Product Information

SL16-USB Controller

The SL16 is a low-cost, high-speed USB interface controller chip. Its bi-directional Slave Data port enables asynchronous data to be exchange between external master CPU bus (DSP, Micro., or any master bus device), and SL16 processor in both DMA or I/O modes. USB Device configuration can be automatically programmed into a serial flash EEPROM. Built in BIOS ROM enables this and other unique features. 3Kx8 internal RAM buffer supports data transfers to and from an host USB PC and external Peripheral. The SL16 incorporates USB transceivers, and supports maximum USB rate, 12Mbits/sec. All USB modes are provided with 4 end points, Bulk, Interrupt, and Isochronous (up to 1024 Bytes/packet). SL16 along with ScanLogic's comprehensive development tools(including mini-port driver, reference design, firmware, and system software source code), an user can have a working USB Peripheral in only 5 weeks. SL16 provides an optimal solution for variety of product applications:

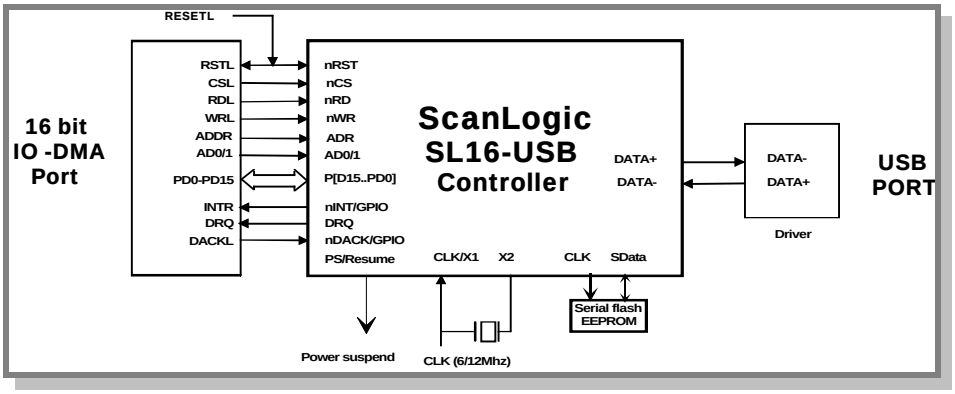
PC Peripherals
- Scanners
- Digital Cameras (video & still)
- Printers
- Facsimiles
- Multi-function Units
- External Storage Devices
- CD-ROM
- DVD player
- External Modems
- Digital audio

Communications
- Computer Telephony (CTI)
- Video Conferencing
- Cable modems
- DBS/DSS Satellite
- ISDN/T1

Other
- Embedded Systems
- Data Acquisition
- Note Pads
- Game Pads
- Digital joystick

The Unique Capabilities of the SL16

- **High Speed USB Interface -** Allows sustained data transfers to/from, peripherals at the maximum USB rate of 12 Mbits/sec.
- **Internal RAM -** 3K X 8 on-chip memory array provides double buffer operation for Incoming/Outgoing asynchronous data exchange.
- **Slave Data Port -** Up to 16 bit, Programmable bi-directional fast parallel slave data port, both DMA and I/O modes are supported.
- **USB Port -** Built in USB Transceiver, throughput up to 12 Mbits/sec rates in all modes.
- **Isochronous (1024 bytes/packet),** Bulk and Interrupt modes are supported as well on all of its four end points.
- **Microcontroller Interface -** The SL16 can interface asynchronously to any 8/16 bit microprocessor, DSP or embedded controller based system.
- **Serial Interface -** Interface to external serial Flash EEPROM enables USB Mfg. ID to be programmed automatically via the USB port, due to built in BIOS ROM.
- **Miniport Driver -** Development Kit include generic USB mini-port driver for Windows 95/98 WDM - Memphis/Detroit for a variety of peripheral classes. Development time is significantly reduced.
- **Programmable Digital PLL (DPLL) -** Requires only 12MHz external clock or crystal. Suspend/Resume, and low power is available.



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Features:

- Interface to any embedded or non-embedded 8/16 bit external micro processor, microcontroller, DSP via its high speed bi-directional Slave data port
- Provides DMA operation (via two handshakes signals and a counter)
- Four USB endpoints , throughput up to 1.5 MB/sec (bulk mode)
- 3Kx8 "on-chip" dual buffer memory array supports Bulk, Isochronous (1024 bytes/packet) and interrupt modes
- On-chip USB transceivers
- Built in DPLL allows 12MHz external Crystal or clk
- Serial Flash EEPROM interface enables USB Mfg. ID and other product functions can be programmed automatically via the USB port, into an external EEPROM.
- 3.3V CMOS technology. Low power, Resume and Suspend modes are supported.

Developers Kit

For all of its products, ScanLogic offers development kits, training and assistance to reduce the time and cost of integration. **Using the development kit, ScanLogic customers can have a working USB product within 5 weeks.** These development kits include:

- Windows 98/NT2000 WDM generic USB device Miniport driver (object code)
- Firmware source code examples
- System USB demo source code examples
- Application notes
- SL16 reference design board
- SCSI to USB translator

ScanLogic Corporation

ScanLogic Corporation was established in 1995 as a semiconductor company to develop, manufacture and license innovative, cost-effective chip based interface solutions for manufacturers of high performance peripherals including, scanners, digital video and still cameras, MFU devices, printers, facsimiles, CTI devices, cable modems, external storage devices, and embedded systems. ScanLogic products combine Universal Serial Bus (USB) controllers, video compressors, signal processors, CCD/CMOS imager interfaces, memory controllers and software drivers to provide cost-effective, highly integrated single chip solutions for peripheral manufacturers.

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