

# TRUE REALITY TV: DIGITAL VIDEO DECODER FROM TI CREATES VIBRANT, LIFELIKE IMAGES ON TVS, DVD RECORDERS

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## *Next-Generation Video Decoder Runs 3D Comb Filtering for both NTSC and PAL*

To win customers in a competitive marketplace, manufacturers of DLP, LCD and plasma TVs, DVD recorders and set top boxes must offer a palette of features assuring consumers the highest video quality for their money. The new TVP5160 digital video decoder from Texas Instruments Incorporated (TI) keeps manufacturers ahead of the pack by offering **best-of-class two-dimensional (2D) and three-dimensional (3D) comb filtering, time base correction, 3D noise reduction, intermediate frequency (IF) compensation and 480p (progressive) video**, which all contribute to display an improved image. TI will demonstrate these capabilities at the International Broadcasting Convention (IBC) in Amsterdam from September 10-14.

TI's video decoder supports all major worldwide broadcasting standards including Phase Alternation Line (PAL) and National Television Standards Committee (NTSC). Whether the video stream is composite, S-video, component or Syndicat francais des Constructeurs d'Appareils Radio et Television (SCART), the TVP5160 allows the manufacturer to utilize features such as noise reduction and time base correction concurrently, providing consumers with improved video quality. For example, in many video decoder products today, when the 3D comb

filter is operating, noise reduction must be turned off. The TVP5160's programmable architecture and proprietary algorithms support adaptive 2D and 3D comb filtering, time base correction, noise reduction and IF compensation video processing simultaneously.

"Consumers want professional-grade video quality, at an affordable price," said Ron Richter, worldwide marketing manager for TI's mixed-signal video group. "Our new video decoder provides consumer electronics manufacturers with the video quality and feature set necessary to differentiate their products from the competition and capture the attention of discerning consumers, at reasonable price points."

The TVP5160 brings new features and functionality to consumers around the world. Today, most 3D comb filter implementations support the NTSC broadcast standard only, limiting this benefit to consumers in North America and Japan. With sophisticated Y/C separation algorithms and enhanced architecture, this device is one of the world's first to support PAL, enabling consumers in Europe and China to enjoy sharper pictures. In addition, the TVP5160 implements SCART fast switching and 576p video format required for European consumer products.

In addition, the TVP5160 also utilizes TI's adaptive five-line 2D comb filter and patented sync detector for weak, noisy and non-standard signals from terrestrial broadcast and VCRs. The chip accepts 12 inputs in any combination of composite, S-video, component and SCART connectors. It auto-detects and automatically switches between NTSC, PAL and Systeme Electronique Couleur Avec Memoire (SECAM) formats on composite or S-video inputs. Digital rights management is supported through advanced programmable vertical blanking interval (VBI) slicing and Macrovision/CGMS copy protection. This product outputs YCbCr (8/10-bit or 16/20-bit) and ITU-R BT.656 (8/10-bit) formats. For 3D processing, the video decoder requires an external 4 M

Bytes of SDRAM memory. The TVP5160 ships in a 128-pin TQFP (thin quad flatpack) package.

The TVP5160 includes time base correction, IF compensation and 480p video features, each enhancing a different output. The time base correction improves VCR image quality, IF compensation corrects television tuner artifacts, and by supporting the 480p video standard, the TVP5160 allows for better DVD quality video when played through a television.

The TVP5160 3D digital video decoder is planned for full production in January 2005, with samples available for approved beta test customers beginning in September 2004.

The TVP5160 joins an existing family of mixed signal video decoders. Previously announced, the TVP5146 is optimized for high-end TVs and DVD recorders, and European consumer products where fast switching SCART capabilities are required. The TVP5147 can reduce manufacturers' costs while maintaining video quality targeting PAL TV and DVD recorder applications in China and NTSC for North America/Japan. The TVP5150 is the world's smallest, lowest power and lowest cost NTSC/PAL/SECAM video decoder, consuming only 115 mW, and can be found in analog mobile phone TV applications, portable DVD players, portable multimedia players, battery-powered USB PC video capture devices, surveillance camera systems and many other low-cost or portable video systems applications.

Source: TI

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