

## USB2.0 Storage Host Controller LSI

- Easy solution for USB memory
- Support USB2.0 Host HS/FS Mode
- Support ATA/ATAPI6
- No need any software for USB

### Overview

S1R72U16 is a USB host storage controller LSI that supports USB2.0-compliant high-speed mode and IDE. Only "adding" S1R72U16 to the IDE bus of existing systems enables to add USB HS host function for USB storage device. Also S1R72U16 supports the 16bit general CPU interface.

It is possible to add the USB2.0 high speed function for USB storage easily with ATA/ATAPI drivers and CF Drivers,

so the system with S1R72U16 can support many kind of USB storage such like as a USB memory.

### Feature

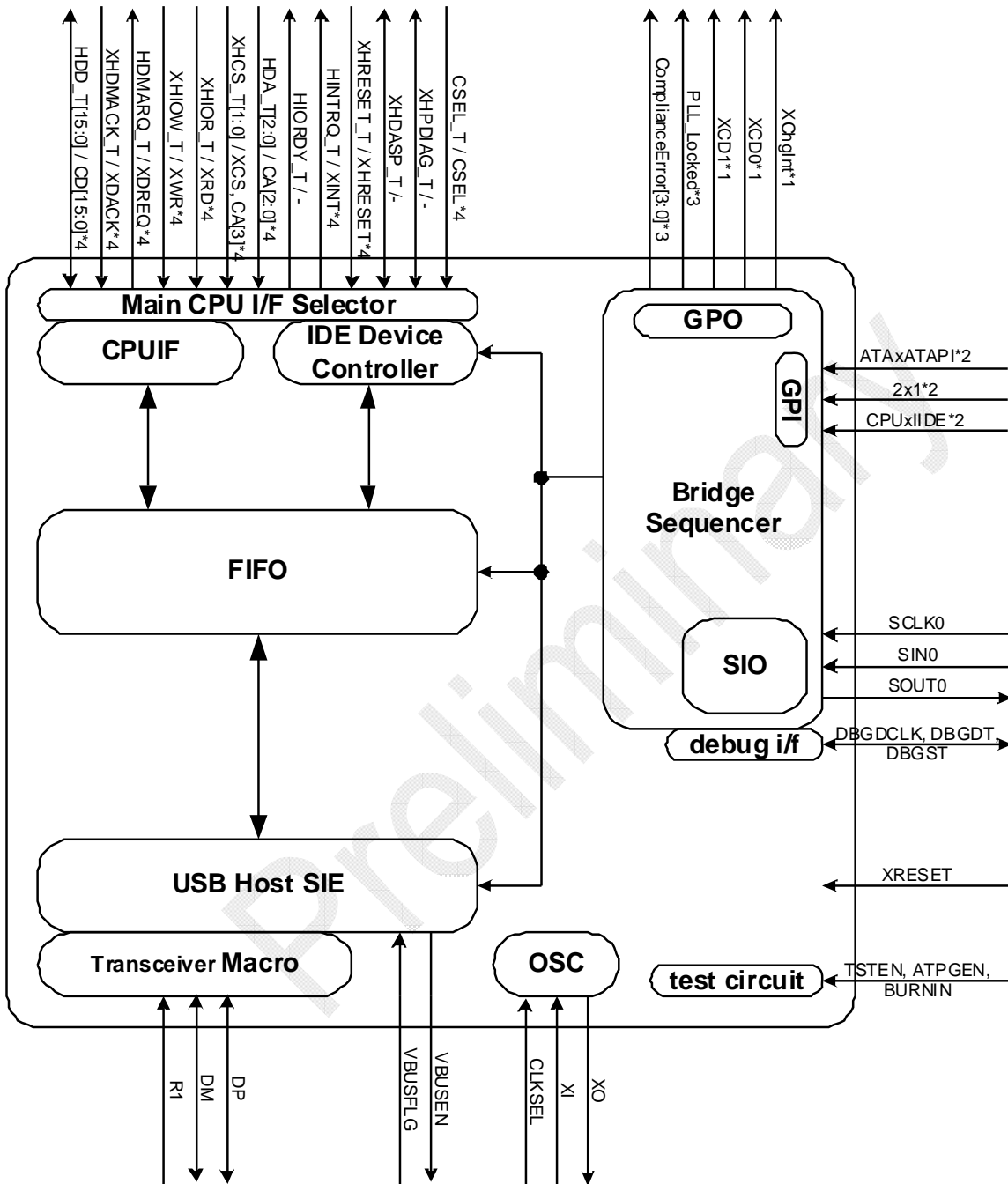
- 1) Easy-to-Use
  - No need to develop any software for USB
- 2) High speed data transfer
  - High speed data transfer by Bridge Sequencer on the ATA100 high speed bus

### Specification

- 1) USB
  - High Speed mode (480Mbps) and Full Speed mode (12Mbps)
  - Support Host termination function
  - USB Host Stack, USB Mass Storage Class, USB HUB Class on chip
- 2) IDE Interface
  - Share the pins the CPU interface block
  - Support ATA/ATAPI6
    - PIO mode 0 to 4
    - Multi Word DMA mode 0 to 2
    - UDMA mode 0 to 5
- 3) CPU Interface
  - Share the pins the IDE interface block
  - 16bit general CPU interface (Memory bus)
  - Support DMA
  - Little Endian
- 4) Other
  - Clock is from the external 12MHz and 24MHz X'tal
  - Supply voltage USB3.3V, IDE3.3V, CPU interface=3.3~1.8V, Core=1.8V
  - Operation temperature -40°C to 85°C
  - Package
    - QFP14-80 (12x12mm, 0.5mm pitch, 80pin), S1R72U16F14E100
    - PFBGA8UX81 (8x8mm, 0.8mm pitch, 81ball), S1R72U16B08E100

# S1R72U16

## Block Diagram



\*1 Use these pins in the case of using USB storage device as "Removal".

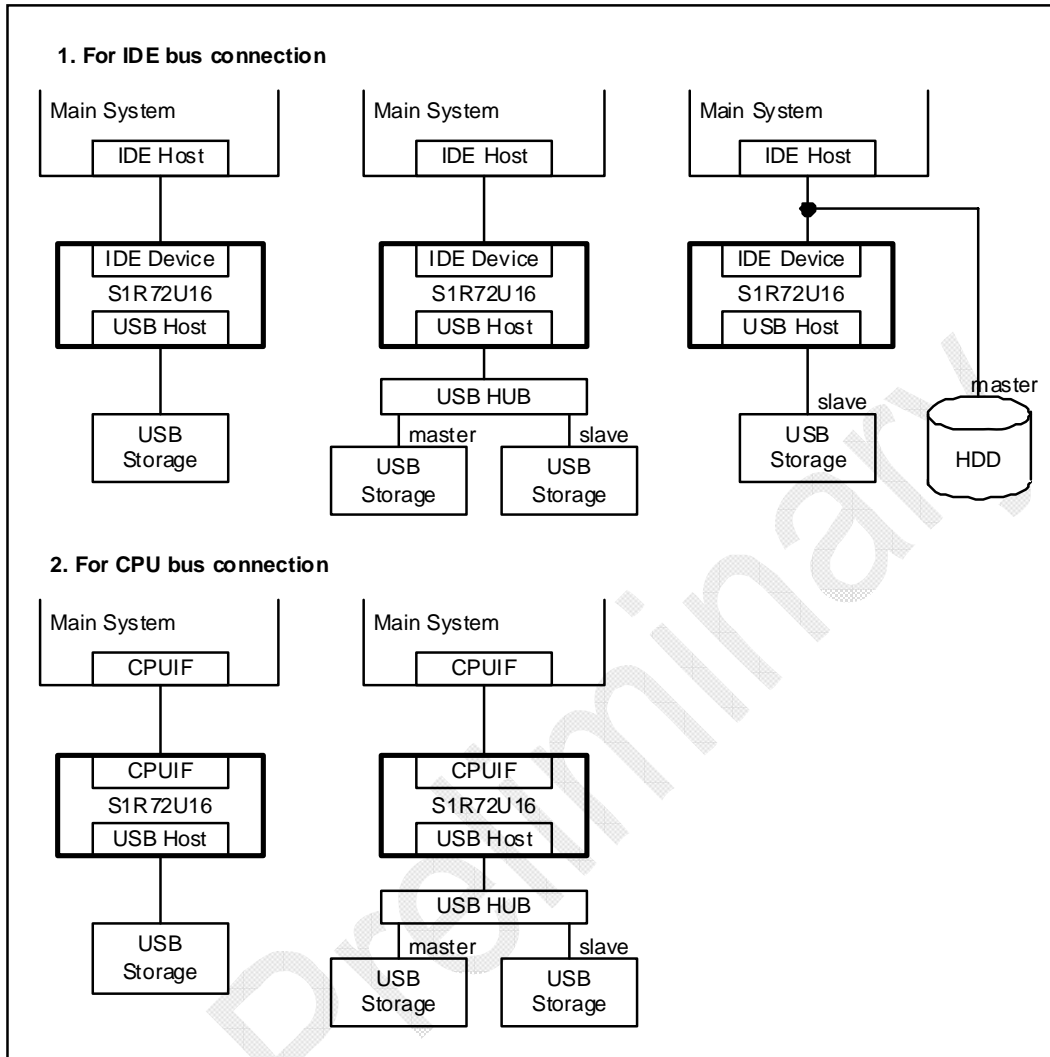
\*2 For CPU interface

\*3 For mode switching between IDE and CPU interface

\*4 For monitor to watch the internal operation and for USB compliance test

# S1R72U16

## System example with S1R72U16



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