

Embedded Systems Design, Inc.

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www.embedded-sys.com**StreamBlade Family**

The Embedded Systems Design, Inc. (ESD) StreamBlade™ Family of products provides developers with the software infrastructure and hardware building blocks necessary to implement distributed FPGA-based processing systems. ESD products are designed to transport and process real-time streaming data and are ideally suited to streaming applications such as telecommunications protocol processing, software-defined radio applications, and real-time streaming data, including video and voice processing, generation, recording, and playback.

All ESD products were derived from actual client requirements. The SB-SOE-4 was designed to replace data formatting functions performed by two 1U rack-mounted Linux servers and 4-bit capture cards used in a GbE-based streaming data distribution system. The SB-MiniFX was designed to implement one quarter of the SB-SOE-4 board's functions and interface with a client's dual ADC board. The SB-5600 was designed as a stand-alone real-time streaming I/O processing system utilizing a combination of FPGA, embedded, and general purpose processing nodes. The SB-5600 platform was designed to be a self-contained system to generate Pseudo Random Bit Sequence (PRBS) patterns and verify PRBS patterns with bit-error injection capability.

The SB-5600 is ideally suited to real-time applications including: streaming data (voice, video, and image), telecom/datacom, symbol-to-bit conversion, algorithm acceleration, data formatting, pattern generation/recognition, and test instrumentation. FPGAs provide an extraordinary opportunity to reduce Size, Weight, and Power (SWaP) consumption while accelerating processing capabilities in numerous applications.

ESD plans to add additional products to the StreamBlade™ Family based on the constant input the company receives from its embedded engineering services business.

**FEATURES**

- › FPGA-based platforms support development of combined software and reconfigurable hardware processing applications
- › Developers have full access to configured FPGAs and general purpose processors
- › GbE ports utilizing hard core MACs allow for the implementation of distributed FPGA processing nodes
- › Ethernet connectivity provides network-based command, control, and status
- › Innovative CPLD-controlled flash memory provides rapid configuration of FPGAs and embedded processors
- › StreamBlade™ architecture leverages well-understood technologies, such as: Ethernet, TCP/IP, Linux, and FPGA
- › ESD provides an Application Development Kit (ADK) including FPGA cores, sample applications, and source code
- › Linux and GNU development tools may be used in combination with the FPGA design flow
- › Signal conditioning is provided by plug-in modules
- › Available I/O modules support serial differential clock and data streams (LVDS, RS-422, and ECL)
- › Available I/O modules support parallel differential clock and data streams (LVDS, RS-422, and ECL)
- › Available I/O modules support T1/E1 data streams and T3/E3 data streams