



LAN9132



High-Performance Multimedia Co-Processor, supporting a PCI-based interface and featuring RipStream™ Technology

Industry's first high-performance, wired 10/100 network multimedia co-processor solely supporting a PCI-based interface and employing RipStream technology, which combines support for multiple high-definition (HD) streams, software protocol stack management and security. SMSC's LAN9132 co-processor allows system designers to leverage existing SoC and host processor-based designs that support Digital Living Network Alliance™ guidelines with minimal design risk and fast time-to-market.

Highlights

- RipStream technology supporting DLNA guidelines
 - Supports multiple HD video streams
 - Built-in UPnP, HTTP, TCP/IP protocol stacks
 - Integrated 128-bit AES encryption/decryption for Digital Rights Management (DRM)
 - Supports Windows® Media DRM10 (WMDRM 10)
 - Supports Digital Transmission Content Protection over Internet Protocol (DTCP-IP)
 - Fast DTCP-IP AKE key exchange time (0.6 sec.)
- Two Transport Stream Interfaces (TSIs) to MPEG encoder/decoder SoCs
 - Either interface can be used in server or rendering applications
- Integrated ARM926™ core
- TCP/UDP checksum offload
- PCI-based Interface
 - PCI Local Bus Specification revision 3.0 compliant
 - 32-bit/33-MHz PCI bus
 - Supports device and host modes of operation
 - In host mode it supports up to four external PCI devices
 - PCI Power management support D0, D1, D2, D3cold and D3hot
 - DMA-based high speed transfers
- Video codec agnostic
 - Supports MPEG2, MPEG4, WMV9/VC-1, H.264/AVC
- Network agnostic platform allowing for integration of future advanced standards
- Integrated 10/100 MAC/PHY with HP Auto-MDIX and multiple power management modes

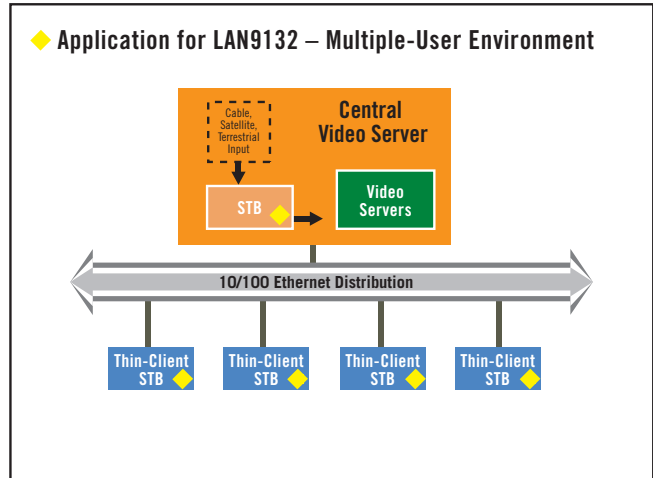
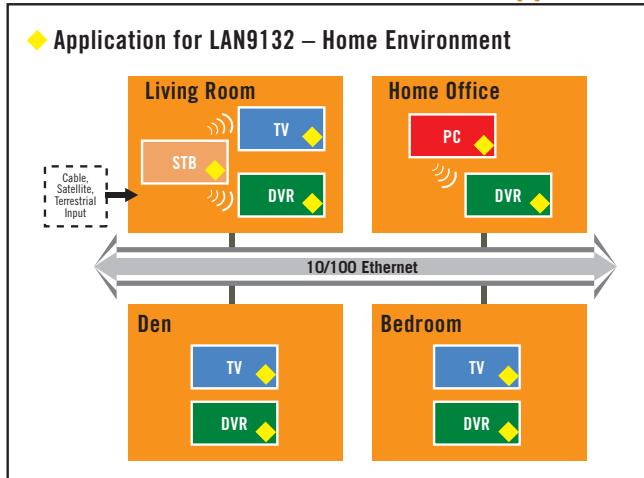
Target Applications

- Ethernet-based Video/Media Distribution Systems
- Digital Video Recorders
- High-definition Televisions
- Video Servers
- Network Attached Storage (NAS)
- Thin Client Set-top Boxes
- Digital Media Clients/Servers
- Home Gateways
- Wireless Multimedia Streaming

Features and Benefits

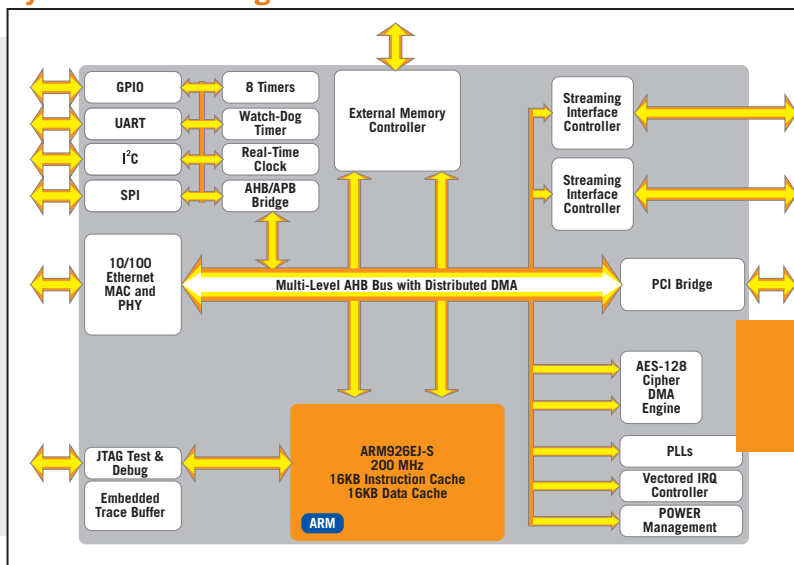
FEATURES	BENEFITS
RipStream technology combines support of multiple HD streams, software protocol stack management and security	High throughput; two HD MPEG2 or multiple MPEG4 streams
Two bidirectional TSI ports which directly interface to video processing functions	Overcomes system host bus limitations. High bandwidth audio/video HD streams can be handled without burdening system host bus. Ports support extended modes with flow control and allow transfer of non-MPEG2 TS formats.
Supports PCI-based interface	Offers design flexibility and the option to use existing PCI-based designs
Integrated 10/100 MAC/PHY with HP Auto-MDIX	Complete networking solution that eliminates the need for special "crossover" cables when connecting LAN devices together
Crypto block supports both DTCP-IP and WMDRM 10	Provides DRM copyright protection. Flexible support for major industry standards; eliminates need for separate crypto device.
Video codec agnostic	Handles any video codec (MPEG2, MPEG4, WMV9/VC-1, H.264/AVC)
Can boot from Flash memory or host processor	Reduces need for additional components
Integrated DLNA, UPnP and TCP/IP stacks	Consumer Electronics interoperability; ability to recognize other UPnP devices and offload host TCP/IP implementation
Highly flexible software architecture; customer can decide whether LAN9132 or host runs UPnP stack	Allows ease of integration to various architectures; allows system designer to optimize the architecture to application needs

Network Multimedia Co-Processor Applications



))) denotes wireless streaming

System Block Diagram



Feature- and Performance-Rich

- 128-bit AES encryption/decryption
- RipStream technology provides the high-performance Ethernet data rates required to enable multiple HD streams
- TSI port can be used in server and rendering applications
- Interoperability with other devices supporting UPnP and DLNA
- Integrated 802.3 (10/100) Ethernet MAC/PHY with HP Auto-MDIX support
- 324-pin LFBGA package with other options
- Supports DRM technology - DTCP/IP and WMDRM 10

Ease of Integration/Minimized Design Time and Risk

- Interfaces to any host/SoC via PCI interface
- Interfaces to any video codec/decoder via TSI
- Minimal host/SoC overhead
- Integrated TCP/IP stack reduces host processor overhead
- Minimal software development required



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