

# Enhanced Host Controller Interface

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EHCI (Enhanced Host Controller Interface) is the *Single* method of interfacing with USB 2.0. This makes life a lot easier than with USB 1.0, where 2 incompatible standards both survived. This is because the USB-IF insisted on a single implementation, produced by Intel.

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## Interface

On a PC you will normally find the EHCI USB controller on the PCI bus - in fact it is the only access method specified in the specification. USB 2.0 supports interfacing with USB 1.0 devices. However, EHCI is NOT expected to support them. Instead, you will find an UHCI or OHCI *companion controller*. Therefore you must implement OHCI and UHCI as well. Note there are NOT companions of both types, it is one type or another.

The EHCI controller will always have a PCI Class ID of 0x0C, a Subclass ID of 0x03, and an Interface value of 0x20. These values can be used to find the configuration space of the controller, which contains the memory mapped address of the EHCI registers. The address information can be found in the BAR0 PCI configuration space register.

## Registers

Offset (Hex)	Name	Description
00	USBCMD	USB Command
04	USBSTS	USB Status
08	USBINTR	USB Interrupt Enable
0C	FRINDEX	USB Frame Index
10	CTRLDSSEGMENT	4G Segment Selector
14	PERIODICLISTBASE	Frame List Base Address
18	ASYNCLISTADDR	Next Asynchronous List Address
40	CONFIGFLAG	Configured Flag Register

## See Also

### Articles

- USB
- OHCI
- UHCI

### External Links

- EHCI Specification (<http://www.intel.com/technology/usb/download/ehci-r10.pdf>) + Addendum ([http://download.intel.com/technology/usb/EHCiv1-1\\_Addendum.pdf](http://download.intel.com/technology/usb/EHCiv1-1_Addendum.pdf))

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