

Home-Server als Multimediazentrale



Martin Strohmayer

Home-Server Hardware

x86

HP ProLiant N40L MicroServer

~200 €



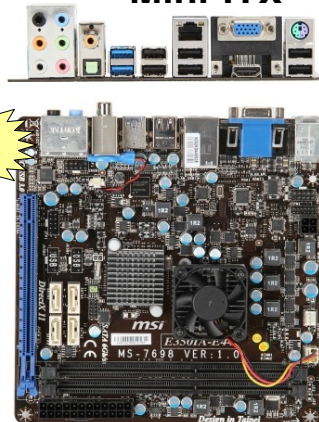
2x1,5 GHz / 2 GB RAM

AMD Turion II Neo
ECC DDR3 RAM
SATA II – RAID 0,1 mit 4 Ports
1Gbit Ethernet
E-Sata
Erweiterungsmöglichkeiten

Leistungsaufnahme Idle (~17 Watt)

AMD E-350 Mini-ITX

~80 €



MSI E350IA-E44

2x1,6 GHz / bis 8 GB RAM

AMD E-350 1,6GHz
DDR3 RAM
SATA III mit 4 Ports
1Gbit Ethernet
E-Sata und USB 3.0
HDMI
Preis
Leistungsaufnahme Idle (~10 Watt)

ARM

Future ARM Devices

Preis

Composite Ausgang
HDMI

Verfügbarkeit

ARMv6 (ARM 11)
Netzwerk über USB
angebunden

ARMv7 (Cortex A8)

1Gbit Ethernet
SPDIF
E-Sata
HDMI
Infrarot Empfänger
Inkl. Gehäuse

Verfügbarkeit

Import (Einfuhrumsatzsteuer)

ARMv7 (Cortex A8)

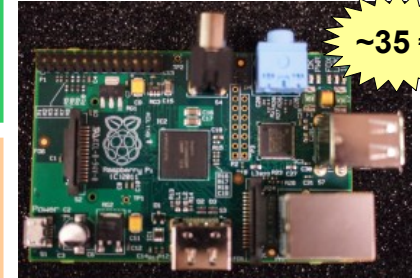
Ethernet nicht über USB

Verfügbarkeit

HDMI (Optional)

Raspberry pi

~35 €



700 MHz / 256 MB RAM

cuBox

~99 €



800 MHz / 1GB RAM

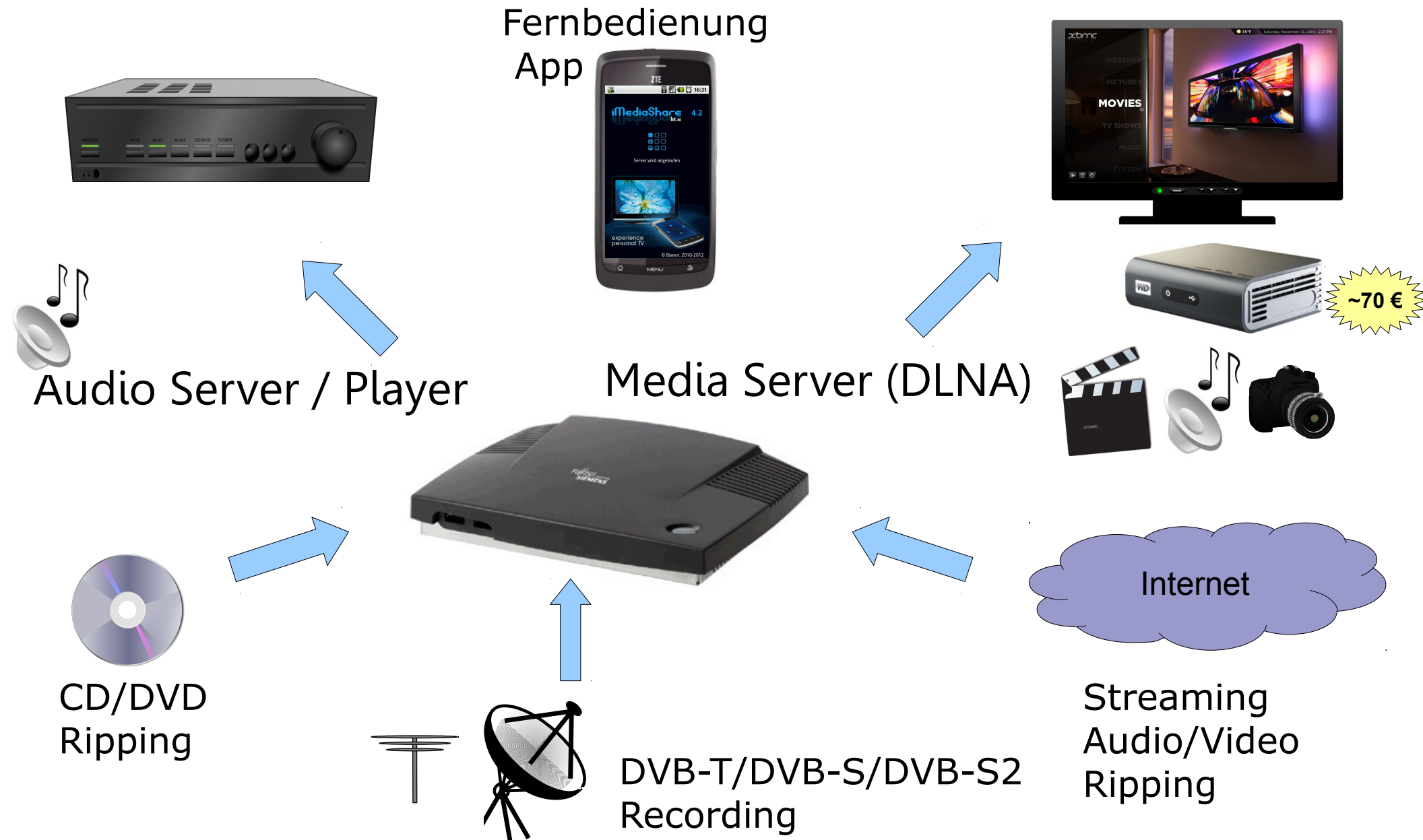
BeagleBone

~88 €



720 MHz / 256 MB RAM

Home-Server Multimedia Aufgaben



Debian Multimedia Repository

Infos auf <http://debian-multimedia.org/>

/etc/apt/sources.list

```
deb http://www.debian-multimedia.org squeeze main non-free
```

```
apt-get update  
apt-get install debian-multimedia-keyring  
apt-get update
```

Programme

handbrake-cli	versatile DVD ripper and video transcoder (command line)
handbrake-gtk	versatile DVD ripper and video transcoder (GTK GUI)
ffmpeg converter	audio/video encoder, streaming server & audio/video file
lame	LAME Ain't an MP3 Encoder
avidemux	A free video editor (GTK version)

Und viel mehr...

CD Ripping

Installation: apt-get install abcde lame vorbis-tools id3v2 eyed3

/etc/abcde.conf

```
LAME=lame
#ID3V2=id3v2
ID3V2=eyed3
CDPARANOIA=cdparanoia
ID3V2OPTS="--set-encoding=latin1 --to-v2.3"
LAMEOPTS="--preset standard"
CDROM=/dev/scd0
OUTPUTDIR="/data/incoming/cd-rip"
OUTPUTTYPE=mp3
OUTPUTFORMAT='${ARTISTFILE} - ${ALBUMFILE}/${TRACKNUM} - ${TRACKFILE}'
VAOUTPUTFORMAT='${ALBUMFILE}/${TRACKNUM} - ${ARTISTFILE} - ${TRACKFILE}'
```

abcde

Which entry would you like abcde to use (0 for none)? [0-2]: 1

Edit selected CDDb data? [y/n] (n): n

Is the CD multi-artist? [y/n] (n): n

DVD Ripping

Installation: `apt-get install vobcopy libdvdcss2 handbrake-cli handbrake-gtk`

DVD Kopie

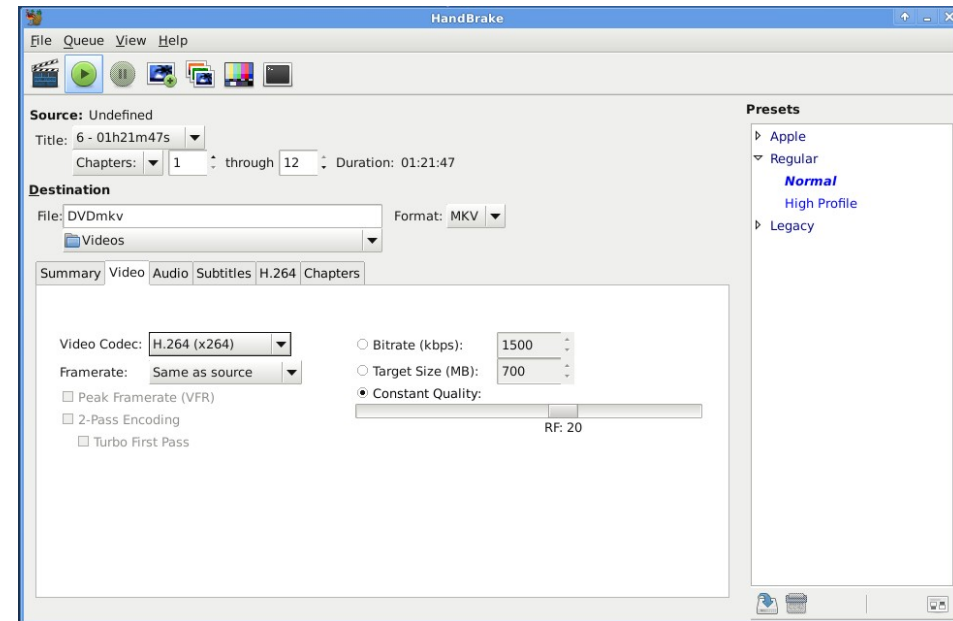
```
dd if=/dev/scd0 of=DVDName.iso
```

VOB Kopie

```
mount /dev/scd0 /mnt/  
vobcopy -v -m -t DVDName -o /data/video/
```

Video Transcoding

```
HandBrakeCLI -e x264 -E copy -q 20 --loose-anamorphic -w 720 -i /dev/scd0  
-t 6 -a 1-6 -o DVDName.mkv
```



Audio/Video Streaming - mmsrip

Installation

**wget <http://nbenoit.tuxfamily.org/projects/mmsrip/debs/mmsrip-0.7.0-1-i386.deb>
dpkg -i mmsrip-0.7.0-1-i386.deb**

oder

wget <http://evilx99.ev.funpic.de/linux/mmsrip/mmsrip-0.7.1.tar.gz>

Radio Stream

ORF Streams: <http://radio.orf.at/>

Ö3 Video: mms://apasf.apa.at/oe3_live

Ö3 Audio: mms://apasf.apa.at/oe3_live_Audio

Aufruf

mmsrip -q -o/data/audio/oe3.wma -d 3600 mms://apasf.apa.at/oe3_live_Audio

ORF TVThek

ORF TVThek → Video HTML Seite → ASX Datei → mms Stream Link

Aufruf

mmsrip <mms://apasf.apa.at/cms-worldwide/Filename.wmv>

Audio Streaming - streamripper

Installation: apt-get install streamripper

Eigenschaften

- Unterstützung vieler Formate (MP3, OGG, AAC)
- Automatische Benennung und Trennung der Lieder

Radio Stream

Österreichische Radio Streams: <http://www.listenlive.eu/austria.html>

Sky.fm Radio Streams MP3-Format (JSON): <http://listen.sky.fm/public3>

Aufruf

streamripper <http://mp3stream7.apasf.apa.at:8000/> -A -s -a oe3.mp3 -l 120
streamripper <http://netradio01.soundportal.at:8100/new.aacp>

DVB-T Recording

Hardware

MSI DIGIVOX mini II V3.0 (Chip: Afatech AF9015)

Voraussetzung

Kernel $\geq 2.6.28$ (Debian Lenny Backport oder Squeeze)

USB 2.0/1.1

DVB-T Empfang



Installation

```
apt-get install dvb-apps dvbsnoop ffmpeg perl
```

```
wget http://www.kernel.org/doc/Documentation/dvb/get\_dvb\_firmware
```

```
cd /lib/firmware
```

```
perl get_dvb_firmware af9015
```

Betrieb

```
scan /usr/share/dvb/dvb-t/at-Official > /etc/dvb-t_channels.conf
```

```
tzap -c /etc/dvb-t_channels.conf -t 3600 -o stream.ts ATV
```

```
time ffmpeg -i stream.ts -vcodec copy -sameq -acodec copy -sn video.avi -newaudio
```

DVB-S/S2

Hardware

PCTV DVB-S2 Stick 460e (Chip: Trident
TDA10071)

Voraussetzung

Kernel >= 3.2.0 (Debian Squeeze Backport oder Wheezy)
USB 2.0
Digital Sat Empfang



Installation

```
apt-get install dvb-apps dvbsnoop dvbstream w_scan ffmpeg perl  
apt-get install linux-doc-3.2  
gunzip /usr/share/doc/linux-doc-3.2/Documentation/dvb/get_dvb_firmware.gz  
cd /lib/firmware  
perl /usr/share/doc/linux-doc-3.2/Documentation/dvb/get_dvb_firmware tda10071
```

Kanalsuche

```
w_scan -fs -sS19E2 -cAT -X > /etc/dvb-s2_channels.conf  
scan /usr/share/dvb/dvb-s/Astra-19.2E > /etc/dvb-s_channels.conf
```

DVB-S Recording

Aufnahme

```
szap -c /etc/dvb-s_channels.conf -q | egrep "RTL|ProSieben|SAT.1" | egrep "Austria|A"
```

810 ProSieben

Austria

813 SAT.1 A

1137 RTL Austria

1139 RTL2 Austria

1140 SUPER RTL A

```
szap -c /etc/dvb-s_channels.conf -p -n 810 > /dev/null &  
cat /dev/dvb/adaptor0/dvr0 > video.ts
```

```
killall szap
```

```
ffmpeg -i video.ts -vcodec copy -sameq -acodec copy -sn video.avi
```

VDR – Video Disk Recorder

Installation: `apt-get install vdr vdr-plugin-epgsearch vdradmin-am`



Was läuft jetzt?

Was läuft heute?

Zeitleiste

Programmübersicht

Timer

EPG Search

Aufnahmen

Fernbedienung

Fernseher

Befehle

Konfiguration

Über / Hilfe

Suchen

Neuen Suche anlegen

Ergebnis ausblenden

Montag, 2012-04-23

04:30 - 06:20	Star Trek - Der erste Kontakt Science-Fiction	Sky Action	--- kein Timer ---	●
06:50 - 07:45	Star Trek: Raumschiff Voyager Das Generationenschiff	Syfy	--- kein Timer ---	●
07:45 - 08:35	Star Trek: Raumschiff Voyager Endstation - Vergessenheit	Syfy	--- kein Timer ---	●
11:50 - 13:40	Star Trek - Der erste Kontakt Science-Fiction	Sky Action	--- kein Timer ---	●
12:40 - 13:35	Star Trek: Raumschiff Voyager Das Generationenschiff	Syfy	--- kein Timer ---	●
13:35 - 14:30	Star Trek: Raumschiff Voyager Endstation - Vergessenheit	Syfy	--- kein Timer ---	●
14:15 - 15:10	Star Trek - Das nächste... Der Schachzug	TELE 5	--- kein Timer ---	●
15:10 - 16:10	Star Trek - Das nächste...			

Timer

Neuer Timer

Samstag, 2012-04-21

21.04

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

ANIXE SD

ATV2

PHOENIX

ProSieben

Aktiv	Kanal	Datum ▲	Beginn	Ende	Name	
✓ Ja	PHOENIX	Sam 21.04	19:43	20:10	rec Schätze der Welt - Erbe der Menschheit	✎ ✕
✓ Ja	ATV2	Sam 21.04	21:12	22:20	24 Stunden - Die Motorrad Polizei	✎ ✕
✓ Ja	ProSieben	Sam 21.04	22:17	00:08	The Descent 2	✎ ✕
✓ Ja	ANIXE SD	Sam 21.04	23:53	00:55	Asiens Wilde Seite - Die Orang-Utans aus	✎ ✕
✓ Ja	ProSieben	Sam 21.04	23:56	01:51	The Descent - Abgrund des Grauens	✎ ✕

Aktiviere Deaktiviere ausgewählte Timer Ausgewählte Timer löschen

Video Transcoding

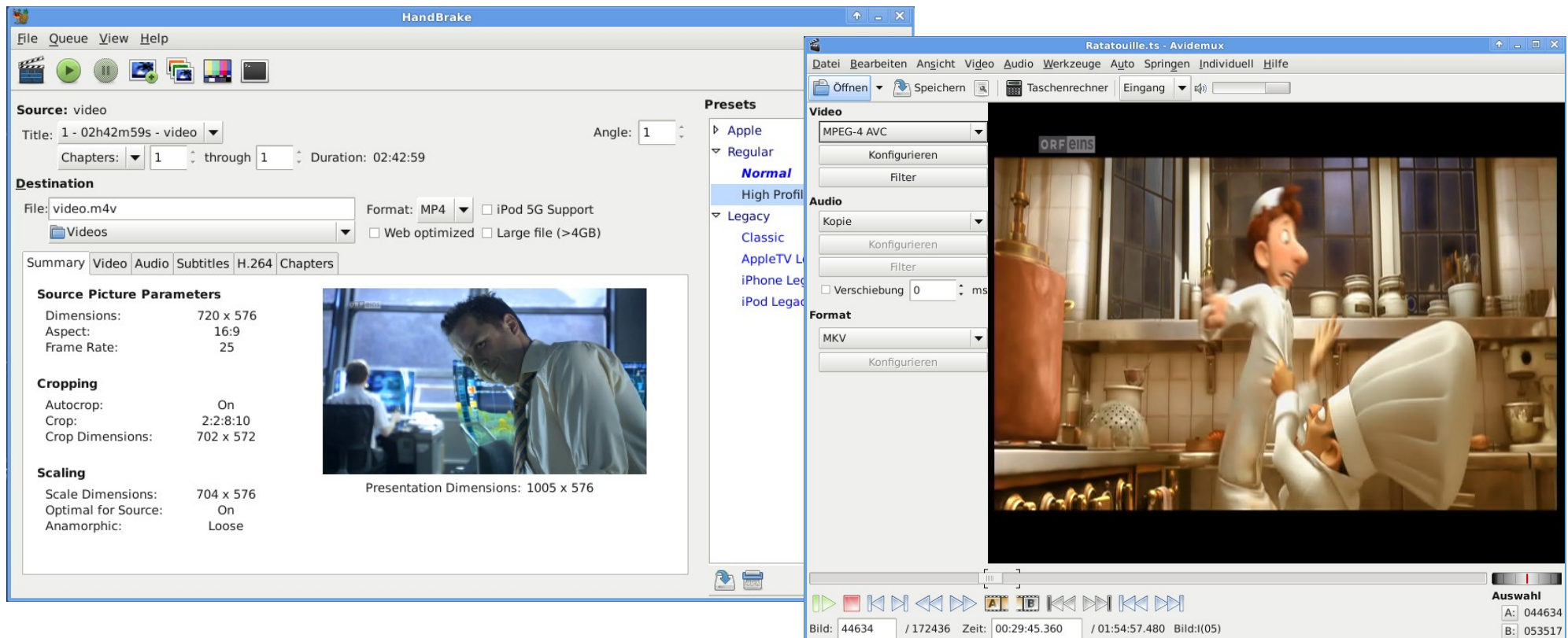
Installation: `apt-get install handbrake-cli handbrake-gtk avidemux`

Aufruf

`ffmpeg -ss 617 -t 6722 -i video.avi -vcodec copy -sameq -acodec copy -sn video2.avi -newaudio`

`HandBrakeCLI --large-file --loose-anamorphic -E copy -q 5 --crop 74:74:8:10 -i video2.avi -o video.mp4`

`HandBrakeCLI --large-file --loose-anamorphic -e x264 -E copy -q 20 --crop 74:74:8:10 -i video2.avi -o video.mkv`



MPD Music Player Daemon

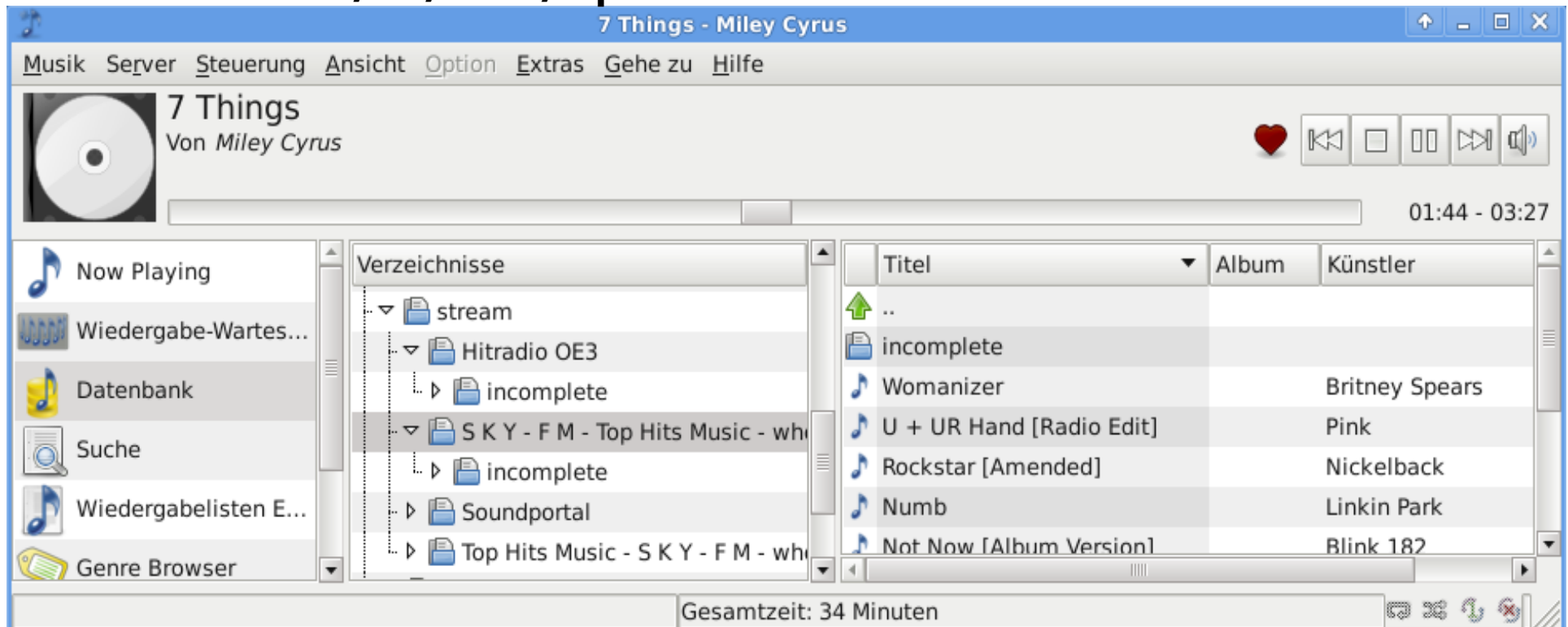
Installation: `apt-get install mpd mpc ncmpc gmpc`

/etc/mpd.conf

```
music_directory      "/data/audio"  
playlist_directory   "/var/lib/mpd/playlists"  
#bind_to_address      "127.0.0.1"  
port                 "6600"
```

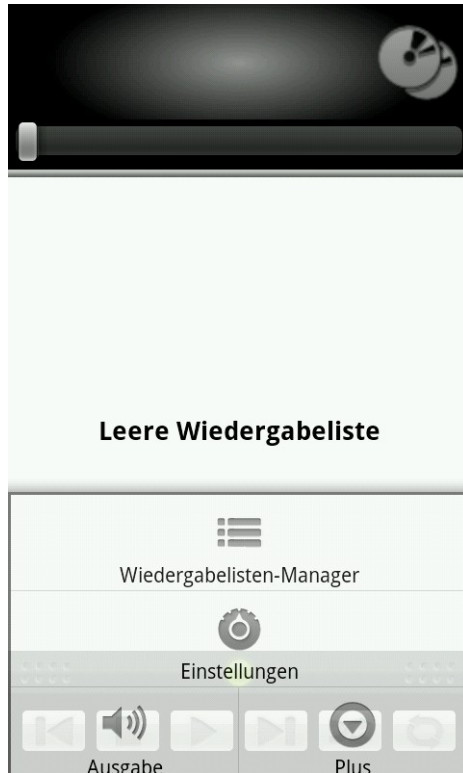
/etc/init.d/mpd stop

/etc/init.d/mpd start-create-db

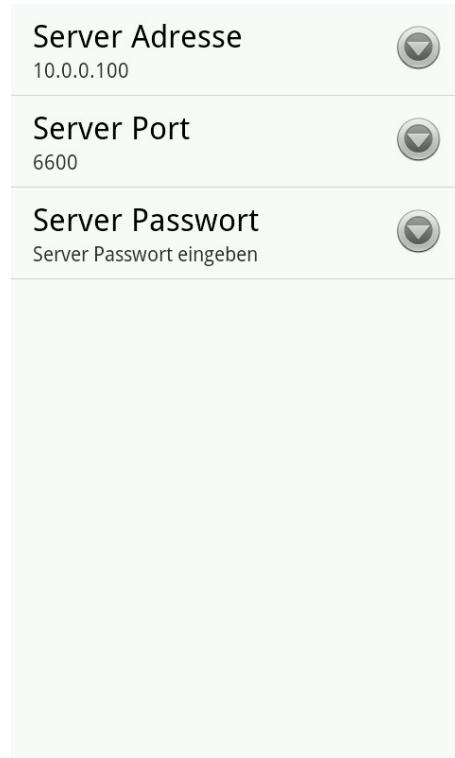




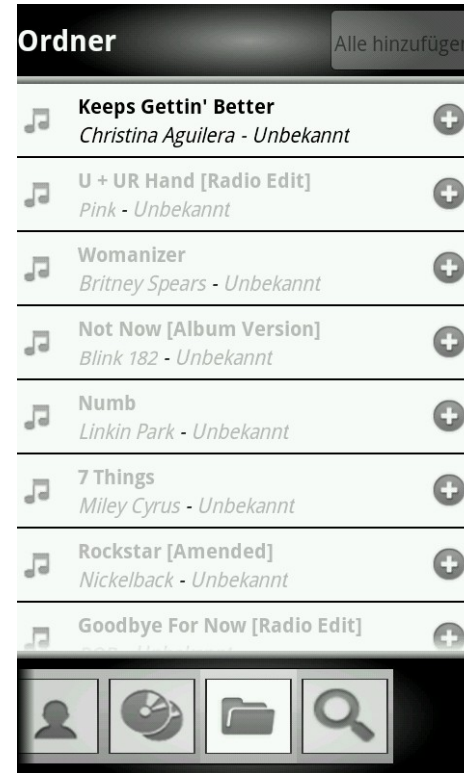
MPD Client – Droid MPD Client



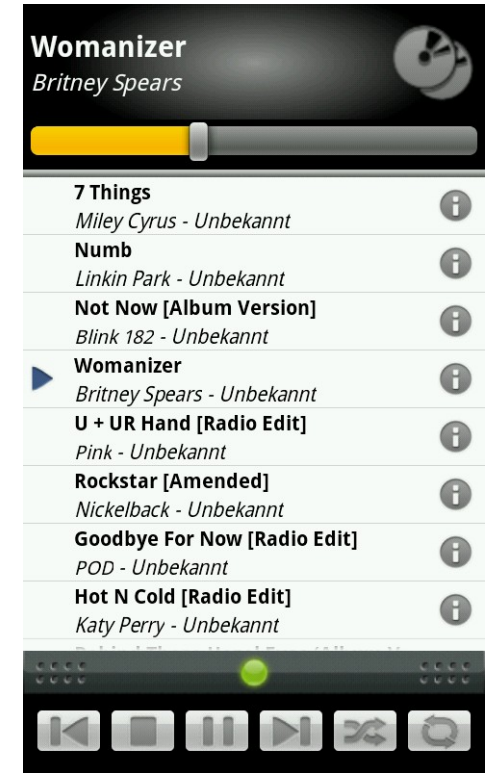
Menü



Einstellungen



Wiedergabelisten
-Manager



Playlist

DLNA-Server - MiniDLNA

Quelle: <http://sourceforge.net/projects/minidlna/>
/etc/minidlna.conf

```
port=8200
network_interface=eth0
media_dir=A,/data/audio
media_dir=V,/data/video
media_dir=P,/data/picture
friendly_name=My DLNA Server
db_dir=/var/cache/minidlna
log_dir=/var/log/minidlna
```



Digital Media Controller

- iMediaShare Lite
- FRITZ!App Media

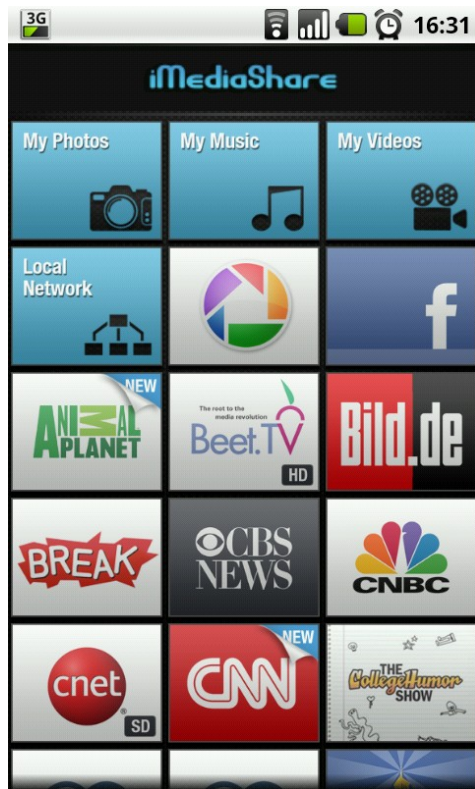
Digital Media Server

- MiniDLNA
- Twonky
- iMedia Share Lite

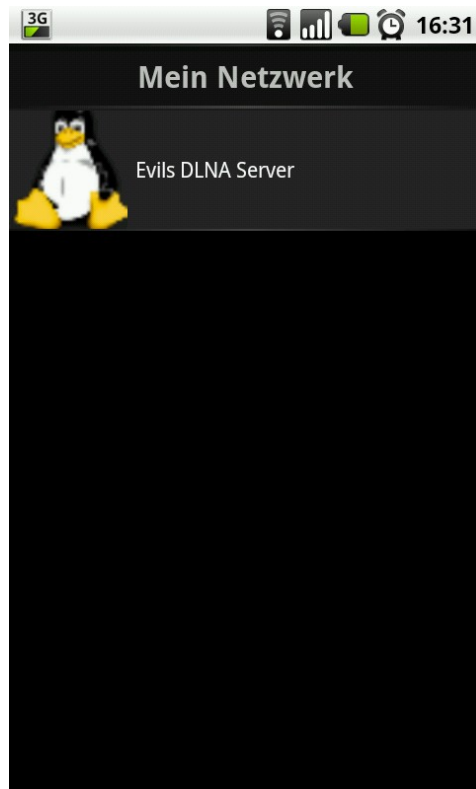
Digital Media Renderer

- XBMC Media Center
- WD TV Live
- iMedia Share Lite

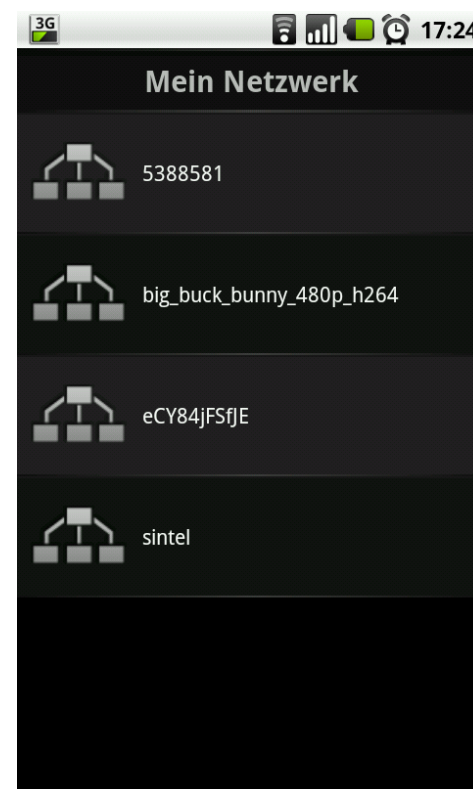
iMediaShare – DLNA Client/Server



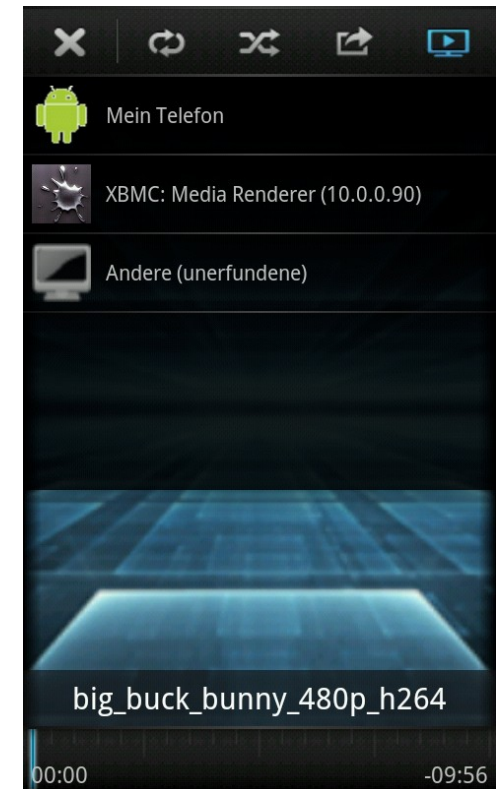
Start Seite



Local Network
(Mein Netzwerk)



Mein Netzwerk
Video Liste



Ziel wählen

Ende

Danke für die Aufmerksamkeit ...

**Vortrag kann auf
<http://glt12-programm.linuxtage.at/>
bewertet werden**

Links

Home Server Systeme

AMD E-350: http://geizhals.at/?cat=mbson&xf=1123_AMD+E-350&sort=p
HP MicroServer: <http://geizhals.at/?in=1&fs=MicroServer>
CuBox (ARM): <http://www.solid-run.com/products/cubox>
Raspberry Pi (ARM): <http://at.farnell.com> oder <http://at.rs-online.com>
Beagle Board (ARM): <http://www.tigal.com/category/185>
Panda Board (ARM): <http://www.tigal.com/category/187>
Furto A2xx ThinClient: <http://www.ebay.at>

Community

HP MicroServer: <http://www.hardwareluxx.de/community/f101/hp-proliant-n36l-n40l-microserver-752079.html>
MINI-ITX: <http://www.hardwareluxx.de/community/f84/alltagstaugliche-desktop-systeme-mit-10w-idle-verbrauch-inkl-llano-fm1-beispiel-799083.html>

HTPC

XBMC Media Center: <http://xbmc.org/>
WD TV HD Live: <http://geizhals.at/458684>

Android Apps

Droid MPD Client: <https://play.google.com/store/apps/details?id=com.soreha.droidmpdclient>
iMediaShare: <https://play.google.com/store/apps/details?id=com.bianor.ams>

Installationsanleitungen zum Vortrag:

[http://evilx99.ev.funpic.de/linux/ThinClient/server/Server Installation - Multimedia.pdf](http://evilx99.ev.funpic.de/linux/ThinClient/server/Server%20Installation%20-%20Multimedia.pdf) oder
<http://tinyurl.com/c9ed6co>
[http://evilx99.ev.funpic.de/linux/ThinClient/server/Server Installation.pdf](http://evilx99.ev.funpic.de/linux/ThinClient/server/Server%20Installation.pdf) oder
<http://tinyurl.com/4yggxhc>

Meine Page: <http://evilx99.ev.funpic.de>

Twitter: @m_stroh

Meine e-mail: m.stroh@gmail.com