Features

- Single chip microcontroller with 4-Port USB KVM Switch
- **CPU for Application**
  - 8-bit pipelined RISC, single cycle per instruction operating up to 96MHz and 100% software compatible with standard 8051/80390
  - Supports power management unit with deep sleep mode, programmable watchdog timer, three 16-bit timer/counters, and millisecond timer
  - Supports CPU Debugger for connecting to In-Circuit Emulation (ICE) adaptor
  - Supports DMA Controller (7 DMA channels) and memory arbiter for fast data movement during USB protocol stack processing and peripheral communications
  - 1 external interrupt sources with 2 priority levels
- **Program/Data and Flash Memory**
  - On-chip 8KB SRAM for CPU program code mirroring
  - Supports In-System Programming (ISP) for initial Flash memory programming via UART or ICE adaptor
  - Supports reprogrammable boot code and In-Application Programming (IAP) to update boot code or run-time firmware through USB or UART interface
  - On-chip 32KB data memory for CPU and packet buffering
  - On-chip 128KB Flash memory for CPU program code
  - On-chip 1KB Flash Information Page for Hardware Configuration
  - Supports Page architecture for flash erase
  - Minimum 100,000 flash program/erase cycles
  - Minimum 10 years flash data retention
- **USB Interfaces**
  - Supports 4 multi-addressable Device Controllers and compliant with USB Spec 2.0 Full speed
  - Build-in one USB host controller and one USB root hub that supports four downstream ports and each compliant with USB2.0 Full/Low speed
  - Supports Control, Bulk, Interrupt, and Isochronous transfer types
  - Supports controllable D+ pull-up resistance for upstream ports
  - Supports controllable D+/- pull-down resistance for downstream ports

Product Brief

  - Supports Burst mode transfer for BULK data transfer in Device Controller
  - Supports the downstream SOF synchronization with selected upstream port for ISO data transfer automatically
- **Peripheral Communication Interfaces**
  - 2 UART interface (1 supporting DMA mode, Modem control, remote wake-up and up to 921.6Kbps baud)
  - 2 High Speed SPI interface with DMA mode (1 master and 1 slave mode)
  - 5 I^2C interface with DMA mode (1 master with EDID Console and 4 slave mode with EDID Slave)
  - 2 PS/2 Host interfaces
  - Up to 4 GPIO ports of 8 bits each (Supports 2 GPIO ports with de-bounce and interrupt function)
  - Programmable Buzzer function
- **Supports KVM switch functions in software**
  - Controls 4 computers from a single console
  - Supports PS/2 keyboard/mouse and USB keyboard/mouse
  - Supports keyboard and mouse emulation for error-free booting
  - USB device in console is transparent to computers that support most gaming/multimedia keyboards and multifunction mouse
  - Mouse sample rate on both of downstream and upstream ports is the same
  - Supports DDC (Display Data Channel) emulation and stores the console monitor's EDID (Extended Display Identification Data)
  - Four computers can share four USB downstream ports in console
  - Supports maximum 7 USB devices in console, including HID, HUB, MSC and Audio Class
  - Supports touch screen, writing pad, and touch pad devices
  - Supports "push buttons" and "hot keys" switching
  - Supports auto-scan mode for monitoring PC operation
- Integrates on-chip oscillator and 96MHz PLL to operate with external 12MHz crystal
- Integrates on-chip power-on reset circuit
- 100-pin LQFP RoHS compliant package
- Operating temperature range: 0 to +70°C

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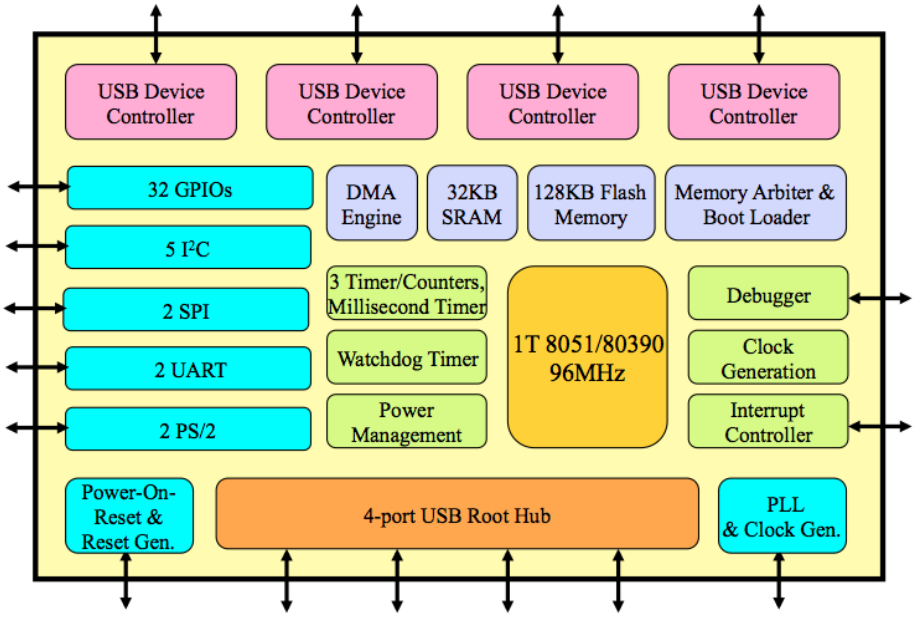
Block Diagram



Target Applications

- 4-port SOHO Cable KVM Switch
- 4-port SOHO Desktop KVM Switch
  - Basic USB KVM Switch
  - Basic PS/2 KVM Switch
  - USB KVM Switch with Audio and USB Hub
- KM Switch for Tablet and Smartphone
- 8/16-port Enterprise KVM Switch
- KVM Extender
- Cat 5 KVM Switch
- KM Extender over Ethernet/Wi-Fi

System Block Diagram