

# Natural Image Creation and Full Colour Scale Expression for the Rich Details of Movie Film

## Sharp's Original High Image Quality System Realizes Beautiful Images



The XV-Z10000U/E is equipped with Sharp's proprietary multifunctional, digital image LSI, which incorporates various image processing algorithms for high-quality display of wide-ranging video sources for use in liquid crystal, DLPTM, plasma and other stationary pixel display devices. With intensive development of optimization from Sharp in this unique combined use of IC and DLPTM, the XV-Z10000U/E achieves the high-quality natural and detailed expression of movie film ambience.

#### **Pattern Matching I/P Conversion**

Sharp's original High Image Quality System employs motion-adaptive I/P conversion by using motion pixel detection, examining every pixel to ascertain whether a motion pixel or not by comparing four-field information. It then selects intra-field I/P conversion for a pixel detected as a motion pixel, and inter-field I/P conversion for a still pixel. This motion adaptive I/P conversion drastically improves jagged edges and blur level, which have been major problems for conventional I/P conversion. Also, edge detection and motion quantity smoothing contribute to minimize malfunction of motion pixel detection. In addition, Pattern Matching Technology is employed to elevate the level of high-quality I/P Conversion. This function depicts pattern information in a period from visual data, finds the vertically matching patterns (which was until now impossible) and creates a new pattern in the midpoint of these patterns by their mutual relation. Thus it smoothes out jaggies of somewhat slanted, almost horizontal lines and edges, providing higher quality images

#### **Enhanced Up-Scaling**

Conventional projectors need to convert the resolution values of normal video signals in order to project normal PAL or NTSC video pictures through high resolution panels. This sometimes results in unclear or jagged pictures. The Enhanced Up-Scaling employs a much more



advanced smoothing technology, producing a crisp





#### **Superior 16:9 Image**

Conventional projectors extend a picture evenly from the 4:3 original to fit into a 16:9 screen, resulting in pictures stretched horizontally, i.e., wide and short. With the XV-Z10000U/E, pictures can be projected in a thinner ratio in the middle part and only extended at the sides. This maintains natural and proportional pictures close to the 4:3 original.

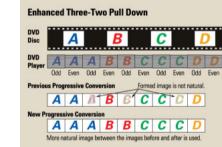








Using the Film Mode, the XV-Z10000U/E can beautifully reproduce movie film recorded in 24Hz progressive format.



# High-End DLP Technology — DMD™ HD2 Chip



The XV-Z10000U/E employs a digital control system called DLP $^{ extsf{TM}}$  for the display device. This controls the DMD™ (Digital Micromirror Device) chip, which has many thousands of micromirrors on the silicon chip, reflecting light to display images. Plus, the XV-Z10000U/E employs a DMD™ HD2 chip with a ±12° DMD mirror angle developed from the DMD<sup>TM</sup> HD1 of  $\pm 10^{\circ}$ . The Theatre-Oriented Optical System Design provides a high contrast ratio of 2600:1, which achieves deep expressiveness in colour gradations with wide dynamic range.

#### 16:9 HD DLP™ High-Definition Picture

The XV-Z10000U/E employs the HD DMD™ Chip with 1280 x 720 pixel high resolution — A world's first in front projectors. A 16:9 image, for example, contains more than 1.56 times the image information capacity than XGA and 2.56 times that of SVGA, providing high-precision picture projection. For 720P HD signals in particular, an original high-resolution picture can be projected without deterioration caused by pixel conversion.

# Enjoy the Effects and Performances of a Variety of Video Material with the Picture Quality You Prefer

### A Variety of Picture Adjustment Functions

#### **Newly Designed Back-lit Remote** Control and Pull-Down GUI (Graphical User Interface) Menu

Icon-based design on both the back-lit remote and GUI menu allows even firsttime Sharp projector users simple intuitive operation.



#### **Colour Temperature Adjustment**

Colour Temperature Adjustment, with 61 position settings, reproduces the subtle tones especially needed to display intermediate hue variations and is adjustable with a wide range of tones in 100K increments from 5.500K to 11.500K







#### **Colour Management System**

The Colour Management System enables adjustment of only a specified colour by just pointing out the colour or the object on the screen without influencing other colours on the same screen. With convenient one-colour adjustment there's no need for troublesome whole-screen control

#### **Gamma Correction**

Gamma Correction, with 6 position settings, provides the ideal picture reproduction for any picture source from videos to sports programmes. Reducing resolution loss, this function allows dark, low-iridescent scenes to be reproduced with clarity. Plus, the XV-Z10000U/E uses simple remote control-operated functions for adjusting gamma, gain and offset of each RGB, enabling

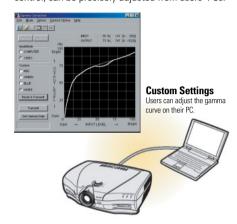


reproduction

higher quality, smooth and detailed picture

#### **SHARPVISION Manager** Version 2.0

By using the supplied Gamma Control Software, SharpVision Manager, gamma curves, which were until now set automatically and out of user control, can be precisely adjusted from users' PCs.



# Other Outstanding Features

#### Whisper Quiet Operation — Low Fan Noise: 32 dB

The XV-Z10000U/E employs a Sirocco Fan with less air disturbance for noise reduction while enhancing cooling. The projector also uses a Dome Duct with a long air duct system and expanded silencer. dramatically reducing fan noise for movie viewing. This leads to a super quiet 32dB operation during Normal Theatre Mode

#### 1:1.35 Zoom Lens & Lens Shift **Function from Unique Optics** Technology

With a 1.35x zoom lens, the XV-Z10000U/E delivers clear pictures from a variety of heights and angles. In addition, with unique optics technology the projector not only makes possible natural angle projection, a weak point for current single-chip DLP projection, but also employs a lens shift function. This provides adjustable



projection heights up and down for one screen from the same projection distance. Projection adjustments of even greater precision become



# Throw Ratio: 1.8-2.2:1 Projection Distance (L)

## **Multiple Input Terminals**

• 2 Component Inputs, S-video, Composite and DVI-I/HDCP Input

Use of the DVI terminal delivers all-digital projection from input straight through to the projected pictures without any picture loss usually occurring from A/D and D/A conversion.

#### **Convenient Features**

- Switchable Screen with 4:3 and 16:9 aspect ratios
- GUI (Graphical User Interface)
- High-Quality Video Circuits (3D Digital Noise Reduction, 3D Y/C Separation, 3-Line Digital Comb Filter)
- Multi-System Video Compatibility (NTSC/NTSC4.43/PAL/PAL-60Hz./ PAL-M/PAL-
- 11-Language On-Screen Display (English, German, Spanish, Dutch, French, Italian, Swedish, Portuguese, Chinese, Korean, Japanese
- Active Digital Keystone Correction