

7

7.1

FreeBSD

. FreeBSD MPEG 3(MP3), WAV Ogg

Vorbis

가 . FreeBSD 가

MIDI

가 .

FreeBSD DVD .

FreeBSD audio/sox

. XFree86(5)

- 가.
- .
- 가.
- MP3 가.
- XFree86 가.
- /
- DVD, .mpg .avi 가.

- CD DVD 가.

:

- (8)

XFree86 4.X 가(x11/XFree86-4) 가 . **XFree86 3.X**

XFree86 3.X

: CD DVD mount(8) 가
ISO-

7.2

7.2.1

가 , PCI/ISA
. FreeBSD PCI ISA
pcm(4)

- Crystal 4237, 4236, 4232, 4231
- Yamaha OPL-Sax
- OPTi931
- Ensoniq AudioPCI 1370/1371
- ESS Solo-1/1E
- NeoMagic 256AV/ZX
- Sound Blaster Pro, 16, 32, AWE64, AWE128, Live
- Creative ViBRA16
- Advanced Asound 100, 110, and Logic ALS120

- ES 1868, 1869, 1879, 1888
- Gravis UltraSound
- Aureal Vortex 1 or 2

가 가 가 . 가
kldload(8)

가

8

7.2.1.1 Creative, Advance ESS

가 가 가 :

device pcm

PnP ISA 가 가 :

device sbc

PnP ISA 가 가 :

device pcm

device sbc0 at isa? port 0x220 irq 5 drq 1 flags 0x15

가 IRQ
sbc(4)

Note: FreeBSD
4.0 STABLE

7.2.1.2 Gravis

PnP ISA 가 :

device pcm

device gusc

PnP ISA 가 가 :

device pcm

device gus0 at isa? port 0x220 irq 5 drq 1 flags 0x13

가 IRQ . gusc(4)

7.2.1.3

가 :

device pcm

device csa

7.2.1.4

PnP ISA PCI 가 :

device pcm

가 PnP ISA 가
가 :

device pcm0 at isa? irq 10 drq 1 flags 0x0

가 IRQ .

7.2.1.5 Onboard

가 :

options PNPBIOS

Note: FreeBSD 5.0 *PNPBIOS* .

7.2.2

/var/run/dmesg.boot :

grep pcm /var/run/dmesg.boot

pcm0: <SB16 DSP 4.11> on sbc0

. pcm 가 가

7.2.2.1 .

Note: FreeBSD 5.0

. 5.0 devfs(5) .

pcm0 root :

cd /dev

sh MAKEDEV snd0

pcm1 snd0 snd1 .

Note: /dev/snd !

MAKEDEV :

--	--

/dev/audio	SPARC-
/dev/dsp	
/dev/dspW	/dev/dsp 16 bits 가
/dev/midi	Raw midi
/dev/mixer	
/dev/music	2 sequencer
/dev/sequencer	Sequencer
/dev/pss	가

가 CD-ROM DVD-ROM
CD cdcontrol(1)

% **cdcontrol -f /dev/acd0c play 1**

audio/workman

. MP3

audio/mpg123

7.2.2.1

unsupported subdevice XX	가
sb_dspwr(XX) timed out	I/O 가
bad irq XX	IRQ 가 IRQ IRQ
xxx: gus pcm not attached, out of memory	가
xxx: can't open /dev/dsp!	fstat grep dsp 가 esound KDE

7.2.3

esound artsd 가

```
FreeBSD sysctl(8) 가
가

root 가 sysctl :

# sysctl hw.snd.pcm0.vchans=4
# sysctl hw.snd.maxautovchans=4

4 가
hw.snd.pcm0.vchans pcm0 가 가
. hw.snd.maxautovchans kldload(8) 가 가
. pcm
hw.snd.maxautovchans 가 가 가 가

devfs(5) /dev/dsp0.x x
hw.snd.pcm.0.vchans 가 4 0 3
devfs(5)
```

7.3 MP3

MP3(MPEG 3) CD FreeBSD

7.3.1 MP3

가 XFree86 MP3 XMMS(X) . GUI 가 Nullsoft
Winamp Winamp XMMS XMMS



XMMS multimedia/xmms

XMMS 가 .
Winamp XMMS 가 .

audio/mpg123 MP3 .

mpg123 MP3 :

mpg123 -a /dev/dsp1.0 Foobar-GreatestHits.mp3

High Performance MPEG 1.0/2.0/2.5 Audio Player for Layer 1, 2 and 3.
Version 0.59r (1999/Jun/15). Written and copyrights by Michael Hipp.
Uses code from various people. See 'README' for more!
THIS SOFTWARE COMES WITH ABSOLUTELY NO WARRANTY! USE AT YOUR OWN RISK!

Playing MPEG stream from BT - Foobar-GreastHits.mp3 ...
MPEG 1.0 layer III, 128 kbit/s, 44100 Hz joint-stereo

/dev/dsp1.0 dsp .


```
# cdda2wav -D /dev/acd0a -t 7
```

```
-D 0,1,0 cdrecord -scanbus SCSI 0,1,0 .
-t :
```

```
# cdda2wav -D 0,1,0 -t 7
```

```
CDROM 7 . 1 7
:
```

```
# cdda2wav -D 0,1,0 -t 1+7
```

```
dd(1) ATAPI .
16.5.5 .
```

7.3.3 MP3

```
mp3 lame .Lame audio/lame .
WAV audio01.wav audio01.mp3 :
```

```
# lame -h -b 128 \
```

```
--tt "Foo Song Title" \
```

```
--ta "FooBar Artist" \
```

```
--tl "FooBar Album" \
```

```
--ty "2001" \
```

```
--tc "Ripped and encoded by Foo" \
```

```
--tg "Genre" \
```

```
audio01.wav audio01.mp3
```

```
128 kbits MP3 160 192
MP3 가 .-h
" " .-t MP3
가 ID3 . 가 lame
```

7.3.4 MP3

MP3 CD WAV
XMMS **mpg123** MP3

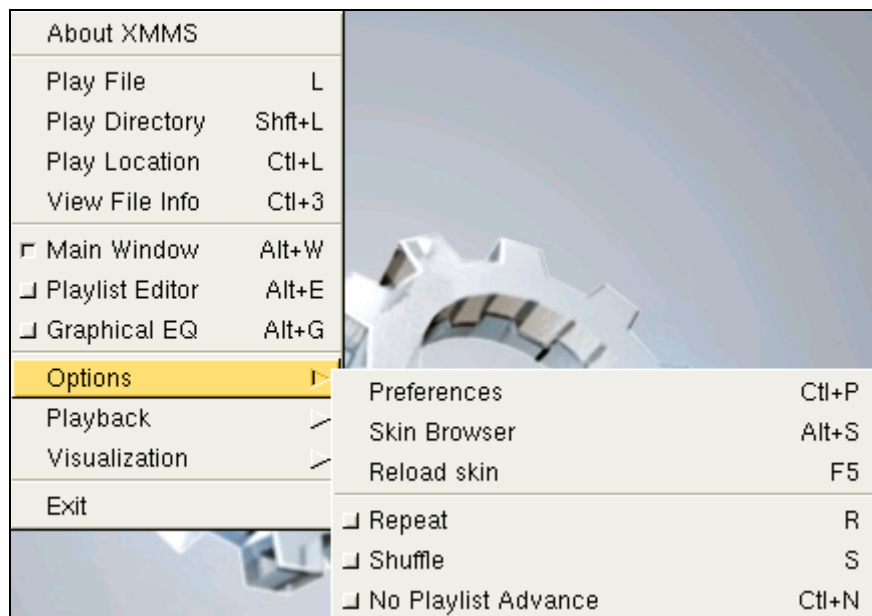
XMMS

[: XMMS]

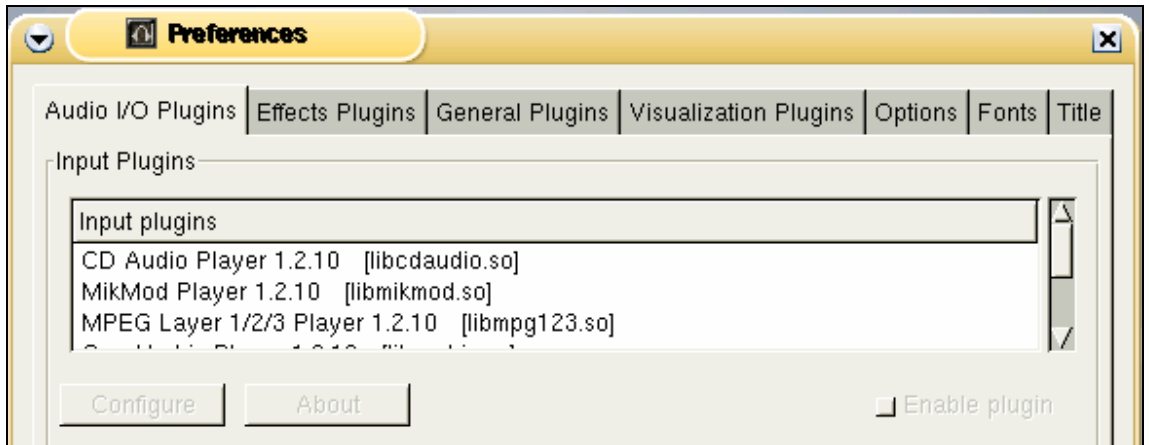
1. XMMS

% **xmms &**

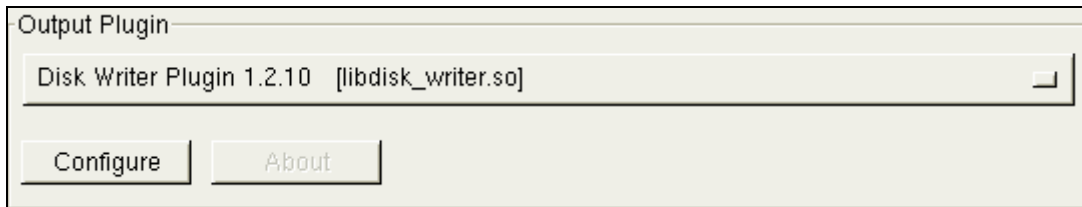
2. XMMS



3. *Options* *Preference*

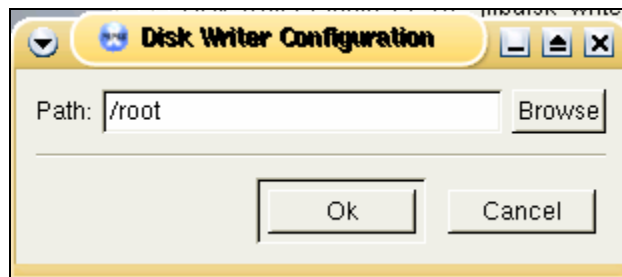


4. "Disk Writer Plugin"



5. **Configure**

6. ()



7. 100%, EQ MP3 XMMS
8. *Play* --XMMS MP MP3



9. MP3

mpg123

```
% mpg123 -s audio01.mp3 > audio01.pcm
```

XMMS	WAV		mpg123	MP3	raw PCM
		cdrecord	CD		raw PCM
burncd(8)		WAV			WAV
			SoX	<u>(audio/sox</u>	
) WAV			:	

```
% sox -t wav -r 44100 -s -w -c 2 track.wav track.raw
```

FreeBSD CD 16.6

7.4

가

XFree86

.X 가

, X11 xdpinfo(1)

```

가
가
/dev/devd
. DVD DVD
:
# ln -sf /dev/acd0c /dev/dvd
# ln -sf /dev/racd0c /dev/rdvd

devfs(5) FreeBSD 5.X
:

# ln -sf /dev/acd0c /dev/dvd
# ln -sf /dev/acd0c /dev/rdvd

devfs(5)
/etc/devfs.conf

가 :

link acd0 dvd
link acd0 rdvd

가 DVD-ROM DVD DVD
.
가 :

option CPU_ENABLE_SSE
option USER_LDT

Note: option USER_LDT FreeBSD 5.X
.

X11 sysctl(8) 가 :

kern.ipc.shmmax=67108864
kern.ipc.shmall=32768

```

7.4.1

X11

가

X11

XFree86

X11: X11

XVideo: X11 drawabel X11

SDL:

DGA:

SVGAlib:

7.4.1.1 XVideo

XFree86 4.X 가

XVideo (Xvideo, Xv, xv)
(PIII 400 Mhz)

3DFX 3

i810 i815

S3 (/IX /MX)

가

가

. **XFree86 4.X**

xv

가 . xvinfo

% **xvinfo**

XVideo

X-Video Extension version 2.2

screen #0

Adaptor #0: "Savage Streams Engine"

number of ports: 1
port base: 43
operations supported: PutImage
supported visuals:
depth 16, visualID 0x22
depth 16, visualID 0x23
number of attributes: 5
"XV_COLORKEY" (range 0 to 16777215)
client settable attribute
client gettable attribute (current value is 2110)
"XV_BRIGHTNESS" (range -128 to 127)
client settable attribute
client gettable attribute (current value is 0)
"XV_CONTRAST" (range 0 to 255)
client settable attribute
client gettable attribute (current value is 128)
"XV_SATURATION" (range 0 to 255)
client settable attribute
client gettable attribute (current value is 128)
"XV_HUE" (range -180 to 180)
client settable attribute
client gettable attribute (current value is 0)
maximum XvImage size: 1024 x 1024
Number of image formats: 7
id: 0x32595559 (YUY2)
guid: 59555932-0000-0010-8000-00aa00389b71
bits per pixel: 16
number of planes: 1
type: YUV (packed)
id: 0x32315659 (YV12)
guid: 59563132-0000-0010-8000-00aa00389b71
bits per pixel: 12
number of planes: 3
type: YUV (planar)
id: 0x30323449 (I420)
guid: 49343230-0000-0010-8000-00aa00389b71

bits per pixel: 12
number of planes: 3
type: YUV (planar)
id: 0x36315652 (RV16)
guid: 52563135-0000-0000-0000-000000000000
bits per pixel: 16
number of planes: 1
type: RGB (packed)
depth: 0
red, green, blue masks: 0x1f, 0x3e0, 0x7c00
id: 0x35315652 (RV15)
guid: 52563136-0000-0000-0000-000000000000
bits per pixel: 16
number of planes: 1
type: RGB (packed)
depth: 0
red, green, blue masks: 0x1f, 0x7e0, 0xf800
id: 0x31313259 (Y211)
guid: 59323131-0000-0010-8000-00aa00389b71
bits per pixel: 6
number of planes: 3
type: YUV (packed)
id: 0x0
guid: 00000000-0000-0000-0000-000000000000
bits per pixel: 0
number of planes: 0
type: RGB (packed)
depth: 1
red, green, blue masks: 0x0, 0x0, 0x0

(YUV2, YUV12) Xvideo

가 :

X-Video Extension version 2.2
screen #0

no adaptors present

XVideo 가

XVideo 가

가

7.4.3

7.4.1.2

SDL Microsoft Windows, BeOS

.SDL 가 X11

SDL [devel/sdl12](#)

7.4.1.3

X

XFree86

root

DGA dga(1)

.dga 가

q

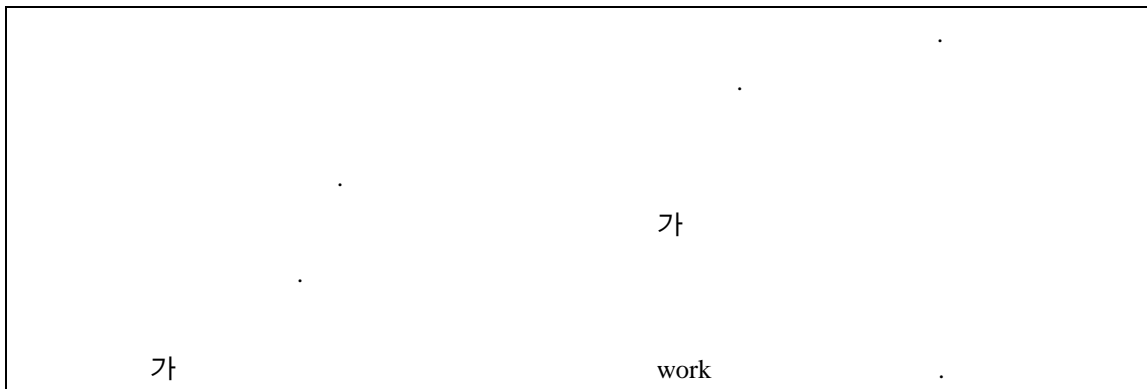
7.4.2

FreeBSD

FreeBSD

. FreeBSD

:



가

가

work

“Linux-isms”

가

가

/proc/cpuinfo

FreeBSD

가

7.4.2.1 MPlayer

MPlayer

. MPlayer

가

[: MPlayer]

1. MPlayer

MPlayer [multimedia/mplayer](#) . MPlayer

가

make

cd /usr/ports/multimedia/mplayer

make

You can enable additional compilation optimizations

by defining WITH_OPTIMIZED_CFLAGS

You can enable GTK GUI by defining WITH_GUI.

You can enable DVD support by defining WITH_DVD.

You can enable SVGALIB support by defining WITH_SVGALIB.

You can enable VORBIS sound support by defining WITH_VORBIS.

You can enable XAnim DLL support by defining WITH_XANIM.

[x11-toolkits/gtk12](#)가

GUI

. MPlayer DVD (CSS)

DVD

가

:

make WITH_DVD=yes WITH_SVGALIB=yes

MPlayer

HTML

mplayer

mencoder

. Makefile

MPlayer HTML

가

MPlayer

가

MPlayer

2. MPlayer

MPlayer .mplayer

```
% cd /usr/ports/multimedia/mplayer
```

```
% make install-user
```

mplayer HTML



```
testfile.avi -vo :
```

```
% mplayer -vo xv testfile.avi
```

```
% mplayer -vo sdl testfile.avi
```

```
% mplayer -vo x11 testfile.avi
```

```
# mplayer -vo dga testfile.avi
```

```
# mplayer -vo 'sdl:dga' testfile.avi
```

가

```
DVD testfile.avi -dvd N DEVICE . N
```

```
DEVICE DVD-ROM /dev/dvd 3
```

```
# mplayer -vo dga -dvd 2 /dev/dvd
```

```
, mplayer -h
```

가

-framedrop

```
fs -zoom
```

```
mplayer .mplayer/conf
```

```

:
vo=xv
fs=yes
zoom=yes

mplayer DVD .vob . DVD
:
# mplayer -dumpstream -dumpfile out.vob -dvd 2 /dev/dvd

out.vob MPEG

```

7.4.2.1.3 mencoder

```

mencoder
mencoder HTML
가 HTML ,
가 가
. 가 가 . :
% mencoder input.avi -oac copy -ovc copy -o output.avi

mplayer
mplayer -dumpfile

input.avi MPEG4 MPEG3 (audio/lame
.):

% mencoder input.avi -oac mp3lame -lameopts br=192 \
-oac mp3lame -lameopts vcodec=mpeg4:vhq -o output.avi

mplayer xine

input.avi -dvd 1 /dev/dvd DVD root

```

7.4.2.2 xine

xine

multimedia/xine

Xine 가 **xine**
CPU 가 XVideo GUI

DVD CSS **xine**
FreeBSD

MPlayer **xine**
가 **xine** XVideo

xine

% **xine**

GUI

% **xine -g -p mymovie.avi**

7.4.2.3 transcode

transcode 가 .avi .mpg
. **transcode** stdin/stdout

MPlayer **transcode** multimedia/transcode
. make :

make WITH_LIBMPEG2=yes

multimedia/avifile WITH_AVIFILE make
가 :

make WITH_AVIFILE=yes WITH_LIBMPEG2=yes

transcode 가 가 .
openDIVX AVI MPEG

% transcode -i input.vob -x vob -V -Z 320x240 \
-y opendivx -N 0x55 -o output.avi

% transcode -i input.vob -x vob -V -Z 320x240 \
-y mpeg -N 0x55 -o output.tmp

% tcplex -o output.mpg -i output.tmp.m1v -p output.tmp.mpa -m 1

transcode 가 tc* (tcplex)
. -h

transcode mencoder 가
transcode MPEG Apple

QuickTime

7.4.3

FreeBSD 가 가
FreeBSD A/V

FAQ

가

Mplayer (<http://www.mplayerhq.hu/DOCS/>)

. MPlayer

xine (http://dvd.sourceforge.net/xine-howto/en_GB/html/howto.html)

가

- [multimedia/avifile](#) Avifile(<http://avifile.sourceforge.net/>)
- [multimedia/ogle](#) Ogle(<http://www.dtek.chalmers.se/groups/dvd/>)
- Xtheater(<http://xtheater.sourceforge.net/>)

7.5 TV

7.5.1

TV

TV

RCA

S-

FM

가

FreeBSD bktr(4)

Brooktree Bt848/849/878/879

Conexant CN-878/Fusion 878a

PCI TV

가

bktr(4)

7.5.2

가

/boot/loader.conf

가

bktr(4)

bktr_load="YES"

TV

가 :

```
device bktr
device iicbus
device iicbb
device smbus
```

가 12C

가 .

가

TV

가 :

```
bktr0: <BrookTree 848A> mem 0xd7000000-0xd7000fff irq 10 at device 10.0 on pci0
iicbb0: <I2C bit-banging driver> on bti2c0
iicbus0: <Philips I2C bus> on iicbb0 master-only
iicbus1: <Philips I2C bus> on iicbb0 master-only
smbus0: <System Management Bus> on bti2c0
bktr0: Pinnacle/Miro TV, Philips SECAM tuner.
```

가

. sysctl(8) MIB

가 . Philips SECAM

가 :

options OVERRIDE_TUNER=6

sysctl(8) :

sysctl hw.bt848.tuner=6

가 bktr(4) /usr/src/sys/conf/NOTES
 . (FreeBSD 4.X /usr/src/sys/conf/NOTES /usr/src/sys/i386/conf/LINT
)

7.5.3

TV

가

- [multimedia/fxtv](#) TV / /
- [multimedia/xawtv](#) **fxtv** TV
- [misc/alevt](#) Videotext/Teletext
- [audio/xmradio](#) TV FM

- [audio/wmtune](#)

FreeBSD

7.5.4

TV

가

가 bktr(4)

. TV

freebsd-multimedia

(<http://lists.freebsd.org/mailman/listinfo/freebsd-multimedia>)

가