

The SL11 is a low-cost, high-speed USB interface controller chip that provides dual interfaces — general high speed data I/O and DMA. Both DMA and I/O can be utilized to interface with any embedded microcontroller. Utilizing a double buffer scheme, in on-chip memory, data is transferred to and from the host PC at the maximum USB throughput rate of 12 Mbits/sec. The SL-11 incorporates a USB serial interface with USB transceivers, all in one 28 pin PLCC package. The SL11 is supported by a comprehensive Development Kit, including mini-port driver, that allows customers to have a working USB peripheral in only 5 weeks. The SL11 is the lowest cost, high-speed, USB device available today and is an optimal solution for the following application areas:

### PC Peripherals

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

### Communications

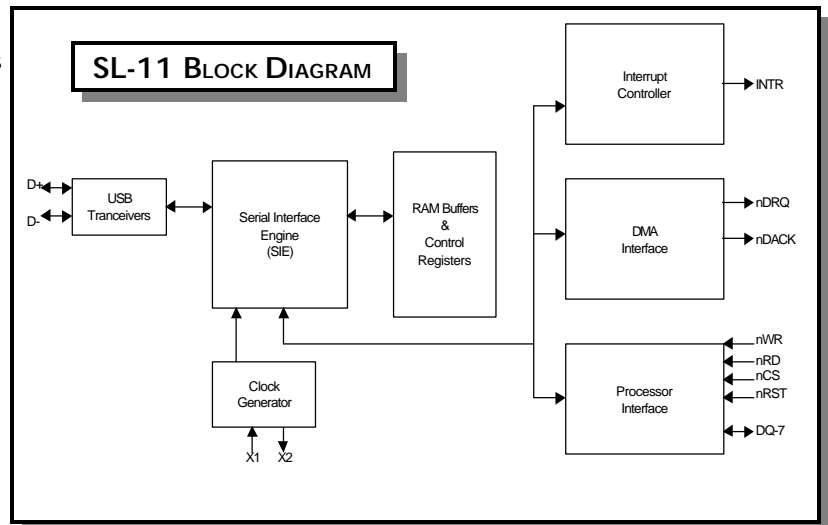
- Computer Telephony (CTI)
- Video Conferencing
- Cable modems
- DBS/DSS Satellite
- ISDN/T1

### Other

- Embedded Systems
- Data Acquisition
- Note Pads
- Gamepads
- Digital joystick

## The Unique Capabilities of the SL11

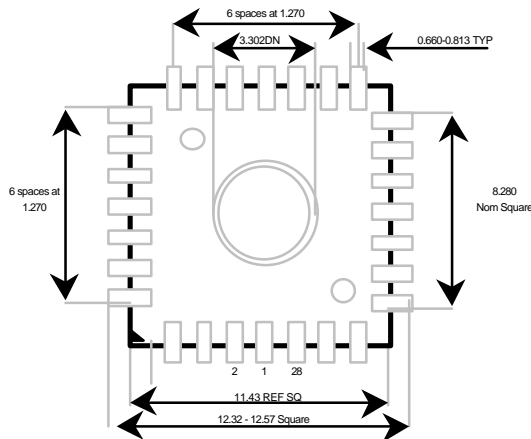
- **High Speed USB Interface** - Allows sustained data transfers to/from, peripherals at the maximum USB rate of 12 Mbits/sec.
- **Internal RAM** - 256 X 8 on-chip memory array provides double buffering "Ping-Pong" operation scheme. Incoming/Outgoing data is buffered and sent or received to/from the USB port
- **Data Port** - 8 bit, Programmable Bi-Directional fast parallel data port. Operating modes —DMA (byte or block move) or I/O are selected by the user
- **USB Port** - Built in USB Transceiver, up to 12 Mbits/sec. throughput rates in all modes
- **Microcontroller Interface** - The SL11 can interface to any microprocessor, DSP or embedded controller based system
- **SCSI Emulation** - Emulates SCSI controller interfaces. Plugs in place of existing SCSI interface chips with minimal hardware/firmware changes
- **Miniport Driver** - Development Kit includes generic USB mini-port driver for Windows 95 WDM - Memphis/Detroit for a variety of peripheral classes. Development time is significantly reduced



# SL11-USB Controller

## Features:

- Interface to any embedded or non-embedded micro-processor, microcontroller or DSP
- Provides DMA operation (via two handshakes signals and a counter)
- 8 bit high speed bi-directional parallel interface
- 256 x 8 "on-chip" dual buffer memory array
- Four USB endpoints , throughput up to 1.5 MB/sec (bulk mode)
- On-chip USB transceivers
- 5V, CMOS technology
- 28 pin PLCC package



## 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.



## 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 95 WDM Detroit/Memphis generic USB device Miniport driver source code
- Firmware source code examples
- Demo source code examples
- Application notes
- SL11 reference design board
- SCSI to USB FW/SW translator available



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