1280×768
XGA
50inch

50-inch XGA Professional Plasma Display

PDP-503CMX

The Best Choice for All Types of Professional and Public Displays

PURE vision

XGA 50 inch

For the effective presentation of images and data, the PDP-503CMX is simply the best choice.

Saying "this is the best choice you can make in a display monitor" is a bold claim, but once you know the facts, we're confident you will agree. Building on the inherent advantages of the plasma display system and flat screen, Pioneer has taken plasma display performance to an entirely new level. Our technology, praised by numerous independent reviewers as the world's best, has been further improved. Reliability and durability are even more impressive than before, and operating ease and versatility have both been upgraded. We've even made this display energy-efficient and environmentally friendly. Any way you look at it, the PDP-503CMX is the best choice for professional display applications.
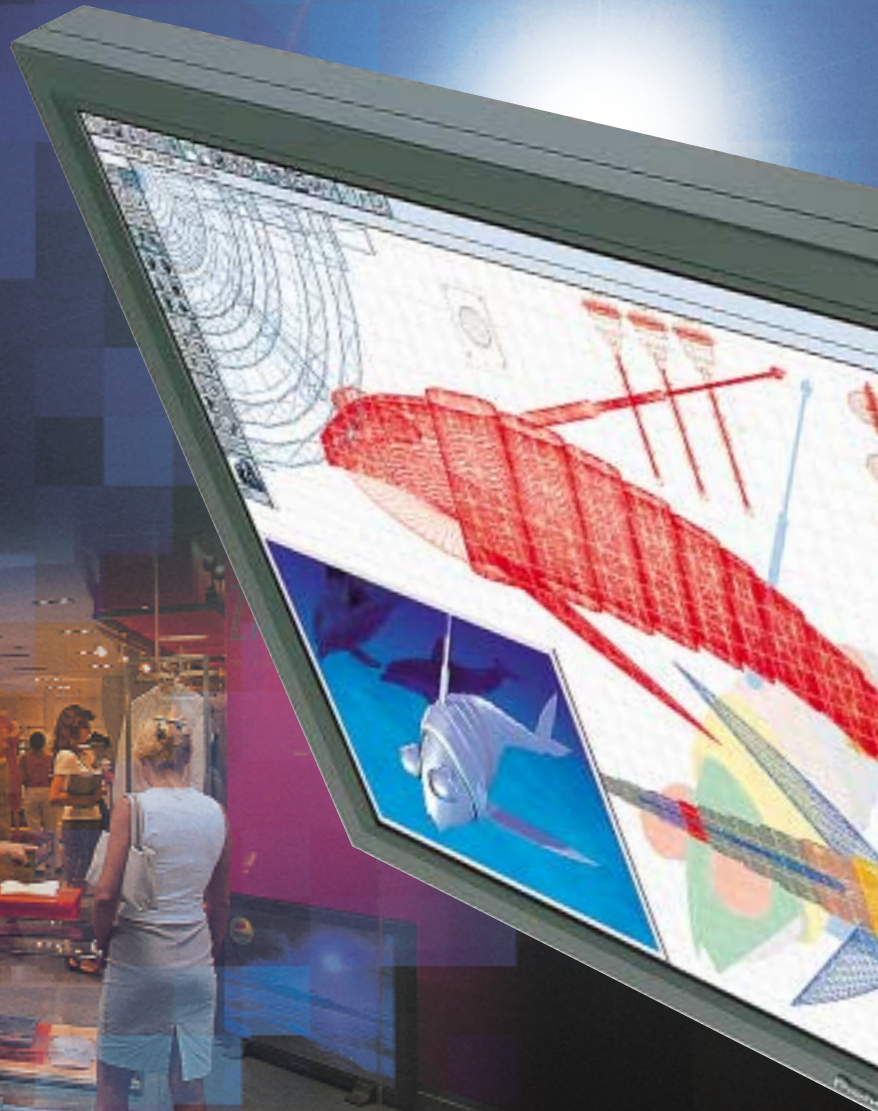
PDP Advantages

Wide, Flat and Thin
Compared to an ordinary CRT monitor, the large 50-inch PDP screen is perfectly flat, yet elegantly slim — only 98mm (3-27/32") deep. There really is no comparison.

Lightweight for Easy Mounting
PDP units are much lighter than CRT monitors. They can be affixed to a mobile, floor or tabletop stand, or easily mounted on walls and ceilings, both horizontally, vertically or anything in between.

Wider Viewing Angle
PDPs provide a wider viewing angle than conventional monitors: more than 160°, both horizontally and vertically. Spectators are ensured of a clear view from the sides or below the screen, which is especially useful for public displays.

High Precision Imaging
PDPs deliver a high precision, distortion-free, evenly illuminated image all the way out to the corners of the screen. Instant set-up and convergence free operation assures the image quality will never change.
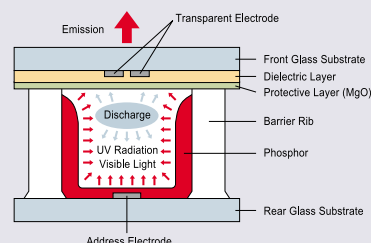
Unaffected by Magnetic Interference
Unlike CRT devices, PDPs do not suffer from image distortion or color inaccuracy due to magnetic fields.

PDP Technology

The PDP screen is actually two panels of glass with nearly a million pixels sandwiched between them. The pixels consist of tiny cells holding gas, with electrodes on the top and bottom. Electrical discharges cause the gas to emit ultraviolet light that excites red, green and blue phosphors, which then radiate visible light to produce bold, color images.

■ PDP Operating Principle

Emission
Transparent Electrode
Front Glass Substrate
Dielectric Layer
Protective Layer (MgO)
Discharge
Barrier Rib
UV Radiation
Visible Light
Phosphor
Rear Glass Substrate
Address Electrode

Pioneer's strong commitment to PDP development makes us the world leader.

Pioneer's reputation as the world's leading manufacturer of plasma display panels was solidified in 1997 with the release of the world's first 50-inch XGA model, and is further confirmed by our third generation display, the PDP-503CMX. We lead the industry not only in terms of performance and functions, but also in the development of fundamental PDP technology. Pioneer PDPs are designed to meet a wide variety of application requirements, and have found acceptance as information displays at airports, train stations and other public places, visual displays at trade shows and other events, industrial control and monitoring, and electronic advertising. They are also becoming very popular as corporate presentation tools. We are unique in that we develop, design and manufacture our PDPs entirely in house, and in fact are the only manufacturer with a yield rate high enough to make this possible. What's more, Pioneer Corporation and the Shizuoka Pioneer Corporation where PDP products are developed have both achieved ISO 14001 certification.
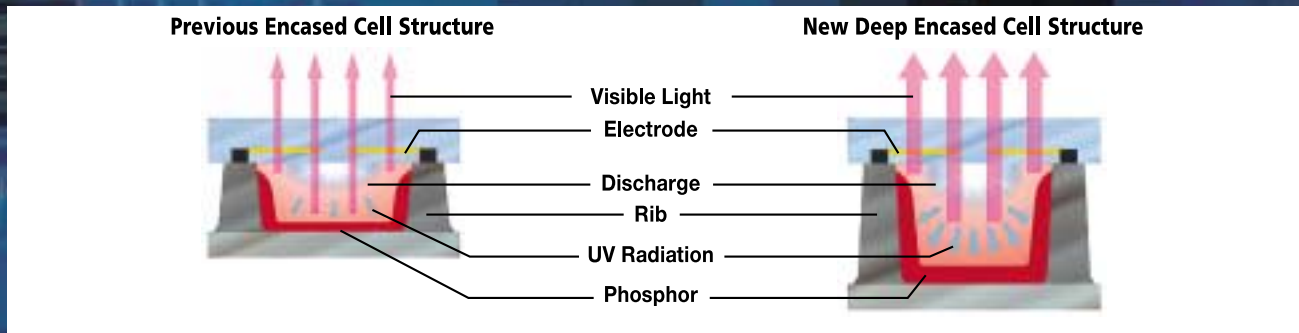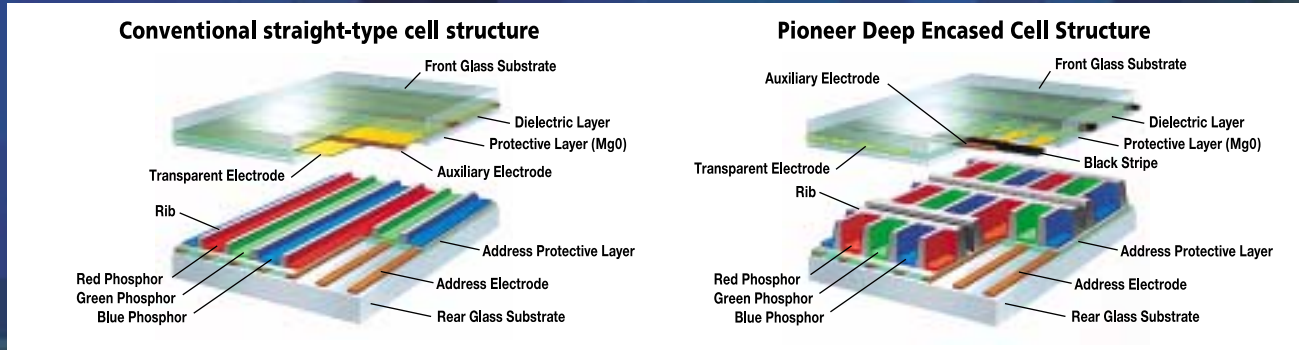
New Technologies that Put the PDP-503CMX Even Further Ahead of the Rest.

True Matrix Imaging with Deep Encased Cell Structure

Rather than the rows of cells commonly used in other PDPs, Pioneer has developed an Encased Cell Structure that increases phosphor area by as much as 40%* and eliminates light leakage from neighboring cells for a brighter, clearer picture. For the PDP-503CMX, we've further improved this technology by making each individual cell deeper. This results in even higher light emission efficiency—60% higher than our previous model.

*Based on a comparison of Pioneer straight-type cell structure models.

Conventional straight-type cell structure

- Front Glass Substrate
- Dielectric Layer
- Protective Layer (Mg0)
- Auxiliary Electrode
- Transparent Electrode
- Rib
- Address Protective Layer
- Red Phosphor
- Green Phosphor
- Blue Phosphor
- Address Electrode
- Rear Glass Substrate

Pioneer Deep Encased Cell Structure

- Auxiliary Electrode
- Front Glass Substrate
- Dielectric Layer
- Protective Layer (Mg0)
- Black Stripe
- Transparent Electrode
- Rib
- Address Protective Layer
- Red Phosphor
- Green Phosphor
- Blue Phosphor
- Address Electrode
- Rear Glass Substrate

Previous Encased Cell Structure

New Deep Encased Cell Structure

- Visible Light
- Electrode
- Discharge
- Rib
- UV Radiation
- Phosphor

Pure Color Filter Improves Contrast

This display uses a new Pure Color Filter that greatly decreases external light reflectivity (as much as 30%, depending on conditions). The result is significantly higher contrast, providing an extremely clear display in bright environments. At the same time, it optimizes the components of the red, green and blue light by filtering out undesirable colors to display greatly improved image reproduction.
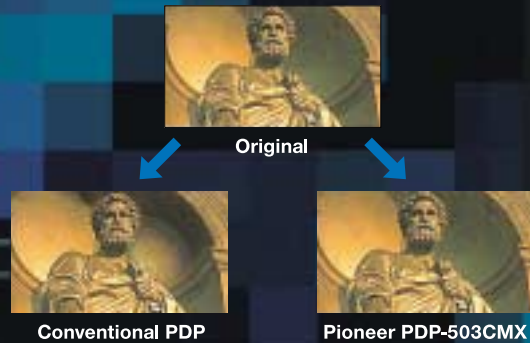
Conventional PDP

Pioneer Pure Color Filter

CIE Chromaticity Coordinates

- PDP-503CMX
- NTSC Standard
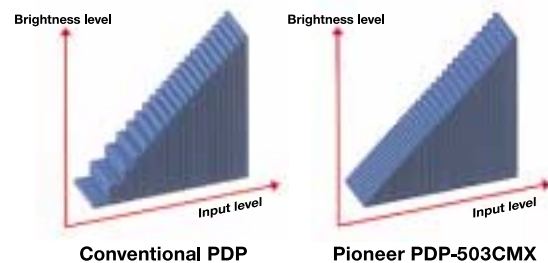- CRT

y coordinate

x coordinate
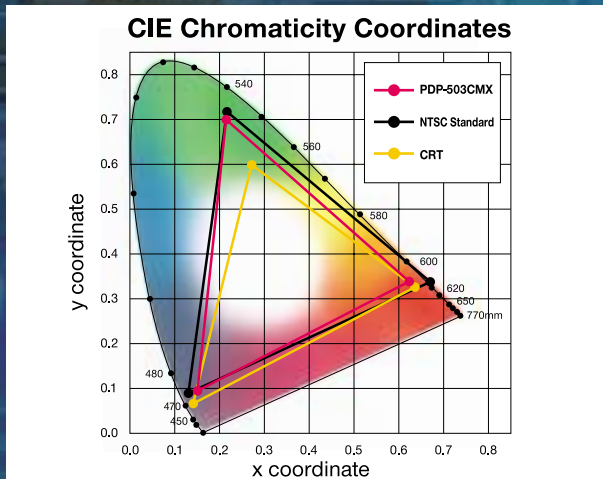
Advanced Continuous Emission Display Technology

Conventional PDPs suffer from poor image reproduction in the low brightness range. Pioneer's improved technology brings the benefit of 10-bit signal processing to produce smooth, accurate low intensity images. In fact, gradation reproduction in this range is about 16 times better than other PDPs. Even with dark images, detailed patterns are faithfully reproduced.

Original

Conventional PDP

Pioneer PDP-503CMX

Gradation Reproduction in Low Brightness Range

Brightness level

Brightness level

Input level

Input level

Conventional PDP

Pioneer PDP-503CMX

50-inch XGA Professional Plasma Display

PDP-503CMX

Making a Good Thing Better: More Reasons Why the PDP-503CMX Outperforms the Competition.

Superior Brightness and Contrast

The new Deep Encased Cell Structure and Pure Color Filter provide notably improved brightness and contrast as compared with previous models. You enjoy picture quality with an impressive level of contrast, even in bright environments.

Superb Picture Quality

The PDP-503CMX achieves faithful and detailed picture quality thanks to the Advanced Continuous Emission Display Technology which improves the gradation rendering and color reproduction made possible by the new phosphors and Pure Color Filter.

Compatibility with a Wide Range of Computer Signals

With a native resolution of 1,280 x 768, this high precision panel can accurately display computer signals ranging from 640 x 400 and 640 x 480 (VGA) to 1,024 x 768 (XGA) and 1,280 x 768 (Wide XGA). It can also support compression display of 1,280 x 1,024 (SXGA) and 1,600 x 1,200 (UXGA) signals.

Improved Digital Enhancer Provides Sharper Data Display

Pioneer's original Digital Enhancer enabled pixel-by-pixel image correction by digitizing the entire signal processing circuitry. We've now taken this technology a step further with the Improved Digital Enhancer, which provides more natural and sharper rendition of characters and images by boosting data display clarity. It also allows more distinct display of compressed high-resolution SXGA and UXGA data.

Conventional PDP   PDP-503CMX
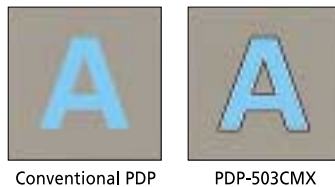
WHQL Compatibility and Easy Operation

Pioneer's plasma displays are the industry's first to receive the Windows Hardware Quality Labs (WHQL) certification of compliance. The PDP-503CMX continues this tradition by providing Plug & Play drivers to support Microsoft® Windows® and other operating systems. This is a display you can use with confidence.

*Compatible with Microsoft Plug & Play (VESA DDC 1/2B)

An Auto Setup function allows automatic screen adjustment with a single touch via the remote control when inputting a wide variety of computer signal types. And to put more punch into presentations, there's a Point Zoom function that lets you instantly expand any portion of the image to four different sizes.

Slim, Lightweight Design with Enhanced Functions

For a 50-inch large-screen display, the PDP-503CMX is amazingly thin and lightweight (3-27/32", 85 lbs. 12 oz). It also has an efficient heat radiating design that greatly improves its environmental operating conditions. This combination, plus its superior durability, makes it suitable for a wide range of installations and applications.

High Dependability as a Professional Monitor

A variety of functions ensure safe and long-term use in professional applications. These include control of peak levels of brightness and control of cooling fan rotation speed to match changing environmental conditions. Here's how the functions work in various modes.

- **Reducing "burn-ins"* by mode**
  In the Linear Brightness mode, the possibility of a burn-in is reduced by inhibiting peak levels of brightness. The Orbiter Mode incorporates one-pixel-at-a-time movement of displayed images at fixed intervals. The Inverse Mode reverses the image.
  *Displaying the same images such as still images for a long time may cause after-image lagging.

- **Peak pattern detection system**
  A peak pattern detection system has also been incorporated to further insure that burn-ins are prevented. It monitors the prolonged display of a still image and the concentration of brightness in any segment of the panel.

- **Control of cooling fan**
  A rotational speed control function will accommodate changes in the operating environment, making this unit safe for use in a variety of locations.

Economical and Environmentally Friendly

This display offers the lowest power consumption (380 W) in the 50-inch XGA class. What's more, in the Power Save mode, power consumption is as much as 20% lower than during normal use. All plastic parts are made of halogen-free material rather than the halogen type fire-resistant materials generally believed to be a source of dioxins during incineration. Metal parts have chrome-free plating wherever possible; we strive to minimize the use of chrome to protect the human body. This model satisfies the standards of the International Energy Star Program.*

*When optional card is not used.

Additional Features Installers and Operators Will Appreciate

- Integrated mode permits precise white balance adjustment, as well as control of various functions such as the Off Timer, the On-Screen Display and the Baud Rate.
- RS-232C external control interface and combination terminals permit central control of several units.
- 2 x 2 mode allows 2 x 2 multi-expansion display, even without an expansion device.
- Reporting of operational perimeters and device status has been significantly enhanced. With this capability, direct or remote diagnostics and control are now much easier.
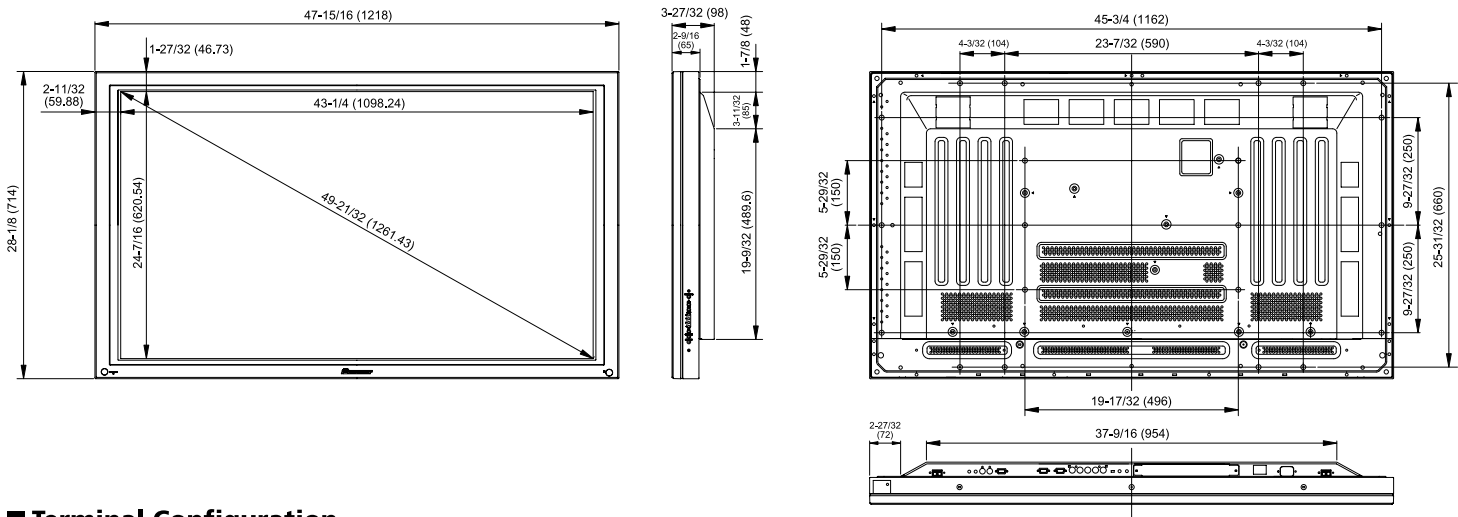
Expansion Possible for A Wide Range of Uses

Expansion Slot offers open architecture to further expand digital and analog capabilities for customized business applications.
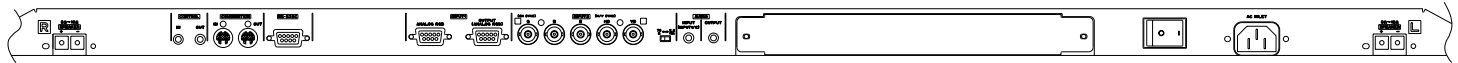Note: please contact us for more detailed information on this feature.

■ Dimensions

Unit : inch (mm)

■ Terminal Configuration

■ Specifications

Effective Screen Size (W x H)	43-1/4" x 24-7/16" (1098.2 x 620.5 mm) (50in. Diag.)
Aspect Ratio	16:9
Number of Pixels	1280 (Hor.) X 768 (Ver.)
Pixel Pitch	0.858 mm (Hor/RGB trio) x 0.808 mm (Ver.)
Viewing Angle	More than 160° (Hor.), more than 160° (Ver.)
Dimensions (W x H x D)	47-15/16" x 28-1/8" x 3-27/32" (1218 x 714 x 98 mm)
Weight	85 lbs. 12 oz (38.9 kg)
Power Consumption	380W (1W at stand by)
Power Requirements	AC 100-120V±10%, 50/60Hz (3.8-3.1A)
Operating Temperature	32°F-104°F (0°C-40°C)
Operating Humidity	20%-80%
Operating Atmospheric Pressure	800-1100 hPa
Safety Regulations	UL 1950, FCC 15B classB, C-UL

■ Computer Input Signal

Resolution (Dot x Line)	Vertical Frequency	Horizontal Frequency	Usage
640 x 400	56.4Hz	24.8kHz	NEC PC-9800
	70.1Hz	31.5kHz	NEC PC-9800
640 x 480	60Hz	31.5kHz	(852 x 480)
			(864 x 480)
	66.7Hz	35kHz	Apple Macintosh 13"
	72Hz	37.9kHz	
	75Hz	37.5kHz	
	85Hz	43.3kHz	
800 x 600	56Hz	35.2kHz	
	60Hz	37.9kHz	
	72Hz	48.1kHz	
	75Hz	46.9kHz	
	85Hz	53.7kHz	
832 x 624	74.6Hz	49.7kHz	Apple Macintosh 16"
852 x 480	60Hz	31.7kHz	
1024 x 768	60Hz	48.4kHz	
	70Hz	56.5kHz	
	75Hz (74.9Hz)	60kHz (60.2kHz)	( ) indicates Apple Macintosh 19"
	85Hz	68.7kHz	
1152 x 864*	60Hz	53.7kHz	
	72Hz	64.9kHz	
	75Hz	67.7kHz	
1152 x 870*	75.1Hz	68.7kHz	Apple Macintosh 21"
1152 x 900*	66Hz	61.8kHz	Sun Microsystems LO
	76Hz	71.7kHz	Sun Microsystems HI
1280 x 768	56Hz	45.1kHz	
	60Hz	48.4kHz	
	70Hz	55.5kHz	
1280 x 960*	60Hz	60kHz	
1280 x 1024*	60Hz	64kHz	
	75Hz	80kHz	
	85Hz	91.1kHz	
1600 x 1200*	60Hz	75kHz	
	65Hz	81.3kHz	
	70Hz	87.5kHz	
	75Hz	93.8kHz	
	85Hz	106.3kHz	

*Compressed or partial display

■ Input/Output Terminals

		Connector	Signal	Level/Impedance
INPUT 1	IN	Mini D-sub 15-pin	RGB signal (G on Sync compatible)	RGB : 0.7Vp-p/75Ω
				G on Sync : 1Vp-p/75Ω
				HD/CS,VD : TTL level/2.2kΩ
				*Compatible with Microsoft Plug & Play (VESA DDC 1/2B)
	OUT	Mini D-sub 15-pin	RGB signal (G on Sync compatible)	75Ω
INPUT 2	IN	BNC x 5	RGB signal (G on Sync compatible)	RGB : 0.7Vp-p/75Ω
				G on Sync : 1Vp-p/75Ω
				HD/CS,VD : TTL level/75Ω or 2.2kΩ switchable

■ Audio Input/Output Terminals

		Connector	
AUDIO INPUT (INPUT 1/2)	IN	Stereo mini	L/R : 500mVrms/more than 10kΩ
AUDIO OUTPUT	OUT	Stereo mini	L/R : 500mVrms/less than 5kΩ (FIX)
			L/R : 0-500mVrms/less than 5kΩ (VARIABLE)
SPEAKER	OUT		L/R : 8-16Ω/2W + 2W (8Ω)

■ Control Terminals

RS-232C (for control of computer)	Connector	D-sub 9-pin
	Baud Rate	1200, 2400, 4800, 9600, 19200, 38400 bps
Combination IN/OUT	Connector	Mini-DIN 6-pin (x2)
Control IN/OUT	Connector	Mini jack (x2)

■ Computer Screen Display

	VGA	SVGA	XGA	SXGA*1	UXGA*2
DOT BY DOT	640 480	800 600	768		
4:3 (Expanded/ Compressed)					
Full					
Partial					

*1 4:3 and Full pictures are compressed. Partial image are shown in real size. *2 Compressed

■ Accessories

· Power Cord x 1 · Cleaning Cloth x 1 · Speed Clamp x 2 · Bead Band x 2 · Remote Control Unit x 1 · Remote Control Unit Case x 1 · AA (R6) Battery x 2 · Display Stand x 2 · Hex Hole Bolt (M8 x40) x 2 · Washer x 2 · CD-ROM x 1 · Operation Instructions · Caution Sheet · Warranty Card

■ Notice

· This equipment is sold on the condition that it will be installed by a competent professional engineer with sufficient training and skill to carry out proper installation. Be sure to entrust the installation and setup of this machine only to a competent professional or retail service engineer.
· Pioneer cannot accept liability in case where the equipment is damaged due to inappropriate installation location, improper assembly, installation, set-up, operation or renovation, or by natural disasters.

*Macintosh is a registered trademark of Apple Computer, INC. *PC-9800 is a registered trademark of NEC Corporation. *NEC is a registered trademark of NEC Corporation. *Microsoft is a registered trademark of Microsoft Corporation. *VESA is a registered trademark of Video Electronics Standards Association. *Sun Microsystems is a registered trademark of Sun Microsystems, Inc. *Design and specifications are subject to change without notice.

Optional Video Card
PDA-5002

This Card allows Video, High Definition and digital RGB inputs.

Video Input/Output Terminals
Composite video signal: Input (BNC) x 1 Output (BNC) x 1
Y/C separate video signal: Input (S-terminal) x 1
Digital RGB Input Terminals (DVI standard)
Digital RGB signal: Input (DVI-D 24-pin) x 1
Individual resolution of (VGA, SVGA, XGA, SXGA) should apply to a vertical frequency of 60Hz.*
* Not compatible with copy protection (HDCP)
Audio Input Terminals
Audio signal: L/R Input (pin x 2) x 2

Optional Side-Mount Speakers
PDP-S05-LR

2-way speakers with a dome tweeter and a newly designed perpendicularly installed oval unit. These speakers are compact, yet deliver wide-range performance.

Maximum output: 12W/8 ohms
Dimensions (WxHxD): 2-29/32"x 28-1/8"x 3-31/32"(74 x 714 x 101 mm)
Weight: 3 lbs. 15 oz (1.8 kg.) (one unit)

OPTIONS

PDK-TS01
TABLE TOP STAND
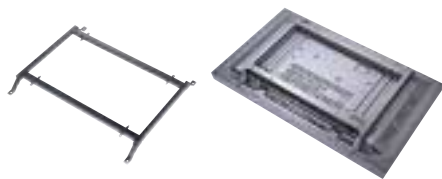
PDK-5005
PDP BRACKET

PDK-5011
HANG ON WALL UNIT

PDK-5012
CEILING MOUNT KIT

PDA-P01 CABLE COVER

*Only available as special order in the U.S.A.

PSA-1
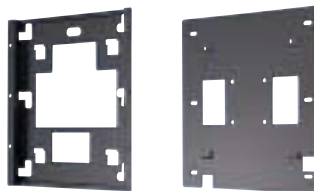ADJUSTABLE HEIGHT
SUSPENSION ADAPTER
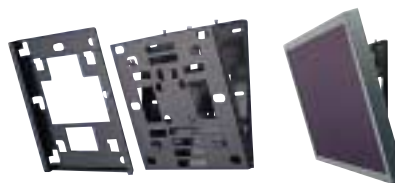
PSA-2
ADJUSTABLE HEIGHT
SUSPENSION ADAPTER

PCA-1
1-1/2" NTP (SINGLE)
CEILING ADAPTER

PCA-2
2" NTP (DUAL)
CEILING ADAPTER

PDWB -5003
FLAT WALL MOUNTING
BRACKET for 50" PLASMA

PWM -503
TILTING WALL MOUNTING
BRACKET for 50" PLASMA

*These products are offered for sale only in the US market. Pioneer cannot accept responsibility in the event that they are used in other regions.

*These items have been produced by Progressive Marketing Products, Inc. If you need further information please call 1-800-368-9700 or access to http://www.pmpi.com.

Ideal for a Wide Range of Uses

Pioneer Plasma Displays are designed to meet a wide variety of application requirements.

Pioneer Corporation and the Shizuoka Pioneer Corporation where PDP products are developed have both achieved ISO 14001 certification.

*For more details, contact one of the addresses below. *All product names and company names are registered trademarks of their respective owners.

CONTACT
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· PIONEER ELECTRONICS (USA) INC. URL : http://www.pioneerelectronics.com/

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