

Product Information USB to IDE/ATAPI Controller

The SL11RIDE is a low cost, high speed Universal Serial Bus (USB) to ATAPI/IDE interface solution. It contains a 16 bit RISC processor with built in BIOS ROM that translates USB ATAPI host commands to a variety of IDE storage devices.

The SL11RIDE interfaces to an external serial flash EEPROM that contains USB device configuration such as Vendor ID and other vendor specific configurations. New functions can be uploaded and programmed into the Serial EEPROM via the USB Host PC. This unique architecture provides the ability to upgrade and support a variety of IDE/ATAPI based disk drives without changing peripheral hardware. The SL11RIDE's Memory/GPIO bi-directional Port supports IDE/PCMCIA and other serial peripherals (see below). The USB port supports up to 12 Mbits/sec. - the maximum USB transfer rate. Supports Bulk, Interrupt, Control and Isochronous (up to 1024 bytes) USB protocol modes. The SL11RIDE power source requires only 3v. The SL11RIDE uses IDE as the physical interface, but commands to external disk can be either IDE or ATAPI commands. ATA-1,2&3 based disk drives are supported. Maximum Disk drive throughput rate is up to 1 MB per/sec.

The SL11RIDE's unique architecture combined with ScanLogic's comprehensive USB/ATAPI drivers, provide ScanLogic's customers the ability to support a wide variety of DISK drive solutions including the following applications.

· Zip™ Drives	· CD-ROM	· CompactFlash™	· Tape Drives	· MMC
· MO Drives	· CD-RW	· SmartMedia®	· ORB	· SD
· LS120	· DVD ROM	· HDD	· Klik!™	· SSFD

Unique Features of the SL11RIDE

- **48 MHz RISC Processor** - 16-bit processor with built-in BIOS ROM provides comprehensive I/O support including USB functions, UART, DMA, ATAPI/IDE/PCMCIA/ MMC and SD emulation, Serial EEPROM programming and other functions. Eliminates the need for time consuming firmware development
- **Internal SRAM** - 3K x 8 internal multi-purpose SRAM provides double buffering "Ping-Pong" operation scheme. In-coming/Outgoing Data is buffered and sent or received to/from the USB port
- **IDE/PCMCIA/Serial Data Port** - 8 or 16 bits, data port, supports Master/Slave multiple disks. Either ATAPI, IDE, PCMCIA or SD commands, Supports ATA-1 ,2 &3 standards. Max Disk operation throughput rate is up to 1 MB/sec.
- **Re-Programmable** - Executable code can be downloaded through USB host PC and can be pro-programmed into a serial EEPROM to easily modify or update product functionality.
- **USB Port** - Built in USB Transceiver, up to 12Mbits/sec throughput rates in all modes; Bulk/Isochronous/Interrupt/ Control modes -Isochronous mode supports packet sizes up to 1024 bytes.



The SL11RIDE chip comes in a low profile, 100-pin LPQFP package.



We make the USB chips that
make peripherals work better!™

SL11RIDE - USB to IDE ATAPI Controller

Features:

- 48 MHz 16 bit RISC Processor - handles the protocol between the USB port and the driver, translates ATAPI protocol packets to IDE, handles data buffers, and emulates the IDE bus signals.
- 32-bits of General Purpose I/O (GPIO) channels.
- 3Kx8 internal general purpose SRAM buffer. Memory buffer can be configured as "Double port buffer" multiple sector data buffer, 512 bytes or 1024 bytes simultaneously transferred from Disk to USB port and vice versa.
- Max disk operating throughput rate is up to 1Mbytes/sec., includes USB overhead.
- SL11RIDE can use 12 MHz external crystal or clock. Other clocks such as 48 MHz are generated by built-in DPLL (Digital PLL).
- Support for variety of DISK specific functions or protocol is available by downloading specific related code via the USB port for it to be automatically programmed into external serial flash EEPROM, by the BIOS ROM.
- USB Port (12Mbits/sec.) including built-in USB transceiver. All USB standard protocol modes are supported; Isochronous mode (up to 1024 packet size), Bulk, Interrupt and Control modes.
- Suspend, Resume and Low Power modes.
- Package: 100 LPQFP, 0.5 micron.
- VDD : 3.3VDC.

ScanLogic Corporation

Scanlogic was established in 1995 to develop, manufacture and license innovative and cost effective solutions for manufacturers of peripheral devices. ScanLogic's products combine Universal Serial Bus (USB) controllers; video compressors, signal processors; memory controllers; high speed CPU/RISC processors; software drivers under WIN98/2000, CE 3.0 and iMac; and development kits to provide high performance integrated chip solutions and ease of integration for OEM manufacturers.

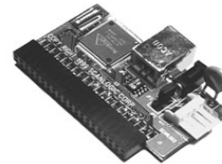
ScanLogic is the first company in the world to introduce a series of unique USB controller chips that feature both Host and Slave functions in the same chip. These dual Host/Slave controller chips are an ideal solution for peripherals that are either standalone or connected to a PC - *or both!* For more information on either the Host Series or other USB chip solutions, visit our web site at <http://www.scanlogic.com>.

SL11RIDE Developer's Kit

For all of its products, ScanLogic offers developer's kits (DVKs) as well as integration assistance from an experienced staff of engineers. By using the DVKs, ScanLogic's customers can have a working USB product within 2 - 3 weeks. The following components are included in the SL11RIDE DVK:

- SL11RIDE Evaluation board
- HW reference design for IDE/ATAPI, CF, SSFD, MMC and SD type devices.
- Firmware object code
- QT Assembler
- USB and MPD drivers for WIN98/2000/MAC - object code
- Sample chips
- Email support

*USB to IDE/ATAPI
Reference Design*



*USB to IDE/ATAPI
Compact Flash
Reference Design*

Reference Designs for SmartMedia, SSFD, and others also available. Contact ScanLogic for details.



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