HIGH PERFORMANCE BROADCAST
CONNECTIVITY PLATFORM

VIRTEX-6 FPGA BROADCAST CONNECTIVITY KIT

⤜ Industry Challenges

- Increasing number of video and audio connectivity standards for professional broadcast systems

- Convergence of broadcast and communications market requirements for higher system performance and low-power serial connectivity

- Demands imposed on broadcast equipment manufacturers for faster time to market and longer time in market with lower development costs

⤜ The Xilinx Solution

- Targeted design platform tuned to the needs of high performance broadcast audio, video and network connectivity applications

- Enables broadcast equipment engineers to focus on product differentiation rather than challenges of implementing multiple interfaces

- Out-of-the-box system design with hardware, software, reference designs and evaluation IP, and boards to shorten development and integration cycles

- Full support for triple rate SDI, AES audio, and video over IP designs with scalable platform for bridging to DVI, PCI Express, DisplayPort, and 10Gb Ethernet standards

Accelerate SDI Interface Development

Developed to address the rapidly evolving requirements in the broadcast market for greater bandwidth, improved jitter performance and lower power consumption, the Xilinx Virtex®-6 FPGA Broadcast Connectivity Kit simplifies development of high performance broadcast audio and video interface solutions. As a Broadcast Targeted Design Platform, this fully integrated kit provides silicon devices optimized for high performance logic with high-speed serial connectivity, IP supporting SMPTE standards, complete design environment, pre-verified reference designs, and a Virtex-6 FPGA base board with industry-standard FMC daughter cards for serial digital video and audio so development can begin right out of the box.

Differentiate Video and Audio Designs

With all the connectivity elements needed in one package, developers can focus on differentiating system designs rather than the challenges of implementing multiple video line rates and formats or adopting new and emerging DisplayPort, PCI Express®, and Ethernet AVB specifications. The kit allows designers to effectively target the full range of professional broadcast applications, including cameras, switchers, routers, encoders, professional monitors, and cinema projectors while gaining value-added productivity over à la carte development system assemblies. Multiple design examples provide insight and a kick-start on how to implement system-level IP, so broadcast equipment manufacturers can get to market faster with the latest innovations or upgrade products with new features to stay in market longer.

Simplify Integration of Audio, Video and Network Connectivity

The Virtex-6 FPGA Broadcast Connectivity Kit provides a scalable platform for bridging between multiple interfaces to accommodate the high performance bandwidth and low-power serial connectivity requirements of IT equipment and communications network applications. With the ability to implement SD, HD, and 3G-SDI interfaces with other industry-standard and custom protocols, system designers can stream 3G-SDI video to/from a PC over PCI Express; take multiple compressed ASI streams over 10Gb Ethernet, and display incoming/outgoing video on DisplayPort monitors. This extraordinary level of integration significantly reduces material costs, requires less board space, and lowers overall power, particularly for professional broadcast audio and video systems requiring multiple channels.

For more information, support, documents and reference designs, or to purchase, please visit **www.xilinx.com/v6bck**

⟲ XILINX®

What's Inside

- ML605 base board with the XC6VLX240T-1FFG1156 FPGA
- FMC Broadcast Mezzanine Card
    - 4x SD/HD/3G-SDI Tx and 4x SD/HD/3G-SDI Rx
    - 2x AES3 Tx and 2x AES3 Rx
    - 1x AES10 Tx and 1x AES10 Rx
    - Genlock input and 2x Clock Cleaner Modules
- ISE® Design Suite Logic Edition: (device-locked to Virtex-6 LX240T FPGA)
- Documentation
    - Hardware Setup and User Guides
    - Getting Started Guide
    - Reference Designs User Guide
    - Schematics and PCB files
    - Universal 12V power supply
    - Cables: 2 USB, 1 Ethernet, 4 BNC-to-BNC coaxial cables
    - DVI to VGA adapter

- Reference designs and demos
    - Triple rate SDI (SD/HD/3G-SDI) for transmit, receive and pass through
    - Board Diagnostic Demo
    - Base System Reference Design featuring DSP48, Gigabit Ethernet, DDR3 Memory Controller, DVI, System Monitor, and Serial Transceiver integration
    - PCI Express Gen 2 (x4)
    - PCI Express Gen 1 (x8)
    - DDR3 Memory Interface
    - IBERT
    - Multiboot Reference Design, featuring self-test/update and configuration
- Reference designs, demos, documentation, and applications delivered on USB FLASH drive to get started quickly

VIRTEX-6 FPGA BROADCAST CONNECTIVITY KIT

Photo representation only. Actual kit contents may vary in appearance.

Take the NEXT STEP

For more information, support, documents, and reference designs, or to purchase, please visit **www.xilinx.com/v6bck**