I originally started with ATI HDTV Wonder and eventually found it had a bad tuner. Skip to WinTV-PVR-150 NTSC/NTSC-J 26552 LF section for what worked eventually – here's just a chronological dump of what I went through. There may be some useful commands in there...

Installed capture device:

04:00.0 Multimedia video controller: Conexant Systems, Inc. CX23880/1/2/3 PCI Video and Audio Decoder (rev 05)
04:00.1 Multimedia controller: Conexant Systems, Inc. CX23880/1/2/3 PCI Video and Audio Decoder [Audio Port] (rev 05)
04:00.2 Multimedia controller: Conexant Systems, Inc. CX23880/1/2/3 PCI Video and Audio Decoder [MPEG Port] (rev 05)

Details on handling the card:
https://www.linuxtv.org/wiki/index.php/Conexant_CX2388x – specifically the chip
https://www.linuxtv.org/wiki/index.php/Cx88_devices_(cx2388x) -

CX88 modules currently in Linux Kernel

cx88_dvb 40960 0
cx88_vp3054_i2c 16384 1 cx88_dvb
videobuf2_dvb 16384 1 cx88_dvb
dvb_core 139264 2 cx88_dvb,videobuf2_dvb
cx8802 20480 1 cx88_dvb
cx88_alsa 20480 1
cx8800 40960 0
videobuf2_dma_sg 16384 2 cx8800,cx88_dvb
cx88xx 90112 4 cx8802,cx8800,cx88_alsa,cx88_dvb
tveeprom 28672 1 cx88xx
videobuf2_v4l2 24576 2 cx8800,cx88_dvb
rc_core 53248 1 cx88xx
videobuf2_common 57344 6 cx8802,cx88xx,cx8800,videobuf2_v4l2,cx88_dvb,videobuf2_dvb
videodev 225280 6 cx88xx,cx8800,cx88_alsa,videobuf2_v4l2,videobuf2_common,tuner
snd_pcm 106496 5 cx88_alsa,snd_hda_codec_hdmi,snd_hda_intel,snd_hda_codec,snd_hda_core
snd 90112 18
snd_hda_codec_generic,snd_seq,snd_seq_device,cx88_alsa,snd_hda_codec_hdmi,snd_hwdep,snd_hda_intel,snd_hda_codec,snd_hda_codec_realtek,snd_timer,snd_pcm,snd_rawmidi
i2c_algo_bit 16384 3 cx88xx,cx88_vp3054_i2c,i915

Full lspci results that relate to capture card:

From https://www.kernel.org/doc/html/v4.9/media/v4l-drivers/cx88-cardlist.html the card is an ATI HDTV Wonder (card #34, although I don't know that that number means anything other than the line in the list that it is on).

```
34 -> ATI HDTV Wonder                                   [1002:a101]
```

```
04:00.0 Multimedia video controller [0400]: Conexant Systems, Inc. CX23880/1/2/3 PCI Video and Audio Decoder [14f1:8800] (rev 05)
	Subsystem: Advanced Micro Devices, Inc. [AMD/ATI] HDTV Wonder [1002:a101]
	Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx-
	Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-
	Latency: 32 (5000ns min, 13750ns max), Cache Line Size: 64 bytes
	Interrupt: pin A routed to IRQ 18
```

```
	Region 0: Memory at fa000000 (32-bit, non-prefetchable) [size=16M]
	Capabilities: <access denied>
	Kernel driver in use: cx8800
	Kernel modules: cx8800

04:00.1 Multimedia controller [0480]: Conexant Systems, Inc. CX23880/1/2/3 PCI Video and Audio Decoder
[Audio Port] [14f1:8801] (rev 05)
	Subsystem: Advanced Micro Devices, Inc. [AMD/ATI] CX23880/1/2/3 PCI Video and Audio Decoder [Audio
Port] [1002:a101]
	Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx-
	Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
INTx-
	Latency: 32 (1000ns min, 63750ns max), Cache Line Size: 64 bytes
	Interrupt: pin A routed to IRQ 18
	Region 0: Memory at f9000000 (32-bit, non-prefetchable) [size=16M]
	Capabilities: <access denied>
	Kernel driver in use: cx88_audio
	Kernel modules: cx88_alsa

04:00.2 Multimedia controller [0480]: Conexant Systems, Inc. CX23880/1/2/3 PCI Video and Audio Decoder [MPEG
Port] [14f1:8802] (rev 05)
	Subsystem: Advanced Micro Devices, Inc. [AMD/ATI] CX23880/1/2/3 PCI Video and Audio Decoder [MPEG
Port] [1002:a101]
	Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx-
	Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
INTx-
	Latency: 32 (1500ns min, 22000ns max), Cache Line Size: 64 bytes
	Interrupt: pin A routed to IRQ 18
	Region 0: Memory at f8000000 (32-bit, non-prefetchable) [size=16M]
	Capabilities: <access denied>
	Kernel driver in use: cx88-mpeg driver manager
	Kernel modules: cx8802

LinuxTV details for the specific card: https://www.linuxtv.org/wiki/index.php/ATI/AMD_HDTV_Wonder
To be clear, this is not the value edition (VE) as it shows up as [1002:a101] and not [1002:a103]
```

v4l2-ctl output

```
v4l2-ctl --all
Driver Info:
	Driver name      : cx8800
	Card type        : ATI HDTV Wonder
	Bus info         : PCI:0000:04:00.0
	Driver version   : 5.4.143
	Capabilities     : 0x85210011
		Video Capture
		VBI Capture
		Tuner
		Read/Write
		Streaming
		Extended Pix Format
		Device Capabilities
	Device Caps      : 0x05210001
		Video Capture
		Tuner
		Read/Write
		Streaming
		Extended Pix Format
Priority: 2
Frequency for tuner 0: 0 (0.000000 MHz)
Tuner 0:
	Name                 : Television
	Type                 : Analog TV
	Capabilities         : 62.5 kHz stereo lang1 lang2 freq-bands
	Frequency range      : 0.000 MHz - 268435455.938 MHz
	Signal strength/AFC  : 0%/0
	Current audio mode   : mono
	Available subchannels: mono
Video input : 0 (Television: ok)
Video Standard = 0x00001000
	NTSC-M
Format Video Capture:
```

```
	Width/Height      : 320/240
	Pixel Format      : 'BGR3' (24-bit BGR 8-8-8)
	Field             : Interlaced
	Bytes per Line    : 960
	Size Image        : 230400
	Colorspace        : SMPTE 170M
	Transfer Function : Default (maps to Rec. 709)
	YCbCr/HSV Encoding: Default (maps to ITU-R 601)
	Quantization      : Default (maps to Full Range)
	Flags             :
Streaming Parameters Video Capture:
	Frames per second: 29.970 (30000/1001)
	Read buffers     : 2

User Controls

                     brightness 0x00980900 (int)    : min=0 max=255 step=1 default=127 value=127
flags=slider
                       contrast 0x00980901 (int)    : min=0 max=255 step=1 default=63 value=63 flags=slider
                     saturation 0x00980902 (int)    : min=0 max=255 step=1 default=127 value=127
flags=slider
                            hue 0x00980903 (int)    : min=0 max=255 step=1 default=127 value=127
flags=slider
                         volume 0x00980905 (int)    : min=0 max=63 step=1 default=63 value=63 flags=slider
                        balance 0x00980906 (int)    : min=0 max=127 step=1 default=64 value=64 flags=slider
                           mute 0x00980909 (bool)   : default=1 value=1
                      sharpness 0x0098091b (int)    : min=0 max=4 step=1 default=0 value=0 flags=slider
                     chroma_agc 0x0098091d (bool)   : default=1 value=1
                 color_killer 0x0098091e (bool)   : default=1 value=1
            band_stop_filter 0x00980921 (int)    : min=0 max=1 step=1 default=0 value=0
```

Channel 3 is VHF 61.25MHz carrier, and the card says it can tune up to ~268MHz

Video Capabilities

```
>> gst-launch-1.0 --gst-debug=v4l2src:5 v4l2src device=/dev/video0 ! fakesink 2>&1 | sed -une '/caps of src/
s/[:;] /\n/gp'
0:00:00.056399294 121948 0x561685615180 DEBUG                v4l2src
gstv4l2src.c:516:gst_v4l2src_negotiate:<v4l2src0> caps of src
video/x-raw, format=(string)YUY2, framerate=(fraction)30000/1001, width=(int)[ 48, 720 ], height=(int)[ 32,
480 ]
video/x-raw, format=(string)UYVY, framerate=(fraction)30000/1001, width=(int)[ 48, 720 ], height=(int)[ 32,
480 ]
video/x-raw, format=(string)xRGB, framerate=(fraction)30000/1001, width=(int)[ 48, 720 ], height=(int)[ 32,
480 ]
video/x-raw, format=(string)BGRx, framerate=(fraction)30000/1001, width=(int)[ 48, 720 ], height=(int)[ 32,
480 ]
video/x-raw, format=(string)BGR, framerate=(fraction)30000/1001, width=(int)[ 48, 720 ], height=(int)[ 32,
480 ]
video/x-raw, format=(string)RGB16, framerate=(fraction)30000/1001, width=(int)[ 48, 720 ], height=(int)[ 32,
480 ]
video/x-raw, format=(string)BGR15, framerate=(fraction)30000/1001, width=(int)[ 48, 720 ], height=(int)[ 32,
480 ]
video/x-raw, format=(string)RGB15, framerate=(fraction)30000/1001, width=(int)[ 48, 720 ], height=(int)[ 32,
480 ]
video/x-raw, format=(string)GRAY8, framerate=(fraction)30000/1001, width=(int)[ 48, 720 ], height=(int)[ 32,
480 ]
```

Audio Capabilities (Doesn’t seem right)

```
>> gst-launch-1.0 --gst-debug=alsa:5 alsasrc device=$AUDIO_DEVICE ! fakesink 2>&1
0:00:00.022290511 122121 0x557a96643200 DEBUG                    alsa gstalsaplugin.c:77:plugin_init: binding
text domain gst-plugins-base-1.0 to locale dir /usr/share/locale
0:00:00.022569582 122121 0x557a96643200 DEBUG                    alsa
gstalsasrc.c:271:gst_alsasrc_init:<GstAlsaSrc@0x557a9664b110> initializing
Setting pipeline to PAUSED ...
0:00:00.027280729 122121 0x557a96643200 WARN                     alsa pcm.c:2642:snd_pcm_open_noupdate:
alsalib error: Unknown PCM !
0:00:00.027342207 122121 0x557a96643200 WARN                     alsa
gstalsasrc.c:745:gst_alsasrc_open:<alsasrc0> error: Could not open audio device for recording.
```

```
0:00:00.027354652 122121 0x557a96643200 WARN                    alsa
gstalsasrc.c:745:gst_alsasrc_open:<alsasrc0> error: Recording open error on device '!': No such file or
directory
ERROR: Pipeline doesn't want to pause.
ERROR: from element /GstPipeline:pipeline0/GstAlsaSrc:alsasrc0: Could not open audio device for recording.
Additional debug info:
gstalsasrc.c(745): gst_alsasrc_open (): /GstPipeline:pipeline0/GstAlsaSrc:alsasrc0:
Recording open error on device '!': No such file or directory
Setting pipeline to NULL ...
Freeing pipeline ...

>> v4l2-ctl --device /dev/video0 --all
Driver Info:
       Driver name      : cx8800
       Card type        : ATI HDTV Wonder
       Bus info         : PCI:0000:04:00.0
       Driver version   : 5.4.143
       Capabilities     : 0x85210011
             Video Capture
             VBI Capture
             Tuner
             Read/Write
             Streaming
             Extended Pix Format
             Device Capabilities
       Device Caps      : 0x05210001
             Video Capture
             Tuner
             Read/Write
             Streaming
             Extended Pix Format
Priority: 2
Frequency for tuner 0: 0 (0.000000 MHz)
Tuner 0:
       Name                 : Television
       Type                 : Analog TV
       Capabilities         : 62.5 kHz stereo lang1 lang2 freq-bands
       Frequency range      : 0.000 MHz - 268435455.938 MHz
       Signal strength/AFC  : 0%/0
       Current audio mode   : mono
       Available subchannels: mono
Video input : 0 (Television: ok)
Video Standard = 0x00001000
       NTSC-M
Format Video Capture:
       Width/Height      : 720/480
       Pixel Format      : 'YUYV' (YUYV 4:2:2)
       Field             : Interlaced
       Bytes per Line    : 1440
       Size Image        : 691200
       Colorspace        : SMPTE 170M
       Transfer Function : Default (maps to Rec. 709)
       YCbCr/HSV Encoding: Default (maps to ITU-R 601)
       Quantization      : Default (maps to Limited Range)
       Flags             :
Streaming Parameters Video Capture:
       Frames per second: 29.970 (30000/1001)
       Read buffers     : 2

User Controls

                     brightness 0x00980900 (int)    : min=0 max=255 step=1 default=127 value=127
flags=slider
                       contrast 0x00980901 (int)    : min=0 max=255 step=1 default=63 value=63 flags=slider
                     saturation 0x00980902 (int)    : min=0 max=255 step=1 default=127 value=127
flags=slider
                            hue 0x00980903 (int)    : min=0 max=255 step=1 default=127 value=127
flags=slider
                         volume 0x00980905 (int)    : min=0 max=63 step=1 default=63 value=63 flags=slider
                        balance 0x00980906 (int)    : min=0 max=127 step=1 default=64 value=64 flags=slider
                           mute 0x00980909 (bool)   : default=1 value=0
                      sharpness 0x0098091b (int)    : min=0 max=4 step=1 default=0 value=0 flags=slider
                     chroma_agc 0x0098091d (bool)   : default=1 value=1
                   color_killer 0x0098091e (bool)   : default=1 value=1
```

```
band_stop_filter 0x00980921 (int)    : min=0 max=1 step=1 default=0 value=0
```

Streaming Analogue TV

https://www.linuxtv.org/wiki/index.php/MPlayer#Watching_Analogue_TV

WinTV-PVR-150 NTSC/NTSC-J 26552 LF

This section eventually worked for me...

Hardware Details

Conexant CX23406-22

https://www.kernel.org/doc/html/v4.9/media/v4l-drivers/ivtv-cardlist.html

Section 6.6 IVTV cards list shows Hauppauge WinTV PVR-150 as card #3, which is the same as PVR-500

Inputs (from top to bottom):

- FM in
- TV in
- S-video
- Composite video (yellow RCA)
- Left audio (white RCA)
- Right audio (red RCA)

LSPCI

```
>> sudo lspci -vv
04:00.0 Multimedia video controller: Internext Compression Inc iTVC16 (CX23416) Video Decoder (rev 01)
        Subsystem: Hauppauge computer works Inc. WinTV PVR 150
        Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B-
DisINTx-
        Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
INTx-
        Latency: 64 (32000ns min, 2000ns max), Cache Line Size: 64 bytes
        Interrupt: pin A routed to IRQ 18
        Region 0: Memory at e0000000 (32-bit, prefetchable) [size=64M]
        Capabilities: <access denied>
        Kernel driver in use: ivtv
        Kernel modules: ivtv

>> sudo lspci -vvn
04:00.0 0400: 4444:0016 (rev 01)
        Subsystem: 0070:8801
        Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B-
DisINTx-
        Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
INTx-
        Latency: 64 (32000ns min, 2000ns max), Cache Line Size: 64 bytes
        Interrupt: pin A routed to IRQ 18
        Region 0: Memory at e0000000 (32-bit, prefetchable) [size=64M]
        Capabilities: [44] Power Management version 2
                Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
                Status: D0 NoSoftRst- PME-Enable- DSel=0 DScale=0 PME-
        Kernel driver in use: ivtv
        Kernel modules: ivtv
```

Kernel module loaded

```
ivtv_alsa              16384  1
ivtv                  167936  1 ivtv_alsa
```

```
snd_pcm               106496  8
snd_hda_codec_hdmi,snd_soc_wm8776,snd_hda_intel,snd_hda_codec,snd_soc_core,snd_hda_core,ivtv_alsa,snd_pcm_dm
aengine
tveeprom               28672  1 ivtv
cx2341x                28672  1 ivtv
videodev              225280  6 cx2341x,ivtv,wm8775,ivtv_alsa,cx25840,tuner
snd                    90112  20
snd_hda_codec_generic,snd_seq,snd_seq_device,snd_hda_codec_hdmi,snd_hwdep,snd_hda_intel,snd_hda_codec,snd_hd
a_codec_realtek,snd_timer,snd_compress,snd_soc_core,snd_pcm,ivtv_alsa,snd_rawmidi
i2c_algo_bit           16384  2 ivtv,i915
```

Video Devices in System

```
>> ls /dev/video*

/dev/video0  /dev/video24  /dev/video32
```

These apparently correspond to the following according to https://www.mythtv.org/wiki/Hauppauge_PVR-500#Check_video_devices:

```
/dev/video0  The encoding capture device (Read-only)
/dev/video24  The raw audio capture device (Read-only)
/dev/video32  The raw video capture device (Read-only)
/dev/radio  The radio tuner device
/dev/vbi0  The "vertical blank interval" (Teletext) capture device
```

Available Video Inputs

```
>> sudo v4l2-ctl --list-input
ioctl: VIDIOC_ENUMINPUT
        Input       : 0
        Name        : Tuner 1
        Type        : 0x00000001 (Tuner)
        Audioset    : 0x00000007
        Tuner       : 0x00000000
        Standard    : 0x0000000000001000 (NTSC-M)
        Status      : 0x00000000 (ok)
        Capabilities: 0x00000004 (SDTV standards)

        Input       : 1
        Name        : S-Video 1
        Type        : 0x00000002 (Camera)
        Audioset    : 0x00000007
        Tuner       : 0x00000000
        Standard    : 0x0000000000FFFFFF (PAL-B/B1/G/H/I/D/D1/K/M/N/Nc/60 NTSC-M/M-JP/443/M-KR
SECAM-B/D/G/H/K/K1/L/Lc)
        Status      : 0x00000000 (ok)
        Capabilities: 0x00000004 (SDTV standards)

        Input       : 2
        Name        : Composite 1
        Type        : 0x00000002 (Camera)
        Audioset    : 0x00000007
        Tuner       : 0x00000000
        Standard    : 0x0000000000FFFFFF (PAL-B/B1/G/H/I/D/D1/K/M/N/Nc/60 NTSC-M/M-JP/443/M-KR
SECAM-B/D/G/H/K/K1/L/Lc)
        Status      : 0x00000000 (ok)
        Capabilities: 0x00000004 (SDTV standards)

        Input       : 3
        Name        : S-Video 2
        Type        : 0x00000002 (Camera)
        Audioset    : 0x00000007
```

```
        Tuner       : 0x00000000
        Standard    : 0x0000000000FFFFFF (PAL-B/B1/G/H/I/D/D1/K/M/N/Nc/60 NTSC-M/M-JP/443/M-KR
SECAM-B/D/G/H/K/K1/L/Lc)
        Status      : 0x00000000 (ok)
        Capabilities: 0x00000004 (SDTV standards)

        Input       : 4
        Name        : Composite 2
        Type        : 0x00000002 (Camera)
        Audioset    : 0x00000007
        Tuner       : 0x00000000
        Standard    : 0x0000000000FFFFFF (PAL-B/B1/G/H/I/D/D1/K/M/N/Nc/60 NTSC-M/M-JP/443/M-KR
SECAM-B/D/G/H/K/K1/L/Lc)
        Status      : 0x00000000 (ok)
        Capabilities: 0x00000004 (SDTV standards)
```

Available Audio Inputs

```
>> sudo v4l2-ctl --list-audio-input
ioctl: VIDIOC_ENUMAUDIO
        Input   : 0
        Name    : Tuner 1

        Input   : 1
        Name    : Line In 1

        Input   : 2
        Name    : Line In 2
```

v4l2 Listing

>> sudo v4l2-ctl --device /dev/video0 --all

Driver Info:

- Driver name : ivtv
- Card type : Hauppauge WinTV PVR-150
- Bus info : PCI:0000:04:00.0
- Driver version : 5.4.148
- Capabilities : 0x81270051
  - Video Capture
  - VBI Capture
  - Sliced VBI Capture
  - Tuner
  - Audio
  - Radio
  - Read/Write
  - Extended Pix Format
  - Device Capabilities
- Device Caps : 0x01230001
  - Video Capture
  - Tuner
  - Audio
  - Read/Write
  - Extended Pix Format

Priority: 2
Frequency for tuner 0: 1076 (67.250000 MHz)
Tuner 0:
	Name		: ivtv TV Tuner
	Type		: Analog TV
	Capabilities	: 62.5 kHz multi-standard stereo lang1 lang2 freq-bands
	Frequency range	: 44.000 MHz - 958.000 MHz
	Signal strength/AFC	: 0%/0
	Current audio mode	: lang1
	Available subchannels: mono lang2
Video input : 0 (Tuner 1: ok)
Audio input : 0 (Tuner 1)
Video Standard = 0x00001000
	NTSC-M
Format Video Capture:
	Width/Height	: 720/480
	Pixel Format	: 'MPEG' (MPEG-1/2/4)
	Field		: Interlaced
	Bytes per Line	: 0
	Size Image	: 131072
	Colorspace	: SMPTE 170M
	Transfer Function : Default (maps to Rec. 709)
	YCbCr/HSV Encoding: Default (maps to ITU-R 601)
	Quantization	: Default (maps to Full Range)
	Flags		:
Crop Capability Video Capture:
	Bounds	: Left 0, Top 0, Width 720, Height 480
	Default	: Left 0, Top 0, Width 720, Height 480
	Pixel Aspect: 11/10
Selection Video Capture: crop_default, Left 0, Top 0, Width 720, Height 480, Flags:
Selection Video Capture: crop_bounds, Left 0, Top 0, Width 720, Height 480, Flags:
Streaming Parameters Video Capture:
	Frames per second: 29.970 (30000/1001)
	Read buffers	: 2

User Controls

brightness 0x00980900 (int)	: min=0 max=255 step=1 default=128 value=128 flags=slider
contrast 0x00980901 (int)	: min=0 max=127 step=1 default=64 value=64 flags=slider
saturation 0x00980902 (int)	: min=0 max=127 step=1 default=64 value=64 flags=slider
hue 0x00980903 (int)	: min=-128 max=127 step=1 default=0 value=0 flags=slider
volume 0x00980905 (int)	: min=0 max=65535 step=655 default=60928 value=60928 flags=slider
balance 0x00980906 (int)	: min=0 max=65535 step=655 default=32768 value=32768 flags=slider
bass 0x00980907 (int)	: min=0 max=65535 step=655 default=32768 value=32768 flags=slider
treble 0x00980908 (int)	: min=0 max=65535 step=655 default=32768 value=32768 flags=slider

mute 0x00980909 (bool) : default=0 value=0
loudness 0x0098090a (bool) : default=1 value=1

Codec Controls

stream_type 0x00990900 (menu) : min=0 max=5 default=0 value=0 flags=update
0: MPEG-2 Program Stream
2: MPEG-1 System Stream
3: MPEG-2 DVD-compatible Stream
4: MPEG-1 VCD-compatible Stream
5: MPEG-2 SVCD-compatible Stream
stream_vbi_format 0x00990907 (menu) : min=0 max=1 default=0 value=0
0: No VBI
1: Private Packet, IVTV Format
audio_sampling_frequency 0x00990964 (menu) : min=0 max=2 default=1 value=1
0: 44.1 kHz
1: 48 kHz
2: 32 kHz
audio_encoding 0x00990965 (menu) : min=0 max=4 default=1 value=1 flags=update
1: MPEG-1/2 Layer II
audio_layer_ii_bitrate 0x00990967 (menu) : min=0 max=13 default=10 value=10
9: 192 kbps
10: 224 kbps
11: 256 kbps
12: 320 kbps
13: 384 kbps
audio_stereo_mode 0x00990969 (menu) : min=0 max=3 default=0 value=0 flags=update
0: Stereo
1: Joint Stereo
2: Dual
3: Mono
audio_stereo_mode_extension 0x0099096a (menu) : min=0 max=3 default=0 value=0 flags=inactive
0: Bound 4
1: Bound 8
2: Bound 12
3: Bound 16
audio_emphasis 0x0099096b (menu) : min=0 max=2 default=0 value=0
0: No Emphasis
1: 50/15 us
2: CCITT J17
audio_crc 0x0099096c (menu) : min=0 max=1 default=0 value=0
0: No CRC
1: 16-bit CRC
audio_mute 0x0099096d (bool) : default=0 value=0
video_encoding 0x009909c8 (menu) : min=0 max=1 default=1 value=1

0: MPEG-1
1: MPEG-2
video_aspect 0x009909c9 (menu) : min=0 max=3 default=1 value=1
0: 1x1
1: 4x3
2: 16x9
3: 2.21x1
video_b_frames 0x009909ca (int) : min=0 max=33 step=1 default=2 value=2 flags=update
video_gop_size 0x009909cb (int) : min=1 max=34 step=1 default=15 value=15
video_gop_closure 0x009909cc (bool) : default=1 value=1
video_bitrate_mode 0x009909ce (menu) : min=0 max=1 default=0 value=0 flags=update
0: Variable Bitrate
1: Constant Bitrate
video_bitrate 0x009909cf (int) : min=0 max=27000000 step=1 default=6000000 value=6000000
video_peak_bitrate 0x009909d0 (int) : min=0 max=27000000 step=1 default=8000000 value=8000000
video_temporal_decimation 0x009909d1 (int) : min=0 max=255 step=1 default=0 value=0
video_mute 0x009909d2 (bool) : default=0 value=0
video_mute_yuv 0x009909d3 (int) : min=0 max=16777215 step=1 default=32896 value=32896
spatial_filter_mode 0x00991000 (menu) : min=0 max=1 default=0 value=0 flags=update
0: Manual
1: Auto
spatial_filter 0x00991001 (int) : min=0 max=15 step=1 default=0 value=0 flags=slider
spatial_luma_filter_type 0x00991002 (menu) : min=0 max=4 default=1 value=1
0: Off
1: 1D Horizontal
2: 1D Vertical
3: 2D H/V Separable
4: 2D Symmetric non-separable
spatial_chroma_filter_type 0x00991003 (menu) : min=0 max=1 default=1 value=1
0: Off
1: 1D Horizontal
temporal_filter_mode 0x00991004 (menu) : min=0 max=1 default=0 value=0 flags=update
0: Manual
1: Auto
temporal_filter 0x00991005 (int) : min=0 max=31 step=1 default=8 value=8 flags=slider
median_filter_type 0x00991006 (menu) : min=0 max=4 default=0 value=0 flags=update
0: Off
1: Horizontal
2: Vertical
3: Horizontal/Vertical
4: Diagonal
median_luma_filter_minimum 0x00991007 (int) : min=0 max=255 step=1 default=0 value=0 flags=inactive, slider
median_luma_filter_maximum 0x00991008 (int) : min=0 max=255 step=1 default=255 value=255 flags=inactive, slider
median_chroma_filter_minimum 0x00991009 (int) : min=0 max=255 step=1 default=0 value=0 flags=inactive, slider

median_chroma_filter_maximum 0x0099100a (int) : min=0 max=255 step=1 default=255 value=255 flags=inactive, slider
insert_navigation_packets 0x0099100b (bool) : default=0 value=0

Channel Scanning

>> sudo scantv -i "Tuner 1" -n NTSC-M -f us-cable -c /dev/video32
[global]
freqtab = us-cable

[defaults]
input = Tuner 1
norm = NTSC-M

scanning channel list us-cable...
1 (73.25 MHz): no station
2 (55.25 MHz): no station
3 (61.25 MHz): ???
[unknown (3)]
channel = 3

4 (67.25 MHz): no station

Streaming

>> mplayer tv:// -nolirc -tv driver=v4l2:norm=ntsc-m:input=0:noaudio:width=720:height=480:outfmt=yv12:device=/dev/video32:chanlist=us-cable:channel=3

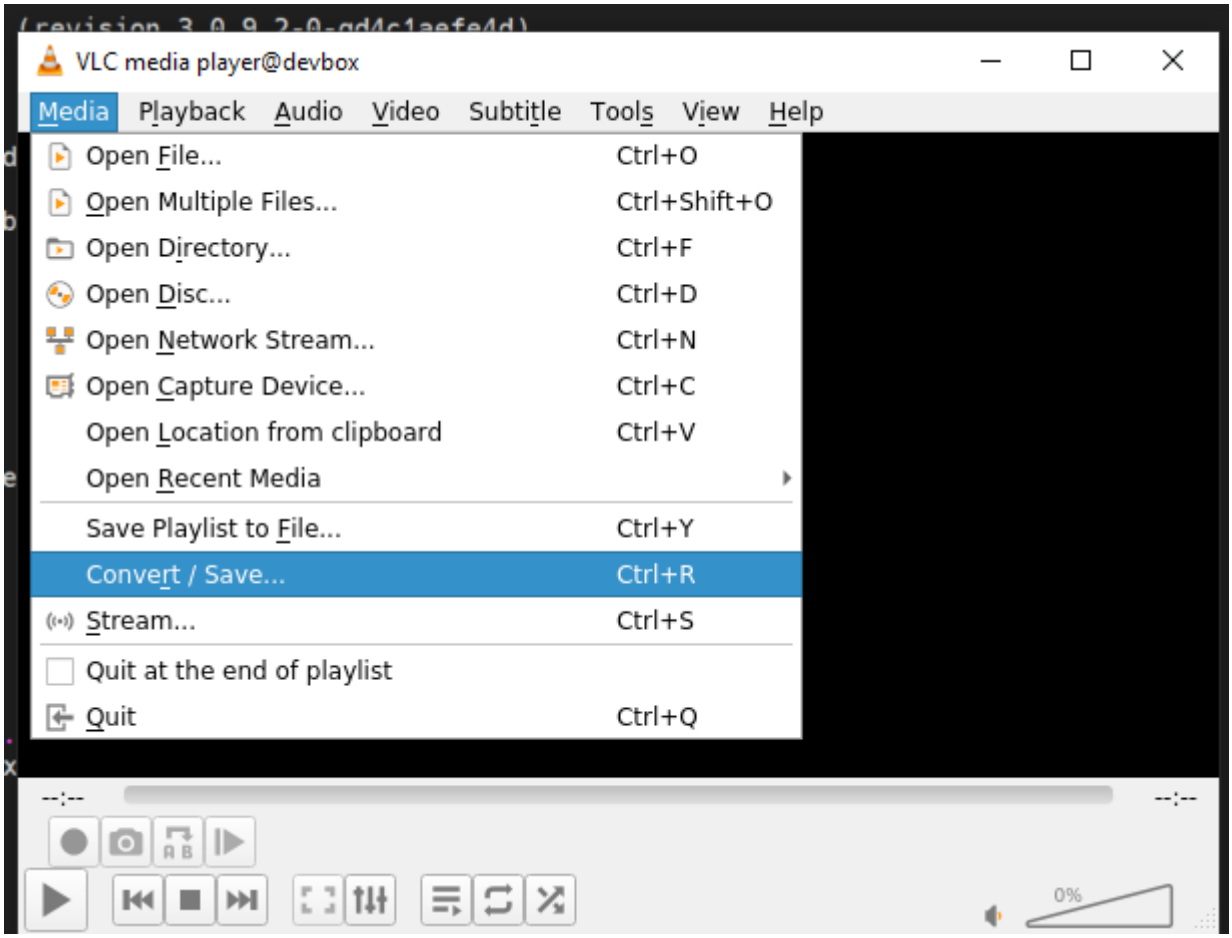
No luck, but with vlc can use pulse:// as audio and it works.

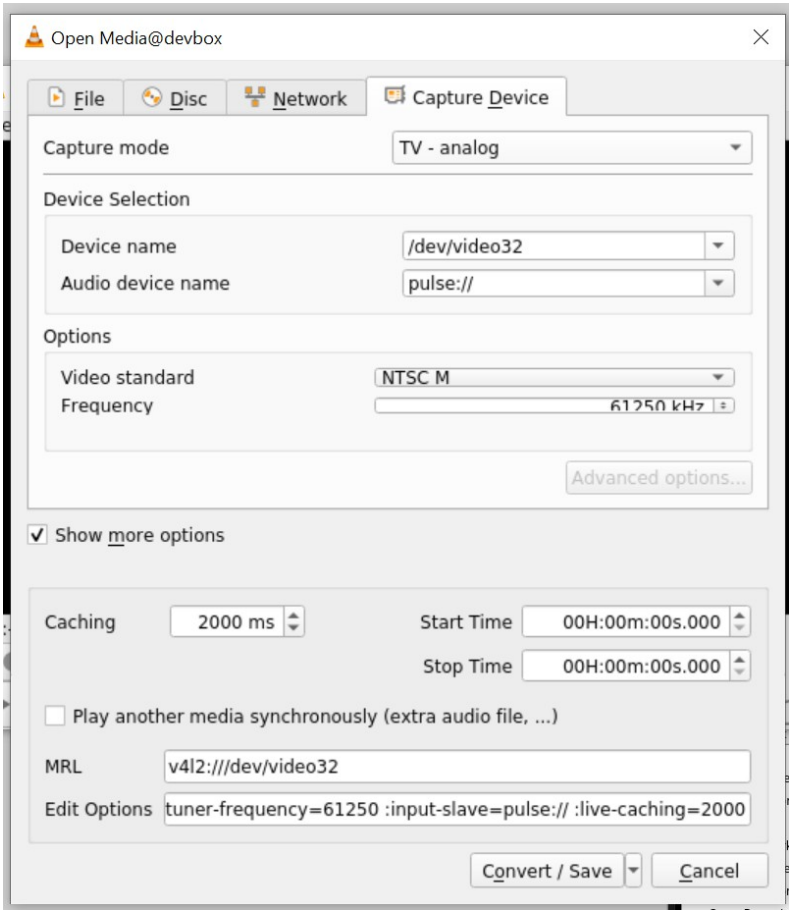
VLC from the command line (never got this to work from command line)

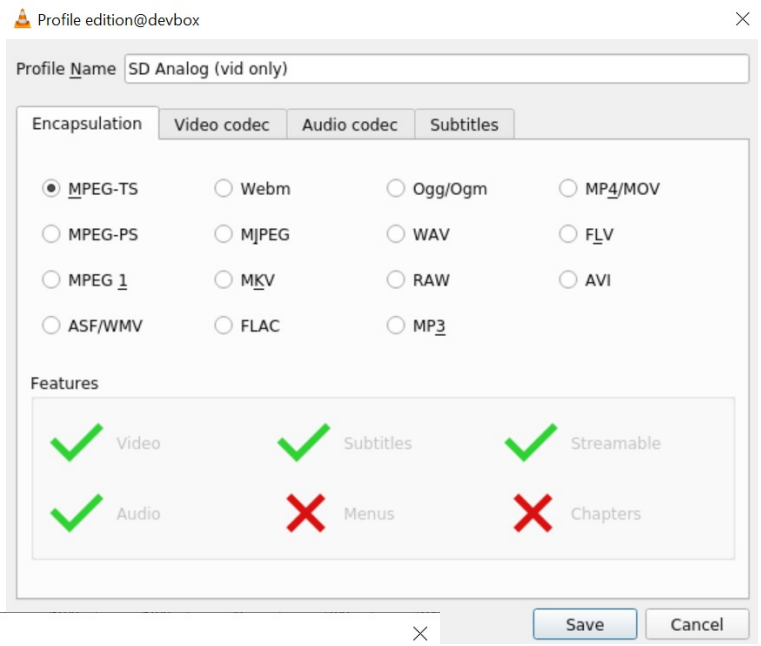
>> vlc v4l2:///dev/video32:v4l2-standard=NTSC_M:v4l2-tuner-frequency=61250 :input-slave=pulse:// :live-caching=300 --sout=file/ts:testFile.ts

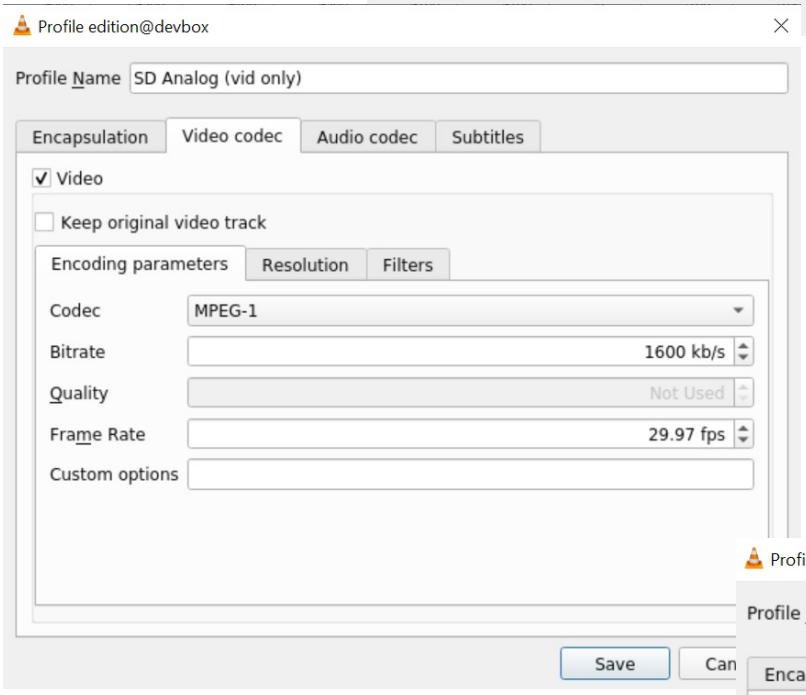
20 minutes of 1600kbit/s, 29.97fps, 2000ms caching, MPEG1, MP3 128kbps 44100Hz, resolution: 360x240

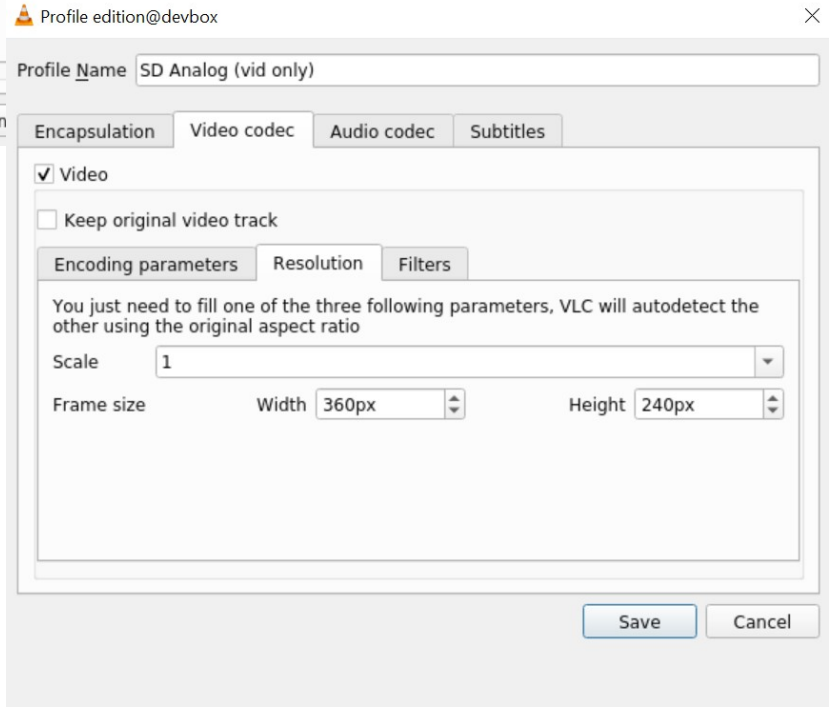
VLC Screengrabs

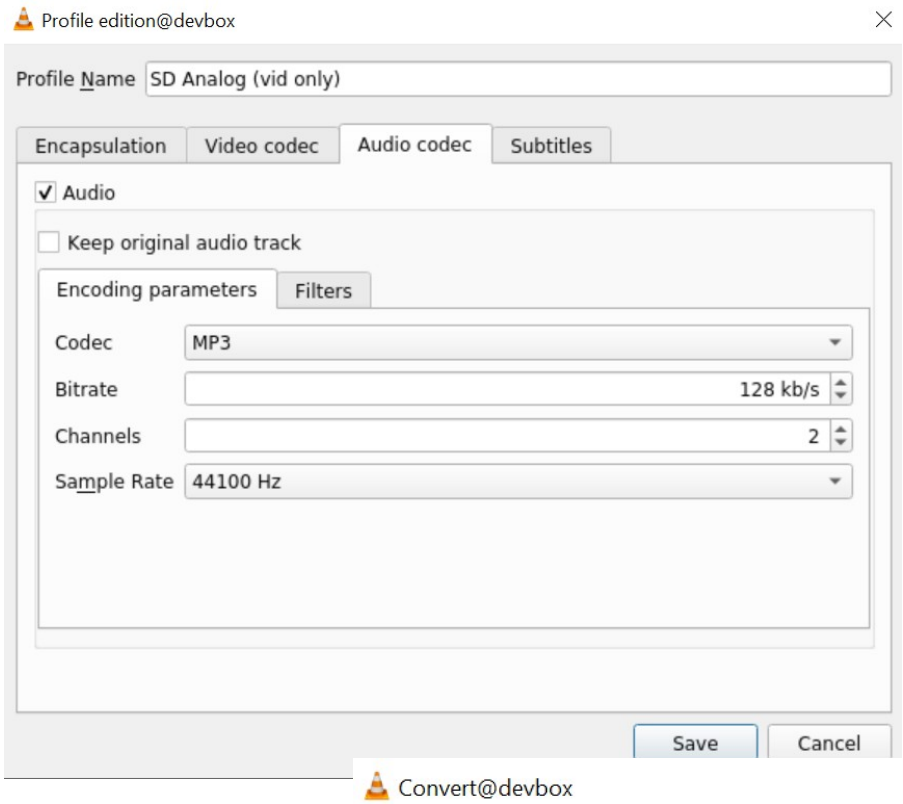


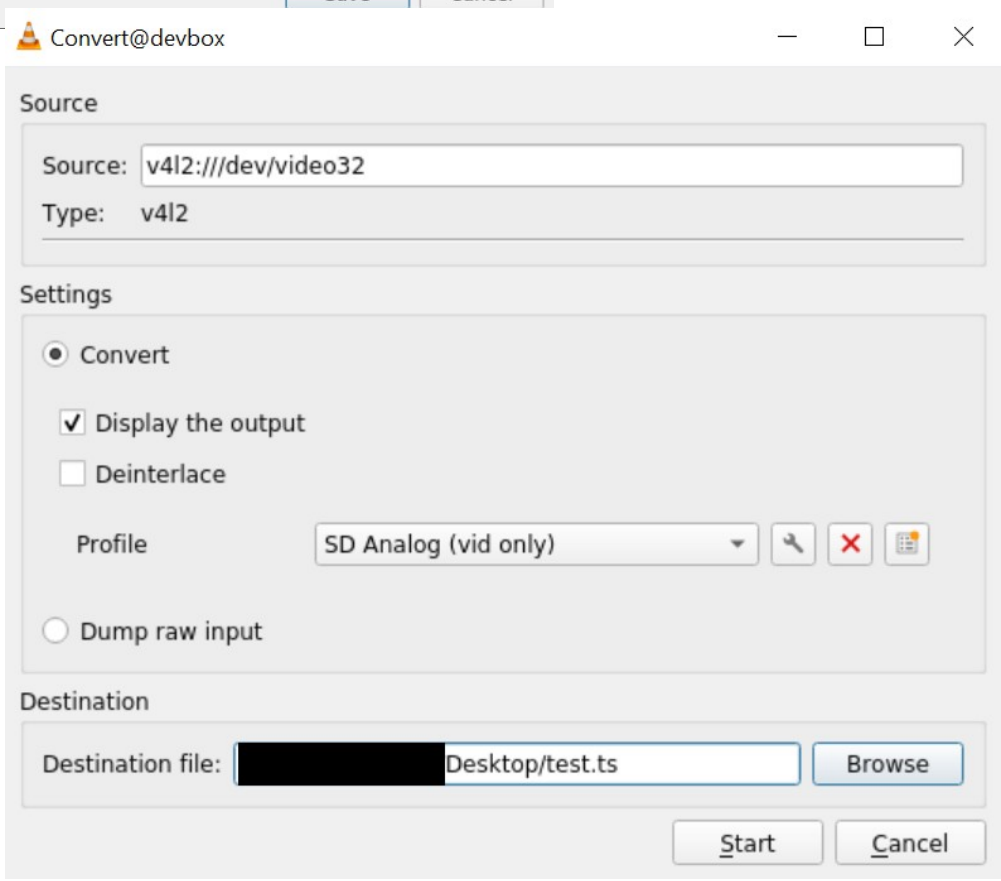



Profile edition@devbox
Profile Name
SD Analog (vid only)
Encapsulation
Video codec
Audio codec
Subtitles
MPEG-TS
Webm
Ogg/Ogm
MP4/MOV
MPEG-PS
MJPEG
WAV
FLV
MPEG 1
MKV
RAW
AVI
ASF/WMV
FLAC
MP3
Features
Video
Subtitles
Streamable
Audio
Menus
Chapters
Save
Cancel


Profile edition@devbox
Profile Name
SD Analog (vid only)
Encapsulation
Video codec
Audio codec
Subtitles
Video
Keep original video track
Encoding parameters
Resolution
Filters
Codec
MPEG-1
Bitrate
1600 kb/s
Quality
Not Used
Frame Rate
29.97 fps
Custom options
Save
Can


Profile edition@devbox
Profile Name
SD Analog (vid only)
Encapsulation
Video codec
Audio codec
Subtitles
Video
Keep original video track
Encoding parameters
Resolution
Filters
You just need to fill one of the three following parameters, VLC will autodetect the other using the original aspect ratio
Scale
1
Frame size
Width
360px
Height
240px
Save
Cancel


Profile edition@devbox
Profile Name
SD Analog (vid only)
Encapsulation
Video codec
Audio codec
Subtitles
Audio
Keep original audio track
Encoding parameters
Filters
Codec
MP3
Bitrate
128 kb/s
Channels
2
Sample Rate
44100 Hz
Save
Cancel


Convert@devbox
Source
Source:
v4l2:///dev/video32
Type:
v4l2
Settings
Convert
Display the output
Deinterlace
Profile
SD Analog (vid only)
Dump raw input
Destination
Destination file:
[redacted]Desktop/test.ts
Browse
Start
Cancel