

The new Lenovo ThinkVision L1951p Wide flat panel LCD monitor -- Enhance office productivity at an affordable price

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At a glance



The new Lenovo® ThinkVision® L1951p Wide LCD monitor offers:

- Viewable image size: 19.0 in (481 mm)
- Brightness: 250 cd/m2 (typical)
- Contrast ratio: 1000:1 (typical)
- Viewing angles:
 - Horizontal:
 - 170° (contrast ratio greater than 10:1)
 - 170° (contrast ratio greater than 5:1)
 - Vertical:
 - 160° (contrast ratio greater than 10:1)
 - 170° (contrast ratio greater than 5:1)
- Response time: 5 ms (typical)
- Power consumption: Up to 30% less power consumption than conventional LCD monitors with the same size and resolution
- Environmentally-responsible:
 - 50% less mercury content than conventional LCD monitors with the same size and resolution
 - TCO 5.0 compliance
 - Rated EPEAT Gold
- Display resolution of 1440 x 900 (automatically scales lower resolution to fill the screen)

- Tilt stand: -3 degrees to 20 degrees
- Lift: 80mm(2448HB6) /110 mm(2448HC6)
- Bezel width: 15.6 mm (0.61 in)
- Analog and DVI-D attachment
- Internal power
- 100 mm Video Electronic Standards Association (VESA) standard for mounting
- Kensington lock slot
- Optional ThinkVision Soundbar slot
- Business black

Overview

The L1951p Wide offers a combination of ergonomics and environmental responsibility. With arsenic-free glass, 70% recycled packaging, and 27% of the total weight of all plastics in the monitor consisting of post-consumer content plastic resins¹, the L1951p is one of the most environmentally responsible monitors available. The L1951p helps reduce power bills with an energy-efficiency rating 21% better than the latest ENERGY STAR 5.0 standards. It has an adjustable stand with both tilt and height adjustments for versatility and comfort. Brilliant screen images and crisp, clear font reproduction makes this monitor the perfect choice for users seeking improved office application productivity.

The Electronic Product Environmental Assessment Tool (EPEAT) rates the ThinkVision L1951p Wide in the Gold category (in the US, UK, France, Germany, China, Japan, and others²), making it one the most environmentally friendly monitor available today. This new monitor enables you to be environmentally friendly without compromising performance.

The Lenovo ThinkVision L1951p Wide is a member of the Performance Series family of monitors. It is best suited for those who spend long periods of time at the computer or in multiple-monitor environments that use advanced business applications.

Features and benefits

- 19-inch wide (481 mm) viewable image size
- Native resolution of 1440 x 900
- Internal power with 19 watts / 23 watts power consumption (typical/ maximum)
- Up to 30% less power consumption than conventional monitors of the same size and resolution
- 50% less mercury content than conventional monitor of the same size and resolution
- ThinkVantage® design
 - Tilt and height adjustable stand for optimum viewing comfort
 - Direct access button for automatic image setup and brightness allows quick and easy monitor setup
 - Analog and DVI-D video signal connectors
 - Supports High Definition Content Protection (HDCP)
 - Compliance with ENERGY STAR 5.0 requirements
 - Kensington Lock slot for security
 - TCO 5.0 compliance
 - Rated EPEAT Gold
 - Attachment points for optional ThinkVision Soundbar
 - Dual input connectors and direct access for input selection allows easy movement between applications when attached to two systems simultaneously
 - Matching design to ThinkPad®, ThinkCentre®, and ThinkStation® systems

- Analog and digital connectors allow attachment flexibility
- Wide viewing angles enlarge the workspace for comfortable viewing
- Certified for Microsoft® Windows® 7/Vista/XP
- Meets 100 mm VESA standard for mounting
- Detachable base for wall- or arm-mounting (sold separately)
- Available in business black
- Power consumption (typical/max): 19 watts/23 watts

¹ As defined by EPEAT verification criteria for calculation of post-consumer recycled content. Many plastic parts used in this product consists of (by weight) 65% post-consumer content from sources like home appliances, computers, vehicles, and office equipment.

² EPEAT registration status varies by location. For complete country listing, visit <http://www.epeat.net>

Planned availability date

October 23, 2009

Description

VESA high refresh video signal timings

This monitor supports a wide range of display modes, including a selection of the VESA timings of incoming video signals at up to 76 Hz (non-interlaced) for the following screen resolutions:

- 640 x 480
- 720 x 400
- 800 x 600
- 1024 x 768
- 1280 x 1024
- 1440 x 900

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

Monitors are compatible with popular Lenovo PC system units.

VESA Display Data Channel (DDC)

This monitor supports the DDC protocol to command interface (CI) level. 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 end-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 extended display identification data (EDID) 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:

$$\text{Value stored} = (\text{YOM} - 1990)$$

Year of manufacture	Value stored
2004	14
2005	15
2006	16
2007	17
2008	18

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 9241-307

ISO/DIS 9241-307 ensures ergonomic requirements are met when the Lenovo L1951p Wide LCD Monitor forms part of an ISO-compliant system. ISO/DIS 9241-307 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 9241-307, a complete platform must be tested and must comply with all applicable elements of ISO 9241-307. 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 9241-307 compliant.

Low-frequency electromagnetic emissions

The monitor meets the Swedish Board for Technical Accreditation (SWEDAC) MPR-2 requirements. MPR-2 is a guideline developed by the SWEDAC to limit the electromagnetic emissions and electrostatic fields generated by workstations.

The monitor meets TCO5.0 Environmental Label standards:

- Environment
- Ergonomics

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

VESA Display Power Management Signaling (DPMS)

This monitor meets ENERGY STAR 5.0 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.

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

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	LCD monitor
Monitor Size	19.0 inch wide (xxx mm)
Viewable image size	19.0-inch (481 mm)
Maximum viewable area (W x H)	408.2 x 255.2mm
Native Resolution	1440 x 900
Contrast ratio (typical)	1000 : 1
Brightness (typical)	250 cd/m2
Aspect Ratio	16 : 10
Pixel pitch	0.285 mm
Colors	16.7 million
Horizontal viewing angle	170 degrees (at 10:1 contrast ratio) 170 degrees (at 5:1 contrast ratio)
Vertical viewing angle	160 degrees (at 10:1 contrast ratio) 170 degrees (at 5:1 contrast ratio)
Response time (typical)	5 ms
Video input	15-pin D-sub, DVI-D
Signal cable - 15-pin D	1.8 m
Signal cable - DVI-D	1.8 m
SYNC Type	Composite/Separate TTL
SYNC on Green	No
USB input	None
USB output	None
Bezel width (Side)	15.5 mm
Tilt	3 degrees forward 20 degrees backward
Swivel	None
Lift	80mm(HB6), 110mm(HC6)
Pivot	No
Soundbar Attachment	ThinkVision Soundbar
VESA mount	100 mm
Kensington lock slot	Yes
User controls	Digital
Lockable controls	Yes
OSD	Yes
OSD languages	8
Preset display modes	20
User-defined display modes	20
VESA DDC capable	2B/CI
Power supply	Universal
Power cord	1.8 m
Analog cable	1.8 m
DVI-D Cable	1.8 m

ISO 9241-307 capable	Yes
Energy Star 5.0	Yes
VESA DPMS power management capable	Yes
VESA DDC	2B/CI
FCC B compliance	Yes
TCO5.0 Environmental Label	Yes
MPR-2 emission compliance	Yes (covered by TCO5.0)
EU Directive 2002/95/EC (RoHS)	Yes
EU Directive 2002/96/EC (WEEE)	Yes
China RoHS	Yes
CCC	Yes
China Monitor Energy Efficiency Standard Tier 1	Yes

On-Screen Display (OSD) menu control

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 OSDs. 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 when using dual input, auto setup, and brightness.

Monitor controls and features include:

- Brightness/contrast
- Image position:
 - Horizontal position
 - Vertical position
- Image setup:
 - Automatic
 - Manual
- Image properties:
 - Color
 - Scaling
 - Input Signal: Analog, Digital
- Options:
 - Information
 - Menu language
 - Menu position
 - Factory default
 - Accessibility
- Control locked under digital signal:
 - Contrast
 - Image position
 - Image setup
 - Image properties - color
- Exit

The OSD menu supports the following languages: English, Spanish, Italian, German, French, Japanese, Chinese, and Russian.

Indicators

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

Indicator	operating state
-----------	-----------------

Green LED	Normal operation
Amber LED	Active Off
Green blinking	Frequency out of range

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

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

Section 508 of the U.S. Rehabilitation Act

This monitor is capable when used in accordance with associated Lenovo documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

Product positioning

The Lenovo ThinkVision L1951p Wide LCD monitor is part of the ThinkVision Performance Series flat-panel LCD monitor family. The flat-panel LCD family includes ThinkVision Performance and Lenovo Essential monitors. Lenovo Essential Series offers quality monitors at affordable prices. ThinkVision Performance Series monitors include p and x models. The p models offer a wide range of adjustability, while x models add other specialized features, such as USB connectivity.

Monitor	Machine type	Monitor size	viewable image size	Addressability (horizontal by vertical)
Lenovo Essential				
D186 wide	2580	18.5 inch	18.5 inch (470 mm)	1366 x 768
D185 wide	6318	18.5-inch	18.5 inch (470 mm)	1366 x 768
L2060 wide	2120	20.1-inch	20.1 inch (511mm)	1600 x 900
L215 wide	6325	21.5-inch	21.5 inch (546mm)	1920 x 1080

ThinkVision Performance

L151	9165	15.0-inch	15.0-inch (381 mm)	1024 x 768
L174	9227	17.0-inch	17.0-inch (432 mm)	1280 x 1024
L1700p	9417	17.0-inch	17.0-inch (432 mm)	1280 x 1024
L1711p	5047	17.0-inch	17.0-inch (432 mm)	1280 x 1024
L1951p wide	2448	19.0-inch	19.0-inch (481 mm)	1440 x 900
L197 wide	4434	19.0-inch	19.0-inch (481 mm)	1440 x 900
L1900p	4431	19.0-inch	19.0-inch (483 mm)	1280 x 1024
L2250p wide	2572	22.0-inch	22.0-inch (569 mm)	1680 x 1050
L2251p wide	2572	22.0-inch	22.0-inch (569 mm)	1680 x 1050
L2240p wide	4422	22.0-inch	22.0-inch (569 mm)	1680 x 1050
L2440p wide	4420	24.0-inch	24.0-inch (610 mm)	1920 x 1200
L2251x wide	2578	22.0-inch	22.0-inch (569 mm)	1680 x 1050
L2440x wide	4421	24.0-inch	24.0-inch (610 mm)	1920 x 1200

ThinkVision flat-panel monitors by application:

Application/Usage	Size/Resolution	Product
General Purpose: or infrequent usage	15" (1024 x 768)	L151
	17" (1280 x 1024)	L174
	19" wide (1440 x 900)	L172, D173
		L197 wide L1940 wide
Advanced Business: Business & mobile users	17" (1280 x 1024)	L1711p

with office	19" (1280 x 1024)	L1900p
	19" wide (1440 x 900)	L1951p wide
	22" wide (1680 x 1050)	L2250p wide
	22" wide (1680 x 1050)	L2251p wide
	24" wide (1920 x 1200)	L2440p wide
Specialized Usage:		
Narrow/slim head or bezel, most environmentally responsible offerings with bright vivid images	22" wide (1680 x 1050)	L2251x wide
	24" wide (1920 x 1200)	L2440x wide

Product number

Note: All geographies except EMEA use the combined machine type/model number as the ordering number.

For pricing information, refer to the [Prices](#) section.

Description	Machine type/model	Part number	UPC code
ThinkVision L1951p Wide LCD Monitor	2448-HB6	2448HB6	884942-27372-8

Publications

The following publications are shipped with each monitor:

Title	Languages
L1951p Wide User's Guide (on CD)	U.S. English, French, Spanish, German, Italian, Japanese, Russian, Polish, Traditional Chinese, Simplified Chinese, Croatian, Czech, Hungarian, Romanian, Slovakian, Slovenian, Korean, Turkish, Bulgarian, Arabic, Portuguese, Brazilian Portuguese, Serbia, Cambodia
Setup Guide	
Safety and warranty Information	

Technical information

Specified operating environment

Physical specifications

Dimensions and weight of the monitor and stand: 2448-HB6

Parameter	Unpacked	Packed
Height	14.56 inch (369.9 mm)	5.71 inch (145 mm)
Width	17.36 inch (440.9 mm)	16.54 inch (420 mm)
Depth	6.11 inch (155.2 mm)	20.12 inch (511 mm)
Weight	9.37 lb (4.25 kg)	13.0 lb (5.91 kg)

Part number: 2448-HC6

Parameter	Unpacked	Packed
Height	15.66 inch (397.7 mm)	5.87 inch (149 mm)
Width	17.36 inch (440.9 mm)	17.72 inch (450 mm)
Depth	6.11 inch (155.2 mm)	20.28 inch (515 mm)
Weight	9.61 lb (4.36 kg)	13.5 lb (6.13 kg)

To assure installability and serviceability in non-IBM industry-standard racks, review the installation planning information for any product-specific installation requirements.

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
- Power consumption:
 - Maximum: 23 watts
 - Typical: 19 watts typical²
 - VESA standby: <1 watts
 - VESA suspend: <1 watts
 - VESA off: <0.5 watts
 - Maximum earth leakage current:
 - <3.5 mA at 264 V
 - <0.25 mA at 100 V

² Typical power consumption is tested under normal performance application situation.

Actual power consumption depends on the chosen display mode, the images displayed, and user control settings.

Ambient temperature and relative humidity

Parameter	Temperature	Relative humidity	Altitude
Operating	0 to 40 deg.C	10 to 80 %	0 to 8,000 ft (2,438 m)
Shipping	-20 to 60 deg.C	5 to 95 %	0 to 40,000 ft (12,192 m)
Storage	-20 to 60 deg.C	5 to 95 %	0 to 40,000 ft (12,192 m)

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 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. and meets TCO 5.0 Environmental Label. from the Swedish Confederation of Professional Employees (TCO), and the emission, power management, and electrical safety requirements of the Environmental Label.

Ergonomics

Compliance to the ISO standard ISO/DIS 9241-307 provides that ergonomic requirements are met when the monitor forms part of an ISO-compliant system.

Regulatory agency approvals

- EMI/SAFETY
 - UL (U.S.)
 - CSA (Canada)

- IEC950 CB Report
- NEMKO (Norway)
- SEMKO
- DEMKO (Denmark)
- FIMKO (Finland)
- TUV (Germany)
- TUV-S (Argentina)
- CCC (China)
- NOM (Mexico)
- SASO (Saudi Arabia)
- GOST (Russia)
- PSB (Singapore)
- JEITA (Japan)
- FCC B (U.S.)
- IC (Canada)
- CE (Europe)
- KC (Korea)
- VCCI Class B (Japan)
- BSMI (Taiwan)
- SABS (South Africa)
- C-Tick (Australian, New Zealand)
- Jordan

Environmental/energy/ergonomic/compatibility approvals

- TCO 5.0 Environmental Label
- MPRII
- ISO 9241-307
- Software: Microsoft Windows 7/Vista/XP
- EU Directive 2002/96/EC - WEEE
- EU Directive 2002/95/EC - RoHS
- China RoHS
- EPA
- GS
- e-Standby
- REACH
- EuP³

³ Directive: 2005/32/EC Standard: COMMISSION REGULATION (EC) No 1275/2008 (ANNEX I point 2 for ITE product)

Hardware requirements

The Lenovo ThinkVision L1951p wide LCD monitor is intended to operate with system units or video adapters that generate a video output signal falling within the following specification:

Parameter	Monitor
Maximum resolution	1440 x 900 pixels
Optimum resolution	1440 x 900 pixels
Maximum pixel rate	165 MHz (DVI)

The monitor 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, 72, and 75 Hz
- SVGA: 800 x 600 at 56, 60, 72, and 75 Hz
- XGA: 1024 x 768 at 60, 70, and 75 Hz
- SXGA: 1280 x 1024 at 60, 70 and 75 Hz
- WXGA+: 1440 x 900 at 60 and 75 Hz

This monitor supports the following modes:

- PAL VGA at 50 Hz
- 640 x 350 at 70 Hz
- 640 x 480 at 66 Hz
- 720 x 400 at 70 Hz
- 832 x 624 at 75Hz
- 1152 x 864 at 75Hz

Software requirements

The monitor features preset display modes. The actual display modes used depend on the attaching system unit, the operating system, and application software. The L1951p wide monitor is certified for use with the following operating systems:

- Microsoft Windows XP
- Microsoft Windows Vista

Preset display modes

Addressability (H x V Pixels)	Incoming video refresh rate
640 x 350	70 Hz NI
640 x 480	60 Hz NI
640 x 480	66 Hz NI
640 x 480	72 Hz NI
640 x 480	75 Hz NI
720 x 400	70 Hz NI
800 x 600	56 Hz NI
800 x 600	60 Hz NI
800 x 600	72 Hz NI
800 x 600	75 Hz NI
832 x 624	75 Hz NI
1280 x 720	60 Hz NI
1024 x 768	60 Hz NI
1024 x 768	70 Hz NI
1024 x 768	75 Hz NI
1152 x 864	75 Hz NI
1280 x 1024	60 Hz NI
1280 x 1024	70 Hz NI
1280 x 1024	75 Hz NI
1360 x 768	60 Hz NI
1440 x 900(4)	60 Hz NI(4)(Optimum Display Mode)
1440 x 900	75 Hz NI

⁴ This is the optimum display mode for the best displayed image. Reduced image quality may result if used in other modes due to the image scaling limitations of LCD monitor technology.

- User modes: 20

The 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 played 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 monitor is supplied with a detachable 1.8-meter (5.9-feet) analog video signal cable and digital video signal cable (DVI-D).

This monitor has been tested with ThinkPad and ThinkCentre systems and is compatible with systems and graphics adapters which 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 (up to a maximum of 16.7 million) is not limited by the monitor, but depends on the capabilities of the video adapter in the system unit.
- This monitor 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 Wide TFT monitor has nearly 4.0 million subpixel transistors laid over an area exceeding 162 square inches. Cost-effective manufacturing processes induce a small number of defective subpixel transistors. This monitor meets the ISO 9241-307 Defect follows:

Planning information

Customer responsibilities

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

Cable orders

A 1.8 meter power cord appropriate to the country is supplied. A 1.8 meter digital video signal cable (DVI-D).

Shipment group

- One monitor
- Attached 1.8-meter (5.9-feet) analog video signal cable (15-pin D to 15-pin D)
- 1.8-meter (5.9-feet) DVI-D video signal cable
- Power cord
- A CD containing multilingual user's guide, setup test pattern, and .INF file
- Setup guide
- Safety and warranty information

With the exception of the models for U.S., Canada, 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 Global 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
1009 Think Place
Morrisville, NC 27560
Attn: Dept ZPYA/B3.

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.

Note: Only one Warranty Upgrade per Machine Serial Number can be active. A Post Warranty offering can be added when a Warranty Upgrade is active. The Post Warranty offering will only become active at the end date of the Warranty upgrade or Base Warranty period if later.

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

For product descriptions, refer to the [Product number](#) section.

Description	Order number	List price*
ThinkVision	2448HB6	\$239.99

* 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 offerings below apply to all models of machine type 2448.

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

ThinkPlus MA for post warranty

Description	ThinkPlus 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

For additional Lenovo Care Maintenance Services information, visit

<http://www.partner.us.pc.lenovo.com>

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