# CP-X990W
## Technical Specifications

### OPTICAL

| | |
|---|---|
| Optical Structure | 3 LCD panels, one projection lens, RGB shutter method |
| LCD Panel | 1.3", P-Si TFT panel x 3, stripe pixel configuration |
| Resolution | Computer: 1024 x 768 (XGA)<br>Video: 540 TV lines |
| Lens | F1.7~2.3, f=49~64mm, Power zoom 1.3 x Power focus |
| Lamp | 275W UHB |
| Lamp Life | 1500 hours |
| Brightness | 3500 ANSI lumens, 2800 in whisper mode |
| Contrast Ratio | 500:1 |
| Focus Distance | 1.1m~15m |
| Display Size | 30"~300" |
| Colour | 8 bits/colour, 16.7M colours |

### COMPATIBILITY

| | |
|---|---|
| Composite Video | NTSC, PAL (-BGDHI), SECAM, PAL-M, PAL-N |
| Component Video | 480i, 625i, 480p, 1080i and 720p |
| Computer | PC, Mac, Workstation, VGA, SVGA, XGA, SXGA (smart resizing) |
| Plug & Play | DDC1/2B at RGB1, DDC2B at DVI |
| Frequency Range | Vertical: 50~120Hz, horizontal: 15~80kHz |

### FEATURES

| | |
|---|---|
| Keystone Correction | Fixed 20:1 upward shift, plus vertical and horizontal digital correction |
| Start up Screen | A user defined image can be stored for automatic display at start up |
| Video Output | Motion Adaptive Progressive Scan, advanced black level enhancement, noise reduction, Theatre Mode 3-2 pull down for NTSC |
| Image Control | 2x digital magnification, freeze frame, picture-in-picture, mirror reverse & invert image |
| User Controls | On screen menu system in 9 languages, auto configuration |
| Speakers | 1.2W x 2 |
| Other | Ceiling mountable |

### CONNECTORS

| | |
|---|---|
| Computer Input | 2 x RGB analogue - 15-pin mini D-sub<br>1 x RGB digital - DVI<br>2 x Audio - stereo mini-jack |
| Video Input | 1 x S-Video - mini-DIN 4 pin<br>1 x Composite - phono<br>1 x Component - phono<br>1 x Audio - phono L & R |
| RGB Output | 1 x Analogue - 15-pin mini D-sub |
| Audio Output | 1 x Audio - stereo mini-jack |
| Control | 1 x RS-232C and mouse - 15-pin mini D-sub<br>1 x USB |

### POWER

| | |
|---|---|
| Power Supply | 100~120/220~240V AC, 50/60Hz |
| Power Consumption | 440W |

### PHYSICAL

| | |
|---|---|
| Dimensions (excluding lens & legs) | 289 x 139 x 350mm (W x H x D) |
| Weight | 6.9kg |
| Noise Level | 40dB, 36dB in whisper mode |
| Approvals | CE, TÜV, UL and FCC |

### SUPPLIED WITH

Remote Control with Laser Pointer and Mouse Function
Soft Carrying Case
Power Cord (US, UK, Europe)
RCA Video/Audio Cable
PS/2 Mouse Cable
AA Batteries x 2
RGB Cable
Component Video Cable

### OPTIONS

Wheeled hard flight case (HCC3)

| Image Size | | Projection Distance | |
|---|---|---|---|
| | | CP-X990W | |
| Diagonal | Width (m) | Min (m) | Max (m) |
| 30" (0.76) | 0.61 | 1.1 | 1.4 |
| 40" (1.02) | 0.81 | 1.4 | 1.9 |
| 60" (1.52) | 1.22 | 2.2 | 2.9 |
| 80" (2.03) | 1.63 | 2.9 | 3.8 |
| 100" (2.54) | 2.03 | 3.7 | 4.9 |
| 120" (3.05) | 2.44 | 4.5 | 5.9 |
| 150" (3.81) | 3.05 | 5.6 | 7.2 |
| 200" (5.08) | 4.06 | 7.4 | 9.8 |
| 300" (7.62) | 6.10 | 11.2 | 14.9 |

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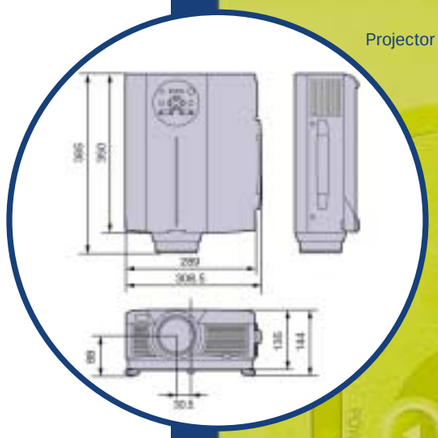
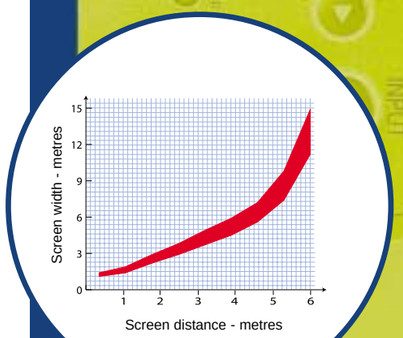
Projector Dimensions




Screen Dimensions

DIGITAL MEDIA GROUP
Hitachi Europe Ltd
Dukes Meadow,
Millboard Road,
Bourne End,
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Telephone 01628 643 000
www.hitachidigitalmedia.com



# CP-X990W

## Projector 3500 ANSI Lumens


www.hitachidigitalmedia.com

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3500 ANSI Lumens

# CP-X990W Features

- 3500 ANSI Lumens
- Horizontal and Vertical Keystone Correction
- User Defined Start up Screen
- Motion Adaptive Progressive Scan
- High Connectivity for Computer and Video

With an output of 3500 ANSI lumens, even 300” images displayed by the CP-X990W are vivid and bright making it the market leader for installation in large venues. Its XGA resolution means that presentations containing fine detail such as spreadsheets and diagrams are clear and sharp, while the remarkable 500:1 contrast ratio delivers superb graphics, particularly effective with reversed out text on dark backgrounds. Its performance with video images is equally impressive thanks to features like Hitachi’s unique Motion Adaptive Progressive Scan (MAPS) system.

Advanced features enhance presentation quality and make initial set-up even easier. For example, keystone correction can be made in both vertical and horizontal directions, while the new ‘MyScreen’ feature allows an image to be displayed at switch on before the presentation begins. To ensure the best quality pictures from DVD, a component video input (the native format of DVD), is included. Other inputs include DVI, composite video, S-video and analogue RGB. Standard features include a remote control with laser pointer and mouse function, digital keystone correction, digital magnification, image freeze, picture-in-picture and a soft carrying case.

## Advanced User Features

The CP-X990W boasts a variety of features which make it easy to use and deliver highly professional presentations. The new MyScreen feature allows the user to store an image such as a company logo or a product picture in the projector’s non-volatile memory. This image is then displayed immediately when the projector is switched on, even before any input sources are connected, giving a more professional start to a presentation.

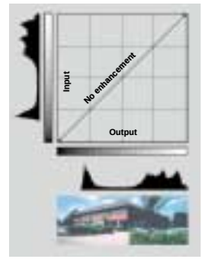
Setting up is both easier and more flexible thanks to integrated horizontal and vertical keystone correction, accessed directly via a single button on the unit’s control panel. This feature means that the projector can be set off to the right or left of the screen and correction can be applied to remove any image distortion.

## Multiple Inputs

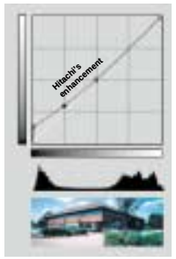
The CP-X990W offers virtually every input connection required to accommodate today’s media sources. Video inputs cater for composite, S-video and component video formats, all with stereo audio. On the computer side there are two analogue RGB inputs and a digital visual interface (DVI), again with stereo audio. Each input can be simultaneously connected and easily selected from the projector’s control panel, while the image freeze feature avoids any transient on screen noise during switching. Other connectors include RGB output for a monitor display, RS232C for control by a PC and for remote mouse operation.

‘High Connectivity for computer screen’.


## Enhanced Video Quality

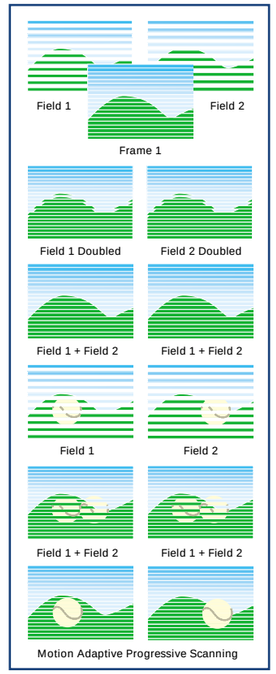







**Black Level Enhancement:** In most video images the darkest areas of the picture are not fully black. By forcing these areas to be black the perceived quality of the projected image can often be improved. Normally, black enhancement is a linear adjustment which proportionately darkens all areas of the picture causing an unwelcome reduction in midrange brightness. Hitachi’s advanced black enhancement method avoids this by applying a measured adjustment to the darker areas while leaving the brighter areas unaffected.

## Motion Adaptive Progressive Scan (MAPS)




A TV picture comprises of two fields, displayed one after the other, containing the even or odd lines of the image. This only works because CRT phosphors have a persistence that causes them to glow for a short time after the signal is removed.

Projection screens, white boards and office walls have no persistence so a video projector must create a full frame image to replace every field. Many projectors achieve this by repeating the lines of each field, i.e. by “line doubling”, but this reduces resolution and causes line flicker. The CP-X990W overcomes these problems by combining the two fields in a memory buffer which is projected twice - progressive scanning.

Even progressive scanning can not prevent the alternate lines of a rapidly moving objects shifting between the odd and even fields causing a broken up appearance. This problem affects normal TV displays as well as projectors.

The CP-X990W uses sophisticated image processing techniques to isolate a moving object. Its field lines are aligned and combined, and the object shown in its correct position in each frame - Motion Adaptive Progressive Scanning.



Reduced excessive image noise

## Image Noise Reduction

**Image Noise Reduction:** The CP-X990W also uses digital image processing to reduce excessive image noise. By continually comparing the value of each pixel over successive fields, any abrupt or isolated change can be identified and suppressed resulting in a cleaner sharper image.