

ThinkVision L190x is the ideal multi-monitor solution

Description	2
Product positioning	6
Publications	7
Services	7
Technical information	8
Terms and conditions	12
Prices	13



At a glance

The new ThinkVision L190x LCD monitor offers:

- Viewable image size: 19.0 inches
- Display native resolution of 1280 x 1024 (automatically scales lower resolution to fill the screen)
- Right and left side bezel width: 6.6 mm
- Brightness: 250 cd/m2 (typical)
- Contrast ratio: 1500:1 (typical)
- Viewing angles
 - Horizontal — +/- 89 degrees
 - Vertical — +/- 89 degrees
- Response time: 25 ms (typical)
- Tilt, swivel, and height-adjustable stand
- Pivot (including software based automatic image adjustment)
- USB hub with 1 input and 4 output ports
- Attached 3-meter VGA Cable
- 3-meter DVI and USB cables included
- Direct access for automatic image setup, brightness, and input select
- Analog and digital system attachment
- 31 watt power consumption via internal power
- 100 mm Video Electronic Standards Association (VESA) standard for mounting
- Kensington lock compatible

Overview

The ThinkVision® L190x is an ultra-slim, 19-inch monitor offering outstanding image quality with a stand that offers tilt, swivel, pivot, and height adjustments. Its ultra slim bezel is only 6.6 mm wide and saves space to provide a nearly seamless view in a multiple-monitor environment.

ThinkVision L190x is thoughtfully designed, delivering high performance images even when viewed from extreme angles. These monitors are the ideal choice for multiple, dual, or tilted configurations and allow for greater collaboration and productivity. The monitor can be rotated to change from landscape to portrait viewing and the image will adjust automatically.

The ThinkVision L190x is in the Performance ThinkVision family of monitors. It is best suited for specialized applications in multi-monitor environments where quick access to USB ports is needed.

Features and benefits

- 19.0 inch viewable image size
- Native resolution of 1280 x 1024
- ThinkVantage™ design
 - Ultra slim side bezels (6.6 mm) for multi-monitoring
 - Tilt, swivel, and height adjustable stand for optimum viewing comfort
 - Pivot for portrait or landscape viewing (graphics card dependent)
 - Automatic image rotating software included
 - Rear stand cover and clip to keep cables hidden
 - Carrying handle for easy transport
 - Direct access button for automatic image setup
 - Complimentary design for ThinkPad® and ThinkCentre® systems
- Analog and DVI-D video signal connectors
- Supports High Definition Content Protection (HDCP)
- Compliance with ENERGY STAR 4.0 Tier 2 requirements
- The Electronic Product Environmental Assessment Tool (EPEAT) Silver category
- Four port USB hub
- Kensington Lock slot for security
- TCO'03 compliance
- Offers attachment points for the optional ThinkVision USB Soundbar (40Y7616)
- Analog and digital connectors provide attachment flexibility
- Wide viewing angles (178 degrees both horizontal and vertical) for multi-monitoring
- Dual input connectors allow attachment to two systems simultaneously
- Windows™ Vista Premium Certified
- 31 watt power consumption via internal power
- Kensington lock slot
- Meets 100 mm VESA standard for mounting
- Detachable base for wall- or arm-mounting (sold separately)
- Available in business black

Planned availability date

November 16, 2007

Description

ThinkVision L190x is thoughtfully designed, delivering high performance images even when viewed from extreme angles. These monitors are the ideal choice for multiple, dual, or tilted configurations. With the auto-rotation pivot feature, you can rotate the monitor to change from landscape to portrait view and the image will automatic adjust.

The incorporated ThinkVantage design enhances usability and is easy to use. It complements the design of ThinkPad and ThinkCentre systems and includes a USB hub for improved connectivity. The L190x offers both analog and digital connections and attachments for the optional ThinkVision USB Soundbar (sold separately).

VESA high refresh video signal timings

The ThinkVision L190x LCD monitor supports a wide range of display modes, including a selection of the VESA timings of incoming video signals at up to 75 Hz (non-interlaced) for the following screen resolutions:

- 640 x 480
- 800 x 600
- 1024 x 768
- 1280 x 1024

Appropriate video-adaptor hardware and software must be installed in the attaching system unit.

VESA Display Data Channel (DDC)

The ThinkVision L190x LCD monitor supports the DDC protocol to level Command Interface (CI). Basic configuration information can be passed to a system unit from its attached monitor. Often referred to as Plug and Play, the protocol enables a DDC-enabled system unit to automatically configure the video adapter to drive the attached monitor at its optimum display mode without user intervention. For best use, the attaching system unit must also be hardware- and software-enabled for DDC operation.

The capabilities of the monitor are held in nonvolatile monitor memory in an encoded format. The data is received from the monitor by the system unit during boot-up and system configuration.

The EDID data sent by the monitor to the attached system unit also includes the monitor's serial number and other identification information. This can be held in the system unit until requested; for example, by a department local area network (LAN) administrator needing to assess the location of all equipment connected to the LAN.

Date information transmitted in the monitor EDID data conforms to VESA EDID standard V2. This requires the year of manufacture (YOM) to be stored in a one-byte field as an offset from 1990, as derived from the following equation:

Value stored = (YOM – 1990)

Year of manufacture	Value stored
---------------------	--------------

2004	14
2005	15
2006	16
2007	17

An international industrial standard by the name of DDC/CI was developed by VESA to expand upon an existing DDC standard. This new standard adds control functionality without the need for additional connections.

The main advantage of DDC/CI is its bi-directional communication structure between PC and monitor, which does not require a separate cable. All data are transmitted in both directions via the video graphics card and the standard VGA or DVI signal cable. This capability allows for functions like monitor control, adjustments, and diagnostics to be conducted via software using the mouse and keyboard. In an enterprise or firm, this capability also allows the potential of remote diagnostics and asset management by a technician via the LAN. Customer-supplied software is needed to implement these functions.

International Organization for Standardization (ISO)/DIS 13406 Part 2

ISO/DIS 13406 Part 2 ensures ergonomic requirements are met when the ThinkVision L190x LCD monitor forms part of an ISO-compliant system. ISO/DIS 13406 Part 2 is an international standard addressing ergonomic factors for flat-panel displays.

ISO-capable elements do not necessarily make an ISO-compliant system when put together. To satisfy the requirements of ISO 13406 Part 2, a complete platform must be tested and must comply with all applicable elements of ISO 13406 Part 2. The platform includes:

- System unit
- Operating system
- Fonts

- Video subsystem
- Monitor
- Keyboard
- Mouse

When all contributing platform components satisfy their portion of the requirements, as verified by the required total system testing, the platform is ISO 13406 Part 2-compliant.

Low frequency electromagnetic emissions

The ThinkVision L190x LCD monitor meets the Swedish Board for Technical Accreditation (SWEDAC) MPR-2 requirements and those of MPR-3. MPR-2 is a guideline developed by the SWEDAC to limit the electromagnetic emissions and electrostatic fields generated by workstations. MPR-3 is the colloquial name for the Swedish Standard SS 43614 90:1995.

Electric and magnetic fields with frequencies between 5 Hz and 2 kHz are called extremely low frequency (ELF) fields. Those with frequencies between 2 kHz and 400 kHz are called very low frequency (VLF) fields.

The Swedish MPR-3 Standard is intended to limit these fields. Sources of these fields include the power cord supplying 50 or 60 Hz power to the monitor.

TCO03 compliance

- Environment
- Ergonomics
- Usability
- Reduction of electric and magnetic fields
- Energy consumption
- Electrical safety

VESA Display Power Management Signaling (DPMS)

The ThinkVision L190x LCD monitor meets ENERGY STAR power consumption requirements through implementation of the DPMS protocol. For effective power management, the attaching system unit must also be hardware- and software-enabled for DPMS operation.

HelpWare®

HelpWare is a comprehensive set of service and support offerings for a more productive and enjoyable computing experience. Many HelpWare services are included with the purchase of your Lenovo™ system, and additional services are available from the HelpWare support family.

Technical characteristics

Feature	ThinkVision L190x LCD monitor
LCD size and type	19.0-in LCD
Viewable image size	19.0 in
Maximum viewable area	376 x 301 mm
Brightness (typical)	250 cd/m ²
Contrast (typical)	1500 : 1
Colors	16.7M
Viewing angle (typical)	Horizontal = +/- 89 degrees, Vertical = +/- 89 degrees
Cell response time (typical)	25ms(typical)
RGB vertical stripe pixel pitch	0.294 mm

Video input	15-pin D and DVI-D
Tilt	0 degrees forward 30 degrees backward
Swivel	+/- 45 degrees
Height adjustment	110 millimeters
Pivot	Yes (graphic card dependent)

OSD languages	7
Factory-preset display modes	21
Composite SYNC	Yes
SYNC on Green	Yes
ISO 13406 Part 2	Yes
VESA DPMS power management	Yes
Power supply	Universal
Power cord -- detached	1.8 meter
DVI Cable	3 meter
VGA Cable	3 meter
JEIDA compliance	Yes
FCC B compliance	Yes
MPR-2 emission compliance	Yes
MPR-3 emission compliance	Yes
TC003 Environmental Label	Yes

OSD controls

Digital user controls are located on the front bezel, to the left of the power on/off pushbutton. Adjustments are made in conjunction with the on-screen displays. After adjustments are made, with exception of brightness, contrast, and auto adjust, the controls can be locked to prevent further changes. User setup values are stored automatically. For ease of use, there is direct access for auto setup and brightness.

Monitor controls and features include:

- Brightness/contrast
- Image position
 - Horizontal position
 - Vertical position
- Image setup
 - Automatic
 - Manual
- Image properties
 - Color
 - Input signal
- Options
 - Information
 - Menu language
 - Menu position
 - Factory default
 - Accessibility
- Exit
 - Soft-On Screen Management Control

Indicators

The power indicator LED indicates the operational state of the monitor:

LED Indicator	L190x operating state
Steady Green LED	Normal operation

Amber Active off
Flashing Green Frequency out of range

A 'No Connection Check signal cable' message appears on the screen whenever the monitor detects no incoming video signal.

Accessibility by people with disabilities

A U.S. Section 371 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

<http://www-03.lenovo.com/research/accessibility/requests/accvpat.nsf/lenovo-bidx?OpenForm>

Section 371 of the U.S. Rehabilitation Act

The new ThinkVision L190x LCD monitor is capable as of October 23, 2007, when used in accordance with associated Lenovo documentation, of satisfying the applicable requirements of Section 371 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

Product positioning

The L190x LCD Performance monitor is a specialized member of the ThinkVision Performance Series flat-panel LCD monitor family. The flat-panel LCD family includes Essential and Performance monitors. Essential Series monitors include quality products at affordable prices. The Performance Series monitors include P and X models. P models offer a wide range of adjustability. X models offer other specialized features like USB connectivity, wider viewing angles, and automatic pivot adjustment in addition to the features of the P models.

Monitor	Machine type	Monitor size	Viewable image size	Addressability (horizontal by vertical)
Essential				
L151	9205	15.0 inch	15.0 inch (381.0 mm)	1024 x 768
L171	9417	17.0 inch	17.0 inch (432.0 mm)	1280 x 1024
L190	9329	19.0 inch	19.0 inch (483.0 mm)	1280 x 1024

Performance

L151p	9205	15.0 inch	15.0 inch (381.0 mm)	1024 x 768
L171p	9417	17.0 inch	17.0 inch (432.0 mm)	1280 x 1024
L193p	4431	19.0 inch	19.0 inch (483.0 mm)	1280 x 1024
L190x	4439	19.0 inch	19.0 inch (483.0 mm)	1280 x 1024
L201p	9320	20.1 inch	20.1 inch (511.0 mm)	1600 x 1200
L220x Wide	4433	22.4 inch	22.0 inch (559.0 mm)	1920 x 1200

ThinkVision flat-panel monitors by application:

Application	Size/Resolution	Product
General Purpose:		
Rugged, back office or infrequent usage	15" (1024 x 768)	L151
	17" (1280 x 1024)	L171
	19" Wide (1440 x 900)	L194 Wide
Advanced Business:		
Workplace users & mobile users sharing a workspace	17" (1280 x 1024)	L171p
	19" (1280 x 1024)	L193p
Specialized Usage:		
USB connectivity, frequently switching between landscape and portrait mode, need wide viewing	19" (1280 x 1024)	L190x
	22" (1920 x 1200)	L220x Wide

angles & bright vivid images

Trademarks

HelpWare is a registered trademark of International Business Machines Corporation in the United States or other countries or both.

Windows is a trademark of Microsoft Corporation.

ThinkVantage and Lenovo are trademarks of Lenovo in the United States, other countries, or both

ThinkVision, ThinkCentre, and ThinkPad are registered trademarks of Lenovo in the United States, other countries, or both

Other company, product, and service names may be trademarks or service marks of others.

Publications

The following publications are shipped with each monitor (9422HC2):

Title	Part number	Language
User's Guide on CD	43R1885	U. S. English
		French
		Spanish
		Italian
		German
		Russian
		Polish
		Japanese
		Traditional Chinese
		Simplified Chinese
		Brazilian/Portuguese
		Bulgarian
		Croatian
		Czech
		Hungarian
		Romanian
		Korean
Setup Poster		Slovakian
		Slovenian
		Arabic
Safety, Troubleshooting and Warranty Guide		

Services

Global Technology Services

Lenovo™ services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an On Demand Business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for Lenovo and many non-Lenovo offerings.

For details on available services, contact your Lenovo representative or visit

<http://www.lenovo.com/services/>

For details on available Lenovo Business Continuity and Recovery Services, contact your Lenovo representative or visit

<http://www.lenovo.com/services/continuity>

For details on education offerings related to specific products, visit

<http://www.lenovo.com/services/learning/index.html>

Select your country, and then select the product as the category.

Technical information

Specified operating environment

Physical specifications: Dimensions (landscape orientation) and weight of the monitor and stand:

Parameter	Unpacked	Packed
Width	15.5 in (393.0 mm)	16.6 in (422.0 mm)
Depth	9.4 in (240.0 mm)	18.0 in (453.0 mm)
Height	14.4 in (366.4 mm) *	11.8 in (300.0 mm)
Weight	13.2 lb (6.0 kg)	17.6 lb (8.0 kg)

* Dimension is for min lift. The height at minimum lift is 476.4mm.

To ensure installability and serviceability, review the installation planning information for any product specific installation requirements.

Standards

Operating environment: Conservation: Energy can be saved by switching monitors off overnight and whenever they are not in use for extended periods during the day.

Power requirements

- Input voltage: 90 to 264 V ac
- Frequency: 50/60 Hz +/-3 Hz
- Power consumption:
 - Normal use: < 30 watts typical
 - VESA standby: < 2 watts analog
 - VESA suspend: < 2 watts analog
 - VESA off: < 1 watt
- Maximum earth leakage current:
 - <3.5mA at 220 VAC
 - <0.5mA at 100VAC
 - Cold Start Voltage: <40A at 220VAC

Ambient temperature and relative humidity

Parameter	Temperature	Relative Humidity	Altitude
Operating	0 to 45 deg C	10 to 80%	0 to 8,000 ft
Shipping	-20 to 60 deg C	5 to 95%	0 to 40,000 ft
Storage	-20 to 60 deg C	5 to 95%	0 to 40,000 ft

Acoustics: Declared acoustical noise emissions LWAU = 4.5 bels or less. The noise emission level stated is the declared (upper limit) A-weighted sound power level, in bels, for a random sample of monitors. All measurements are made in accordance with ANSI S12.10 and reported in conformance with ISO/DIS 7779.

Emissions: All models meet emission category A requirements of Swedish Standard SS-436-14-90 (MPR-3) in addition to those of MPR-2.

All models meet the Swedish Board for Technical Accreditation (SWEDAC) emission guidelines contained in MPR 1990:10 when tested using the MPR 1990:08 test method.

The model HC2 meets the TCO03 Environmental Label from the Swedish Confederation of Professional Employees (TCO), and the emission, power management, and electrical safety requirements of the TCO03 Environmental Label.

Ergonomics: Compliance to the ISO standard ISO/DIS 13406 Part 2 ensures ergonomic requirements are met when the monitor forms part of an ISO-compliant system.

Regulatory agency approvals

- EMI/Safety:
 - UL (U.S.)
 - CSA/cUL (Canada)
 - IEC950 CB Report
 - NEMKO (Norway)
 - SEMKO
 - DEMKO (Denmark)
 - FIMKO (Finland)
 - TUV
 - CCC (China)
 - NOM
 - SASO
 - GOST
 - PSB (Singapore)
 - BSMI
 - JEITA
 - Green Mark (Taiwan)
 - Australia
 - Jordan
 - UL-S (Argentina)
 - FCC B (U.S.)
 - IC (Canada)
 - CE (Europe)
 - MIC (Korea)
 - VCCI Class B (Japan)
 - New Zealand
 - South Africa

Environmental/energy/ergonomic/compatibility approvals

- TCO-03
- MPR-3 (Sweden)
- ISO 13406 Part 2
- ENERGY STAR (U.S.)
- Microsoft™ Logo — Windows™ 2000/XP
- RoHS
- WEEE

Note: As an ENERGY STAR Partner, Lenovo has determined that this product meets guidelines for energy efficiency.

Hardware requirements: The ThinkVision® L190x LCD monitor is intended to operate with system units or video adapters that generate a video output signal falling within the ThinkVision L190x specification:

Parameter	ThinkVision L190x
-----------	-------------------

Maximum addressability (pixels)	1280 x 1024
---------------------------------	-------------

Maximum pixel rate (MHz)	135
--------------------------	-----

The ThinkVision L190x supports VESA Standard Timings as detailed in Display Monitor Timing Specification, Version 1.0, Revision 0.8, dated September 17, 1998, for the following modes:

- VGA: 640 x 480 at 60, 66, 72 and 75 Hz
- SVGA: 800 x 600 at 60, 72 and 75 Hz
- XGA: 1024 x 768 at 60, 70, 75, and 75 Hz (mac)
- SXGA: 1280 x 1024 at 60, 72, and 75 Hz

The ThinkVision L190x also supports the following modes:

- 640 x 350 at 70 Hz
- 720 x 400 at 70 Hz
- 1152 x 864 at 75 Hz
- 1280 x 1024 at 60 Hz

Software requirements: The ThinkVision L190x monitor features factory-preset display modes. The actual display modes used depend on the attaching system unit, the operating system, and application software.

- Windows 2000
- Windows XP
- Windows Vista

Factory-preset PC display modes

Addressability (H x V Pixels)	Incoming video refresh rate
----------------------------------	--------------------------------

640 x 350	70 Hz
640 x 480	60 Hz
640 x 480	66 Hz (mac)
640 x 480	72 Hz
640 x 480	75 Hz
720 x 400	70 Hz
800 x 600	60 Hz
800 x 600	72 Hz
800 x 600	75 Hz
1024 x 768	60 Hz
1024 x 768	70 Hz
1024 x 768	75 Hz
1024 X 768	75 Hz (mac)
1280 x 1024	60 Hz
1280 x 1024	72 Hz
1280 x 1024	75 Hz

- User modes: 16

The factory-preset modes cannot be overwritten, but can be adjusted to personal choice. The new settings are stored automatically in one of the user locations and are recalled each time that

mode is used. The factory settings for the mode in use, if any, can be restored by operating the reset control.

Information about the current incoming display mode is shown in the on-screen displays. However, it is displayed at the LCD panel's optimum refresh rate of 60 Hz.

It may be necessary to make some adjustments to the displayed image to compensate for variations in video signal timings. The user controls can be used to make these adjustments.

Compatibility: The ThinkVision L190x monitor is supplied with detachable 1.8-meter video cable (15-pin D) and 2.0-meter digital cable (DVI-D to DVI-D).

This monitor has been tested with ThinkCentre® and ThinkPad® systems and is compatible with systems and graphics adapters that comply with the relevant parts of "VESA and industry standards and guidelines for computer display monitor timing" Version 1.0 Revision 0.8, adopted September 17, 1998. Supported display modes and number of colors are a function of the attaching system unit. The full range of display modes, refresh rates, and number of colors available with this monitor may not be available or supported with all combinations of system units, their operating systems, and application software. Implementation of monitor Plug and Play follows the VESA DDC standard. This standard must also be implemented in the attaching system unit hardware and software to be effective.

Limitations

- Supported display modes are a function of the attaching system unit and video subsystem. The full range of display modes available with these monitors may not be available or supported with all combinations of system units, their operating systems, video adapter cards, and application software.
- Horizontal- and vertical-synchronization signal timings are critical in order to achieve acceptable screen images. As a consequence, support for all possible variations in H- and V-sync timings for any display mode cannot be assumed.
- Adjustment of the user controls to enlarge the image to its maximum size requires that the signal timings of the display mode being used fall within the monitor-timing specifications.
- The number of colors shown in any display mode will exceed 16 million and dependent on the capabilities of the video adapter in the system unit.
- The ThinkVision L190x provides FCC class B — residential installation — compliance in all display modes.
- Implementation of monitor power management follows the VESA DPMS standard. This standard must also be implemented in the attaching system unit hardware and software for monitor power management to be effective. The system implementation must provide user-adjustable, power-down delay periods. The monitor power management function is invoked only after appropriate signals are received from an attached system unit or video adapter.
- Implementation of monitor Plug and Play follows the VESA DDC standard. This standard must also be implemented in the attaching system unit hardware and software for monitor Plug and Play to be effective.
- Certain functions require the system unit to be similarly configured, so all monitor functions may not be enabled when attached to a particular system unit.
- A 19.0-inch TFT monitor has nearly 4.0 million subpixel transistors laid over an area exceeding 175 square inches. Cost-effective manufacturing processes introduce a small number of defective subpixel transistors. The L190x meets the ISO 13406-2 Class 2 Pixel Defect Standard.
- Use of 50% gray background is not recommended since some users may experience undesirable FOS effects.
- The auto-setup "test pattern" can be used with Windows 3.1, Windows NT™ 3.5, Windows NT 4.0, Windows 95, Windows 98, Windows 2000, and DOS 7.0 only.

Planning information

Customer responsibilities: The monitor is designated as customer setup. Instructions are provided in the User's Guide.

Cable orders: No additional cables are required. A 1.8-m power cord appropriate to the country will be supplied by Lenovo.

Packaging

Shipment group

- One monitor
- Attached lift/tilt/swivel/pivot and height adjustment stand
- Attached 3-meter (9.8-foot) analog video signal cable (15-pin D to 15-pin D)
- Detached 3-meter (9.8-foot) digital (DVI-D to DVI-D) cable
- Power cord
- CD containing multilingual user's guide, setup test pattern, and .INF file
- Setup poster
- Safety, troubleshooting, and warranty guide

With the exception of the models for U.S., CAN, and Japan, the power cords (based on the country order code) are supplied by distribution centers.

Security, auditability, and control

These products use the security and auditability features of the system unit to which they are attached.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and conditions

IBM credit corporation financing: No

To obtain copies of the Lenovo Statement of Limited Warranty, contact your reseller or Lenovo.

In the United States, call 800-426-7378 or write to:

Warranty Information
500 Part Offices Drive
Research Triangle Park, NC 27709
Attn: Dept ZPYA/B600

Warranty period: Three years

Warranty service: Customer carry-in or mail-in using Rapid Replacement Service

If warranty service is required, call the Customer Support Center. The Customer Support Center will assist with problem determination and initiate shipment of a replacement unit, if needed, to the customer's location by express delivery. For calls received by 5:00 p.m. customer's time, in most cases, the replacement unit will arrive within two business days (excluding holidays). The replacement unit becomes the property of the customer in exchange for the failed unit, which becomes the property of Lenovo. Pack the failed unit into the shipping carton that contained the replacement unit and return to Lenovo.

Transportation charges, both ways, are paid by Lenovo.

Failure to use the carton in which the replacement unit was received could result in charges incurred by the customer for damage to the failed unit during shipment.

International Warranty Service (IWS): IWS is available during the warranty period to customers who travel or relocate to countries where their computer is sold and serviced by a service provider authorized to perform warranty service. Eligible Lenovo computers are identified

by their four-digit machine type.

You can obtain IWS through the method of service, such as CRU, depot, carry-in or, on-site, provided in the servicing country. Service methods and procedures vary by country, and some service or parts may not be available in all countries. Service centers in certain countries may not be able to service all models of a particular machine type. In addition, some countries may have fees and restrictions that apply at the time of service.

Note: Due to the earth's magnetic field, CRT monitors are manufactured to work in northern, southern, and equatorial regions of the earth and may not produce a satisfactory image when moved between them. Any required adjustment (if possible) is not covered under IWS and may be subject to a chargeable action. The magnetic field does not affect flat-panel LCD monitors and ThinkPad LCD displays.

Licensing: Programs included with this product are licensed under the terms and conditions of the License Agreements that are shipped with the system.

ThinkPlus™ and Lenovo Care maintenance services

Warranty and maintenance options: The announced products may be eligible for ThinkPlus and Lenovo Care Maintenance Services, convenient prepackaged offerings for warranty service upgrades and maintenance services.

Refer to the Prices section for information on the availability of ThinkPlus and Lenovo Care Maintenance Services.

Field-installable features: No

Model conversions: No

Machine installation: Customer setup. Customers are responsible for installation according to the instructions Lenovo provides with the machine.

Graduated program license charges apply: No

Licensed internal code and licensed machine code: This product does not contain licensed internal code or licensed machine code.

Prices

Description	Machine type/model	Part number	List price*
ThinkVision L190x	4439-HB2	4439HB2	\$379.99

* List price does not include tax or shipping and is subject to change without notice. Reseller prices may vary.

ThinkPlus services for warranty and maintenance

The following offerings apply to model HB2 of machine type 4439.

Description	ThinkPlus part number
3-year IOE 9 x 5	41C9209
3-year IOE 24 x 7	41C9212
4-hour average response	
4-year IOE 9 x5	41C9233
4-year IOE 24x7	41C9234
4-hour average response	

ThinkPlus MA for post warranty

ThinkPlus

Description	part number
1-year IOE 9 x 5 NBD	41C9310
1-year IOE 24 x 7	41C9311
2-year IOE 9 x 5 NBD	41C9330
2-year IOE 24 x 7	41C9331

Lenovo Global Services is the preferred, authorized warranty service, warranty service upgrade, and post-warranty service provider for Lenovo products (excluding mainland China).

For ServiceElect (ESA) maintenance service charges, contact Lenovo Global Services at 888-426-4343.

Trademarks

Microsoft, Windows, and Windows NT are trademarks of Microsoft Corporation.

Lenovo and ThinkPlus are trademarks of Lenovo in the United States, other countries, or both

ThinkVision, ThinkCentre, and ThinkPad are registered trademarks of Lenovo in the United States, other countries, or both

Other company, product, and service names may be trademarks or service marks of others.

This announcement is provided for your information only. For additional information, contact your Lenovo representative, call 866-96THINK, or visit the Lenovo home page at: <http://www.lenovo.com/us/en/>