

Which Image Quality Would You Want ?

Seeing is believing.
To appreciate the superior picture quality of Piano Avanti, all you need to do is watch it once.

In the digital age, state-of-the-art projection technology in both the living room and movie theaters is 100% digital DLP™ technology.

Piano Avanti delivers high quality images using DLP™ technology based on the DLP Cinema™ system developed by Texas Instruments and featured in the world's most advanced movie theaters. Because DLP™ technology is based on a 100% digitally-controlled device, light loss is low and a high contrast ratio is achieved, delivering realistic blacks and subtle tonal gradations.

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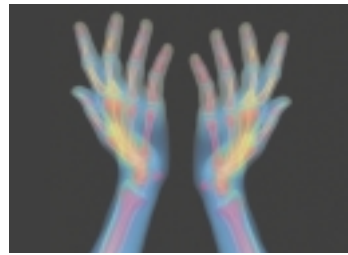
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A: Image delivered by a projector with a 2000:1 contrast ratio



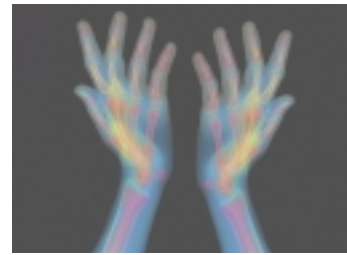
A: Image delivered by a projector with a 2000:1 contrast ratio

B: Image delivered by a projector with the same brightness, but a 15% lower contrast ratio

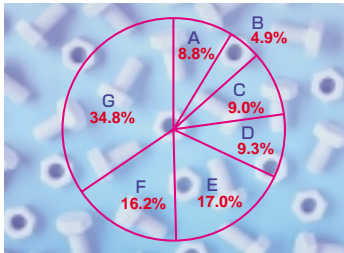


B: Image delivered by a projector with the same brightness, but a 15% lower contrast ratio

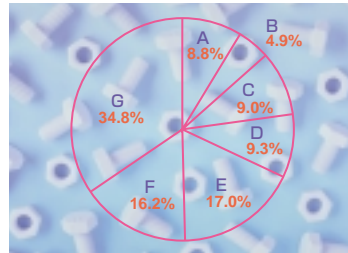
C: Image delivered by a projector with the same brightness, but a 30% lower contrast ratio



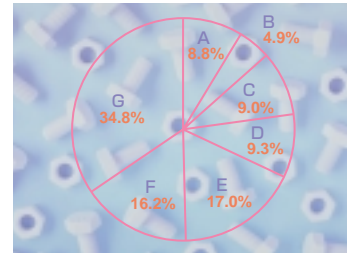
C: Image delivered by a projector with the same brightness, but a 30% lower contrast ratio



A: Image delivered by a projector with a 2000:1 contrast ratio



B: Image delivered by a projector with the same brightness, but a 15% lower contrast ratio



C: Image delivered by a projector with the same brightness, but a 30% lower contrast ratio

Contrast ratio determines the quality of a projected image. High brightness alone is not enough.

High Contrast Ratio Is the Key to Crisp, Sharp Image Quality.

Contrast ratio is the key factor in sharpness, a crucial quality for projectors used in business and education where superior visibility is required for charts and small-font documents. The V-1100 offers superior contrast performance enabled by the DLP™ projection system. This PLUS projector delivers the best-in-class* contrast ratio of 2000:1 and thus the sharpest image quality.

*Among sub-3.0kg projectors in Japan. (Study by PLUS Vision Corp., November 2002)

Crisp, Sharp Image Quality: Reason 1

Black looks truly black.

A high-brightness but low-contrast projector displays a whitish image with poor visibility. Visibility largely depends on how dark black is reproduced, and is critical in projecting business and education materials which involve heavy use of black text and lines. Higher contrast means more visibility and ensures a crisp image with pure black text.

2000:1 contrast ratio projector



Lower contrast ratio projector



Contrast ratio influences the range of tonal gradation a projector can express.

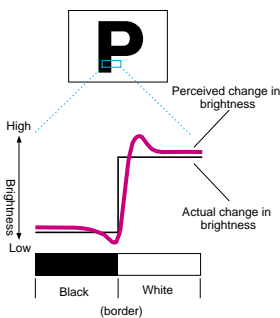
Crisp, Sharp Image Quality: Reason 2

Pictures appear clear and vibrant.

Because of an optical illusion called the Mach band effect, the human eye perceives a change in brightness between two neighboring pixels more intensely than the actual change in the amount of light. High-contrast projectors accurately reproduce the difference between the lightest and darkest portions of an image, providing crisp pictures. Look at the photos below. The photo with the black border appears sharper than the photo with the white border, even though the photos themselves are actually the same.



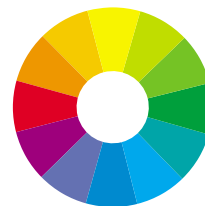
The diagram below describes how the human eye perceives the change in brightness between black and white.



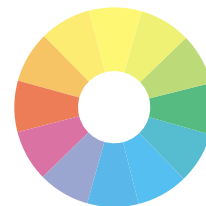
Crisp, Sharp Image Quality: Reason 3

Charts set against photos are delivered with excellent clarity.

Combined images of colorful charts and photos sometimes look flat and unclear when projected, even if they look beautiful on the computer screen. But this never happens with PLUS projectors. Our projectors' high-contrast ratio ensures rich tonal gradations, allowing a chart to stand out sharply from a background photo.



2000:1 contrast ratio projector



Lower contrast ratio projector

*The photos used above are conceptual renderings designed to illustrate the effects of contrast. DLP™ and the DLP™ medallion are trademarks of Texas Instruments. DMD, developed by Texas Instruments, is an ultra-precision electronic component alternative to LCD.



Experience the PLUS Advantage. The V Series : Our "Take Anywhere, Do Anything" Projectors

The world's smallest and lightest** projectors
Half the size of a magazine and weighing only 1.0kg



High brightness: 1000 ANSI lumens
Best-in-class** contrast ratio of 2000:1
True XGA
V-1100 Digital Projector

*1: Among XGA-capable projectors. (Study by PLUS Vision Corp., November 2002)

**2: Among sub-3.0 kg projectors in Japan. Applicable only to V-1100. (Study by PLUS Vision Corp., November 2002)

Amazing Compactness and Outstanding Image Quality That Only PLUS Can Deliver.

The V Series exceeds your every dream for "take anywhere, do anything" portable projectors. Although the V-1100 weighs only 1.0 kg and is just half the size of a magazine, it offers stunning 1000 ANSI lumens of brightness. Moreover, the V-1100's best-in-class*1 contrast ratio of 2000:1 further enhances the superior image quality enabled by the Digital Light Processing (DLP)TM technology of Texas Instruments to deliver picture quality that exceeds the actual lumen value. A new age has dawned-the DLPTM projection system has come to mobile projectors, and mobile projectors have come to your wardrobe of portable electronics.



PLUS's Engineering Expertise Unleashes the Full Potential of a DLPTM Projection System.

No.1*2 in mobile projectors, PLUS makes the most of DLPTM technology.

At the core of DLPTM technology is a 100% digitally controlled device called a Digital Micromirror Device (DMD), which was developed by Texas Instruments. DMDs offer a variety of advantages, such as low light loss and a high contrast ratio. PLUS maximizes these inherent advantages of DLPTM technology through its optical expertise built on its years of experience as a pioneer in DLPTM projectors.

PLUS's unique optical technologies heighten the features of a newly developed DMD device.

PLUS's V Series features a new-generation DMD chip that doubles the data transfer speed. Delivering an astonishing 2000:1 contrast ratio enabled by PLUS's optical expertise, the V Series reproduces smooth video images from DVDs and other sources.

The V-1100 is the world's smallest and lightest projector with 1000 ANSI lumen brightness.

DLPTM technology that uses a single-chip DMD system allows small projector size. Combining this feature with PLUS's unique optical expertise and high-dense packaging technology, PLUS has created the ultra-compact, featherlight V Series with radiant brightness of 1000 ANSI lumens.

PLUS Takes the Superior Picture Quality Enabled by DLPTM Technology Even Higher.

Excellent color uniformity and zero convergence problems ensure effective presentations.

The LCD system generates images by first breaking light into the three additive primary colors (RGB) and then recombining them into one, and thus invites color non-uniformity and convergence problems, such as colored fringes around objects. In contrast, the one-chip DLPTM projection system used in PLUS projectors reproduces images through RGB sequential illumination with a color wheel. This allows superb color uniformity, even against solid-color backgrounds, and perfect color alignment for clear images of small-font text and colorful charts.

Seamless high-definition imaging means no visible pixelations.

The DMD system, the key element in DLPTM technology, controls images with the backside of each micromirror, which corresponds to one pixel. This allows the grid between each micromirror to be less than one micron. In contrast, LCD projectors control images using the grids between pixels, which makes it difficult to narrow the grids for a smooth image. DLPTM projectors can deliver seamless, smooth, and accurate images.

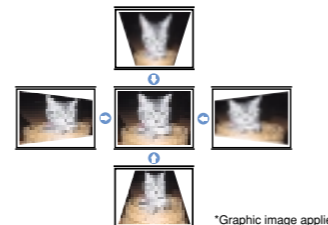
The DLPTM projection system offers the same superior video performance as the well-known DLP CinemaTM technology.

PLUS projectors using the DLPTM projection system have the same potential as the DLP CinemaTM technology which is featured in the world's finest movie theaters. Because DLPTM technology projects images by switching the DMD micromirrors on and off at extremely fast rates, smooth imaging of fast-moving objects in sports matches and movies is made possible.

The V Series's Superior Features Help You Prepare and Give Outstanding Presentations.

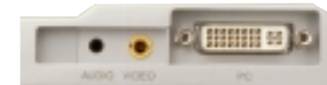
Easy Setup

Short-focus lens : Allows you to project large images even in small rooms.
Auto-source : Identifies and projects RGB and video input sources automatically.
Auto-adjustment : Automatically tunes the RGB phase, clock frequency, and resolution to achieve the optimal image.
Four-way digital keystone correction : Allows you to adjust the image both horizontally and vertically. If the projector is placed at an angle from the screen, the skewed image can be easily compensated. Unlike most LCD projectors, PLUS projectors are designed to project images at a comfortable viewing level, ensuring a distortion-free image.



Advanced Digital Input Interface

Built-in DVI terminal : The Digital Visual Interface (DVI) terminal enables full digital transmission, maximizing the advantages offered by the DLPTM technology which incorporates the all-digital DMD device. The digital-to-digital connection eliminates the conversion to analog and thereby renders finer images.



Compatible with 720p/1080i HDTV signals : The V Series supports high-definition broadcasts and is compatible with a 16:9 aspect ratio.

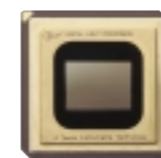


*1: Among sub-3.0 kg projectors in Japan. Applicable only to V-1100. (Study by PLUS Vision Corp., November 2002)
 *2: In Japan. (Study by Fuji Chamera Research Institute, Inc., 2001)

V-1100, V-807 Specifications

	V-1100	V-807
Projection System	DLP TM	DLP TM
Panel	DMD XGA x 1	DMD SVGA x 1
Resolution	1024 pixels x 768 pixels	800 pixels x 600 pixels
Brightness	1000 ANSI lumens	ANSI lumens
Contrast Ratio	2000:1 (Full on/off)	800:1 (Full on/off)
Aspect Ratio	4:3, supports 16:9	4:3, supports 16:9
Projection Lens	F=2.4, f=23mm Manual Focus	F=2.4, f=23mm Manual Focus
Light Resource	120-watt High Performance Compact Lamp	120-watt High Performance Compact Lamp
Color Palette	16.7 million colors	16.7 million colors
Projecting Position	Front/Rear, Table	Front/Rear, Table
Projection Distance	1.2-6.6m	1.2-6.6m
Image Size	36-200 diagonal	36-200 diagonal
RGB Signal	SXGA(Compression), XGA (True) SVGA/VGA (Expansion/True)	XGA(Compression), SVGA(True), VGA(Expansion/True)
Video Signal	NTSC/NTSC4.43, PAL/PAL-M/PAL-N/PAL60, SECAM, YCbCr (NTSC,PAL), YPbPr(480p, 720p, 1080i)	NTSC/NTSC4.43, PAL/PAL-M/PAL-N/PAL60, SECAM, YCbCr (NTSC,PAL), YPbPr(480p, 720p, 1080i)
Horizontal Synch Range	15-85kHz	15-85kHz
Vertical Synch Range	50-120Hz	50-120Hz
Audio	Mono 0.5-watt	Mono 0.5-watt
Terminals(Input)	RGB (Analog/Digital) / YPbPr: DVI-I x 1 Composite Video / S-Video / YCbCr: φ3.5mm 4-pole Mini Jack x 1 Audio (RGB/Video): φ2.5mm Stereo Mini Jack x 1	RGB (Analog/Digital) / YPbPr: DVI-I x 1 Composite Video / S-Video / YCbCr: φ3.5mm 4-pole Mini Jack x 1 Audio (RGB/Video): φ2.5mm Stereo Mini Jack x 1
Terminals(Output)	Silver	Silver
Color	16.7 million colors	16.7 million colors
Dimensions Excluding lens and stand	45mm(H) x 180mm(W) x 141mm(D)	45mm(H) x 180mm(W) x 141mm(D)
Weight	1.0kg	approx.0.9kg
Power Supply	100-120/220-240 V AC at 50/60Hz	100-120/220-240 V AC at 50/60Hz
Power Consumption	180 watts	180 watts
On-Screen Display Languages	English/French/German/Italian/Spanish/Swedish/Chinese/Japanese	English/French/German/Italian/Spanish/Swedish/Chinese/Japanese
Functions	Full-Auto Adjustment Digital Keystone Correction (Horizontal/Vertical) Digital Zoom(x10) Picture in Picture Freeze Mute	Full-Auto Adjustment Digital Keystone Correction (Horizontal/Vertical) Digital Zoom(x10) Picture in Picture Freeze Mute
Accessories	Lens Cap IR Remote Control CR2025 (3V Lithium Battery) x1 (for remote control) Power Cable (1.8m) x1 VGA Cable (2m) x1 DVI-I to mini D-sub 15 pin Adapter (0.18 m) x1 φ3.5mm 4-pole plug to RCA for Video Cable (1.5m) x1 φ3.5mm 4-pole plug to mini DIN 4 pin for S-Video Cable (1.5m) x1 φ2.5mm stereo mini plug to RCA x 2 for Audio Cable (1.5m) x1 Soft Pouch x 2 User's Manual (CD-ROM)	Lens Cap IR Remote Control CR2025 (3V Lithium Battery) x1 (for remote control) Power Cable (1.8m) x1 VGA Cable (2m) x1 DVI-I to mini D-sub 15 pin Adapter (0.18 m) x1 φ3.5mm 4-pole plug to RCA for Video Cable (1.5m) x1 φ3.5mm 4-pole plug to mini DIN 4 pin for S-Video Cable (1.5m) x1 φ2.5mm stereo mini plug to RCA x 2 for Audio Cable (1.5m) x1 Soft Pouch x 2 User's Manual (CD-ROM)

* YPbPr signals from some DVD and Pay Per View sources are not available. * DLP is a trademark of Texas Instruments.



DMDTM
(Digital Micromirror DeviceTM)

DLPTM Technology: State-of-the-Art Projection Technology for Today's Mobile Age

PLUS was the first Japanese company to commit to the development of DLPTM projectors using the single-chip DMD method. Since entering the market in 1998, PLUS has released several compact, high-brightness, high-quality models, contributing to the creation of a new image of projectors as "mobile tools". In Japan, PLUS holds the No.1*1 market share in the sub-3kg category, and commands a 64%*2 share of the DLPTM projector market.

*1 Study by Fuji Chamera Research Institute, Inc., 2002 *2 Study by Fuji Chamera Research Institute, Inc., 2002

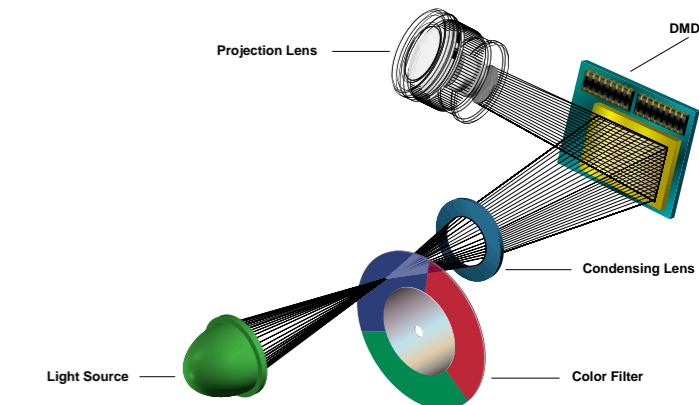


PLUS Industrial Corporation is certified to ISO 9001.
Certificate No. Q1001219118017

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Certificate No. NQE-9809008A.

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Projection Lens
DMD
Condensing Lens
Color Filter
Light Source



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