USB audio DAC with Udev and Pulse

This is a brief description of how to get various Usb Audio DACs (dongle with usb c -> 3.5mm audio jack). Running. Based on https://www.oesf.org/forum/index.php?topic=35327.0

To use a USB DAC (digital-analog audio converter) in Sailfish OS it is necessary to set up udev to respond to the device being plugged in and turn off the internal sound card.

Some devices like the Fairphone 4/5 (possibly the xperia 10iii) may already be working without issue.

On an xperia 10iii or a Volla22, as of January 2026, you need to become root and follow these steps:

1. become root

```
devel-su
```

2. check or modify the file /etc/pulse/arm_droid_card_custom.pa to contain

```
load-module module-droid-card rate=48000 hw_volume=false unload_call_exit=true output_voip_rx=false
record_voice_16k=true
load-module module-udev-detect
```

3. make sure pulse audio has usb audio configured with the file /etc/pulse/xpolicy.conf.d/usbaudio.conf By default it is already available but disabled. It should be symlinked as follows:

```
cd /etc/pulse/xpolicy.conf.d/
ln -s usbaudio.conf.disabled usbaudio.conf
```

That's it unless your device does not have a udev rule at: /lib/udev/rules.d/99-pulseaudio-ignore-builtin-card.rules

 All currently supported official Sailfish OS devices have the udev rule needed for USB audio. The Volla22 does not. To make one:

1. Find the device id for the internal audio card:

```
devel-su
cat /sys/class/sound/card0/id
mt6768mt6358 # volla22
```

2. Create a udev rule file:

either with a single commend (echo places the text betwee ' ' into > the file /.....)

```
echo 'KERNEL=="card0", SUBSYSTEM=="sound", ATTR{id}=="mt6768mt6358", ENV{PULSE_IGNORE}="1"' > /etc/udev/rules.d/89-pulseaudio-usb.rules
```

Rules for other cases (ie. xperia 10ii).

as root:

```
devel-su
```

modify the udev rules file

```
vi /etc/udev/rules.d/89-pulseaudio-usb.rules
```

with the following

```
ACTION=="add", SUBSYSTEM=="sound", RUN+="/usr/local/bin/udev-create-flag"
ACTION=="change", SUBSYSTEM=="sound", RUN+="/usr/local/bin/udev-create-flag"
```

Create a flag file

```
vi /usr/local/bin/udev-create-flag
```

with contents

```
#!/bin/sh
# called by udev (runs as root)
# write a flag in the user's runtime dir so the user service notices it
USER="defaultuser"
FLAG="/run/user/$(id -u "$USER")/usb-dac-connected.flag"
mkdir -p "$(dirname "$FLAG")"
```

```
touch "$FLAG"
```

make it executable and create the script to trigger the dac (or set volume, for instance)

```
chmod 755 /usr/local/bin/udev-create-flag
```

```
vi /usr/local/bin/set-usb-dac-volume.sh
```

with content this version is NOT setting volume, just making sure the dac is seen

```
#!/bin/sh
sleep 2
/usr/bin/pactl load-module module-udev-detect
```

or for also setting volume (apple dongle for instance) add

```
# !!! update sink name to yours - it contains unique serial number !!! `pacmd list-sinks|grep alsa_output.usb`
# someone could improve this to autotdetec script
sleep 2
/usr/bin/pactl load-module module-udev-detect
pactl set-sink-volume alsa_output.usb-Apple__Inc._USB-
C_to_3.5mm_Headphone_Jack_Adapter_DWH504202DRL1MQAF-00.analog-stereo 100%
```

make it executable

```
chmod 755 /usr/local/bin/set-usb-dac-volume.sh
```

Now create the systemd triggers (these are prompted by the udev create flag script)

you may need to make the directories first:

```
mkdir /home/defaultuser/.config/systemd/user
```

```
vi /home/defaultuser/.config/systemd/user/usb-dac-volume.path
```

with contents

```
[Unit]
Description=Watch for USB DAC flag
[Path]
PathExists=/run/user/%U/usb-dac-connected.flag
Unit=usb-dac-volume.service
[Install]
WantedBy=default.target
```

```
vi /home/defaultuser/.config/systemd/user/usb-dac-volume.service
```

with contents

```
[Unit]
Description=Run USB DAC volume script when flag present
After=default.target
[Service]
Type=oneshot
Environment=XDG_RUNTIME_DIR=%t
ExecStart=/usr/local/bin/set-usb-dac-volume.sh
ExecStartPost=/bin/rm -f /run/user/%U/usb-dac-connected.flag
TimeoutStartSec=60
[Install]
WantedBy=default.target
```

and enable

```
systemctl --user daemon-reload
systemctl --user enable --now usb-dac-volume.path
```

You should now have automatic switching between internal and usb dacs.

Article discussion: USB DAC playback on Sailfish OS Forum

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