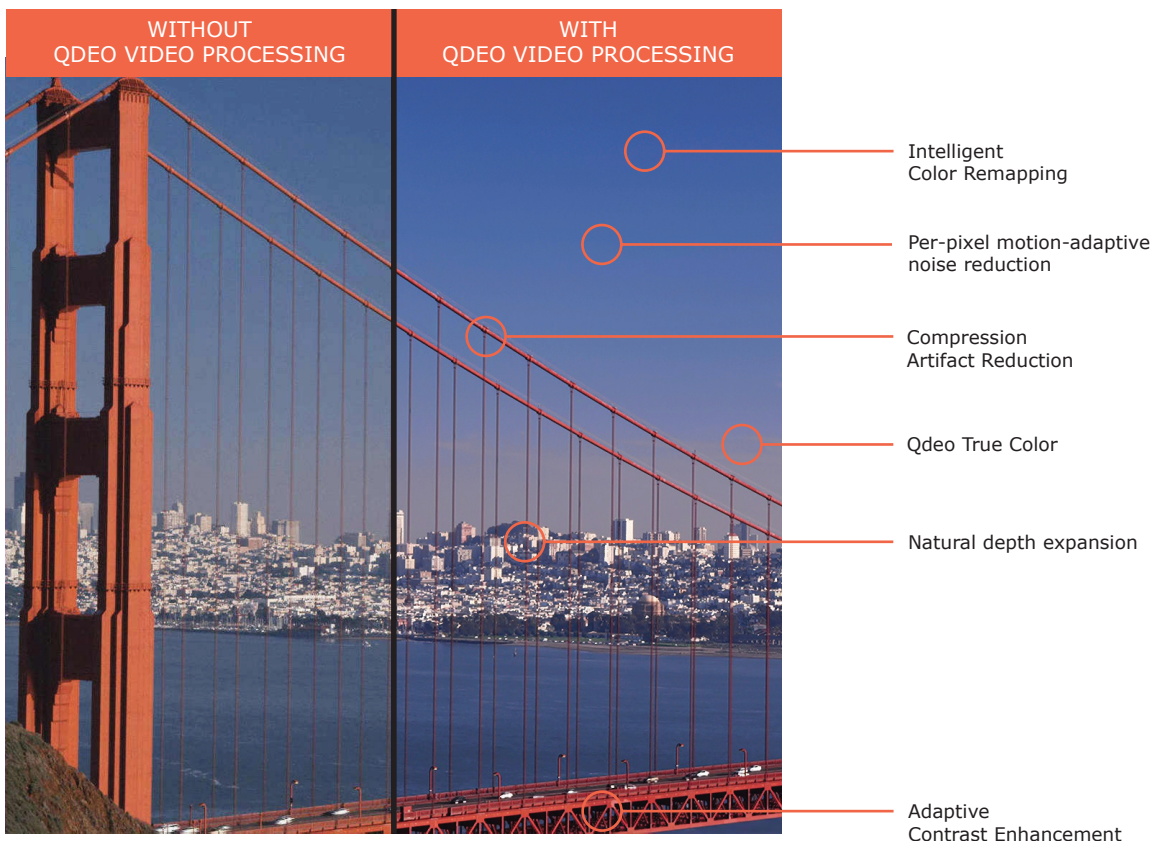# Marvell Qdeo Video Processing

Clearly Qdeo

As displays grow in size, resolution, contrast, and brightness, they offer the promise of a truly immersive viewing experience. However, conventional video processing creates distracting artifacts, visible on high-quality displays, thus causing more harm than good. Qdeo™ by Marvell delivers on the promise of a truly immersive viewing experience by rendering quiet natural video free of noise and artifacts.

▶ FEATURES OF QDEO

At the core of the Marvell's digital entertainment ICs, Qdeo represents a suite of advanced QuietVideo™ technologies. An immersive video experience is constructed through a careful application of:

- Noise reduction
  - Per pixel compression artifact reduction removes artifacts inherent in digital video
  - Per pixel video noise reduction removes noise inherent in digital video

- Format conversion
  - Per pixel motion adaptive 3D de-interlacing prevents "jaggies" and eliminates feathering
  - Non linear scaling enables optimal mapping to display of choice

- Enhancement
  - Adaptive Contrast Enhancement (ACE) and Intelligent Color Remapping (ICR) render rich and vivid images
  - Natural Depth Expansion (NDE) enhances details and sensation of depth for greater realism and super-resolution effect
  - Qdeo True Color eliminates contouring seen when viewing typical 8-bit consumer video

▶ LOOK FOR THE QDEO™ LOGO ON BEST-IN-CLASS PRODUCTS POWERED BY QDEO VIDEO TECHNOLOGY

QDEO™ BY MARVELL

WITHOUT QDEO VIDEO PROCESSING	WITH QDEO VIDEO PROCESSING

Intelligent Color Remapping

Per-pixel motion-adaptive noise reduction

Compression Artifact Reduction

Qdeo True Color

Natural depth expansion

Adaptive Contrast Enhancement

TARGETED APPLICATIONS

Qdeo can be used in any application where an immersive video experience is desired. These include:

- Blu-ray/DVD players and recorders
- Digital media adapters
- High-definition set-top boxes
- Video processor boxes
- A/V receivers
- Digital TVs

THE MARVELL ADVANTAGE

Marvell products come with complete reference designs which include board layout designs, software, manufacturing diagnostic tools, documentation, and other items to assist customers with product evaluation and production. Marvell's worldwide field application engineers collaborate closely with end customers to develop and deliver new leading-edge products for quick time-to-market. Marvell utilizes world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low-cost total solutions.

ABOUT MARVELL

Marvell is a leader in storage, communications, and consumer silicon solutions. Marvell's diverse product portfolio includes switching, transceiver, communications controller, processor, wireless, power management, and storage solutions that power the entire communications infrastructure, including enterprise, metro, home, storage, and digital entertainment applications. For more information, visit our Web site at www.marvell.com.