

USB -> PS/2

Source: <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/questions/2003-08/2954.html>

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Date: 08/30/03

Date: Sat, 30 Aug 2003 13:51:27 +0200
To: questions@freebsd.org, hackers@freebsd.org

I just bought a USB -> PS/2 keyboard and mouse converter for my laptop. It's a Sitecom brand and it gets recognised as MCT Corp.

addr 1: UHCI root hub, Intel
addr 2: Generic USB Hub, ALCOR
addr 4: HID-compliant Mouse (USB), Mitsumi
addr 3: PS/2 - USB Interface Adaptor, MCT Corp.

Although the keyboard works, the mouse doesn't. I tried to plug two types of mice (a Microsoft 2 buttons and a Trust 3 buttons) but both, while generating traffic on the USB bus (the converter LED blinks), don't move the pointer.

This is the usbd log:

```
uhub1: ALCOR Generic USB Hub, class 9/0, rev 1.10/3.12, addr 2
uhub1: 4 ports with 4 removable, bus powered
ums0: Mitsumi HID-compliant Mouse (USB), rev 1.00/1.10, addr 3, iclass 3/1
ums0: 2 buttons
ukbd0: MCT Corp. PS/2 - USB Interface Adaptor, rev 1.10/1.00, addr 4, iclass 3/1
kbd1 at ukbd0
ums1: MCT Corp. PS/2 - USB Interface Adaptor, rev 1.10/1.00, addr 4, iclass 3/1
ums1: 3 buttons and Z dir.
```

Moused is there:

```
179 ?? Ss 0:05.83 /usr/sbin/moused -3 -p /dev/ums0 -I /var/run/moused.ums0.pid
209 ?? Ss 0:05.57 moused -3 -p /dev/psm0 -t auto
237 ?? Is 0:00.01 /usr/sbin/moused -p /dev/jogdial -t jogdial
370 ?? Ss 0:10.21 /usr/sbin/moused -3 -p /dev/ums1 -I /var/run/moused.ums1.pid
```

(The PS/2 mouse is either the first or the last one.)

This is on a FreeBSD 4.9-PRERELEASE. On Windoze the converter works out of the box, with keyboard and mouse, without additional drivers.

Does anybody know how to make the PS/2 mouse work?

freebsd-questions: USB -> PS/2

BTW, usbd, as it is, is not suitable to handle devices like this PS/2 adapter because it matches and executes only one entry in the usbd.conf. USB devices implementing multiple features are in my humble opinion better handled matching multiple entries in usbd.conf. Below I attached a patch to usbd.c to change this behaviour (hence the crossposting to the hackers list).

Cheers,

```
--
walter pelissero
http://www.pelissero.de
--- /usr/src/usr.sbin/usbd/usbd.c      Tue Dec 31 10:05:27 2002
+++ usbd.c                            Sat Aug 30 13:43:23 2003
@@ -102,6 +102,7 @@

    int lineno;
    int verbose = 0;                /* print message on what it is doing */
+int single_action = 0;

    typedef struct event_name_s {
        int      type;              /* event number (from usb.h) */
@@ -204,8 +205,7 @@
    void print_event      __P((struct usb_event *event));
    void print_action    __P((action_t *action, int i));
    void print_actions   __P((void));
-int find_action        __P((struct usb_device_info *devinfo,
-                             action_match_t *action_match));
+void execute_command   __P((char *cmd));

    void
@@ -697,9 +697,8 @@
        return(-1);
    }

-
-int
-find_action(struct usb_device_info *devinfo, action_match_t *action_match)
+void
+execute_actions (struct usb_device_info *devinfo, int event_type)
    {
        action_t *action;
        char *devname = NULL;
@@ -722,6 +721,8 @@
        (match = match_devname(action, devinfo)) != -1) {
            /* found match !*/

+
+            if (verbose >= 2)
+                print_action(action, 0);
            /* Find a devname for pretty printing. Either
             * the matched one or otherwise, if there is only
             * one devname for that device, use that.
@@ -735,21 +736,37 @@
            if (verbose) {
                printf("%s: Found action '%s' for %s, %s",
-                    __progname, action->name,
-                    devinfo->udi_product, devinfo->udi_vendor);
+                    __progname, action->name,
```

freebsd-questions: USB -> PS/2

```
+         devinfo->udi_product, devinfo->udi_vendor);
+         if (devname)
+             printf(" at %s", devname);
+         printf("\n");
+     }
-
-     action_match->action = action;
-     action_match->devname = devname;
+     if (devname) {
+         int error;
+         if (verbose >= 2)
+             printf("%s: Setting DEVNAME='%s'\n",
+                 __progname, devname);
+         error = setenv("DEVNAME", devname, 1);
+         if (error)
+             fprintf(stderr, "%s: setenv(\"DEVNAME\",
+                 \"%s\",1) failed, %s\n",
+                 __progname, devname, strerror(errno));
+     }
-
-     return(1);
+     if (USB_EVENT_IS_ATTACH(event_type) && action->attach)
+         execute_command(action->attach);
+     if (USB_EVENT_IS_DETACH(event_type) && action->detach)
+         execute_command(action->detach);
+     if (single_action) {
+         printf("single action mode: done\n");
+         return;
+     } else {
+         printf("looking for more actions\n");
+     }
+ }
+ }
-
-     return(0);
+ }

void
@@ -881,30 +898,7 @@
    break;
    case USB_EVENT_DEVICE_ATTACH:
    case USB_EVENT_DEVICE_DETACH:
-         if (find_action(&event.u.ue_device, &action_match) == 0)
-             /* nothing found */
-             break;
-
-         if (verbose >= 2)
-             print_action(action_match.action, 0);
-
-         if (action_match.devname) {
-             if (verbose >= 2)
-                 printf("%s: Setting DEVNAME='%s'\n",
-                     __progname, action_match.devname);
-
-             error = setenv("DEVNAME", action_match.devname, 1);
-             if (error)
-                 fprintf(stderr, "%s: setenv(\"DEVNAME\", \"%s\",1) failed
-                     __progname, action_match.devname, strerror(errno)
-                 }
-
-         if (USB_EVENT_IS_ATTACH(event.ue_type) &&
-             action_match.action->attach)
```

freebsd-questions: USB -> PS/2

```
-         execute_command(action_match.action->attach);
-         if (USB_EVENT_IS_DETACH(event.ue_type) &&
-             action_match.action->detach)
-             execute_command(action_match.action->detach);
+         execute_actions(&event.u.ue_device, event.ue_type);
+         break;
        case USB_EVENT_DRIVER_ATTACH:
            if (verbose)
@@ -944,7 +938,7 @@
            }
        }

-         while ((ch = getopt(argc, argv, "c:def:nt:v")) != -1) {
+         while ((ch = getopt(argc, argv, "c:def:nst:v")) != -1) {
            switch(ch) {
                case 'c':
@@ -965,6 +959,9 @@
                    configfile = strdup(optarg);
                    break;
                case 'n':
                    handle_events = 0;
                    break;
+                 case 's':
+                     single_action = 1;
+                     break;
                case 't':
                    itimeout = atoi(optarg);
```

freebsd-questions@freebsd.org mailing list

<http://lists.freebsd.org/mailman/listinfo/freebsd-questions>

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