
FreeBSD

Korea FreeBSD Users Group – <http://www.kr.FreeBSD.org/>

Chapter 5 : X

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: 2004 8 7

: 2005 3 8

: 1.0

FreeBSD Documentation Project FreeBSD Handbook 2004 8

7 . FreeBSD Handbook ,
, CVS Repository
,
,
가
가 . KFUG(Korea FreeBSD Users Group)
KFUG

“FreeBSD Handbook” “FreeBSD Documentation Project” , “ FreeBSD
” “ (Young-oak Lee)” .

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5 X

5.1

FreeBSD

XFree86

XFree86 X

FreeBSD

XFree86

XFree86

XFree86

(<http://XFree86.org/>)

- X
- XFree86
- 가
- XFree86 가
- (XDM) 가
- (4).

5.2 X

X

MacOS

X

X

가

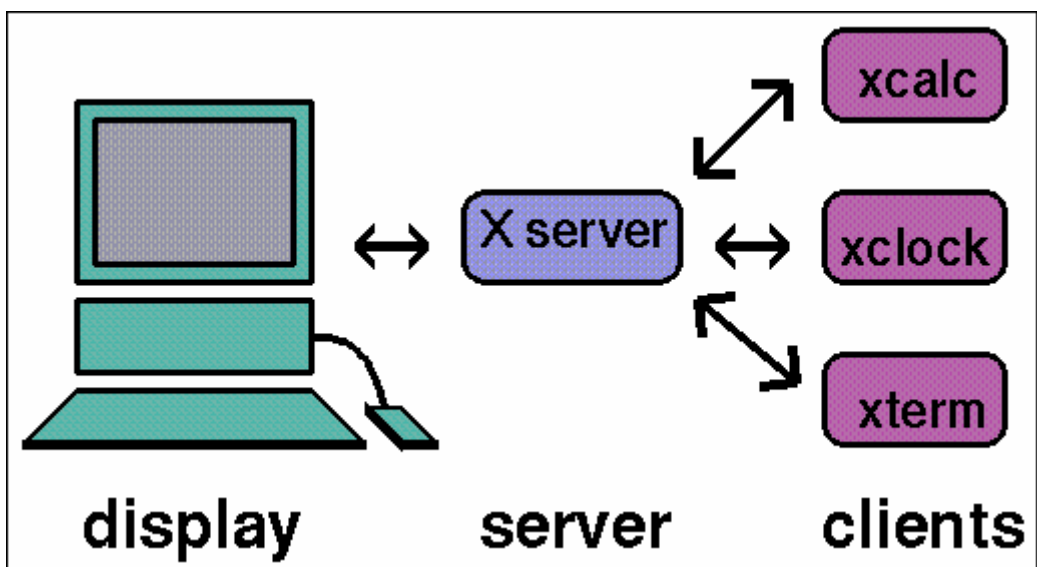
X 가 .

5.2.1 X 가?

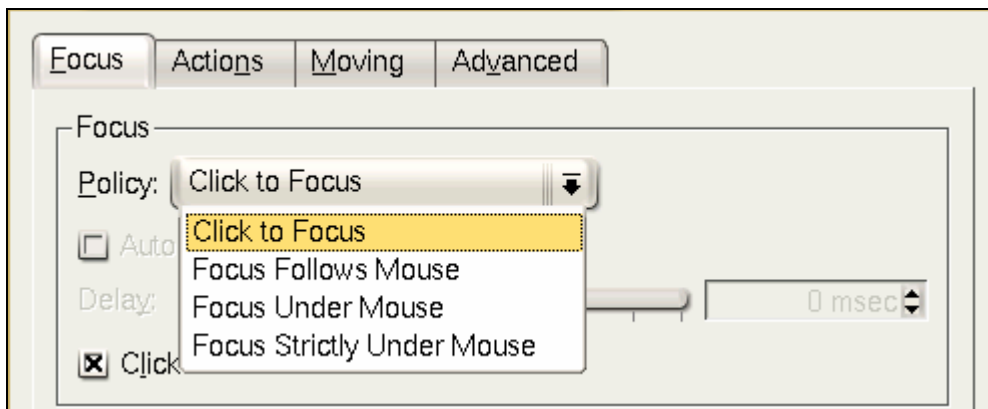
X . X
 X
 "W"("Window") . X
 X "X", "X " , "X11" . "X " X11
 ;
 X(7)

5.2.2 X /

X 가 " - "
 . X "X " , 가
 , 가 . X
 (XTerm Netscape) " . "
 " 가 OK
 "



“가 ” ” ” 가
 x11 - wm
 가 KDE GNOME 가
 가 GUI
 (sawfish) Lisp 가
 : “ ”
 “ ”
 X 가
 가



[5-2.bmp]

가 .

focus - follow - mouse

가 . 가 가

sloppy - focus

focus - follows - mouse . focus - follows -

mouse 가 root ()

. sloppy - focus

가 가

click - to - focus

가

5.2.4

" "

; ' ' ' ' ' ' .
" "

MacOS

가

. X

MIT X , Motif(가 ,
3), OpenLook
X KDE Qt GNOME
GTK

5.3 XFree86

XFree86 . XFree86 3.X XFree86
XFree86 4.X
가 3.X
4.X
XFree86 4.X FreeBSD
4.X
FreeBSD FreeBSD XFree86 4.X
(2.9.11). XFree86 3.X
FreeBSD XFree86
XFree86 3.X

```
# cd /usr/ports/x11/XFree86
# make all install clean
```

```
XFree86 XFree86 (http://www.XFree86.org/)
FreeBSD . pkg_add(1)
XFree86 4.X . pkg_add(1)
. pkg_add(1)
XFree86 4.X
```

```
# pkg_add -r XFree86
```

XFree86 4.X

```
# cd /usr/ports/x11/XFree86-4
```

```
# make install clean
```

Note:

XFree86 4.X

XFree86

XFree86

5.4 XFree86

5.4.1

XFree86 4.X

가 :

-
-
-

XFree86

가

XFree86

5.4.2 XFree86 4.X

XFree86 4.X *-configure* XFree86

```
# XFree86 -configure
```

```
    /root          XF86Config.new  (          $HOME
가                )          XFree86
XFree86
```

XFree86

```
# XFree86 -xf86config XF86Config.new
```

```
    X          가
Ctrl+Alt+Backspace
```

```
Note:   가          가          . FreeBSD
        2.9.10
```

```
    XF86Config.new          . emacs(1) ee(1)
        가
```

```
    XF86Config.new          "Monitor"
```

```
가 :
```

Section "Monitor"

```

Identifier      "Monitor0"
VendorName     "Monitor Vendor"
ModelName      "Monitor Model"
HorizSync      30 - 107
VertRefresh    48 - 120
    
```

EndSection

```

HorizSync   VertRefresh   .   가
             Horizsync       VertRefresh
    
```

가 .

```

X   가           DPMS(Energy Star)           . xset(1)
           ,           off           .           DPMS
    
```

가 :

```

Option      "DPMS"
    
```

XF86Config.new

```
"Screen"           :
```

Section "Screen"

```

Identifier      "Screen0"
Device          "Card0"
Monitor         "Monitor0"
DefaultDepth    24
SubSection      "Display"
    Depth        24
    Modes        "1024x768"
    
```

EndSubSection

EndSection

```
DefaultDepth           .           XFree86(1)
```

```
-bpp           . Modes
```

VESA

24 .

1024 X 768

XFree86(1)

/etc/X11/XF86Config /X11R6/etc/X11/XF86Config

cp XF86Config.new /etc/X11/XF86Config

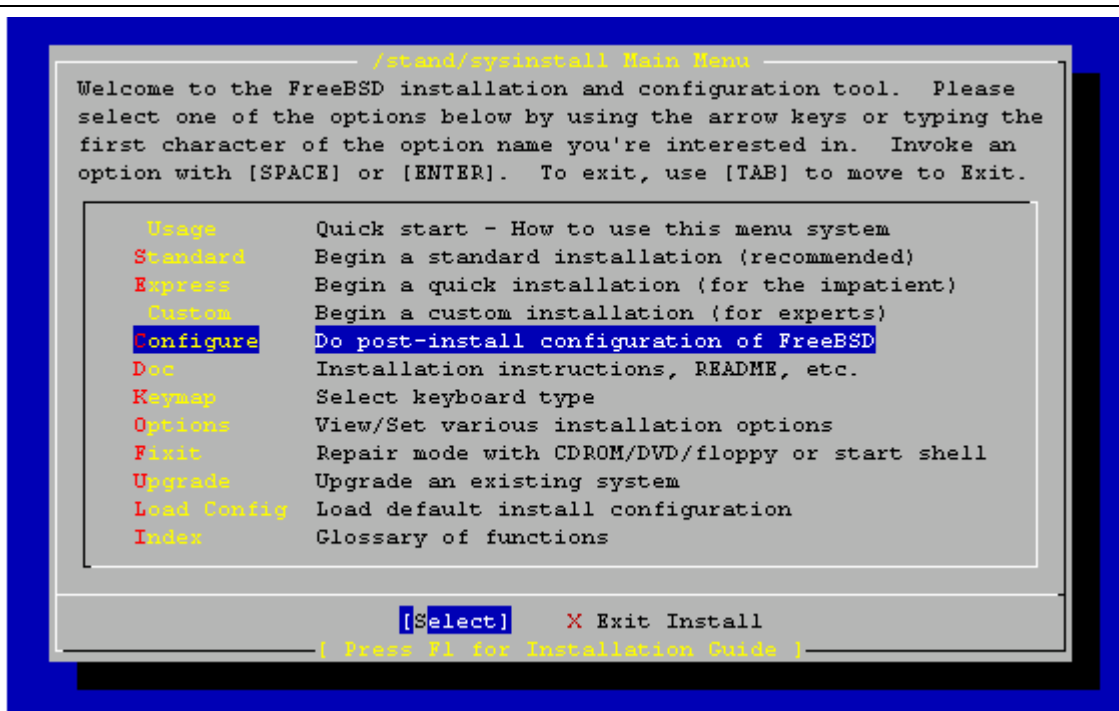
x11/wrapper . startx(1) XFree86 4.X
XFree86 4.X xdm(1)

Note: XFree86 4.X xf86cfg(1)
xf86cfg -
textmode xf86cfg(1)

[: Sysinstall XFree86]

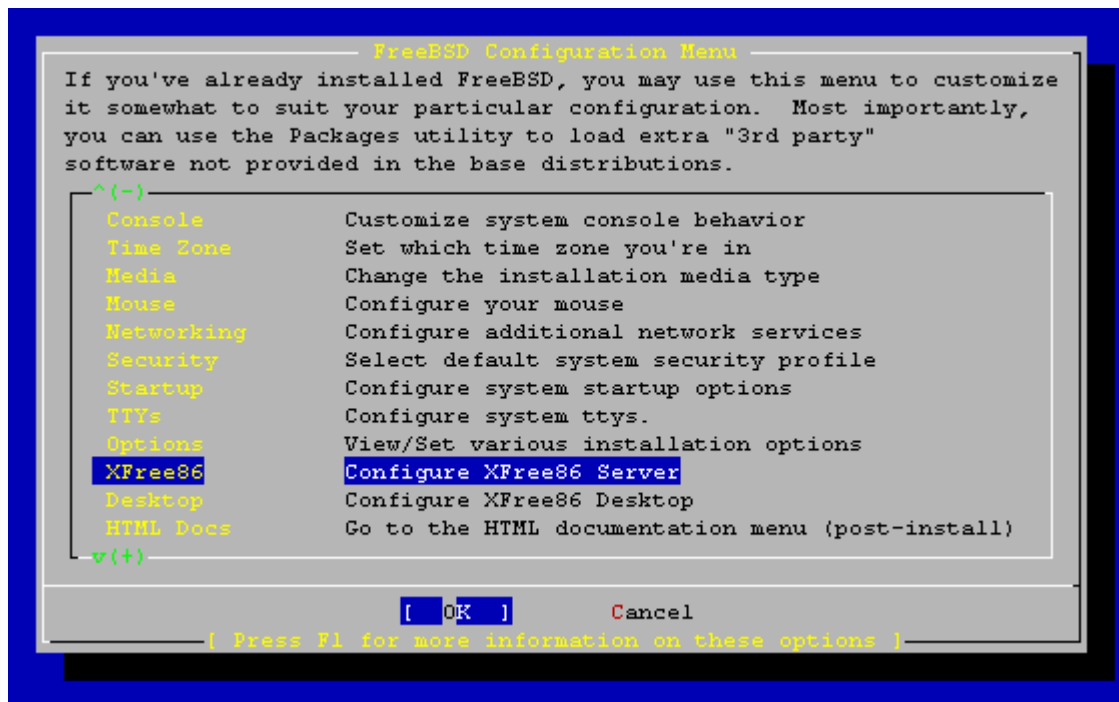
1. **Sysinstall**

/stand/sysinstall



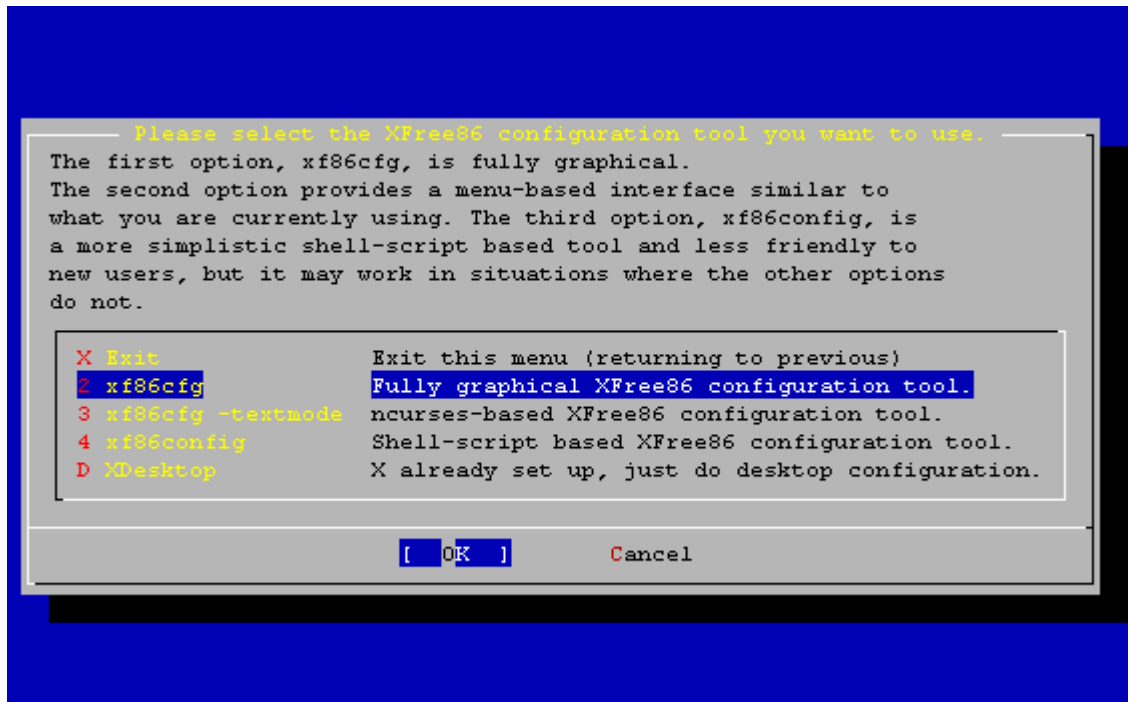
[5-3.bmp]

2. **Configure → XFree86**



[5-4.bmp]

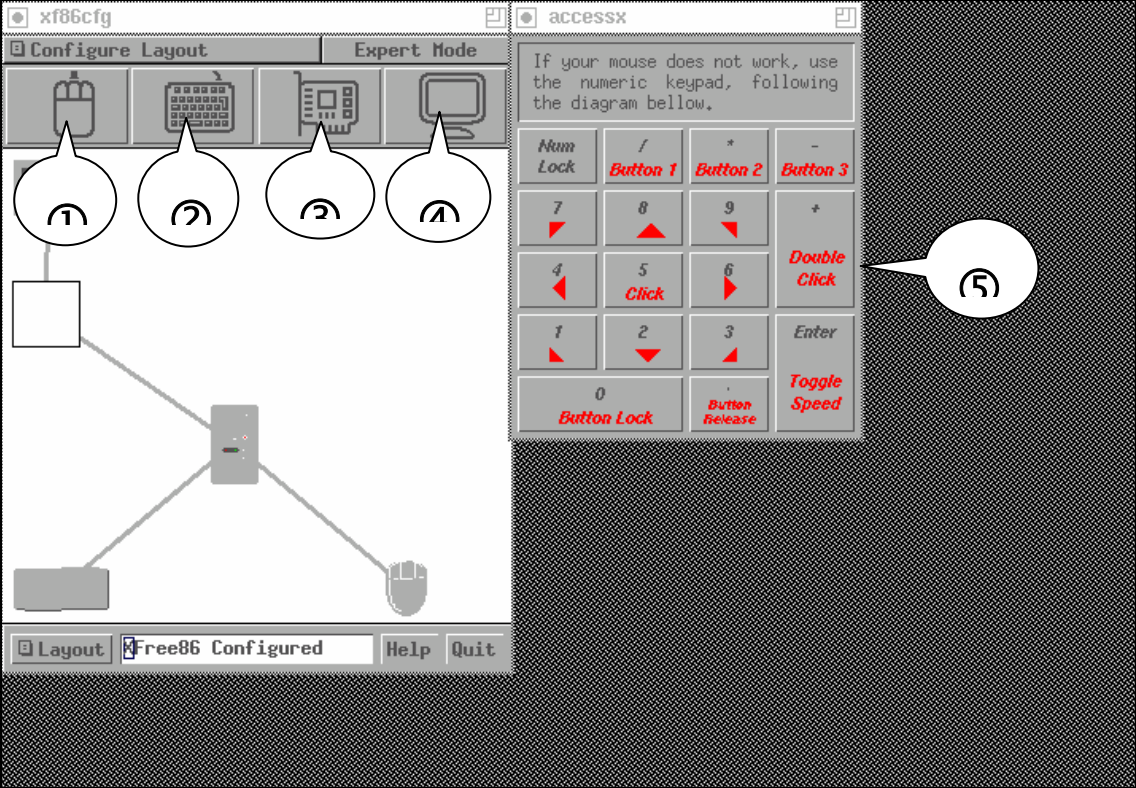
3. XFree86 3 가 가 .



[5-5.bmp]

- **xf86cfg:**
- **xf86cfg -textmode:** sysinstall
- **xf86config:**

4. xf86cfg Tab [OK] .

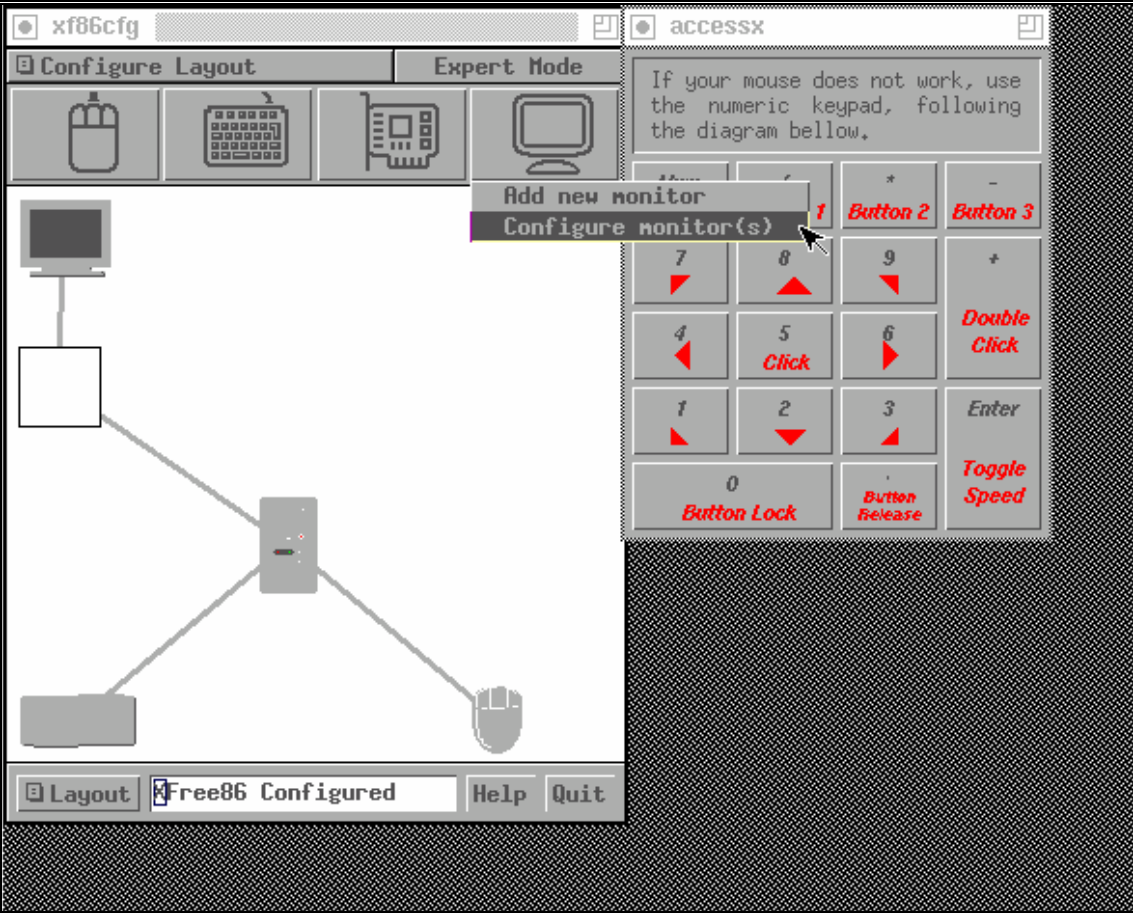


The screenshot shows two windows from the FreeBSD configuration utility. The left window, titled 'xf86cfg', is in 'Expert Mode' and shows a 'Configure Layout' section with icons for mouse, keyboard, and monitor. Callouts 1, 2, and 4 point to the mouse, keyboard, and monitor icons respectively. A diagram below shows a mouse connected to a central hub, which is also connected to a keyboard. Callout 3 points to the keyboard icon. The right window, titled 'accessx', contains instructions: 'If your mouse does not work, use the numeric keypad, following the diagram below.' Below the text is a numeric keypad diagram with callouts: 1 (Num Lock), 2 (Button 1), 3 (Button 2), 4 (Button 3), 5 (Double Click), and 6 (Toggle Speed).

[5-6.bmp]

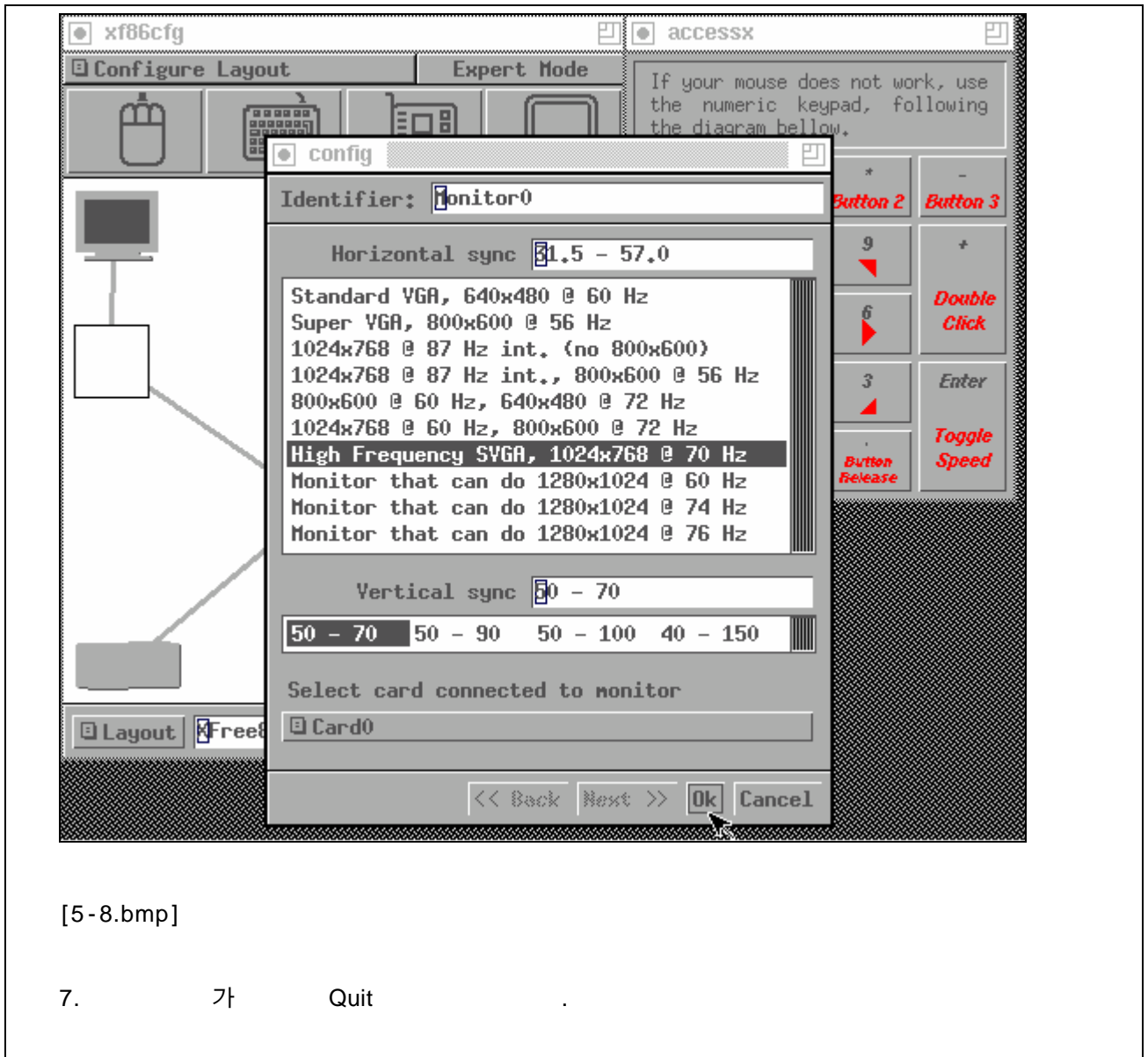
VGA
가

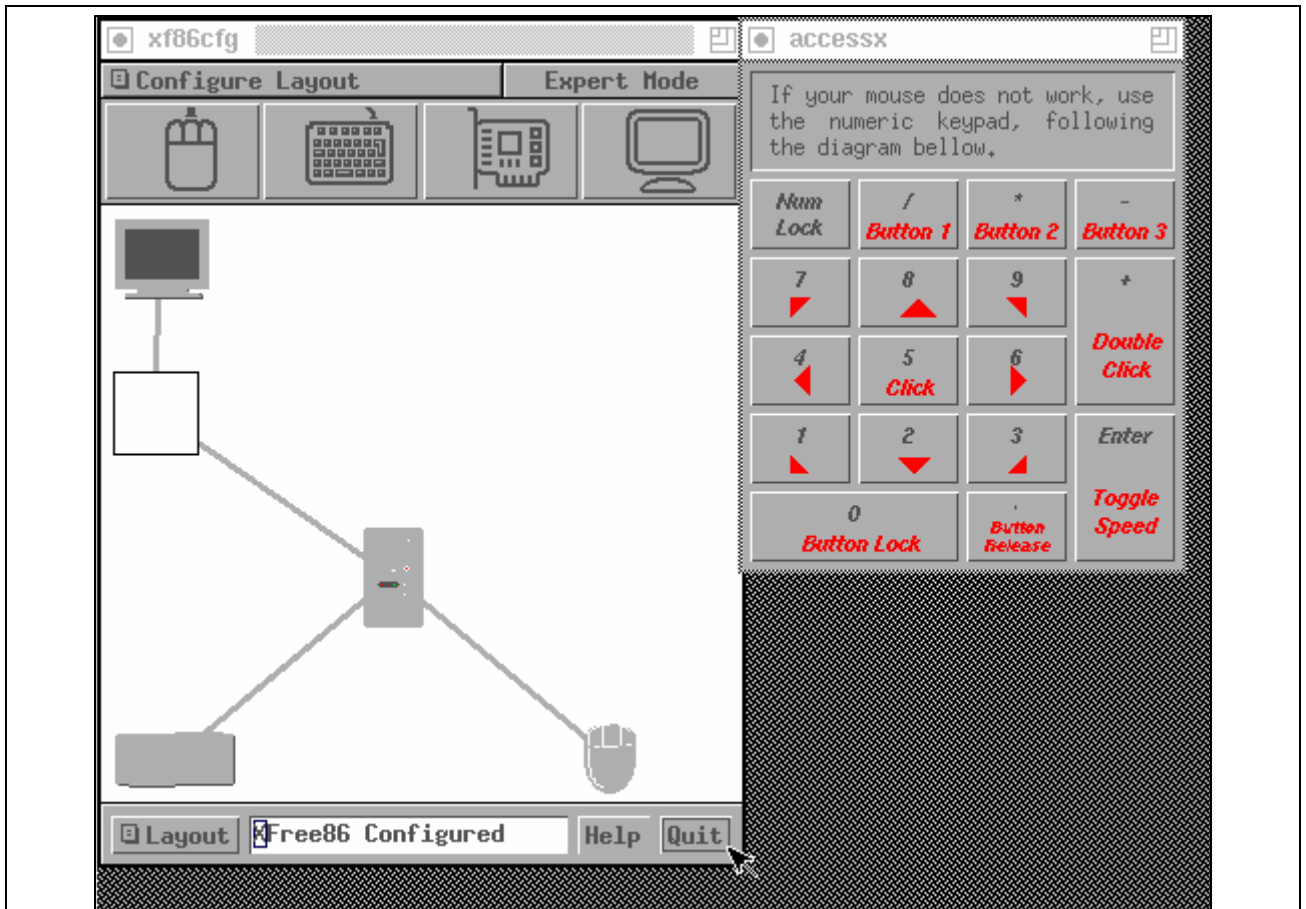
5. 가



[5-7.bmp]

6. Ok





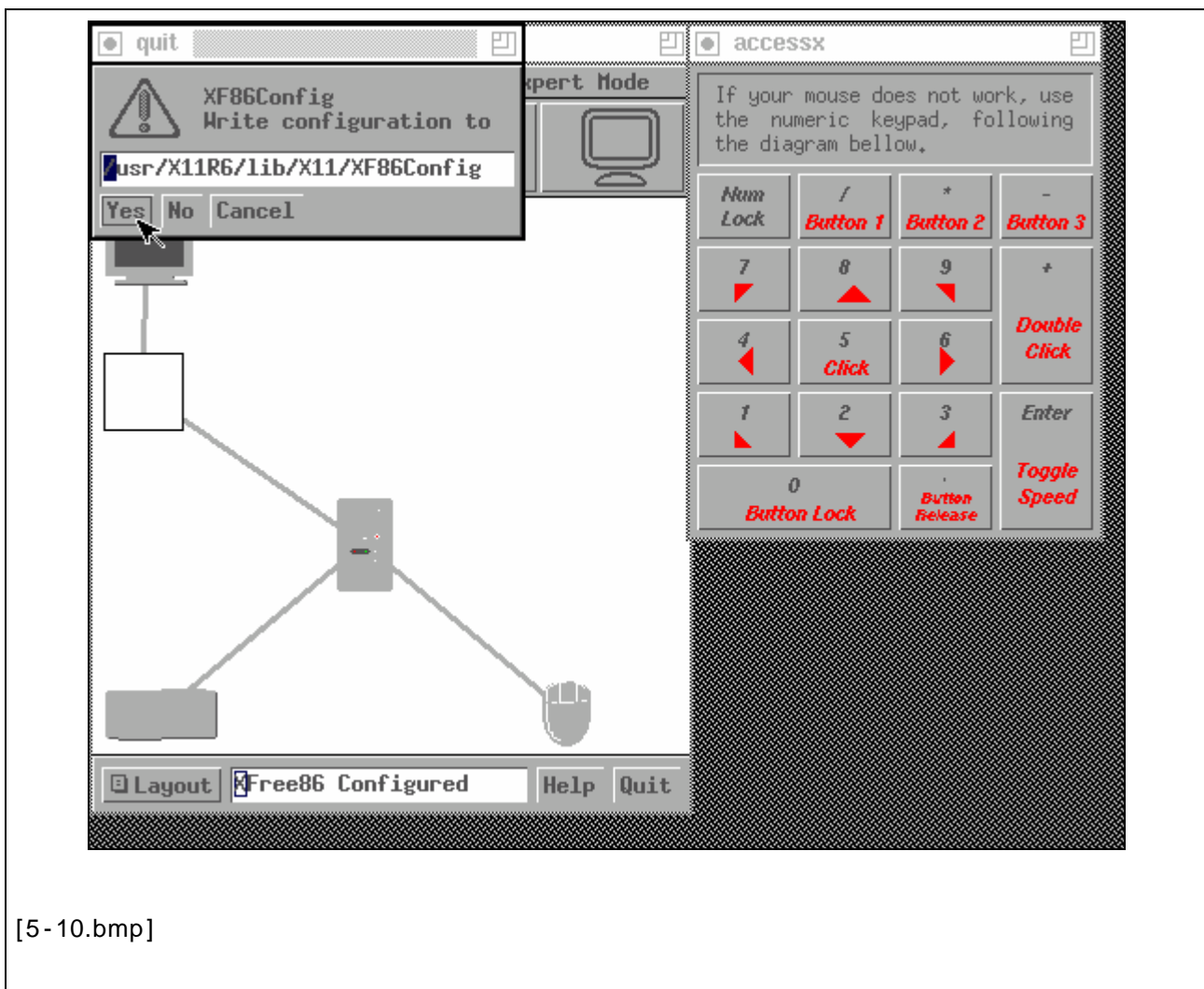
[5-9.bmp]

8.

가

. Yes

xf86cfg



[]

5.4.3

5.4.3.1 Intel i810

i810 XFree86 agpgart AGP
 가 . agp(4) 4.8-RELEASE 5.0-RELEASE
 GENERIC 가 : 가
 :
 device agp

```

        agp.ko                loader(8)
/boot/loader.conf   가      :
```

```
agp_load="YES"
```

```

        FreeBSD 4.X                가
        . AGP                        /dev      MAKEDEV(8)      .
```

```
# cd /dev
```

```
# sh MAKEDEV agpgart
```

```

Note: FreeBSD 5.X                devfs(5)
        MAKEDEV(8)   가      .
```

```

        . agp(4)   가
        kldload(8)
        /boot/loader.conf
```

```

XFree86 4.1.0   (                ) fbPictureInit   가
        XFree86   Driver "i810"   가      :
```

```
Option "NoDDC"
```

5.5 XFree86

5.5.1 1

XFree86

Netscape

```

        XFree86   3.X   4.X
1   (PostScript)가      .      URW      (x11-fonts/urwfonts)
        1   (Times Roman, Helvetica, Palatino)      .
```

(x11 - fonts/freefonts) 가

Gimp

XFree86

1

cd /usr/ports/x11-fonts/urwfonts

make install clean

가 X
XF86Config(XFree86 3 /etc/ 4 /etc/X11/)
가 :

FontPath "/usr/X11R6/lib/X11/fonts/URW/"

X :

% xset fp+ /usr/X11R6/lib/X11/fonts/URW

% xset fp rehash

(startx ~/.xinitrc
XDM ~/.xsession 가) 가
X XftConfig
:

5.5.2

XFree86 4.X 가

가 /etc/X11/XF86Config "Module"

Load "freetype"

```

XFree86 3.3.X . Xfstt
. Xfstt x11 - servers/Xfstt .
( /usr/X11R6/lib/X11/fonts/TrueType)
Macintosh
가 ; XFree86 /DOS/
ttmkfdir fonts.dir X 가
. ttmkfdir FreeBSD x11-
fonts/ttmkfdir

# cd /usr/X11R6/lib/X11/fonts/TrueType
# ttmkfdir > fonts.dir

가 . 1
FontPath XF86Config 가

% xset fp+ /usr/X11R6/lib/X11/fonts/TrueType
% xset fp rehash

Netscape, Gimp, StarOffice X
( )
(StarOffice )

```

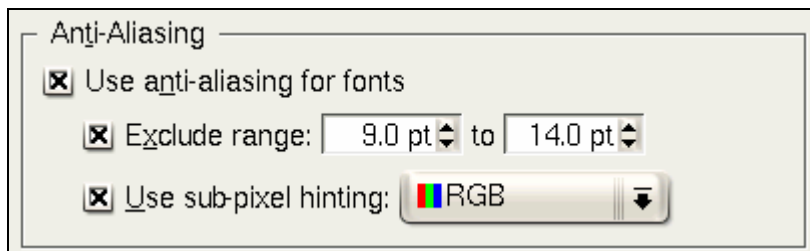
5.5.3 Anti - Aliased

```

Anti-aliasing XFree86 4.0.2 XFree86 4.3.0
4.3.0 ,
/usr/X11R6/lib/X11/fonts/ ~/.fonts/ Xft-aware
anti-aliasing Xft
. Xft-aware Qt2.3 (KDE
), Gtk+ 2.0 (GNOME ) Mozilla 1.2

```

KDE Anti - Aliasing



[5-11.bmp]

```

anti-aliasing
/usr/X11R6/etc/fonts/local.conf
가
fonts-conf(5)
XML
XML DOCTYPE <fontconfig>
<?xml version="1.0"?>
<!DOCTYPE fontconfig SYSTEM "fonts.dtd">
<fontconfig>
~/.fonts/ /usr/X11R6/lib/X11/fonts/ Xft-aware
가
/usr/X11R6/etc/fonts/local.conf 가 :
<dir>/path/to/my/fonts</dir>
가
:
# fc-cache -f
Anti-aliasing
가
. anti-aliasing 가 14

```

:

```
<match target="font">
  <test name="size" compare="less">
    <double>14</double>
  </test>
  <edit name="antialias" mode="assign">
    <bool>>false</bool>
  </edit>
</match>
<match target="font">
  <test name="pixelsize" compare="less" qual="any">
    <double>14</double>
  </test>
  <edit mode="assign" name="antialias">
    <bool>>false</bool>
  </edit>
</match>
```

```
                                anti-aliasing
KDE   가   .   가   100
      .   가
```

```
<match target="pattern" name="family">
  <test qual="any" name="family">
    <string>fixed</string>
  </test>
  <edit name="family" mode="assign">
    <string>mono</string>
  </edit>
</match>
<match target="pattern" name="family">
  <test qual="any" name="family">
    <string>console</string>
  </test>
  <edit name="family" mode="assign">
```

```
<string>mono</string>
</edit>
</match>
```

("mono"), 가 :

```
<match target="pattern" name="family">
  <test qual="any" name="family">
    <string>mono</string>
  </test>
  <edit name="spacing" mode="assign">
    <int>100</int>
  </edit>
</match>
```

Helvetica anti-aliasing 가 . 가
Mozilla
local.conf 가 :

```
<match target="pattern" name="family">
  <test qual="any" name="family">
    <string>Helvetica</string>
  </test>
  <edit name="family" mode="assign">
    <string>sans-serif</string>
  </edit>
</match>
```

local.conf </fontconfig>

XFree86 anti-aliasing
[x11-fonts/bitstream-vera](#)
/usr/X11R6/etc/fonts/local.conf
/usr/X11R6/etc/fonts/local.conf-vera

/usr/X11R6/etc/fonts/local.conf Bitstream XFree86 Serif, Sans Serif

.fonts.conf 가 .
가 ~/.fonts.conf XML

: LCD

local.conf

() ;
가 가 :

```
<match target="font">
  <test qual="all" name="rgba">
    <const>unknown</const>
  </test>
  <edit name="rgba" mode="assign">
    <const>rgb</const>
  </edit>
</match>
```

Note: *rgb bgr, vrgb vbgr* 가
;

Anti-aliasing X 가

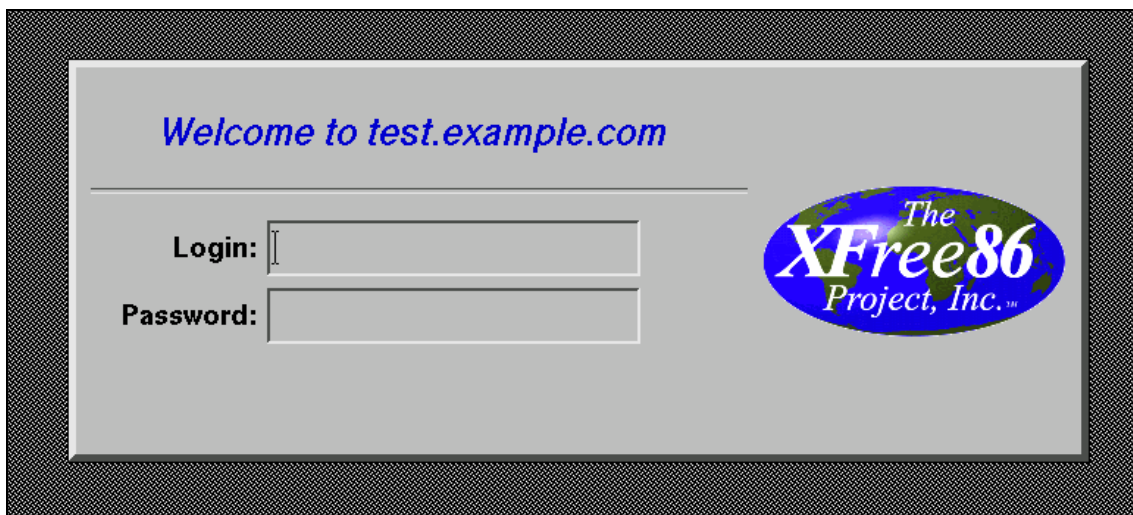
Qt **KDE**
anti-aliase (5.7.3.2) **Gtk+** **GNOME**
"Font" capplet anti-aliasing (5.7.1.3)
Mozilla 1.2 anti-aliasing Anti-aliasing
-DWITHOUT_XFT **Mozilla**

5.6 X

5.6.1

```
X (XDM) X 가
. "X " 가
. X
. 가 X
. XDM
```

XFree86 XDM



[5-12.bmp]

```
getty(8) XDM (
20.3.2 ). 가
( X ). XDM 가
가
XDM 가
```

5.6.2 XDM

```
XDM /usr/X11R6/bin/xdm . root
X . XDM
```

/etc/ttys 가 .
20.3.2.1 . /etc/ttys 가 XDM

ttv8 "/usr/X11R6/bin/xdm -nodaemon" xterm off secure

20.3.2.2 ; 5 off on
init(8)
ttv8 . XDM 9 가

5.6.3 XDM

XDM /usr/X11R6/lib/X11/xdm XDM

Xaccess	
Xresources	X
Xservers	
Xsession	
Xsetup_*	가
xdm - config	
xdm - errors	
xdm - pid	XDM ID.

XDM

xdm(1)

"Login:" "Password:" 가

5.6.3.1 Xaccess

(XDMCP) . XDM X
XDMCP .
xdm - config

5.6.3.2 Xresources

default . XFree86 app -

5.6.3.3 Xservers

5.6.3.4 Xsession

가 XDM
~/.xsession 가

5.6.3.5 Xsetup_*

가
가(Xsetup_0) . Xsetup_
가 xconsole 가

5.6.3.6 xdm - config

app - defaults

5.6.3.7 xdm - errors

XDM X 가 . XDM

~/.xsession - errors

5.6.4

. XDM

xdm - config

! SECURITY: do not listen for XDMCP or Chooser requests
! Comment out this line if you want to manage X terminals with xdm
DisplayManager.requestPort: 0

XDM . app - defaults “#”
"! 가 . Xaccess
xdm(1)

5.6.5 XDM

XDM . KDM (KDE
) . KDM 가

5.7

FreeBSD X . "

" KDE GNOME

5.7.1 GNOME

5.7.1.1 GNOME

GNOME 가
. GNOME (Panel)(),
(),

GNOME

. FreeBSD GNOME
FreeBSD GNOME (<http://www.FreeBSD.org/gnome>)



[5-13.bmp]

5.7.1.2 GNOME

GNOME 가 2 FreeBSD "Desktop Configuration"

GNOME

```
# pkg_add -r gnome2
```

GNOME

```
# cd /usr/ports/x11/gnome2
```

```
# make install clean
```

GNOME X 가 GNOME
 . .xinitrc 가

/usr/X11R6/bin/gnome-session

```
% echo "/usr/X11R6/bin/gnome-session" > ~/.xinitrc
```

```
startx          GNOME
```

Note: XDM

가

```
.xsession
```

```
/usr/X11R6/bin/gnome-session
```

```
% echo "#!/bin/sh" > ~/.xsession
```

```
% echo "/usr/X11R6/bin/gnome-session" >> ~/.xsession
```

```
% chmod +x ~/.xsession
```

KDE

KDE

kdm

5.7.1.3 Anti-aliasing

GNOME

4.0.2 가

XFree86

anti-aliasing

"RENDER"

. Gtk+2.0

(GNOME

)

. Anti-aliasing

5.5.3

anti-aliasing

GNOME

. Applications -> Desktop Preferences -> Font

Best shapes,

Best contrast

Subpixel smoothing(LCD)

. GNOME

Gtk+

GDK_USE_XFT 1

5.7.2 KDE

5.7.2.1 KDE

KDE

. KDE 가

가

-
-
- KDE
- KDE
-
- : KDE 40
- dialog
- KDE

KDE

KDE "KParts"

가

KDE

Konqueror

가

. KDE

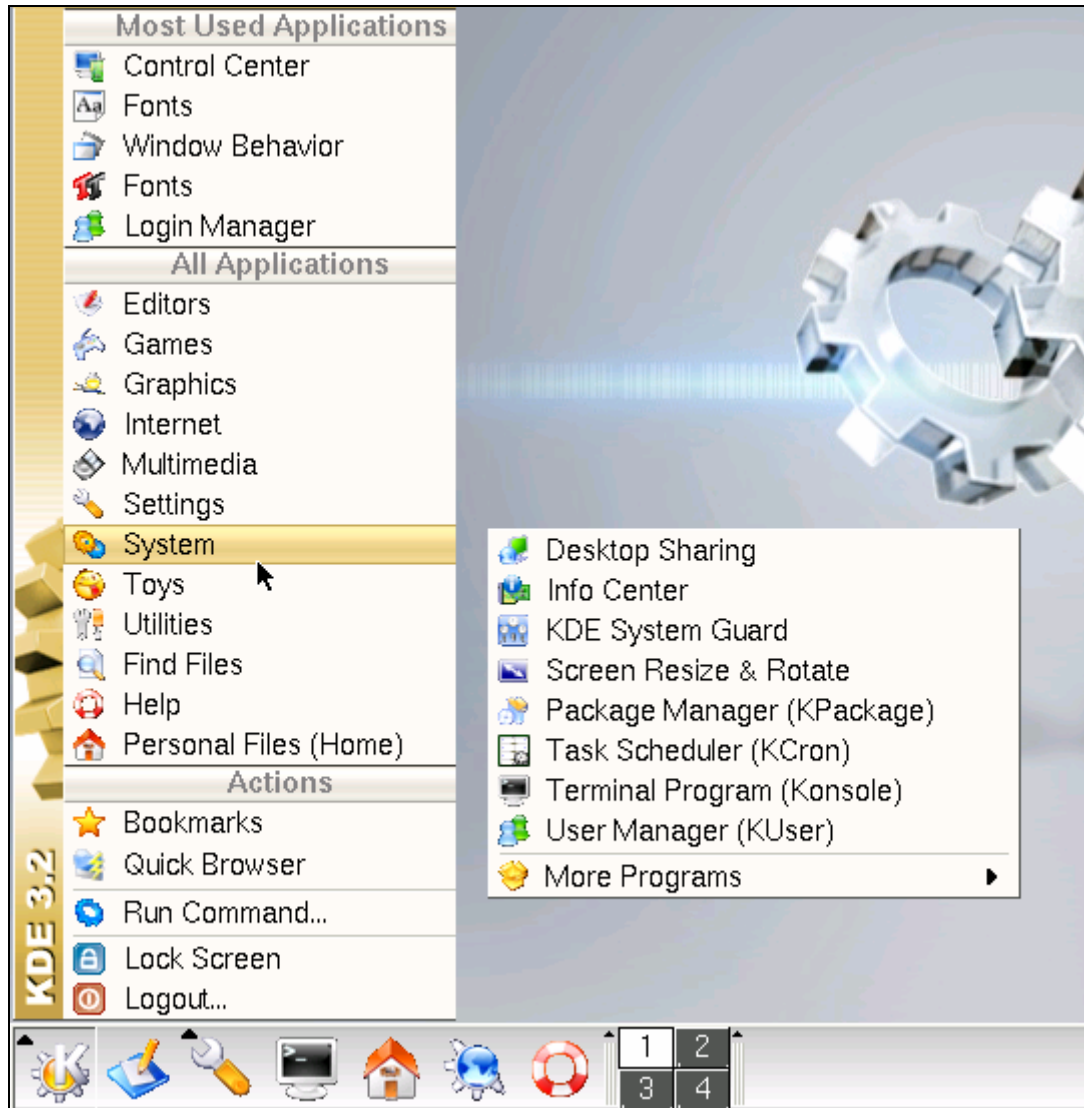
KDE

(<http://www.kde.org/>)

. KDE

FreeBSD

FreeBSD - KDE (<http://freebsd.kde.org/>)



[5-14.bmp]

5.7.2.2 KDE

GNOME KDE 가 2.9.12
FreeBSD "Desktop Configuration"

KDE

```
# pkg_add -r kde
```

pkd_add(1)

KDE :

```
# cd /usr/ports/x11/kde3
```

```
# make install clean
```

```
KDE 가 X  
.xinitrc :
```

```
% echo "exec startkde" > ~/.xinitrc
```

```
X startx KDE 가 .
```

```
xdm .xsession
```

```
. kdm .
```

5.7.3 KDE

KDE 가
Mac

KDE KDE Konqueror
가 .

5.7.3.1 KDE

```
xdm KDE xdm  
가 kdm 가  
(KDE, GNOME )
```

```

root KDE kcontrol . root X
.
(xterm KDE konsole ) su root 가 ( /etc/group
wheel ) kcontrol
.
System Login manager
KDE session
. 가 New type
. startkde gnome-session KDE GNOME
. failsafe
.
Apply
.
kdm (KDE, GNOME ) xdm
.
Note: KDE 2.2 ; kdm
. KDE 2.2
.
root /usr/X11R6/lib/X11/xdm/Xsession
.
:
.
case $# in
1)
case $1 in
failsafe)
exec xterm -geometry 80x24-0-0
;;
esac
esac
.
가 "KDE" "GNOME"
가
.
case $# in
1)

```

```

case $1 in
kde)
    exec /usr/local/bin/startkde
    ;;
GNOME)
    exec /usr/X11R6/bin/gnome-session
    ;;
failsafe)
    exec xterm -geometry 80x24-0-0
    ;;
esac
esac

```

KDE

/usr/X11R6/lib/X11/xdm/Xsetup_0 가 :

/usr/local/bin/kdmdesktop

```

kdm /etc/ttys
xdm /usr/X11R6/bin/xdm
/usr/local/bin/kdm

```

5.7.3.2 Anti-aliase

4.0.2 가 XFree86 anti-aliasing "RENDER" Qt(KDE 가
) 2.3 . 5.5.3 antialiasing X11
. anti-aliasing KDE
. KDE Preferences -> Look and Feel -> Fonts
Use Anti-Aliasing for Fonts and Icons . KDE 가 Qt
QT_XFT true .

5.7.4 XFce

5.7.4.1 XFce

XFce GNOME GTK 가 CDE

. XFce 가 .

-
- & 가 .
- CDE , , .
- , , , GNOME
- (GTK).
- , 가 : / 가 .

XFce XFce (<http://www.xfce.org/>) .

5.7.4.2 XFce

XFce 가 ().

:

```
# pkg_add -r xfce
```

```
# cd /usr/ports/x11-wm/xfce
```

```
# make install clean
```

X XFce X .

:

```
% echo "/usr/X11R6/bin/startxfce" > ~/.xinitrc
```

```
X가          XFce가          .          xdm
              GNOME          .xsession
/usr/X11R6/bin/startxfce          ;          kdm
```