

# National Introduces Serial Digital Video Decoder With Industry's Best ESD Protection for HDTV Broadcast Video Equipment

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*Deserializer Features Low Power Dissipation, Increased Output Timing Margins And Wide Common Mode Range For Reliable High-Definition TV Data Transfers*

National Semiconductor Corporation (NYSE: NSM) announced today a serial digital video (SDV) decoder with 6kV of electrostatic discharge (ESD) that provides manufacturers with the greatest HDTV broadcast equipment protection in the industry.

The CLC031A deserializes standard and high-definition parallel data at

Society of Motion Picture and Television Engineers (SMPTE) standard data rates. It features low power dissipation for greater reliability and lower overall system component cost. Paired with National's CLC030 serial digital video encoder, the CLC031A greatly simplifies the data transfer interface for HDTV equipment designers.

"The CLC031A not only offers broadcast video equipment suppliers standard- and high-definition capability on a single chip, it also provides ESD protection that is six times greater than competitor solutions," said Jeff Waters, product line director for the Communications Interface group at National. "With the level of investment that goes into these systems and their direct connection to cables in harsh environments, the CLC031A provides much needed protection and the performance that only National's high-speed interface products can deliver."

National Semiconductor has leveraged its analog design expertise to optimize the analog signal-handling capability of the deserializer. The wide common mode input range of the CLC031A translates into a broader choice of serial interface signaling options. Video system processing performance is improved by its increased output timing margins and reduced jitter.

Designed to support the interface requirements of professional HDTV broadcast equipment, the CLC031A accepts serial data at rates from 270Mbps to 1.485Gbps and converts it per the SMPTE standard to parallel data (10 bits for standard definition video, 20 bits for high definition video) with a parallel rate clock. The standard serial interfaces used in such equipment are SMPTE 259M for standard definition video signals and SMPTE 292M for high definition video signals. The CLC031A supports multiple standards, allowing it to become a truly universal interface circuit. Additional functions include the ability to extract ancillary data (ANC) packets from the serial data stream via a low-speed first in, first out (FIFO) interface.

National Semiconductor is also introducing a Broadcast Video Owner's Manual, which includes an introduction to broadcast video signals and standards, system design recommendations and system testing. The manual also describes National's broadcast video products and evaluation boards. It can be downloaded at

[www.national.com/appinfo/interface/bvom.html](http://www.national.com/appinfo/interface/bvom.html).

The CLC031A, along with a previously announced encoder and crosspoint switch, are the initial components in a new series of high-definition products from National that will provide a complete serial signal processing chain solution to video system designers. Soon, a cable driver, cable equalizer and data retimer will complete the chipset, enabling a point-to-point interface that will support a data link up to 1.485Gbps over a distance of 140 meters.

In addition to the HDTV data transfer chipset, National offers a comprehensive portfolio of analog video wideband amplifiers, video buffers and high-speed single and triple A/D converters.

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