

## IBM ThinkPad® 390X - withdrawn

IBM® ThinkPad®												
Processor		Intel® Mobile Celeron™ 400MHz <sup>1</sup> or Mobile Pentium® II 400MHz / 66MHz system bus										
Processor features		No upgrade / processor, L2 cache, and MTXC (North Bridge) on Intel Mobile Module (MMC2)										
L2 cache		Celeron: 128KB; Pentium II: 256KB; All: onboard (full speed) / sync pipelined burst / ECC / write-back										
Diskette drive		Internal 3.5" 1.44MB / removable from UltraBay™ FX / on right side / integrated with CD-ROM / no external diskette port										
CD-ROM		CD-ROM / 24X-10X <sup>5</sup> speed / ATAPI / bootable / removable from UltraBay FX / on right side / integrated with diskette drive										
DVD-ROM		Option: Removable UltraBay FX option / 4X-1X <sup>5</sup> DVD integrated with a diskette drive										
Type - model	2626-F0U	2626-H0U	2626-HNU	2626-J0U	2626-JNU							
Processor / MHz	Celeron 400	Pentium II 400	Pentium II 400	Pentium II 400	Pentium II 400							
Disk - size / read ms	4.8GB <sup>4</sup> / 13ms	6.4GB / 12ms	6.4GB / 12ms	6.4GB / 12ms	6.4GB / 12ms							
Preload (see side)	Windows 98	Windows 98	NT 4.0	Windows 98	NT 4.0							
Avail / (withdrawn date)	Sept 99 / Jul 00	Sept 99 / Jul 00	Sept 99 / Jul 00	Sept 99 / Jul 00	Sept 99 / Jul 00							
Display (diagonal)	12.1" TFT SVGA	14.1" TFT XGA	14.1" TFT XGA	15" TFT XGA	15" TFT XGA							
Display - size and type	12.1" TFT color 308mm / Active Matrix SVGA / 800x600 / 20 to 30ms / 150 nits		14.1" TFT color 358mm / Active Matrix XGA / 1024x768 / 20 to 30ms / 120 nits		15.0" TFT color 381mm / Active Matrix XGA / 1024x768 / 10 to 30ms / 120 nits							
Display - technology	16.7 million colors / 150 to 1 contrast		16.7 million colors / 150 to 1 contrast		16.7 million colors / 150 to 1 contrast							
Graphics controller	NeoMagic™ MagicMedia256AV™ (NM2200) / 128-bit engine, 256-bit memory interface / 1X AGP / DDC2B / 2.5MB / SGRAM (embedded) / motion compensation / color space conversion / interpolation in X and Y axis / Simultaneous LCD and CRT <sup>26</sup> / 150 degree tilt / multiple-monitor support <sup>26</sup>											
Memory - std / max	64MB / 512MB <sup>33</sup>											
Memory - features	SDRAM / non-parity / 100MHz / PC100-compliant / 3.3 volt / 64-bit / 2 sockets for JEDEC 144-pin SO DIMMs / one socket used by std memory / Sockets accessed from bottom via removing cover held by phillips-head screw											
Disk controller	EIDE / PCI 2.1 / one internal disk / disk can be removed to upgrade by customer / supports two internal disks / 13ms read / 14ms write / S.M.A.R.T. <sup>29</sup>											
Keyboard	Full-size 85-key (7 Fn key functions) / palm rest / keyboard slope with tilt feet											
Pointing	TrackPoint® / Press-to-Select / Release-to-Select / dragging / click pace / center button for scrolling (Internet Scroll Bar) or magnifying glass / spare caps											
Dimensions	12.1"/14.1": 12.4 x 10.1 x 1.8" (225 cu in) 15": 12.9 x 10.6 x 1.8" (246 cu)											
Weight <sup>2</sup> (with batt/disk)	12.1" and 14.1" models: 7.5 lbs (3.4 kg) 15" models: 7.9 lbs (3.6 kg)											
Case material	PC/ABS plastic											
Battery - type	F0U: NiMH / intelligent / left side Others: Li-Ion / intelligent / left side											
Battery - life <sup>10</sup> (1 batt)	F0U: 2.5 hrs Gxx/Hxx: 3.67 hrs Jxx: 3.5 hrs											
Charge time <sup>10</sup>	F0U/Hxx: 5 hrs on / 2.5 hrs off Jxx: 6 hrs on / 3 hrs off											
Architecture	Intel 440BX AGPset / Intel PIIX4E (EIDE, PCI to ISA bridge, USB) Texas Instruments® TI251B PCMCIA controller / NS PC97338 (FDC, IR, I/O) PCI 2.1 / 32-bit / 33MHz (EIDE, graphics, PCMCIA, USB, audio, modem) ISA (diskette, serial, parallel, infrared)											
Docking station	None											
Port replicator	ThinkPad Port Replicator with Advanced EtherJet™ / Basic Port Replicator											
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed video											
USB / serial / parallel	One USB, one type 9; 16550A / one (IEEE P1284-A, EPP, ECP, bidirectional)											
Other features	APM-aware BIOS / Ultraslim AC adapter, barrel, 3-prong, 56 watts											
Video (TV) out	S-Video out connector on side (does not require cable) / Chrontel Ch7004C-T											
MPEG decoder	None (W98 support for MPEG-2 because 300MHz with motion compensation)											
Data/fax modem	56K <sup>22</sup> V.90 / integrated in system / PCI / Lucent 1646 / not voice-capable / conforms to earlier draft specs similar to Mini PCI Type IIIB											
Audio	16-bit SoundBlaster Pro™ support / ESS 1946 / PCI / full duplex											
Speakers	Two Altec Lansing® stereo speakers (1 watt) on display (on front for 15" mod)											
Audio features	Dial volume control (right side) / internal microphone											
Audio in/out jacks	Microphone jack (stereo) / headphone jack (stereo) / line-in jack											
Infrared ports	Infrared port on left side / IrDA 1.1 compatible / up to 4Mbps											
Security	Power-on password / setup password / disk password / security keyhole / security screw for UltraBay FX											
Limited warranty <sup>11</sup>	1 year - carry-in or ThinkPad EasyServ™ <sup>31</sup> (door-to-door depot repair service)											
Service options <sup>15</sup>	On-site <sup>32</sup> , M-F, 8-5, next bus day (72 cities) / serv up to 5 yrs from purchase date											
Color depth	LCD	External Monitor			OPTIONS							
Resolution	TFT	60Hz	75Hz	85Hz								
640x480	16M	16M	16M	16M	- 32MB SO DIMM 100MHz NP SDRAM	20L0253						
800x600	16M	16M	16M	16M	- 64MB SO DIMM 100MHz NP SDRAM	20L0254						
1024x768	16M	16M	16M	16M	- 128MB SO DIMM 100MHz NP SDRAM	20L0255						
1280x1024	--	256	--	--	- 256MB SO DIMM 100MHz NP SDRAM	33L3069						
All models: - C: drive is FAT16 of 2GB - D: drive is FAT32 of remaining space  The right bay (UltraBay FX) has a device lock on the bottom of the system and a bay LED which should be off to safely remove a device; it supports: • standard diskette/CD-ROM (warm swap with Windows 98) • optional DVD/CD-ROM (warm swap; W98) • optional second battery (hot swap; W98/NT); same battery as main one • optional second disk (cold swap) • optional ThinkPad Proven™ solutions <sup>12</sup>												
							- Basic (ThinkPad 560) Port Replicator	46H4209				
							- Port Replicator w/ Advanced EtherJet	05K4872				
							- ThinkPad 390/1 Series Li-Ion Battery	02K6513				
							- Ultraslim 56 watt AC Adapter (3-prong)	02K6545				
							- 6.4GB disk with UltraBay FX adapter	05K8923				
							- 10GB disk with UltraBay FX adapter	05K8983				
							- 12GB disk with UltraBay FX adapter	05K9268				
							- 4X-1X DVD/Diskette (for UltraBay FX)	05K9129				
							- CD/Diskette (for UltraBay FX)	05K8986				
- 10/100 EtherJet Ready Port CardBus Adapter with 56K modem	34L1301											
- 10/100 Ethernet CardBus PC Card	08L3147											
- IBM Portable Drive Bay	37L1511											
- ThinkPad Proven™ solutions <sup>12</sup> (visit www.ibm.com/pc/us/thinkpad/proven)												
Pressing F1 during startup brings up IBM BIOS Setup Utility												

WINDOWS 98 PRELOAD <sup>16</sup>	
<ul style="list-style-type: none"><li>• Microsoft® Windows® 98</li><li>• Access ThinkPad</li><li>• Online User's Guide</li><li>• ThinkPad Configuration Program</li><li>• ThinkPad Utilities</li><li>• IBM Update Connector</li><li>• RingCentral Fax</li><li>• Ergonomics</li><li>• Intelliquest Registration</li><li>• Puma IntelliSync 97 (infrared)</li><li>• IBM Global Network Dialer</li><li>• Netscape Communicator</li><li>• Lotus® SmartSuite® Millennium<sup>20</sup></li><li>• PC-Doctor</li><li>• ConfigSafe®</li><li>• Norton AntiVirus™ (OEM Version)</li><li>• Universal Management Services</li><li>✧ Software Selections CD</li><li>✧ Lotus SmartSuite Millennium CD-ROM</li><li>✧ Recovery CD-ROM (Windows 98)</li><li>✧ Recovery CD-ROM (Windows 95)<sup>7</sup></li></ul>	
WINDOWS NT PRELOAD <sup>16</sup>	
<ul style="list-style-type: none"><li>• Microsoft Windows NT® 4.0</li><li>• Service Pack 4</li><li>• ThinkPad Utilities</li><li>• Online User's Guide</li><li>• ThinkPad Configuration Program</li><li>• Ergonomics</li><li>• Intelliquest Registration</li><li>• Puma IntelliSync 97 (infrared)</li><li>• IBM Global Network Dialer</li><li>• Netscape Communicator</li><li>• ConfigSafe</li><li>• Norton AntiVirus (OEM Version)</li><li>• IBM Update Connector</li><li>• SystemSoft CardWizzard</li><li>• Universal Management Services</li><li>✧ Software Selections CD-ROM</li><li>✧ Lotus SmartSuite Millennium CD-ROM</li><li>✧ Recovery CD-ROM (Windows NT)</li></ul>	
FEATURES	
Wired for Management 1.1a-compliant DMI 2.0-compliant PC 98-compliant ACPI ready (APM enabled) Wake on LAN® support <sup>28</sup> Setup Guide, User's Reference, Windows OS manual, and Quick Reference Card System Status Indicators Plug and Play 1.0a Standby, suspend, and hibernation modes ENERGY STAR-compliant International Warranty Service <sup>14</sup> IBM SystemXtra® <sup>35</sup> 24 hour / 7 day <sup>30</sup> telephone, bulletin board, fax, electronic, and Internet (www.ibm.com/pc/us) support	

# IBM ThinkPad® 390X (Pentium III) - withdrawn

## IBM® ThinkPad®

Processor	Intel® Mobile Mobile Pentium® III 450 or 500MHz <sup>1</sup> / 100MHz system bus					
Processor features	No upgrade / processor, L2 cache, and memory controller (North Bridge) on Intel Mobile Module (MMC2)					
L2 cache	256KB / at processor speed / sync pipelined burst / ECC / write-back					
Diskette drive	Internal 3.5" 1.44MB / removable from UltraBay™ FX / on right side / integrated with CD-ROM / no external disktte port					
CD-ROM	CD-ROM / 24X-10X <sup>5</sup> speed / ATAPI / bootable / removable from UltraBay FX / on right side / integrated with diskette drive					
DVD-ROM	Option: Removable UltraBay FX option / 4X-1X <sup>5</sup> DVD integrated with a diskette drive					
Type - model	≈ 2626-L0U	≈ 2626-LNU	≈ 2626-L2U	≈ 2626-M0U	≈ 2626-MNU	
Processor / MHz	Pentium III 450MHz	Pentium III 450MHz	Pentium III 450MHz	Pentium III 500MHz	Pentium III 500MHz	
Disk - size / read ms	12.0GB <sup>4</sup> / 12ms	12.0GB / 12ms	12.0GB / 12ms	12.0GB / 12ms	12.0GB / 12ms	
Preload (see side)	Windows 98 SE	NT 4.0	Windows 2000	Windows 98 SE	NT 4.0	
Avail / withdrawn date	Dec 1999 / Oct 2000	Dec 1999 / Oct 2000	Feb 2000 / Oct 2000	Dec 1999 / Jan 2001	Dec 1999 / Jan 2001	
Display (diagonal)	14.1" TFT XGA	14.1" TFT XGA	14.1" TFT XGA	15" TFT XGA	15" TFT XGA	
Display - size and type	14.1" TFT color 358mm / Active Matrix			15.0" TFT color 381mm / Active Matrix		
Display - technology	XGA / 1024x768 / 20 to 30ms / 120 nits 16.7 million colors / 150 to 1 contrast			XGA / 1024x768 / 10 to 30ms / 120 nits 16.7 million colors / 150 to 1 contrast		
Graphics controller	NeoMagic™ MagicMedia256AV™ (NM2200) / 128-bit engine, 256-bit memory interface / 1X AGP / DDC2B / 2.5MB / SGRAM (embedded) / motion compensation / color space conversion / interpolation in X and Y axis / simultaneous LCD and CRT <sup>26</sup> / 150 degree tilt / multiple-monitor support <sup>26</sup>					
Memory - std / max	64MB / 512MB <sup>33</sup>			WINDOWS 98 PRELOAD <sup>16</sup> <ul style="list-style-type: none"><li>- Microsoft® Windows® 98 Second Edition</li><li>• Access ThinkPad</li><li>• Online User's Guide</li><li>• ThinkPad Configuration Program</li><li>• ThinkPad Utilities</li><li>• IBM Update Connector</li><li>• RingCentral Fax</li><li>• ThinkPad on the Net</li><li>• Intelliquest Registration</li><li>• IBM Global Network Dialer</li><li>• Netscape Communicator</li><li>• Lotus® SmartSuite® Millennium<sup>20</sup></li><li>• PC-Doctor</li><li>• ConfigSafe®</li><li>• Norton AntiVirus™ (OEM Version)</li><li>• Universal Management Services (web)</li></ul> ◇ Software Selections CD		
Memory - features	SDRAM / non-parity / 100MHz / PC100-compliant / 3.3 volt / 64-bit / 2 sockets for JEDEC 144-pin SO DIMMs / one socket used by std memory / sockets accessed from bottom via removing cover held by phillips-head screw					
Disk controller	EIDE / PCI 2.1 / one internal disk / disk can be removed to upgrade by customer / supports two internal disks / 13ms read / 14ms write / S.M.A.R.T. <sup>29</sup>					
Keyboard	Full-size 85-key (7 Fn key functions) / palm rest / keyboard slope with tilt feet					
Pointing	TrackPoint® / Press-to-Select / Release-to-Select / dragging / click pace / center button for scrolling (Internet Scroll Bar) or magnifying glass / spare caps					
Dimensions <sup>36</sup>	14.1" mod: 12.4 x 10.2 x 1.8" (228 cu in) 15" mod: 12.9 x 10.6 x 1.8" (246 cu)					
Weight <sup>2</sup> (with batt/disk)	14.1" models: 7.7 lbs (3.5 kg) 15" models: 7.9 lbs (3.6 kg)					
Case material	PC/ABS plastic					
Battery - type	Li-Ion / intelligent / left side					
Battery - life <sup>10</sup> (1 batt)	14.1" models: 3.7 hrs 15" models: 3.3 hrs					
Charge time <sup>10</sup>	14.1" models: 5 hrs on / 2.5 hrs off 15" models: 6 hrs on / 3 hrs off					
Architecture	Intel 440BX AGPset / Intel PIIX4E (EIDE, PCI to ISA bridge, USB) / Texas Instruments® T11251B PCMCIA controller / NS PC97338 (FDC, IR, I/O) PCI 2.1 / 32-bit / 33MHz (EIDE, graphics, PCMCIA, USB, audio, modem) ISA (diskette, serial, parallel, infrared)					
Docking station	None					
Port replicator	ThinkPad Port Replicator with Advanced EtherJet™ / Basic Port Replicator					
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed video					
USB / serial / parallel	One USB / one 9 pin; 16550A / one (IEEE P1284-A, EPP, ECP, bidirectional)					
Other features	APM-aware BIOS / Ultralim AC adapter, barrel, 3-prong, 56 watts					
Video (TV) out	S-Video out connector on side (does not require cable) / Chrontel Ch7004C-T					
MPEG decoder	None (W98 support for MPEG-2 because 300MHz with motion compensation)					
Data/fax modem	56K <sup>37</sup> V.90 / integrated in system / PCI / Lucent 1646 / not voice-capable / conforms to earlier draft specs similar to Mini PCI Type IIb					
Audio	16-bit SoundBlaster Pro™ support / ESS 1946 / PCI / full duplex					
Speakers	Two Altec Lansing® stereo speakers (1 watt) on display (on front for 15" mod)					
Audio features	Dial volume control (right side) / internal microphone					
Audio in/out jacks	Microphone jack (stereo) / headphone jack (stereo) / line-in jack					
Infrared ports	Infrared port on left side / IrDA 1.1 compatible / up to 4Mbps					
Security	Power-on password / setup password / disk password / security keyhole / security screw for UltraBay FX					
Limited warranty <sup>11</sup>	1 year - carry-in or ThinkPad EasyServ™ <sup>31</sup> (door-to-door depot repair service)					
Service options <sup>15</sup>	On-site <sup>32</sup> , M-F, 8-5, next bus day (72 cities) / serv up to 5 yrs from purchase date					
				WINDOWS 2000 PRELOAD <sup>16</sup> <ul style="list-style-type: none"><li>- Windows 2000® Professional</li><li>• ThinkPad Utilities</li><li>• Online User's Guide</li><li>• ThinkPad Configuration Program</li><li>• IBM Registration</li><li>• PC-Doctor</li><li>• RingCentral Fax</li><li>• Netscape Communicator</li><li>• ConfigSafe</li><li>• IBM Update Connector</li><li>• SystemSoft CardWizard</li><li>• Norton AntiVirus™ (OEM Version)</li><li>• Universal Management Services (web)</li></ul> ◇ Lotus SmartSuite Millennium CD		
				◇ Software Selections CD-ROM		
				◇ Recovery CD-ROM (Windows 98)		
				◇ Recovery CD-ROM (Windows 95)		

Color depth		LCD	External Monitor			OPTIONS	
Resolution	TFT	60Hz	75Hz	85Hz			
640x480	16M	16M	16M	16M	- 32MB SO DIMM 100MHz NP SDRAM	20L0253	
800x600	16M	16M	16M	16M	- 64MB SO DIMM 100MHz NP SDRAM	20L0254	
1024x768	16M	16M	16M	16M	- 128MB SO DIMM 100Mz NP SDRAM	20L0255	
1280x1024	--	256	--	--	- 256MB SO DIMM 100Mz NP SDRAM	33L3069	
<p>The right bay (UltraBay FX) has a device lock on the bottom of the system and a bay LED which should be off to safely remove a device; it supports:</p> <ul style="list-style-type: none"><li>• standard diskette/CD-ROM (warm swap with Windows 98)</li><li>• optional DVD/CD-ROM (warm swap; W98)</li><li>• optional second battery (hot swap; W98/NT); same battery as main one</li><li>• optional second disk (cold swap)</li><li>• optional ThinkPad Proven™ solutions<sup>12</sup></li></ul>					- Basic (ThinkPad 560) Port Replicator	46H4209	
					- Port Replicator w/ Advanced EtherJet	05K4872	
					- ThinkPad 390 Li-Ion Battery	02K6513	
					- Ultralim 56 watt AC Adapter (3-prong)	02K6545	
					- 6.4GB disk with UltraBay FX adapter	05K8923	
					- 10GB disk with UltraBay FX adapter	05K8983	
					- 12GB disk with UltraBay FX adapter	05K9268	
					- 4X-1X DVD/Diskette (for UltraBay FX)	05K9129	
					- CD/Diskette (for UltraBay FX)	05K8986	
					- 10/100 EtherJet Ready Port CardBus Adapter with 56K modem	34L1301	
<p>Windows 2000 model: - C: drive is FAT32 of entire disk</p>					- 10/100 Ethernet CardBus PC Card	08L3147	
					- Smart Card Security Kit	33L5075	
					- IBM Portable Drive Bay	37L1511	
					- IBM MultiPort USB Hub	00N8215	

FEATURES
Wired for Management 1.1a-compliant DMI 2.0-compliant PC 98-compliant ACPI ready (APM enabled) Wake on LAN® support <sup>28</sup> Setup Guide, User's Reference, Windows OS manual, and Quick Reference Card System Status Indicators Plug and Play 1.0a Standby, suspend, and hibernation modes ENERGY STAR-compliant International Warranty Service <sup>14</sup> IBM SystemXtra®. <sup>35</sup> 24 hour / 7 day <sup>30</sup> telephone, bulletin board, fax, electronic, and Internet (www.ibm.com/pc/us) support

<b>WINDOWS 98 PRELOAD<sup>16</sup></b>	
<ul style="list-style-type: none"> <li>• Microsoft® Windows® 98 Second Edition</li> <li>• Access ThinkPad</li> <li>• Online User's Guide</li> <li>• ThinkPad Configuration Program</li> <li>• ThinkPad Utilities</li> <li>• IBM Update Connector</li> <li>• RingCentral Fax</li> <li>• ThinkPad on the Net</li> <li>• Intelliquest Registration</li> <li>• IBM Global Network Dialer</li> <li>• Netscape Communicator</li> <li>• Lotus® SmartSuite® Millennium<sup>20</sup></li> <li>• PC-Doctor</li> <li>• ConfigSafe®</li> <li>• Norton AntiVirus™ (OEM Version)</li> <li>• Universal Management Services (web)</li> </ul>	
<ul style="list-style-type: none"> <li>◇ Software Selections CD</li> <li>◇ Lotus SmartSuite Millennium CD-ROM</li> <li>◇ Recovery CD-ROM (Windows 98)</li> <li>◇ Recovery CD-ROM (Windows 95)<sup>7</sup></li> </ul>	
<b>WINDOWS 2000 PRELOAD<sup>16</sup></b>	
<ul style="list-style-type: none"> <li>• Windows 2000® Professional</li> <li>• ThinkPad Utilities</li> <li>• Online User's Guide</li> <li>• ThinkPad Configuration Program</li> <li>• IBM Registration</li> <li>• PC-Doctor</li> <li>• RingCentral Fax</li> <li>• Netscape Communicator</li> <li>• ConfigSafe</li> <li>• IBM Update Connector</li> <li>• SystemSoft CardWizard</li> <li>• Norton AntiVirus™ (OEM Version)</li> <li>• Universal Management Services (web)</li> </ul>	
<ul style="list-style-type: none"> <li>◇ Lotus SmartSuite Millennium CD</li> <li>◇ Software Selections CD-ROM</li> <li>◇ Recovery CD-ROM (Windows 2000)</li> <li>◇ Recovery CD-ROM (Windows NT)<sup>40</sup></li> </ul>	

## FEATURES

Wired for Management 1.1a-compliant  
DMI 2.0-compliant  
PC 98-compliant  
ACPI ready (APM enabled)  
Wake on LAN® support<sup>28</sup>  
Setup Guide, User's Reference, Windows OS manual, and Quick Reference Card  
System Status Indicators  
Plug and Play 1.0a  
Standby, suspend, and hibernation modes  
ENERGY STAR-compliant  
International Warranty Service<sup>14</sup>  
IBM SystemXtra®.<sup>35</sup>  
24 hour / 7 day<sup>30</sup> telephone, bulletin board, fax, electronic, and Internet (www.ibm.com/pc/us) support