Windows and Western-European Character Sets:
Some Pointers for Users with US Keyboards

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1 Introduction

This note is directed towards people who use computers running the Microsoft® Windows® operating system using a standard US English keyboard, but who need to read and write documents, such as e-mail, in one or more Western-European languages, such as Catalan, Danish, Dutch, Finnish, French, German, Icelandic, Italian, Norwegian, Portuguese, Spanish, or Swedish. All of these languages employ characters not found in the standard US English keyboard layout. To manage these language-specific issues adequately, some steps must clearly be taken.

First of all, it is important to clear up some common misconceptions. There is very little in the Windows operating system, or in PC hardware, which is inherently language specific. The only substantial difference between the version of Windows distributed with PC's in Sweden and those distributed in the USA is the language used in menus and on-line help. The underlying systems are identical. The same holds for hardware. The only difference between a keyboard sold in the USA and one sold in Sweden is the labelling of the keycaps; the underlying hardware is identical. In short, everything is a matter of configuration.

The goal discussed here is not how to take a PC from the USA and make it look like a PC from Sweden, Germany, or wherever. Rather, it is to describe how a PC from any country may be configured so as to accommodate the character sets of Western-European languages with a minimum of difficulty.

For Windows 98, ME, and NT, there are two major groups of settings within Windows operating systems which affect language and other country-specific properties; both accessible through the **Control Panel**. The first is the **Regional Settings** group, and the second is the **Keyboard** group. For Windows XP, the settings which affect language are collected under **Regional and Language Options**; such settings are no longer found under the **Keyboard** group.

The language and country which is selectable in the **Control Panel** under the **Regional Settings** or **Regional Options** tab of the **Regional Settings** group (Windows 98, ME, and NT), or the **Regional Options** tab of the **Regional and Language Options** (Windows XP) affects many things, but the keyboard layout is not one of them. Unless you know what you are doing, this entry should not be changed.

For Windows 98, ME, and NT, the correct place to alter keyboard behavior is under the **Control Panel** icon labelled **Keyboard**, under the tab which may be labelled **Language** or **Input Locale**, depending upon the particular version of Windows. For Windows XP, the correct place is under the **Control Panel** icon labelled **Regional and Language Options**, under the tab labelled **Languages**. The primary purpose of the selection here is to match the keyboard to the operating system. For example, if you have a Swedish keyboard and the **SE** keyboard entry is selected, then the characters

which result when a key is pressed will match the markings on the keycaps. Thus, characters such as å may be typed directly. Of course, this only works for the particular language of the keyboard. A user of a system configured for Sweden who wishes to write French is in no better position to type ç than a user of system configured for the USA.

2 Installing the US-International Keyboard Configuration

Fortunately, there is a special keyboard layout which allows one to type virtually all of the characters used in Western-European languages. It is called the **US-international layout**, The steps for installing it are somewhat different for Windows XP than for Windows 98, ME, and NT, two separate lists are given. (The author does not have access to a system running Windows 2000, but surely the steps are similar to one of the cases given below.)

To install and enable it, proceed as follows for Windows 98, ME, and NT:

1. In the **Control Panel**, double-click on **Keyboard** and then select the **Language** tab. (In Windows NT, this tab is labelled **Input Locales**.)
2. Click on the **Add** tab,
3. Select any unused language, say **Afrikaans**, and click the **OK** tab. This new language will now appear in the **Language** list.
4. Highlight this new language, and then click on **Properties**.
5. For the **Keyboard layout**, select **United States International** or **US-international**. (The exact name may depend upon the version of the operating system.)
6. Click on **OK**.
7. At the bottom of the languages tab, check **Enable indicator on taskbar**, and select **Left Alt+Shift** under **Switch languages** or **Switch locales**.
8. Click on **Apply** and note that a small blue rectangle with **En** has appeared in icon tray at the far right of the task bar at the bottom of the screen.
9. Press the left Alt key and the left Shift key together, and note that the text in the blue rectangle changes to **Af**. Press these keys again and note that the **En** reappears.
10. If this works, click on **OK** to close the **Keyboard Properties** window. Otherwise, check the steps again.

For Windows XP, proceed as follows:

1. In the **Control Panel**, double-click on **Regional and Language Options**, select the **Languages** tab, and then click on the **Details** tab,
2. Click on the **Add** tab, select any unused language, say **Afrikaans**, and select **United States - International** for **Keyboard Layout/IME**.

3. Click on **OK**.

4. At the bottom of the languages tab, check **Language Bar**, and check **Show the Language bar on desktop**, and click on **OK**.

5. Click on **Key Settings**, check **Select input languages**, check **Left ALT + SHIFT**, and click on **OK**.

6. Click on **Apply** and note that a small blue rectangle with **En** has appeared in icon tray at the far right of the task bar at the bottom of the screen. (If the small rectangle with **En** does not appear, look for the language bar on the desktop. To place it on the taskbar, right click on it and select **Minimize**.

7. Press the left Alt key and the left Shift key together, and note that the text in the blue rectangle changes to **Af**. Press these keys again and note that the **En** reappears.

8. If this works, click on **OK** to close the **Keyboard Properties** window. Otherwise, check the steps again.

3 Using the US-International Keyboard Configuration

Figure 1 gives a visual summary of the US-international keyboard layout. Most US keyboards have these keys in their layout, although the key in the far upper left (tilde and grave accent) and the key in far upper right (backslash and bar) may be located in other positions on some keyboard. This is of no consequence, it is the label and not the physical location which is of importance.

Note also that many keys are shown with additional characters with a blue background. The marking to the left on each key is that of the standard US layout, while that to the right, in the blue background, shows the special characters which are realizable by using the the right `Alt` key as a shift.

In a nutshell, the rules of operation are as follows:

1. Pressing the two lavender keys together toggles operation between the standard layout and the international layout.

2. If any white key is pressed, or if either of the two lavender keys are pressed individually, the action is exactly as with the standard US keyboard.

3. The right `Alt` key, color coded in blue, acts as a special shift key. If it is pressed, then the characters shown in blue on the keycap of Figure 1 is realized. For example, if the `n` key is pressed, the usual letter `n` is produced; however, if `n` is pressed while the right `Alt` key is held down, then the Spanish letter `ñ` is produced. Similarly, just as Shift+`n` produces `N`, if `n` is pressed while both a shift key plus the right `Alt` key is held down, `Ñ` is produced.

   Note that not all keys have bindings for this special shift. For example, the `F` key has no such bindings, while the `M` key has a binding only for lower case.

   Note also that it is only the right `Alt` key, and not the left, which has this special property.

4. The three tan keys act as prefix keys. (Actually, only the shifted (caret) part of the `6` key acts as such, so only its top half is shaded tan.) The idea is that the accent mark associated with the key is placed over the next letter which is typed. Thus, if the key containing the single and double quote marks is pressed, nothing happens immediately. However, an acute accent will be placed over the next character typed, so that if an `e` is struck next, `é` will appear. Similarly, if that key is pressed with a shift key also pressed, the next character will have a dieresis (umlaut) over it; *e.g.*, `ë`.

   Prefix placement works only for situations in which the underlying character set admits the desired letter. For example, typing single quote and then a `t` will result in `'t`, since a `t` with an acute accent is not part of the underlying character set.

   To get something such as `'e`, type a single quote, followed by a space, followed by `e`.

   Note that many (although not all) of the characters which may be produced using the prefix keys may also be produced using the right `Alt` key. For example, `ä` may be produced both ways, while `ë` can only be produced using a prefix key.

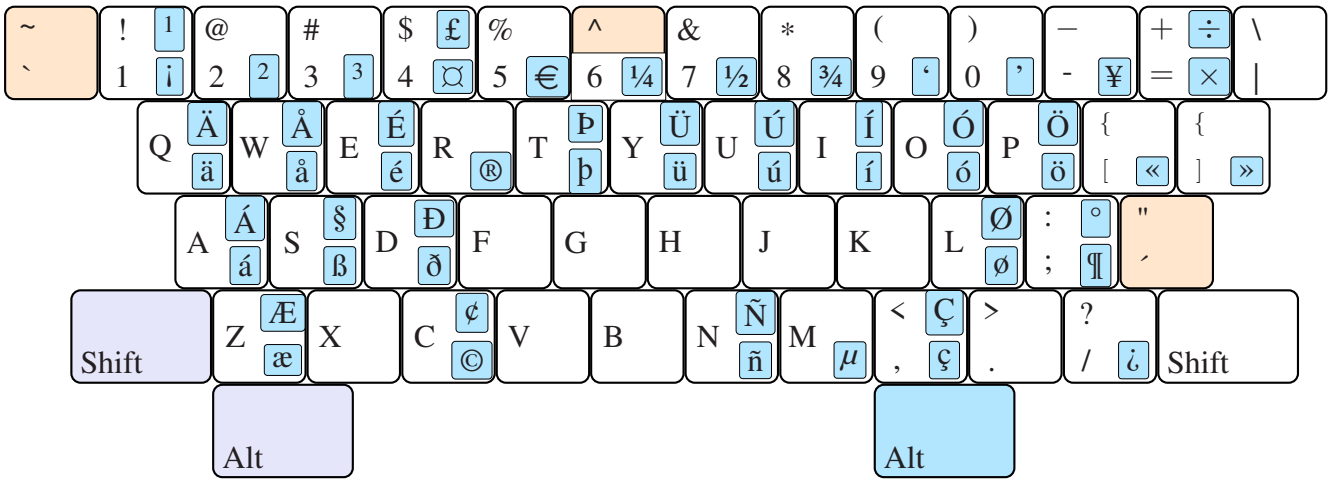
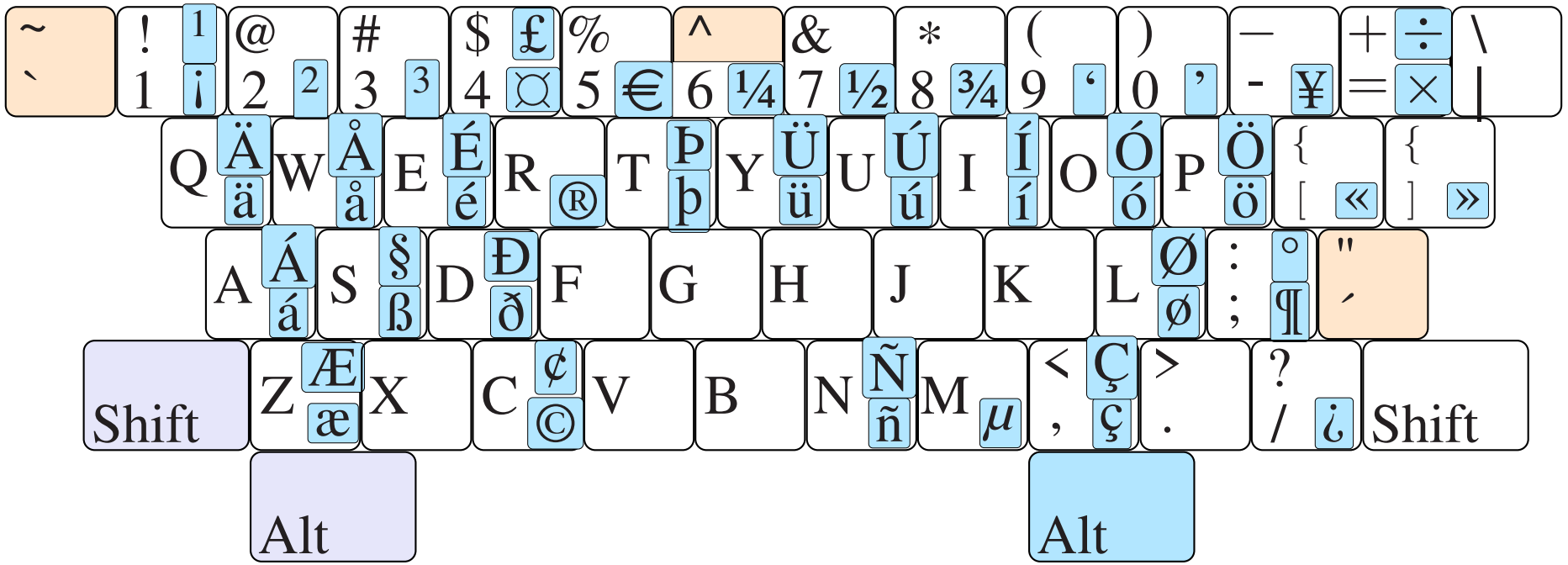


Figure 1: Key bindings with the US International Keyboard

For reference, a larger picture of the keyboard layout is provided on the next page.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