

Lenovo ThinkVision L1900p Flat Panel LCD Monitor -- the perfect balance between productivity, energy-efficiency, and environmental responsibility

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At a glance



The Lenovo® L1900p LCD monitor offers:

- Viewable image size: 19.0 in (483 mm)
- Pixel Pitch: 0.294 mm
- Brightness: 250 cd/m2 (typical)
- Contrast ratio: 800:1 (typical)
- Viewing angles:
 - Horizontal:
 - 160° (at 10:1 contrast ratio)
 - 170° (at 5:1 contrast ratio)
 - Vertical:
 - 160° (at 10:1 contrast ratio)
 - 170° (at 5:1 contrast ratio)
- Response time: 5 ms (typical)
- Power consumption: Up to 30% less power consumption than conventional LCD monitors with the same size and resolution
- Environmental responsibility:

- 50% less mercury content than conventional LCD monitors with the same size and resolution
- TCO'03 compliance
- EPEAT Gold certified
- GREENGUARD certified
- Optimum display resolution of 1280 x 1024 (automatically scales lower resolution to fill the screen)
- Tilt, swivel, pivot, and height-adjustable stand
- Attached 1.8-meter VGA cable
- Include 1.8-meter DVI-D cable
- Narrow bezel: 15.3 mm
- Optional ThinkVision® Soundbar (sold separately)
- Carrying handle
- Direct access for automatic image setup and brightness
- Analog and digital system attachment
- Internal power with 17 watts power consumption (typical)
- 100 mm Video Electronic Standards Association (VESA) standard compliant
- Kensington lock slot
- Business black

Overview

The Lenovo L1900p monitor offers a thin frame design that complements the ThinkStation®, ThinkCentre®, and ThinkPad® systems. With Light Booster technology, mercury content is reduced by 50% and power consumption by 30%.

The incorporated ThinkVantage® design enhances usability for an intuitive and easy to use monitor.

The Electronic Product Environmental Assessment Tool (EPEAT) rates the ThinkVision L1900p in the Gold category making it one of the most environmentally friendly monitors available today¹. The Lenovo ThinkVision L1900p enables you to be environmentally friendly without compromising performance.

The L1900p includes attachment for optional the ThinkVision Soundbar (sold separately)²

It is available in business black.

1

As rated by

<http://www.epeat.net>

2

Please refer to Hardware Announcement RFA Number [ZG08-0752](#), dated September 16, 2008, for details on general availability and part numbers of the applicable ThinkVision Soundbar.

Features and benefits

- 19 in (483 mm) viewable image size
- Optimum resolution: 1280 x 1024
- Internal power with 17 watts / 24 watts power consumption (typical/ maximum)
- Up to 30% less power consumption than conventional monitors of the same size and resolution
- 50% less mercury content and up to 30% less power consumption than conventional monitors of the same size and resolution
- ThinkVantage design:

- Tilt, swivel, pivot and height-adjustable stand for optimum viewing comfort
- Pivot for portrait or landscape viewing (graphics card dependent)
- 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)
- Carrying handle for easy transport of monitor
- Compliance with ENERGY STAR 4.1 requirements
- Kensington Lock slot for security
- TCO'03 compliance
- EPEAT Gold certified
- GREENGUARD certified
- Offers attachment points for optional ThinkVision Soundbar
- 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
- Dual input connectors allow attachment to two systems simultaneously
- Certified for Microsoft® Windows® Vista
- Internal power
- Meets 100 mm VESA requirement
- Available in business black

The product can also be ordered by a 20' (540 pieces) or a 40' (1125 pieces) container. This will be on a back to back basis, so the lead time will be at least 8 weeks from order placement to delivery.

Planned availability date

November 14, 2008

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 350
- 640 x 480
- 720 x 400
- 800 x 600
- 1024 x 768
- 1280 x 1024

Appropriate video-adaptor 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 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 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

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 local area network. 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 Lenovo ThinkVision L1900p Flat Panel 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 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 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. TCO'03 Environmental Label

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

VESA Display Power Management Signaling (DPMS)

This 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.

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 (483 mm)
Optimum Resolution	1280 x 1024
Maximum Resolution	1280 x 1024
Pixel pitch	0.294 mm
Brightness (typical)	250 cd/m2
Contrast ratio (typical)	800 : 1
Colors	16.7 million
Horizontal viewing angle	160 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
Viewable area height	301 mm
Viewable area width	376 mm
Video input	15-pin D
Signal cable - 15-pin D	1.8 m
Signal cable - DVI-D	1.8 m
SYNC Type	Separate TTL
SYNC on Green	No
USB input	None
USB output	None
Bezel width (Side)	15.3 mm
Tilt	0 degrees forward
	30 degrees backward
Soundbar Attachment	ThinkVision Soundbar

Kensington Lock slot	Yes
User controls	Digital
Lockable controls	Yes
OSD	Yes
OSD languages	8
Preset display modes	21
User defined display modes	17
VESA DDC capable	2B/CI
ISO 13406-Part 2 capable	Yes
Power management capable	Yes - VESA DPMS
Power supply	Universal voltage (100 to 240 VAC)
Power cord	1.8 m (detachable)
JEIDA compliance	Yes
FCC B compliance	Yes
MPR-2 Emission compliance	Yes
MPR-3 Emission compliance	Yes
TCO'03 Environmental Label	Yes
EU Directive 2002/95/EC (RoHS)	Yes
EU Directive 2002/96/EC (WEEE)	Yes

On-Screen Display (OSD) Menu Control

Digital user controls are located on the front bezel, to the left of the power 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 when using auto setup and brightness.

Monitor controls and features include:

- Brightness/contrast
- Image position:
 - Horizontal position
 - Vertical position
- Image setup:
 - Automatic
 - Manual
 - Scaling
- Image properties:
 - Color
- Options:
 - Information
 - Menu language
 - Menu position
 - Factory default
 - Accessibility
- Exit

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

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

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

Product positioning

The Lenovo L1900P Essential monitor is part of the Lenovo flat-panel LCD monitor family. The flat-panel LCD family includes Essential and Performance monitors. Essential monitors include quality products at affordable prices. Performance Series monitors include p and x models. P models offer a wide range of adjustability, while x models add other specialized features, such as USB connectivity.

Monitor	Machine types	Monitor size	Viewable image size	Resolution (horizontal x vertical)
Essential				
L151	9165	15.0-inch	15.0-inch (381 mm)	1024 x 768
D154	4415	15.6-inch	15.6-inch (396 mm)	1366 x 768
D156 wide	4415	15.6-inch	15.6-inch (396 mm)	1366 x 768
L172	4428	17.0-inch	17.0-inch (432 mm)	1280 x 1024
D173	4427	17.0-inch	17.0-inch (432 mm)	1280 x 1024
L174	9227	17.0-inch	17.0-inch (432 mm)	1280 x 1024
L1940 wide	4434	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
L191	6135	19.0-inch	19.0-inch (483 mm)	1280 x 1024
L1900	6135	19.0-inch	19.0-inch (483 mm)	1280 x 1024
Performance				
L151p	9205	15.0 inch	15.0 inch (381 mm)	1024 x 768
L171p	9417	17.0 inch	17.0 inch (432 mm)	1280 x 1024
L192p	9419	19.0 inch	19.0 inch (483 mm)	1280 x 1024
L201p	9320	20.1 inch	20.1 inch (511 mm)	1600 x 1200
L1700p	9417	17.0-inch	17.0-inch (432 mm)	1280 x 1024
L1940p wide	4424	19.0-inch	19.0-inch (481 mm)	1440 x 900
L193p	4431	19.0-inch	19.0-inch (483 mm)	1280 x 1024
L1900p	4431	19.0-inch	19.0-inch (483 mm)	1280 x 1024
L190x	4439	19.0-inch	19.0-inch (483 mm)	1280 x 1024
L200p wide	4438	20.1-inch	20.1-inch (511 mm)	1680 x 1050
L2240p wide	4422	22.0-inch	22.0-inch (569 mm)	1680 x 1050
L220x wide	4433	22.0-inch	22.0-inch (569 mm)	1920 x 1200
L2440p wide	4420	24.0-inch	22.0-inch (610 mm)	1920 x 1200
L2440x wide	4421	24.0-inch	22.0-inch (610 mm)	1920 x 1200

ThinkVision flat-panel monitors by application:

Application/Usage	Size	Resolution	Product
General Purpose: Rugged, back office or infrequent usage	15"	(1024 x 768)	L151
	15" wide	(1366 x 768)	D154 wide
	17"	(1280 x 1024)	L174 wide L172, D173
	19" wide	(1440 x 900)	L197 wide L1940 wide
Advanced Business: Business & mobile users with office	17"	(1280 x 1024)	L1700p
	19"	(1280 x 1024)	L191, L1900p,
	19" wide	(1440 x 900)	L1940p wide
	20" wide	(1680 x 1024)	L200p wide
	22" wide	(1680 x 1050)	L2240p wide
	24" wide	(1920 x 1200)	L2440p wide
Specialized Usage: Narrow/slim head or bezel,	19"	(1280 x 1024)	L1900

most environmentally	22" wide	(1920 x 1200)	L220x wide
responsible offerings with	24" wide	(1920 x 1200)	L2440x wide
bright vivid images			

Product number

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

Description	Machine Type/Model	Part Number	EAN Code
Lenovo L1900P LCD Monitor	4431-HE1	R43HExx	884343-09634-6

Technical information

Specified operating environment

Physical specifications

Dimensions and weight of the monitor and stand:

Parameter	Unpacked	Packed
Height	14.9 inch (378.7 mm)	18.58 inch (472 mm)
width	16.1 inch (408.0 mm)	17.71 inch (440 mm)
Depth	9.49 inch (241.0 mm)	9.13 inch (232 mm)
weight	12.48 lb (5.66 kg)	15.7 lb (7.12 kg)

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: 100 to 240 V ac
- Frequency: 50/60 Hz
- Power consumption:
 - Maximum: 24 watts
 - Normal use: 17 watts typical
 - VESA standby: <1 watt
 - VESA suspend: <1 watt
 - VESA off: <0.5 watt
 - Maximum earth leakage current:
 - <3.5 mA at 264 V
 - <0.25 mA at 100 V

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	8 to 80 %	0 to 12,000 ft (3,657 m)
Shipping	-20 to 60 deg.C	5 to 95 %	0 to 35,000 ft (10,668 m)
Storage	-20 to 60 deg.C	5 to 95 %	0 to 12,000 ft (3,657 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 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 business black model (4431-HE1) meets TCO'03 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 13406 Part 2 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)
 - GREEN MARK (Taiwan)
 - JEITA (Japan)
 - FCC B (U.S.)
 - IC (Canada)
 - CE (Europe)
 - MIC (Korea)
 - VCCI Class B (Japan)
 - BSMI (Taiwan)
 - South Africa
 - Australia
 - New Zealand
 - Jordan

Environmental/energy/ergonomic/compatibility approvals

- TCO'03 Environmental Label
- MPR-3 (Sweden)
- ISO/DIS 13406 Part 2
- Software: Microsoft Vista/XP

- EU Directive 2002/96/EC - WEEE
- EU Directive 2002/95/EC - RoHS

Hardware requirements

The Lenovo ThinkVision L1900p Flat Panel 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	1280 x 1024 pixels
Optimum Resolution	1280 x 1024 pixels
Maximum pixel rate	135 Mhz

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 60, 72, and 75 Hz
- XGA: 1024 x 768 at 60, 70, and 75 Hz
- SXGA: 1280 x 1024 at 60, 70, 72 and 75 Hz

This monitor supports the following modes:

- 640 x 350 at 70 Hz
- 640 x 480 at 66 Hz
- 720 x 400 at 70 Hz
- 1280 x 1024 at 76 Hz

National language support is a function of the video adapter in the system unit and the application or support software.

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.

- Windows Vista
- Windows XP

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	60 Hz NI
800 x 600	72 Hz NI
800 x 600	75 Hz NI
1024 x 768	60 Hz NI
1024 x 768	70 Hz NI
1024 x 768	75 Hz NI
1280 x 1024 ⁵	60 Hz NI ⁵ (Optimum Display Mode)
1280 x 1024	75 Hz NI

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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: 17

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

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 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. This monitor meets the ISO 13406-2 Class II Pixel Defect follows:
- 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, Windows XP, 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

A 1.8-m power cord appropriate to the country is supplied.

Shipment group

- One monitor
- Attached tilt, swivel, pivot, and height-adjustable stand
- Attached 1.8-meter analog video signal cable (15-pin D to 15-pin D)
- Attached 1.8-meter digital (DVI-D to DVI-D) cable
- Power cord
- A 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., 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

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

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.

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

These products do not contain Licensed Internal Code or Licensed Machine Code.

Prices

For all local charges, contact your Sales representative.

Announcement countries

All European, Middle Eastern and African Countries.

Trademarks

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<http://www.lenovo.com/legal/us/en/>

Corrections

(Corrected on December 1, 2008)

The word "Wide" was removed from the product name in the Overview.