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BigMc

Tascam US-144

These instructions explain the steps necessary for using the Tascam US-144 on Linux. They should be helpful, no matter what Linux distribution you are using. If you are not using Ubuntu, some details may differ.

There are two requirements:

- Linux kernel 2.6.33 or higher
- ehci-hcd has to be disabled. (see below)

Everything else is exactly like with the Tascam US-122L, which usage is described in the last part. Notice that the US-144 will actually run as an US-122L: The digital channels won't work.

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Disabling ehci-hcd

The driver for the US-144 only works when on uhci-hcd (USB 1.1), so ehci-hcd (USB 2.0) has to be disabled.

First, you should know that you can check wheather ehci-hcd or uhci-hcd is used by typing

```
dmesg
```

after plugging a device in.

Method 1: Using old USB hardware

A good way to enforce USB 1.1 is plugging the US-144 into an old USB-1.1-only Hub. Used ones are often available on eBay. Other USB 2.0 devices are not affected. It also works with USB 1.1 PCI cards etc.

Method 2: Unbinding one USB controller from ehci-hcd

If no USB 1.1 controller is available, no problem, every USB controller can be unbound from ehci-hcd. If only one USB controller is available, this means that no device will be able to use USB 2.0. If you have more than one USB controller in your computer, you only need to unbind one from ehci-hcd and can still use other devices with USB 2.0 support enabled on the other controllers.

Lets see if you have ehci-hcd-aware USB controllers and how they are numbered:

```
ls /sys/bus/pci/drivers/ehci_hcd
```

Your USB 2.0 controllers should be shown as "0000:00:**.*" (replace *). You can unbind a USB controller from ehci-hcd with

```
echo -n 0000:00:**.* | sudo tee -a /sys/bus/pci/drivers/ehci_hcd/unbind
```

Rebinding (undoing the previous command) is done with:

```
echo -n 0000:00:**.* | sudo tee -a /sys/bus/pci/drivers/ehci_hcd/bind
```

You should only need to unbind one controller. Check with 'dmesg' which controller has to be unbound in order to make uhci-hcd being used.

After rebooting the controllers are bound to ehci-hcd again, so you have to unbind again or automate this.

Method 3: Completely unloading ehci-hcd

If you experience problems using method 2, there is still the possibility of unloading the module ehci-hcd. If you have only one USB controller, this has the same effect as method 1. In recent versions of Ubuntu and other distros they started building ehci-hcd into the kernel, which makes it necesarry to recompile the kernel with ehci-hcd as a module in order to have the possibility of unloading it.

Test wheather ehci-hcd is a module:

```
sudo rmmod ehci-hcd
```

If this returns..

- ...nothing: ehci-hcd is a module.
- ```
  ERROR: Module ehci-hcd does not exist in /proc/modules
  ```

  Recompile your Kernel with ehcd-hcd as a module: Instructions for Ubuntu (german) Change "*Device Drivers -> USB support -> EHCI HCD (USB 2.0) support)*" to "M" when configuring. Make sure you also install the kernel headers.

Now you have to disable ehci-hcd after every reboot with

```
sudo rmmod ehci-hcd
```

when you want to use the US-144.

Final setup of US-122L/US-144

Now you have the right module and you can go on as follows. These instructions apply also to the Tascam US-122L and are based on steps 3 to 5 of Phils installation recommendations.

1. Check how many sound cards are already installed:
   ```
   cat /proc/asound/cards
   ```
   ```

```
 0 [Intel          ]: HDA-Intel - HDA Intel
                      HDA Intel at 0xf0500000 irq 30
```

In this case there is only one soundcard and its number is 0, so the Tascam will get CARDNR 1.

2. Copy the following lines to the file **~/.asoundrc** (in your home directory), replacing CARDNR with the number determined in the previous step.

```
# The usb_stream plugin configuration

pcm.!usb_stream {
        @args [ CARD ]
        @args.CARD {
                type string
                default "CARDNR"
        }

        type usb_stream

        card $CARD
}

ctl.!usb_stream {
        @args [ CARD ]
        @args.CARD {
                type string
                default "CARDNR"
        }

        type hw

        card $CARD
}
```

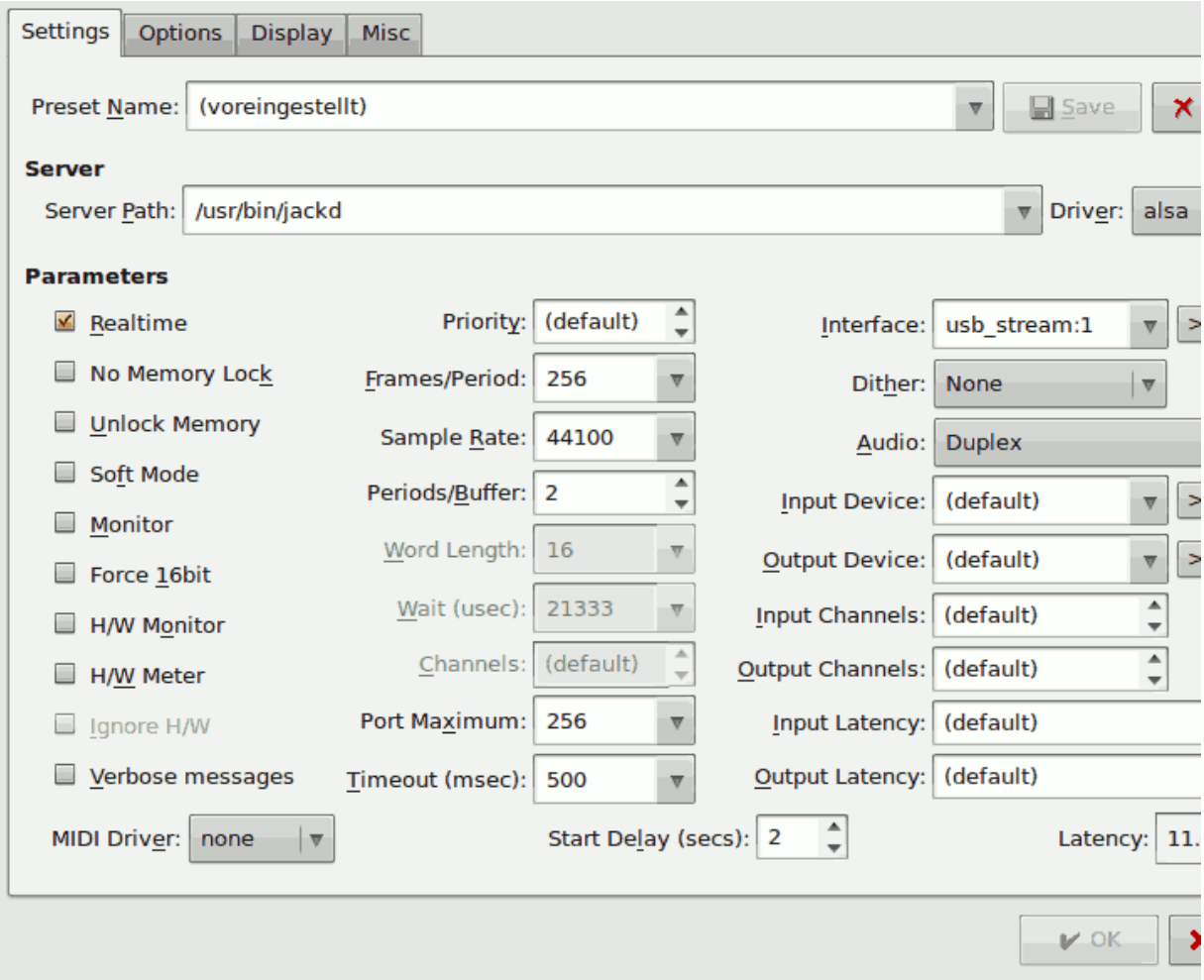
3. Plug in your Tascam and see if it's recognized:

```
cat /proc/asound/cards
```

```
 0 [Intel          ]: HDA-Intel - HDA Intel
                      HDA Intel at 0xf0500000 irq 30
 1 [US122L         ]: USB US-122L - TASCAM US-122L
                      TASCAM US-122L (644:800f if 0 at 005/002)
```

Looks good...

4. Use the following settings for QjackCtl (the Tascam US-122L and US-144 only work with Jack). Explicitly type "usb_stream:CARDNR" into the "*Interface*" field!



Hints:

- Increase "*Frames/Period*" if you get xruns / dropouts.
- For the "*Realtime*" option to work you need some extra rights that can be gained as follows:
  - Add the following lines to the end of the file **/etc/security/limits.conf**

```
@audio          -       rtprio          99
@audio          -       nice            -19
@audio          -       memlock         unlimited
# End of file
```

    This will assign the rights needed for realtime operation to the group "audio".
  - Add your user to the group:

```
sudo usermod -a -G audio USERNAME
```

  - Reboot.

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