The Linux Danish/International HOWTO

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This document describes how to configure Linux and various Linux applications for use with the Danish characterset and keyboard. It is hoped that Linux users from other places in Western Europe will find this document of use too.

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1 Introduction

All European users of almost any operating system have two problems: The first is to tell the OS that you have a non-american keyboard, and the second is to get the OS to display the special letters.

Under Linux you change the way your computer interprets the keyboard with the commands `xmodmap` and `loadkeys`. `loadkeys` will modify the keyboard for plain Linux while 'xmodmap' makes the modifications necessary when the handshaking between X and Linux is imperfect.

To display the characters you need to tell your applications that you use the ISO-8859-Latin-1 international set of glyphs. Mostly this is not necessary, but a number of key applications need special attention.

This Mini-Howto is intended to tell Danish users how to do this, but will hopefully be of help to many other people.

If you continue to have troubles after reading this you should try the German HOWTO, the Keystroke HOWTO for Linux or the ISO 8859-1 FAQ. They have tips for many applications. Many of the hints contained herein are cribbed from there. The HOWTOs are available from all respectable mirrors of `sunsite.unc.edu` while the ISO 8859-1 FAQ is available from `ftp.vlsivie.tuwien.ac.at` in `/pub/8bit/FAQ-ISO-8859-1`.

2 Keyboard setup

2.1 Loading a Danish keytable

Keyboard mappings are in `/usr/lib/kbd/keytables/`. Try typing either of these two commands to load one

```
/usr/bin/loadkeys /usr/lib/kbd/keytables/dk.map
/usr/bin/loadkeys /usr/lib/kbd/keytables/dk-lat1.map
```

The difference between the two lines is that `dk-lat1.map` uses 'dead' keys while `dk.map` doesn't. Dead keys are explained in section 2.3.

You can change the keymapping loaded at boot by editing the file `/etc/rc.d/rc.keymap`.

If this doesn't work you simply haven't installed support for international keyboards.

2.2 Getting the `AltGr` key to work under X

Edit the file `/etc/Xconfig` (under XFree86 2.0) or `/etc/X11/XF86Config` (underXFree86 3.x) and make sure the line

```
RightAlt    ModeShift
```

appears in the `Keyboard` section. Usually you can do this by uncommenting an appropriate line.

2.3 Dead keys and accented characters

Dead keys are those who don't type anything until you hit another key. Tildes and umlauts are like this by default under Microsoft Windows and if you use the `dk-lat1.map` keymap under Linux.

2.3.1 Removing dead key functionality

Under plain Linux type

```
loadkeys dk.map
```

2.3.2 Invoking dead key functionality

- Invoking dead key functionality under plain Linux

  Under plain Linux type

  ```
  loadkeys dk-lat1.map
  ```

- Invoking dead key functionality under X11R5 sessions

  Insert the following lines in a file `~/.Xmodmap` or `/etc/X11/Xmodmap`

  ```
  keycode 21 = acute      Dgrave_accent          bar
  keycode 35 = Ddiaeresis Dcircumflex_accent     Dtilde
  ```

  You can now make the dead keys work by typing (e.g.) `xmodmap .Xmodmap`. Using the Slackware distribution this commando will be automatically executed next time you run X.

- Invoking dead key functionality under X11R6 sessions

  Under X11R6 applications dead keys won't work unless they were compiled with support for unusual input methods. The only application reported to do so is `kterm` - an `xterm` substitute. Eventually the situation might improve, but as it is you can't do much but revert to X11R5 or hack every application you own. Do not attempt the method described for X11R5.

2.4 Making ø (oslash) Ø (Ooblique) and the dollar sign work

2.4.1 ø (oslash) and Ø (Ooblique)

Find out what keymap you load at boot-up. You should be able to find out by typing `less /etc/rc.d/rc.keymap`. On my computer it is called `/usr/lib/kbd/keytables/dk-lat1.map`. Find the line for keycode 40 in this file and change it from

```
keycode  40 = cent             yen
```

to

```
keycode  40 = oslash           Ooblique
```

and load the keytable as described in section 2.1.

Note: This bug appears to have been fixed in version 0.88 of the international keytable package.

2.4.2 Dollar sign

The dollar sign is accessed with `Shift-4` instead of `AltGr-4` by default. You can fix this by changing the line

```
keycode   5 = four             dollar           dollar
```

in the keymap file to e.g.

```
keycode   5 = four             asciicircum      dollar
```

It doesn't matter if you something else instead `asciicircum` if it is just a valid symbol name. See section 3.2 for a list of valid symbols.

3 Display and application setup

3.1 International character sets in specific applications

A number of applications demand special attention. This section descibes how to set up configuration filesfor them.

- `bash` v.1.13+ : Put the following in your `.inputrc` file

  ```
  set meta-flag on
  set convert-meta off
  set output-meta on
  ```

- `tcsh`: Put the following in your `/etc/csh.login` or `.tcshrc` file

  ```
  setenv LC_CTYPE ISO-8859-1
  stty pass8
  ```

- `less`: Set the following environment variable

  ```
  LESSCHARSET=latin1
  ```

- `elm`: Set the following environment variables

  ```
  LANG=C
  LC_CTYPE=ISO-8859-1
  ```

- `emacs`: Put the following in your `.emacs` or the `/usr/lib/emacs/site-lisp/default.el` file:

  ```
  (standard-display-european t)

  (set-input-mode (car (current-input-mode))
          (nth 1 (current-input-mode))
          0)
  ```

- TeX / LaTeX: Cribbed from the ISO 8859-1 FAQ by Michael Gschwind <`mike@vlsivie.tuwien.ac.at`>:

  In LaTeX 2.09, use

  ```
  \documentstyle[isolatin]{article}
  ```

  to include support for ISO latin1 characters. In LaTeX2e, the commands

  ```
  \documentclass{article}
  \usepackage{isolatin}
  ```

  will do the job. `isolatin.sty` is available from all CTAN servers and from URL `ftp://ftp.vlsivie.tuwien.ac.at/pub/8bit`.

3.2 What characters you can display under Linux

Type `dumpkeys -l | less` at the prompt to find out what is readily available. You can map them to your keyboard via the keymap files mentioned in section 2.1.

X11R5 Note: The dead keys don't get the correct names under X11R5 with this scheme. Generally

```
dead_* (under plain Linux) => D* or D*_accent (under X11R5)
```

(i.e. the tilde may be `dead_tilde` in `dk-lat1.map` but X11R5 expects the dead tilde to be called `Dtilde`.) This does not apply to X11R6.

3.3 Loading the Latin-1 characer set on the console

Execute the following commands under the `bash` shell:

```
setfont /usr/lib/kbd/consolefonts/lat1-16.psf
mapscrn /usr/lib/kbd/consoletrans/trivial
echo -ne '\033(K'
```

Note: This only has effect under plain Linux. Do not try it under X.

4 Post-amble: Acknowledgements and Copyright

Thanks to Peter Dalgaard, Anders Majland, the authors of the German Howto and Michael Gschwind for help with several questions.