

**NAME**

**ppc** - Parallel Port Chipset driver

**SYNOPSIS**

**device ppc**

In */boot/device.hints*:

**hint.ppc.0.at="isa"**

**hint.ppc.0.irq="7"**

For one or more PPBUS busses:

**device ppbus**

**DESCRIPTION**

The **ppc** driver provides low level support to various parallel port chipsets for the ppbus(4) system.

During the probe phase, **ppc** detects parallel port chipsets and initializes private data according to their operating mode: COMPATIBLE, NIBBLE, PS/2, EPP, ECP and other mixed modes. If a mode is provided at startup through the *flags* variable of the boot interface, the operating mode of the chipset is forced according to *flags* and the hardware supported modes.

During the attach phase, **ppc** allocates a ppbus structure, initializes it and calls the ppbus attach function.

**Supported flags**

bits 0-3: chipset forced mode(s)

PPB\_COMPATIBLE 0x0 /\* Centronics compatible mode \*/

PPB\_NIBBLE 0x1 /\* reverse 4 bit mode \*/

PPB\_PS2 0x2 /\* PS/2 byte mode \*/

PPB\_EPP 0x4 /\* EPP mode, 32 bit \*/

PPB\_ECP 0x8 /\* ECP mode \*/

And any mixed values.

bit 4: EPP protocol (0 EPP 1.9, 1 EPP 1.7)

bit 5: activate IRQ (1 IRQ disabled, 0 IRQ enabled)

bit 6: disable chipset specific detection

bit 7: disable FIFO detection

### Supported chipsets

Some parallel port chipsets are explicitly supported: detection and initialisation code has been written according to their datasheets.

- SMC FDC37C665GT and FDC37C666GT chipsets
- Natsemi PC873xx-family (PC87332 and PC87306)
- Winbond W83877xx-family (W83877F and W83877AF)
- SMC-like chipsets with mixed modes (see `ppbus(4)`)

### Adding support to a new chipset

You may want to add support for the newest chipset your motherboard was sold with. For the ISA bus, just retrieve the specs of the chipset and write the corresponding `ppc_mychipset_detect()` function. Then add an entry to the general purpose `ppc_detect()` function.

Your `ppc_mychipset_detect()` function should ensure that if the mode field of the `flags` boot variable is not null, then the operating mode is forced to the given mode and no other mode is available and `ppb->ppb_avm` field contains the available modes of the chipset.

### SEE ALSO

`ppbus(4)`, `ppi(4)`, `device.hints(5)`

### HISTORY

The `ppc` manual page first appeared in FreeBSD 3.0.

### AUTHORS

This manual page was written by Nicolas Souchu.

### BUGS

The chipset detection process may corrupt your chipset configuration. You may disable chipset specific detection by using the above flags.