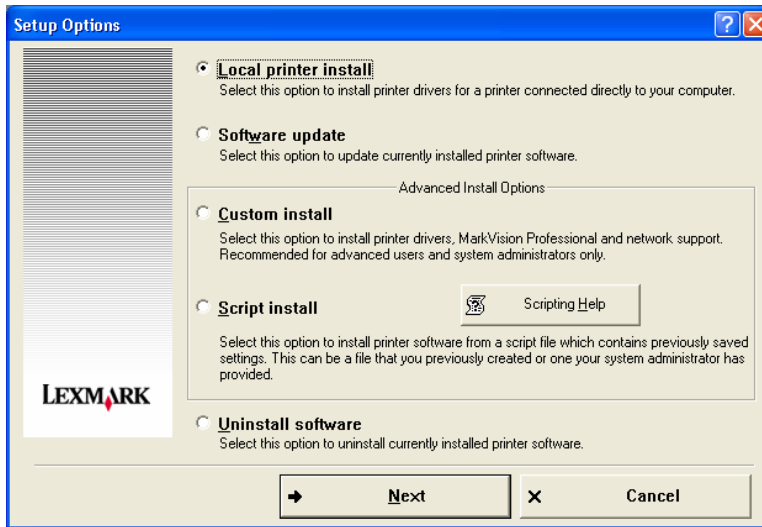
In addition to the printed *Setup Guide*, the driver CD-ROM contains two manuals, *Local Printer Install*, and *Network Printer Install*, that provide detailed configuration information. Both are presented in Adobe Acrobat PDF format.

- Position the optional 250- or 500-sheet paper drawer first (if you have one)
- Lower the printer onto the desk or onto the guide pins from the optional paper drawer
- Raise the paper rest into position
- Install the toner cartridge
- Load paper
- Connect the printer with a parallel, USB, or Ethernet (T420dn only) cable, depending on your test environment
- Plug in the power cord
- Install the software

Retain all shipping materials. You'll need these when you ship your test unit back to Lexmark following the completion of your product review.

Network setup: If you plan to attach the T40dn to a TCP/IP network, you should assign an IP address to the printer. If your network uses DHCP, an IP address should be assigned automatically after you connect the network cable. If the network does not use DHCP, you'll need to assign an IP address manually. Refer to page 25 of the Setup Guide for additional information.

Driver installation: Drivers are available for various versions of Windows, Macintosh OS, Linux, and Unix. Refer to page 27 of the Setup Guide for details on the operating environment you choose.



◀ The installation utility features a wide variety of options, including driver updates, support for local and network printing, installation from a script of previously defined parameters, and uninstallation. Script support is useful when installing several identical printers.

Educating users: The included Publications CDs contain a great deal of information, formatted and presented in a user-friendly way, which is helpful to users. Information on the Publications CD includes tips for improving print quality, explanation of the operator panel, tips for clearing paper jams, and much more.

The contents of the Publications CD are a series of PDF files that can be easily shared to a shared directory or Intranet site.

Installation and configuration of the printer is now complete.

What Should You Test?

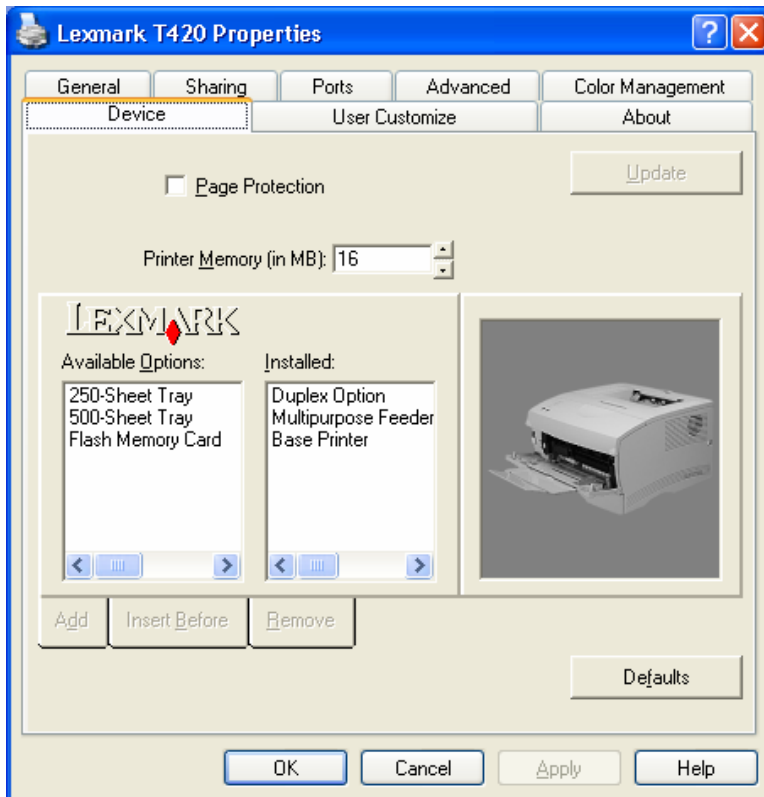
Duplex printing is what sets the T420d and T420dn apart from all other printers in its price class, so you'll almost certainly want to concentrate your testing efforts on the printer's duplexing capabilities. Be sure to look closely at the printer-driver screens, as they will guide users through the not-so-familiar process of submitting a print job for duplex printing. Finally, standard tests for print speed and quality may constitute a portion of your testing.

What matters most to someone who buys a personal laser printer? Only one thing: how good the printed pages look. Speed, though important, is not something that's apparent when handing a report to the teacher or the boss.

Here are some suggestions for printing different kinds of output typical of home, small business, or student users.

Ease of Use

Lexmark's drivers are well illustrated and easy to follow. They contain the status information that user's need to know when working with the T420d printer. Since the T420d and T420dn offer duplex printing as a standard feature, it is important that users understand the process for creating duplex print jobs. To reach your own independent conclusion about ease of use, you may want to have a non-expert user create a duplex print job.

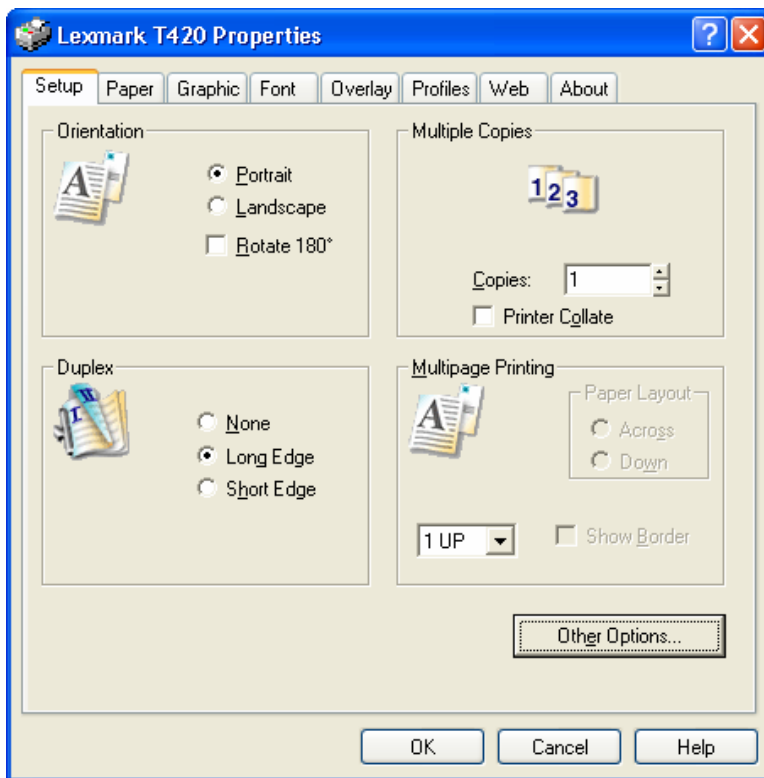
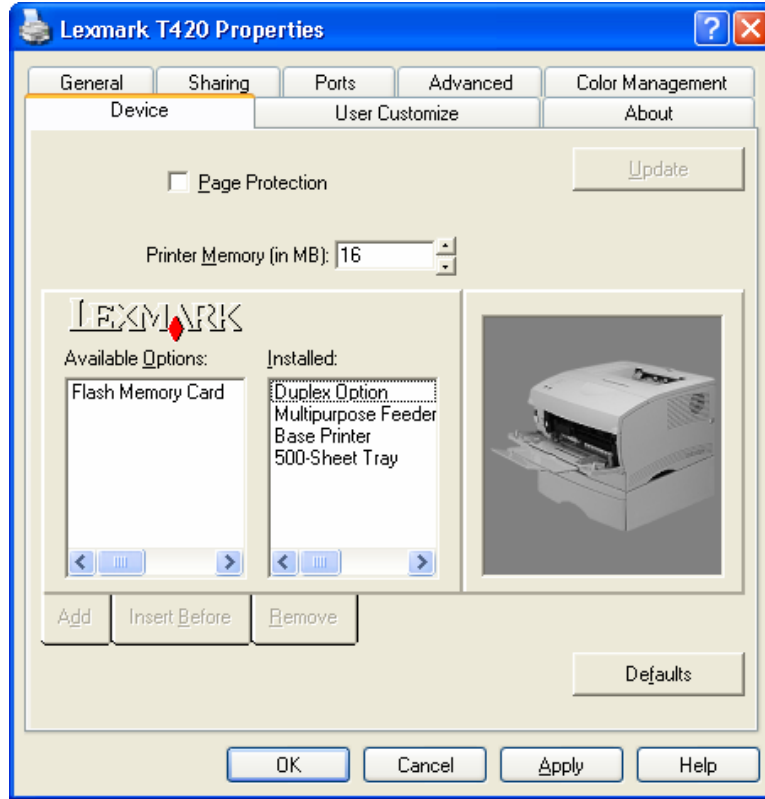


The driver displays an accurate photo of the T420d that conforms to the list of installed options.

Users can immediately see which options are installed and how the printer should look.

Here is the same driver dialog as in the previous example, but with the 500-sheet input now installed. Note that this optional paper tray is shown in the photo of the printer.

Lexmark research has shown that an accurate image of the printer and its installed options is crucial to maximizing users' comfort levels.



Creating a duplex print job to print on both sides of the paper is a simple matter of choosing the correct duplex option. The illustration under the word "duplex" changes as the user selects long-edge or short-edge duplexing, or none at all.

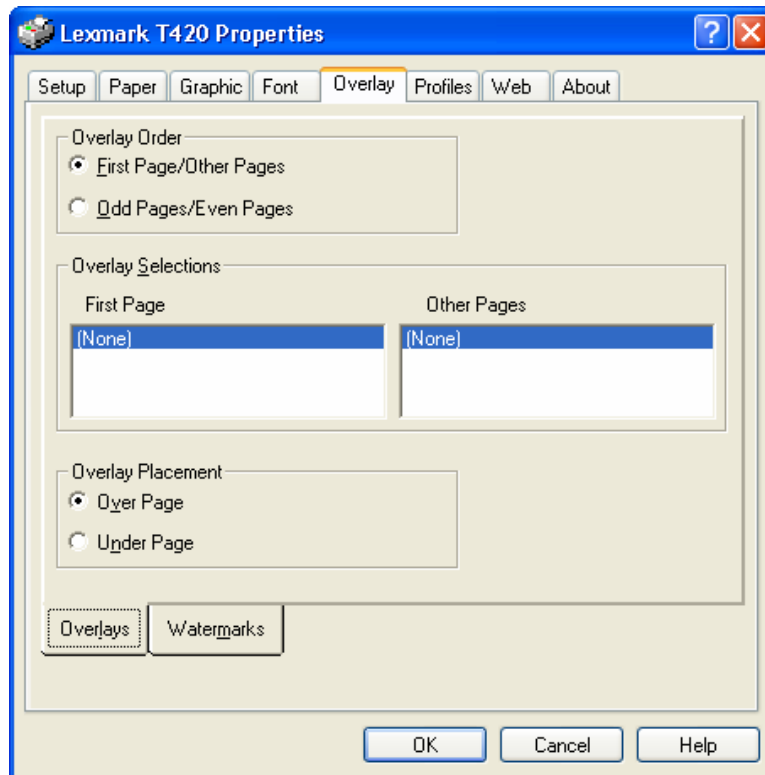
The multipage option places reduced page images on each side of the sheet, further reducing paper use.

Support for Overlays

An overlay is a template that can be defined and printed before the current job is printed. Typical examples of overlays include company logos or letterheads, decorative borders, and simulated "preprinted" forms (invoices, statements, etc.). Overlays can include text, graphics or images.

Overlay support is another feature that allows company's to cut costs by eliminating their stock of pre-printed forms.

Overlays can contain both text and graphics. User-defined overlay files are downloaded to the printer.



Printer Speed Tests

Two aspects of printer performance relate to speed: sustained output measured in ppm, and TTFP measured in seconds.

Sustained print speed

The T420d rates at 22 ppm (at five percent page coverage). This is the first time that Lexmark has broken the \$800 barrier for performance exceeding 20 ppm. The competing hp LaserJet 2200 rates at 19 ppm. As you saw in the earlier comparison chart, the Lexmark employs a 200MHz processor, whereas the hp LaserJet 2200 uses a 133MHz processor.

As noted earlier, an independent testing organization compared the Lexmark T420dn with several similarly priced network ready printers. The Lexmark was found to be:

- 232 percent faster than the hp LaserJet 2200dn
- 145 percent faster than the Brother HL-1870N
- 118 percent faster than the Xerox Phaser 3400N
- 96 percent faster than the Kyocera Mita FS-1900N

You can view this independent report at:

http://www.lexmark.com/US/pdf/labreports/t420dn_qualitylogic.pdf.

Time to first page

The time span from clicking the mouse to submit a print job until the first page emerges from the printer is the "TTFP". Clearly, the shorter this interval is, the better. The Lexmark T420d printer is rated at a TTFP of 10 seconds; the competing hp LaserJet 2200 has a TTFP of "<10 seconds," according to the manufacturer's own Web site.

Documentation

Included with the T420d printer is a concise printed Setup Guide. Two CD-ROMs are also present. The first contains the device drivers and the detailed installation guides for local and network printing. The second is a publications disc that contains additional documentation in a variety of languages. The documentation is in Adobe Acrobat PDF format.

- The documentation file contains links to Lexmark's Web site, ensuring that users are provided with the latest information and updated drivers.

Part III: Additional Resources

Product Photos

http://www.lexmark.com/US/virtual_press_room/t420d_image_bank.html

Lexmark marketing presentation (PDF download)

http://www.lexmark.com/US/virtual_press_room/pdf/T420dpresentation.pdf

Product specification sheet (PDF download)

http://www.lexmark.com/US/virtual_press_room/pdf/T420_spec.pdf

Third-party testing report from Quality Logic Inc. (PDF download)

http://www.lexmark.com/US/pdf/labreports/t420dn_qualitylogic.pdf

Returning the Printer to Lexmark

Lexmark is pleased that you have chosen to review the model T420d printer. Please note that this product is furnished on loan and should be returned to Lexmark following the completion of your review.

**REMOVE AND DISCARD THE TONER
CARTRIDGE BEFORE YOU RETURN
THE PRINTER TO LEXMARK**

Pack the printer in its original carton and ship to:

Lexmark International
740 New Circle Road
Lexington, Ky. 40550
Bldg. 200
Attn: Roger Coots, 859-232-2066

Airborne Express Account # 39719901

Product Specifications

The product specifications shown in the following chart are from the Lexmark Web site. Specifications are subject to change.

For up-to-date specifications, visit the following pages:

T420d: http://www.lexmark.com/US/products/tech_specs/0,1231,MzM4NXwx,00.html

T420dn: http://www.lexmark.com/US/products/tech_specs/0,1231,MzM4Nnw,00.html

Printer Specifications: T420d, T420dn

Print Technology	Laser, Monochrome
Print Resolution, Black	1200 Image Quality; 300 x 300 dpi; 600 x 600 dpi
Print Speed (letter, black)	Up to 22 pages per minute
Print Speed (letter, black) Duplex	Up to 12 page sides per minute
Print Speed (A4, black)	Up to 21 pages per minute
Print Speed (A4, black) Duplex	Up to 12 page sides per minute
Time to First Page (black)	10 seconds
Processor	200 MHz
Memory, standard / maximum	T420d: 16 MB / 272 MB; T40dn: 32 MB / 288 MB
Apple Macintosh Operating Systems Supported	Apple Mac OS 8.6 - 9.x; Apple Mac OS X
Microsoft Windows Operating Systems Supported	Windows 2000 (Professional/Server/Advanced Server); Windows 95 4.00.950 or later; Windows 98 Second Edition; Windows Me; Windows NT (4.00/4.00 Server); Windows XP
Novell Operating Systems Supported	Novell Netware Enterprise Print Services (NEPS) with Lexmark NDPS IP Gateway; Novell NetWare 3.x, 4.x, 5.x, 6.x including full NDS and NDPS support; Novell Distributed Print Services (NDPS) 2.0 or later with Lexmark NDPS IP Gateway
Linux Operating Systems Supported	Caldera eDesktop 2.4; Red Hat Linux 7.0, 7.1, 7.2; SuSE 7.1, 7.2, 7.3 Linux; TurboLinux Workstation 6.0, 6.1
UNIX Operating Systems Supported	Certified Solaris Ready by Sun Microsystems; Compaq (Digital) UNIX 4.0D; Compaq Tru64 UNIX 4.0F; HP-UX 10.20, 11.00; IBM AIX 4.2.1, 4.3.3, 5.1; SCO OpenServer 5.0.4, 5.0.5, 5.0.6; SGI IRIX 6.5.x; Sun Solaris 7, 8, 9; Sun Solaris x86 2.6, 7, 8; (SCO) UnixWare 7.0, 7.1, 7.1.1
Other Operating Systems Supported	IBM iSeries or IBM AS/400® Systems with TCP/IP with OS/400® V3R1 or later using OS/400 Host Print Transform; Virtually any platform supporting TCP/IP
Citrix MetaFrame	Microsoft Windows 2000 Server Terminal Services, with Citrix MetaFrame 1.8 or XP 1.0; Microsoft Windows NT 4.0 Terminal Server, with Citrix MetaFrame 1.8 or XP 1.0
Paper Handling Configuration (Standard)	250-Sheet Input Tray; Integrated Duplex 20-Sheet Rear Output Bin; 150-Sheet Output Bin
Paper Handling Configuration (Optional)	250-Sheet Drawer; 500-Sheet Drawer Only one drawer may be installed at a time
Media Sizes, Supported	A4 (8.27" x 11.7" or 210mm x 297mm) A5 (5.83" x 8.27" or 148mm x 210mm) Executive (7.25" x 10.5" or 184mm x 267mm) Folio (8.5" x 13" or 216mm x 330mm) JIS-B5 (7.17" x 10.12" or 182mm x 257mm) Legal (8.5" x 14" or 216mm x 355mm) Letter (8.5" x 11" or 216mm x 279mm) Statement (5.5" x 8.5" or 140mm x 216mm)

Printer Specifications: T420d, T420dn

	B5 Envelope (6.93" x 9.84" or 176mm x 250mm) C5 Envelope (6.38" x 9.02" or 162mm x 229mm) DL Envelope (4.33" x 8.66" or 110mm x 220mm) 7 3/4 Envelope (3.875" x 7.5" or 98.4mm x 190.5mm) 9 Envelope (3.875" x 8.9" or 98.4mm x 225.4 mm) 10 Envelope (4.125" x 9.5" or 105mm x 241mm) Envelopes in Multipurpose Feeder only Post Card (4" x 6") Universal
Media Types, Supported	Plain Paper; Up to 90lb index (163gsm); Transparencies Envelopes; Card Stock; Dual Web Labels; Integrated Labels; Paper Labels
Paper Input Capacity (Standard)	350 pages 20 lb or 75 gsm bond
Paper Input Capacity (Maximum)	850 pages 20 lb or 75 gsm bond
Paper Output Capacity (Standard)	150 pages 20 lb or 75 gsm bond
Paper Output Capacity (Maximum)	170 pages 20 lb or 75 gsm bond
Envelope Capacity	10
Supplies Yields	Ships with 5,000*-page Prebate Print Cartridge 5,000*-page Print Cartridge 10,000*-page High Yield Print Cartridge *Yield at approximately 5% coverage
Standard Ports	USB; Centronics IEEE 1284 Bidirectional Parallel; Ethernet 10/100BaseTX on T420dn
Optional Local Ports	External Serial Adapter
Optional Network Ports	External 802.11b Wireless; External Ethernet ; 10/100BaseTx; External Ethernet 10BaseT/2; External Token-Ring
Network Connectivity	Using Standard Ethernet or MarkNet Print Server
Printer Languages (Standard)	PCL 6 Emulation Personal Printer Data Stream (PPDS) PostScript 3 Emulation
Font Selection	84 scalable PCL fonts; 2 PCL bitmap fonts; 39 scalable PPDS fonts; 5 PPDS bitmap fonts; 89 scalable PostScript fonts; OCR-A, OCR-B scalable PCL 5e fonts; Chinese and Japanese Font DIMMs; Fonts and Symbols Sets for Lexmark T52x, T62x, W812 and W820
Bar Code Fonts	3 of 9 scalable PCL 5e fonts in Narrow, Regular and Wide
Printable Area	To within 0.157 inches of the top, bottom, right and left edges
Printable Area (metric)	To within 4.0 mm of the top, bottom, right and left edges
Size, Height x Width x Depth	10" x 16" x 16.7"
Weight	30.3 lbs.
Noise Level, Idle / Operating	30 dBA / 51 dBA
Duty Cycle, Maximum	50,000 pages per month
Warranty	One Year Limited LexExpress
In the Box	Power Cord; Laser Printer; Prebate Print Cartridge; Drivers, MarkVision and Utilities CD; Publications CD; Operator Panel Local Language Overlays; Quick Reference Card; Setup Guide

Press Release

The new Lexmark T420d: High performance in a low-profile printer

– Monochrome laser is a fast and affordable general office printer that offers attributes valued by large enterprises and small/medium businesses alike–

LEXINGTON, Ky., Jan. 23, 2003 – Lexmark International, Inc. (NYSE: LXX) today introduced a business-class, networkable monochrome laser printer with the durability and dependability to meet the needs of virtually any small workgroup.

This affordable, general office printer packs network printer functionality into a low profile and small footprint, making it an ideal solution, especially for businesses and offices with space challenges. The Lexmark T420d offers quick output speeds, high resolution for crisp text and images, duplex printing and exceptional ease-of-use features that are often found in higher end products, but now included in this new design from Lexmark.

“The Lexmark T420d is a remarkable printer because of its universal appeal, combining network performance and high reliability in a very compact design,” said Paul Rooke, Lexmark executive vice president and president of its Printing Solutions and Services Division. “Our customers, both large and small, have asked us for this class of product and we’re excited to deliver it.”

Designed for small workgroups, the Lexmark T420d is ideal for the distributed printing enterprise environment and for small and medium businesses. The Lexmark T420d is equipped with premium features such as the advanced capability of automatic duplexing. It also boasts print speeds of 22 pages per minute, a quick time to first print, and a rugged duty cycle of 50,000 pages per month. The Lexmark T420d is a complementary addition to the company’s monochrome family of award-winning printing solutions.

The Lexmark T420d has an estimated street price of \$649*. Its economic value to customers is enhanced by the offering of high-yield cartridges that significantly reduce the total cost of printing. A network-ready model is also available at an estimated street price of \$1099*.

More detailed information about the benefits of the Lexmark T420d can be found at <http://www.lexmark.com/US/solutions/business/>. For a full listing of authorized Lexmark solution providers, visit www.lexmark.com/US/products/catalog/.

About Lexmark

Lexmark International, Inc. is a leading developer, manufacturer and supplier of printing solutions -- including laser and inkjet printers, multifunction products, associated supplies and services -- for offices and homes in more than 150 countries. Founded in 1991, Lexmark reported approximately \$4.4 billion in revenue in 2002, and can be found on the Internet at www.lexmark.com.

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*Street price is an estimate and is in U.S. dollars; actual price may vary.