# DVI-Ramp2 Software installation under Linux

## USB setup for the DVI-Ramp2 under Linux

**You must have "root" privileges before you continue.**

### Files Required

The files required in this section can be found on the Miranda web site.  They are described below.

**DVI-Ramp2_Linux_USB_files.zip**          This section requires files found in this archive.

### Linux Requirements

- Udev
- Hotplug
- /dev/MAKEDEV

**Note**:   Any recent Linux distribution has these pre-installed. You should check the documentation of your Linux distribution for the location of the directories mentioned in this document.

**Note**:   The procedure described in this document was tested on Fedora Core3 but should be similar with other recent distributions such as Ubuntu (but that hasn't been verified).

### Steps

Follow the steps below to setup the USB communication with the DVI-Ramp2 under Linux.

- Download the "DVI-Ramp2_Linux_USB_files.zip" file and extract its content in a temporary directory.

- Edit "/etc/rc.local" file to add the following 5 lines at the end.  This will detect DVI-ramp2 units at power-up.

```
if /sbin/lsusb | grep -q "1a58:0001"
  then
    /dev/MAKEDEV ttyUSB
    ln -s /dev/ttyUSB0 /dev/dviramp2-0
fi
```

- Edit /etc/modprobe.conf to add the following 2 lines: (this is to load the "usbserial" kernel module when a DVI-Ramp2 unit is detected) .

```
alias /dev/ttyUSB*      usbserial
options usbserial vendor=0x1a58 product=0x0001
```

- Put the files "dviramp2" and "dviramp2.usermap" under /etc/hotplug/usb.  This is to support hotplug operation.

- Put the file "11-miranda.rules" under /etc/udev/rules.d/.  This creates dviramp2-* symbolic links with hotplug.

- Power-up the DVI-Ramp2 unit and connect it to the PC with a USB cable.  A symbolic link (/dev/dviramp2-[0-9]) should be created to the correct /dev/ttyUSB[0-9]

# Running the DVI-Ramp2 application

## Files Required

The files required in this section can be found on the Miranda web site.  They are described below.

**DVI-Ramp2_Software.zip**   This archive contains the generic Java application to control the DVI-Ramp2 and the associated release notes.  This application depends on the proper USB setup of the previous section.

**<Java Virtual Machine (JVM)>**  A Java Virtual Machine is required to run the application.

**rundviramp2_ctrl.sh**   This is a shell script to start the application under Linux.

## Steps

1. Make sure an appropriate Java Virtual Machine is installed. Version 6 and higher is recommended.  You can use the file "jre-6u1-linux-i586.bin" or download the latest JVM from the Java web site.

2. Download the file "DVI-Ramp2_Software.zip" and unzip it in a known directory (<workdir>).

3. Download the file "rundviramp2_ctrl.sh" and copy it in <workdir>.

4. From a command prompt, change directory to <workdir> and do a "chmod a+x" to the file "rundviramp2_ctrl.sh" to make it executable.

5. Execute "rundviramp2_ctrl.sh" to launch the application.

# DVI-Ramp2 Firmware Update

## Files Required

A firmware update requires the launching of the Java application.  See "Running the DVI-Ramp2 application" for the required files to launch the application.

**<Firmware update package>**     This is a zip file containing the new firmware to be programmed into the unit.  The available firmware packages are found on the Miranda web site.

## Steps

1.  Power-up the DVI-Ramp2 and connect it to the PC with a USB cable.

2.  Launch the DVI-Ramp2 Software as described in "Running the DVI-Ramp2 application"**.**

3.  Go to menu "Tools->DVI-Ramp$^2$ Updater" (Ctrl+U).

4.  Select COM port (/dev/ttyS* or /dev/ttyUSB* under linux) of the unit to update.

5.  Click on the "Load..." button to select the firmware update package (.zip file).

6.  Click on the "Update" button.

7.  Wait for update process to complete (a few minutes).

**NOTE**:  If updating through USB, make sure DVI-Ramp2 unit is connected directly to the PC or to a USB Hub which is connected to the PC directly (not a PCI-USB card). There are reports of firmware update failure caused by PCI-USB cards.

**NOTE**:  If updating through USB, make sure no RS232 dongle is connected to the unit. If an RS232 dongle was connected during a firmware update, the updated application will not be able to communicate through USB with the DVI-Ramp2 unit. If an RS232 dongle was present, simply quit the application, unplug the RS232 dongle and reset unit before retrying.

# SafeBoot Mode

This mode is a fallback in case the unit can't power-up into its normal operating mode.  This can be caused by a corrupted firmware (bad file, power failure during update process,…).  SafeBoot mode has no useful functionality except the ability to upgrade to a new firmware.

## Getting into SafeBoot Mode

- Turn off unit.
- Insert a paper clip through the hole above the "ETH" and "USB/RS232" LEDs .  The pressure on the paper clip is to press a "Reset" button.
- Power on unit while still pressing the "Reset" button.  At this point, the unit will power-up in SafeBoot : USB communications is up, USB/RS232 LED is amber, ETH LED is off and all other LEDs are Red.
- You can now use the standard procedure described in "DVI-Ramp2 Firmware Update" to update the firmware.

**NOTE**:  To get out of SafeBoot Mode, either load a new firmware or simply Power-Cycle the unit (without pressing the "Reset" button).