

**NAME**

**ukbd** - USB keyboard driver

**SYNOPSIS**

To compile this driver into the kernel, place the following line in your kernel configuration file:

```
device ukbd
device hid
device usb
```

Alternatively, to load the driver as a module at boot time, place the following line in loader.conf(5):

```
ukbd_load="YES"
```

**DESCRIPTION**

The **ukbd** driver provides support for keyboards that attach to the USB port. `usb(4)` and one of `uhci(4)` or `ohci(4)` must be configured in the kernel as well.

**CONFIGURATION**

By default, the keyboard subsystem does not create the appropriate devices yet. Make sure you reconfigure your kernel with the following option in the kernel config file:

```
options KBD_INSTALL_CDEV
```

If both an AT keyboard USB keyboards are used at the same time, the AT keyboard will appear as *kbd0* in */dev*. The USB keyboards will be *kbd1*, *kbd2*, etc. You can see some information about the keyboard with the following command:

```
kbdcontrol -i < /dev/kbd1
```

or load a keymap with

```
kbdcontrol -l keymaps/pt.iso < /dev/kbd1
```

See `kbdcontrol(1)` for more possible options.

You can swap console keyboards by using the command

```
kbdcontrol -k /dev/kbd1
```

From this point on, the first USB keyboard will be the keyboard to be used by the console.

If you want to use a USB keyboard as your default and not use an AT keyboard at all, you will have to remove the **device atkbd** line from the kernel configuration file. Because of the device initialization order, the USB keyboard will be detected *after* the console driver initializes itself and you have to explicitly tell the console driver to use the existence of the USB keyboard. This can be done in one of the following two ways.

Run the following command as a part of system initialization:

```
kbdcontrol -k /dev/kbd0 < /dev/ttyv0 > /dev/null
```

(Note that as the USB keyboard is the only keyboard, it is accessed as */dev/kbd0*) or otherwise tell the console driver to periodically look for a keyboard by setting a flag in the kernel configuration file:

```
device sc0 at isa? flags 0x100
```

With the above flag, the console driver will try to detect any keyboard in the system if it did not detect one while it was initialized at boot time.

## DRIVER CONFIGURATION

**options KBD\_INSTALL\_CDEV**

Make the keyboards available through a character device in */dev*.

**options UKBD\_DFLT\_KEYMAP**

**makeoptions UKBD\_DFLT\_KEYMAP=fr.iso**

The above lines will put the French ISO keymap in the ukbd driver. You can specify any keymap in */usr/share/syscons/keymaps* or */usr/share/vt/keymaps* (depending on the console driver being used) with this option.

**options KBD\_DISABLE\_KEYMAP\_LOADING**

Do not allow the user to change the keymap.

**options KBD\_DELAY1=200**

Set the keyboard initial key repeat delay.

**options KBD\_DELAY2=15**

Set the keyboard key repeat delay.

Note that these options also affect the AT keyboard driver, `atkbd(4)`.

**SYSCTL VARIABLES**

The following variables are available as both `sysctl(8)` variables and `loader(8)` tunables:

*hw.usb.ukbd.debug*

Debug output level, where 0 is debugging disabled and larger values increase debug message verbosity. Default is 0.

**FILES**

*/dev/kbd\** blocking device nodes

**EXAMPLES****device ukbd**

Add the **ukbd** driver to the kernel.

**SEE ALSO**

`kbdcontrol(1)`, `ohci(4)`, `syscons(4)`, `uhci(4)`, `usb(4)`, `vt(4)`, `config(8)`

**AUTHORS**

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