

Fedora Core Linux 1.0 and Mandrake Linux 9.2 USB Video Camera Usage Guide

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1. Summary

This document describes how to enable the USB Video camera in Fedora Core Linux 1.0 and Mandrake Linux 9.2 with VIA's VT8231, VT8233, VT8235 and VT8237 south bridge chips. The built-in XawTV application is utilized to display the video output. The information in this document is provided "AS IS," without guarantee of any kind.

2. USB Camera Setup

Check the system's BIOS setting and make sure the option **[OnChip USB Controller]** is enabled, or else the USB device won't work. Fedora Core Linux 1.0 and Mandrake Linux 9.2 supports some USB video camera built-in drivers.

After plugging-in the USB camera, the system will detect the device and load the necessary modules automatically.

The system will load the USB core supported modules, including the USB UHCI host controller, and the Video device supported modules. To verify whether the USB video camera works properly, read the `/proc/bus/usb/devices` file to see if it contains the related USB device information as below:

```
I: If#= 0 Alt= 0 #EPs= 1 Cls=ff(vend.) Sub=ff Prot=ff Driver=ibmcam
E: Ad=81(I) Atr=01(Isoc) MxPS= 0 Ivl=1ms
```

3. Use XawTV to display USB camera video

The first step is to check whether the video device is present. In most cases, the video device should exist already. If not, run the following commands to create and set up the video device.

```
# mknod /dev/video0 c 81 0
# chmod 666 /dev/video
# chmod 666 /dev/video0
```

Both Fedora Core Linux 1.0 and Mandrake Linux 9.2 have the built-in XawTV application for displaying video of the USB camera. If during the OS installation process the XawTV package was not installed, the system will not have the XawTV utility.

Fortunately, you may run “**Add/Remove Applications**” in Fedora Core Linux 1.0 or the **rpmdrake** (selecting through [Configuration]/[Packing]/[Install Software]) in Mandrake Linux 9.2 to install the XawTV package anytime from the installation CD; or run “rpm -U” to import it.

Alternatively, users can download the latest XawTV application (e.g., ver 3.91 or later) from the website at <http://linux.bytesex.org/xawtv/>. User can run the command below to start the XawTV:

```
# xawtv -c /dev/video0
```

If using the built-in application, open up a terminal in the X-Window environment. Run the “**xawtv**” command and there should be a pop-up window with the camera scenes. Right click your mouse button for the option dialog, which allows you to adjust parameters such as “**brightness**”, “**hue**”, and “**color**”.

6. USB Camera Test Result in XawTV

The following table summarizes the test result on VIA’s south bridge chips VT8231, VT8233, VT8235 and VT8237 in two different OS.

| OS Chipset | Fedora Core 1 | Mandrake 9.2 |
|-----------------------------|----------------------|---------------------|
| VT8231 | Pass | Pass* |
| VT8233 | Pass | Pass* |
| VT8235 | Pass | Pass* |
| VT8237 | Pass | Pass* |

Note

In this test, we choose three USB Web Cameras, the OVT USB Camera (ov511), Earthlink/Sprint PC Camera and FastCam USB Camera. The Mandrake Linux 9.2 build in ov511 driver cannot work normal when used the OVT USB Camera (ov511).

7. Test configuration

The following systems were used for testing.

(1) VT8231

| | |
|--------------|--|
| Mother Board | EPIA 5000 (VT8601+VT8231) |
| CPU | C3 533A MHz |
| Memory | Kingston 128 MB SDRAM |
| HDD | Seagate ST320414A |
| Video Camera | OVT USB Camera (ov511), Earthlink/Sprint PC Camera FastCam USB Camera |

(2) VT8233

| | |
|--------------|--|
| Mother Board | VT8092D (CLE266+VT8233) |
| CPU | C3 933A MHz |
| Memory | 128 MB DDR |
| HDD | Seagate ST320414A |
| Video Camera | OVT USB Camera (ov511), Earthlink/Sprint PC Camera FastCam USB Camera |

(3) VT8235

| | |
|--------------|--|
| Mother Board | EPIA-MII 10000 (CLE266+VT8235) |
| CPU | C3-2 1 GHz |
| Memory | 128 MB DDR |
| HDD | Seagate ST320414A |
| Video Camera | OVT USB Camera (ov511), Earthlink/Sprint PC Camera FastCam USB Camera |

(4) VT8237

| | |
|--------------|--|
| Mother Board | EPIA-SP (CN400+VT8237) |
| CPU | C3-2 1.2 GHz |
| Memory | 128 MB DDR |
| HDD | Seagate ST320414A |
| Video Camera | OVT USB Camera (ov511), Earthlink/Sprint PC Camera FastCam USB Camera |