

Printing Foreign Text

Using BarTender

*How to Print Text from Virtually any of the World's
Languages and Writing Systems*



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Introduction

Using BarTender, you can have foreign text, from more than one foreign language, on your labels.

For example, the following label was created with BarTender at a company in Lebanon where French and English are used to conduct international business, but Arabic is used as well, for internal company communications.

Adresse De : Associés De Créativité Rue de La Ste Famille, Gemaizeh, Achrafieh, Beirut Le Leban بنان لبنان
Adresse À : 革新のパートナー お問い合わせ： 〒100-8543 千代田区大手町2-2-1 日本 اليابان Le Japon
ثلاثة العرب

The label was created on a computer running English Windows. In the section at the top is the company's return address in French, a language that uses the left-to-right Latin alphabet, but that also uses accent marks above some letters. (At the end of the address is the name of the country in French, Arabic, and Japanese.) The text in this

area does not change from label-to-label and, thus, is written directly onto the label format.

In the middle section is the recipient's Tokyo address in Japanese, a language that uses ideographic, double-byte characters, and can be written either top-to-bottom, or left-to-right as it is here. (Again, the name of the recipient's country appears in three languages.) The text in this area is read from an ODBC database.

In the bottom section is an Arabic phrase that identifies the loading dock where the package should be stacked pending the arrival of the truck on which it will be loaded. This information is entered at print-time in response to a prompt. In the example shown, the phrase identifies the third dock on the west side of the company's warehouse.

Before we see how such labels are created, we must understand some terminology of the printing industry, including the words "font," "typeface," and "script."

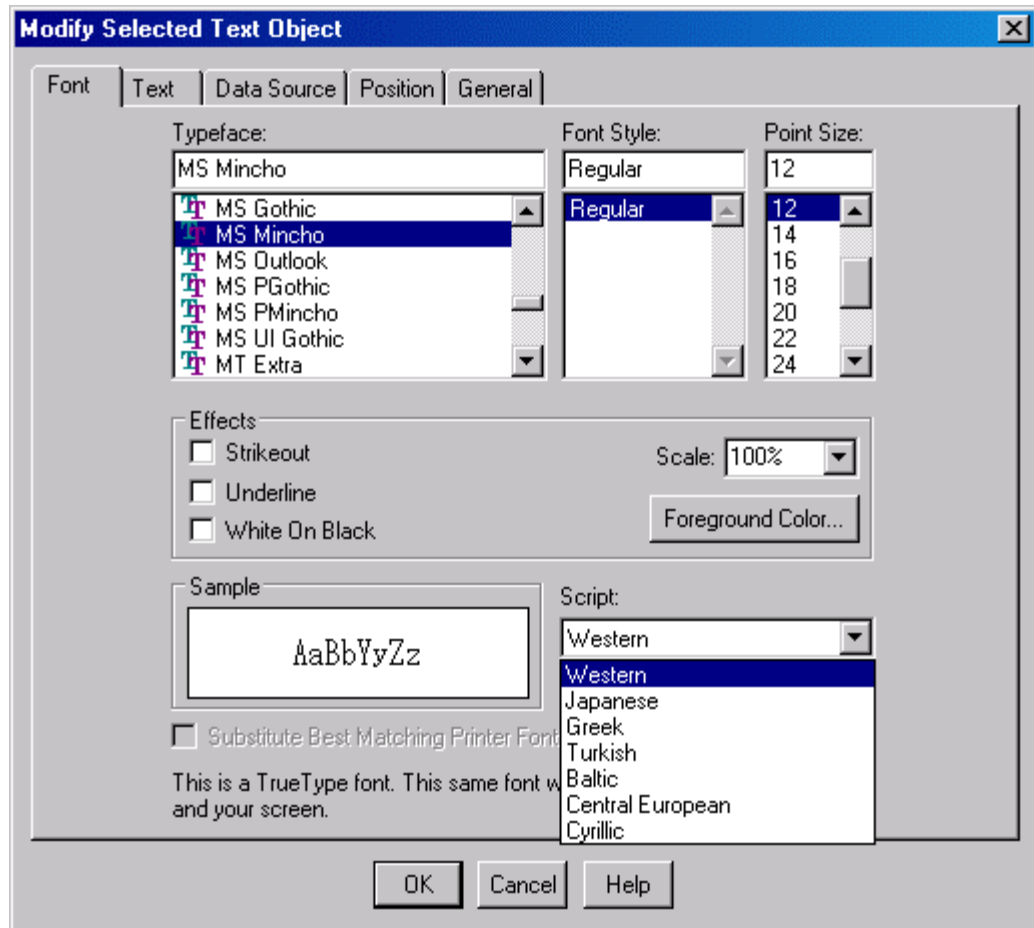
Fonts, Typefaces, and Scripts

A *font* is a set of symbols, called glyphs. For most fonts, the glyphs share common design elements so that they look visually compatible with each other. The common design elements of a font are known as the *typeface* of the font, and the font is usually named after its typeface. For example, this sentence uses the Times Roman typeface which has little cross-lines, called serifs, at the ends of the longer lines of each glyph, but the other sentences in this paragraph use the Arial typeface, which has no serifs.

A *script* is a writing system that includes a set of symbols and rules for how to put them together into meaningful words or sets. For example, the Western script has a rule that the symbols read from left to right, the Arabic script has a rule that the symbols read right to left and that different versions of a symbol must be used depending on whether the symbol is at the beginning of a word, the end, or in between.

Some fonts, including Arial, include glyphs from more than one script. Others, like Andalus, have glyphs from only one.

A text object or sub-string must be configured in BarTender to use a typeface and a script that support the characters you want to use.



Open the **Font** tab of the **Modify Selected Text Object** dialog to make your choices. If the script that you need does not appear in the **Script** drop down list, then the selected typeface is not contained in the needed script, so you must change the typeface in the **Typeface** drop down list. For assistance selecting the correct script for the desired language, see *Appendix A*.

Printing performance is greatly enhanced when you use a font that is stored in the printer, or when you download a computer-based font to a printer before you execute a print job. See *Appendix C*.

Roadmap

To create a label like the one above, there are a few things you may need to know depending on the features of your printer driver, on the language of your version of Windows, and on the foreign languages you need to use.

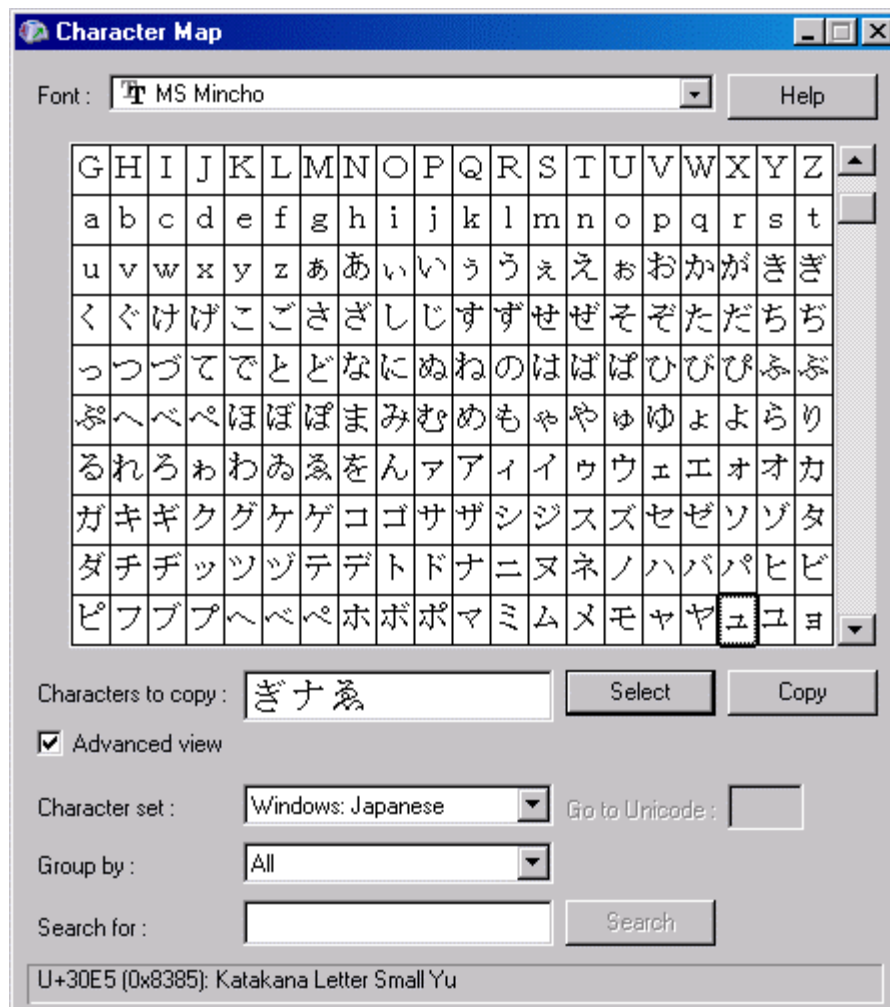
- **Choice of Font, Typeface, and Script:** You will need to decide what typeface and script to choose in BarTender for each text object. See *Appendices A and B*. You may also want to enhance performance by using resident or downloaded fonts. See *Appendix C*.
- **Entering Foreign Text.** There is more than one way to enter foreign text onto a BarTender label format. See the sections *Windows Character Map* and *Entering Foreign Text from the Keyboard*.
- **Reading Data from a Foreign Database.** If your labels will be reading data that is expressed in foreign characters, you will need to configure BarTender when you create the text object. See the section *Reading Foreign Text from a Database*.
- **Configuring Windows.** You may need to configure Windows to support the languages you will be using on your labels. See *Appendix D*.

Entering Foreign Text

Using the Windows Character Map

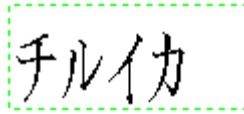
When you have just a few foreign characters to enter, the easiest method is to use the **Windows Character Map** to enter special text into BarTender.

To open the **Windows Character Map**, open the **Start** menu and navigate to **Programs | Accessories | System Tools | Character Map**.

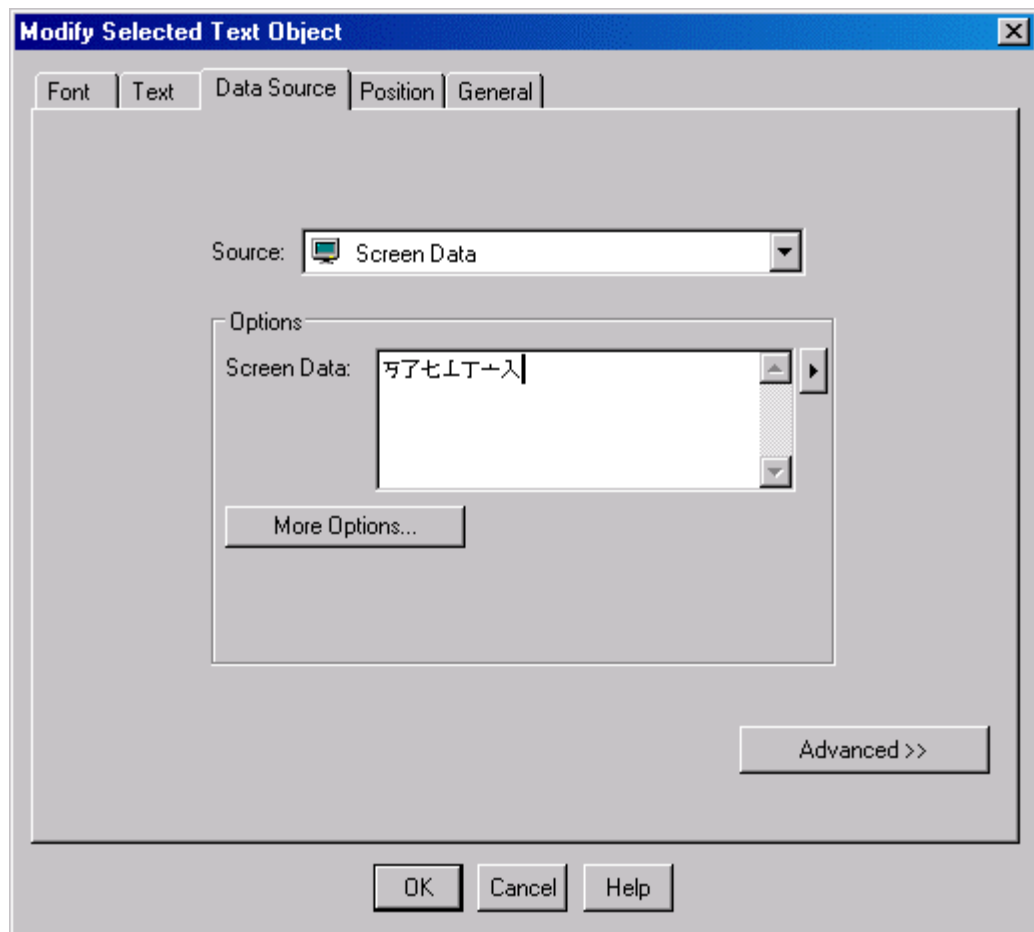


The following steps apply to Windows 2000 and XP. For other versions of Windows refer to Windows help for the Character Map. (If the Character Map was not installed on your computer with Windows, see your Windows documentation for how to install it.)

1. Enable the **Advanced view** checkbox.
2. On the **Character set** drop down box, change from the default choice **Unicode** to one of the Windows character sets, e.g., **Windows: Japanese**. If you don't find the character set you need listed, then you need to install support for the language as described in the section *Windows Support for Additional Languages*.
3. Use the **Font** drop down box to select a font that supports the character(s) you need.
4. Use the **Group by** drop down box, as needed, to narrow down the selection of characters. (Click the **Help** button for detailed information about this drop down box or any other aspect of the **Character Map**.)
5. Scroll as needed to find the character you want and double-click it. This will put the character into the **Characters to copy** box. If you need more than one character in a row, repeat this step as needed.
6. When all the characters you need are in the **Characters to copy** box, click the **Copy** button to put them in the Windows clipboard.
7. Be sure that the text object has been configured in the **Font** tab of the **Modify Selected Text Object** dialog to use a **Typeface** and **Script** that are compatible with the foreign language. See *Typefaces and Scripts* above.
8. You can now paste the characters into a BarTender text object or the reply box of a print-time prompt. If you are entering characters to a text object, you can do so in either of two ways:
 - Paste them directly while the object is in edit mode.



- Paste them into the **Screen Data** box on the **Data Source** tab of the **Modify Selected Text Object** dialog.



Using the Keyboard

Standard Keyboards

Standard keyboards, typically with 100-110 keys each, have been developed in every region of the world. It is always easiest to enter the foreign characters you need

directly from your region's standard keyboard when you can, because this requires no configuration of either BarTender or Windows.

Sometimes one or more of the keys on a standard keyboard is directly assigned to a foreign character. For example, the standard 103-key keyboards found throughout Europe and North America have keys for the angle brackets "<" and ">" that can be used to enter French quotation marks "<<" and ">>".

You can also enter numeric codes into a BarTender text object (or into the reply box of a print-time prompt) by holding down the ALT key while using the numeric keypad to type a number from 128 to 255. When you release the ALT key a character will appear. For each major alphabetic or ideographic system in the world, there is a standard mapping of numbers to characters. In the USA for example, the standard mapping is called Code Page 1252 (or MS-DOS Latin US). If this mapping is being used, an American user can enter the German letter "ß" by typing 225 on the numeric keypad while holding down the ALT key.

Re-mapping Your Keyboard

If you have a lot of foreign text to enter, you may prefer to temporarily turn your keyboard into one designed for use with the foreign language. Of course, Windows cannot add or remove physical keys on your keyboard, but it can re-map your keys to foreign characters in a way that closely matches the standard keyboard of the foreign region.

To enable this re-mapping feature, you must first follow the steps in the section *Installing Windows Input Support for Foreign Languages*. When you are done, a small toolbar called the **Language Bar** will appear on the right end of the system toolbar.

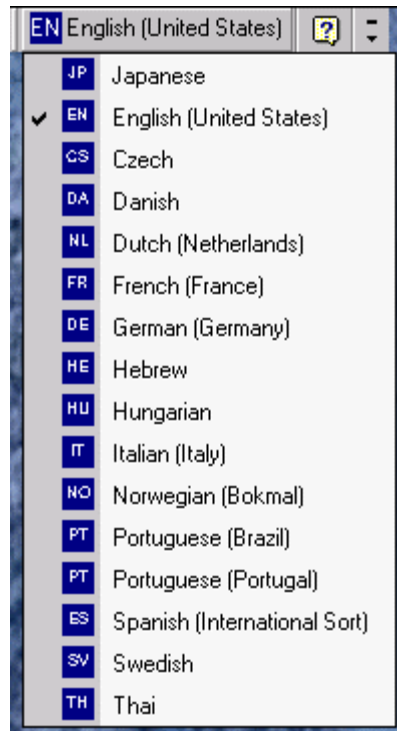


This will include an **Input Language** button labelled with an abbreviation of the input language currently being used. (If the language designated on the **Input Language** button is Japanese or Korean, there will be other buttons on the **Language Bar** that are part of an Input Method Editor [IME]. Refer to *Using and Input Method Editor*. In Windows XP, Chinese Traditional and Chinese Simplified also have an IME.)

Note:

In Windows XP, at the right end of the **Language Bar** are two smaller buttons, one above the other. The topmost of these buttons maximizes/minimizes the **Language Bar**. The lower button and one opens a drop down menu that gives you access to various configuration settings for the **Language Bar**. Open the latter and enable **Additional Items in Task Bar** if it does not already have a checkmark beside it. There will now be a **Help** button on the **Language Bar** that you can use to obtain detailed help on its use. In earlier versions of Windows, open the main Windows help system and search for “input locale” and “language bar”.

Now to change to a new keyboard mapping, you simply click the **Input Language** button, which opens a list of installed input languages, and then double-click the desired language. (The names of the languages will be in your language.)



Using an Input Method Editor

Windows 2000 provides a special tool for entering text in Japanese and Korean called an Input Method Editor (IME). Windows XP adds IMEs for Chinese Traditional and

Chinese Simplified. This tool is installed automatically when you install support for inputting any of these languages as described in *Installing Windows Input Support for Foreign Languages* below.

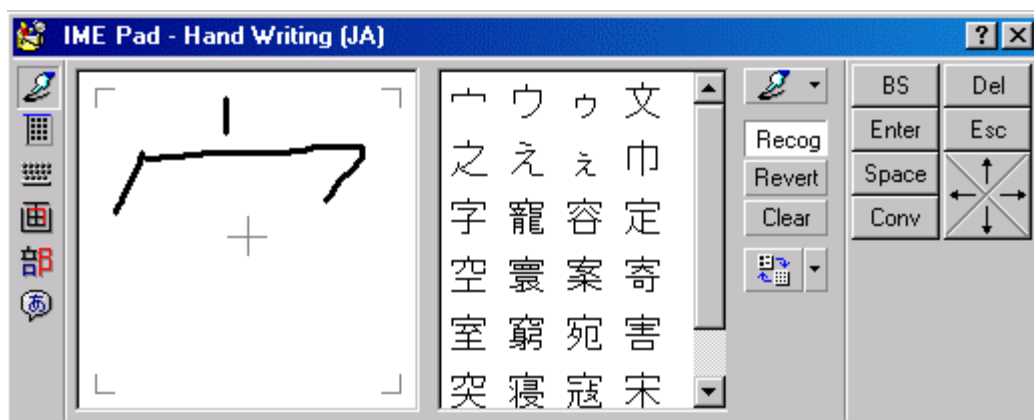
To use the IME for any of these languages, use the **Input Language** button on the **Language Bar** to switch to the desired language. The buttons associated with the IME will appear on the **Language Bar**. (The button labels will be in the language of the operating system.)



For example, one tool included in the Japanese IME is the IME Pad. It contains within it several tools for looking up and entering Japanese characters such as a keyboard window on which you can click the keys.



Another tool in the IME Pad enables you to use the mouse to draw an approximation of the character you need. A selection of characters that resemble what you have drawn is presented from which you choose the needed character.



In Windows XP, click the **Help** button on the **Language Bar** for detailed help about the operation of the IME Pad and the other tools of the IME. In earlier versions of Windows, get help in the main Windows Help system.

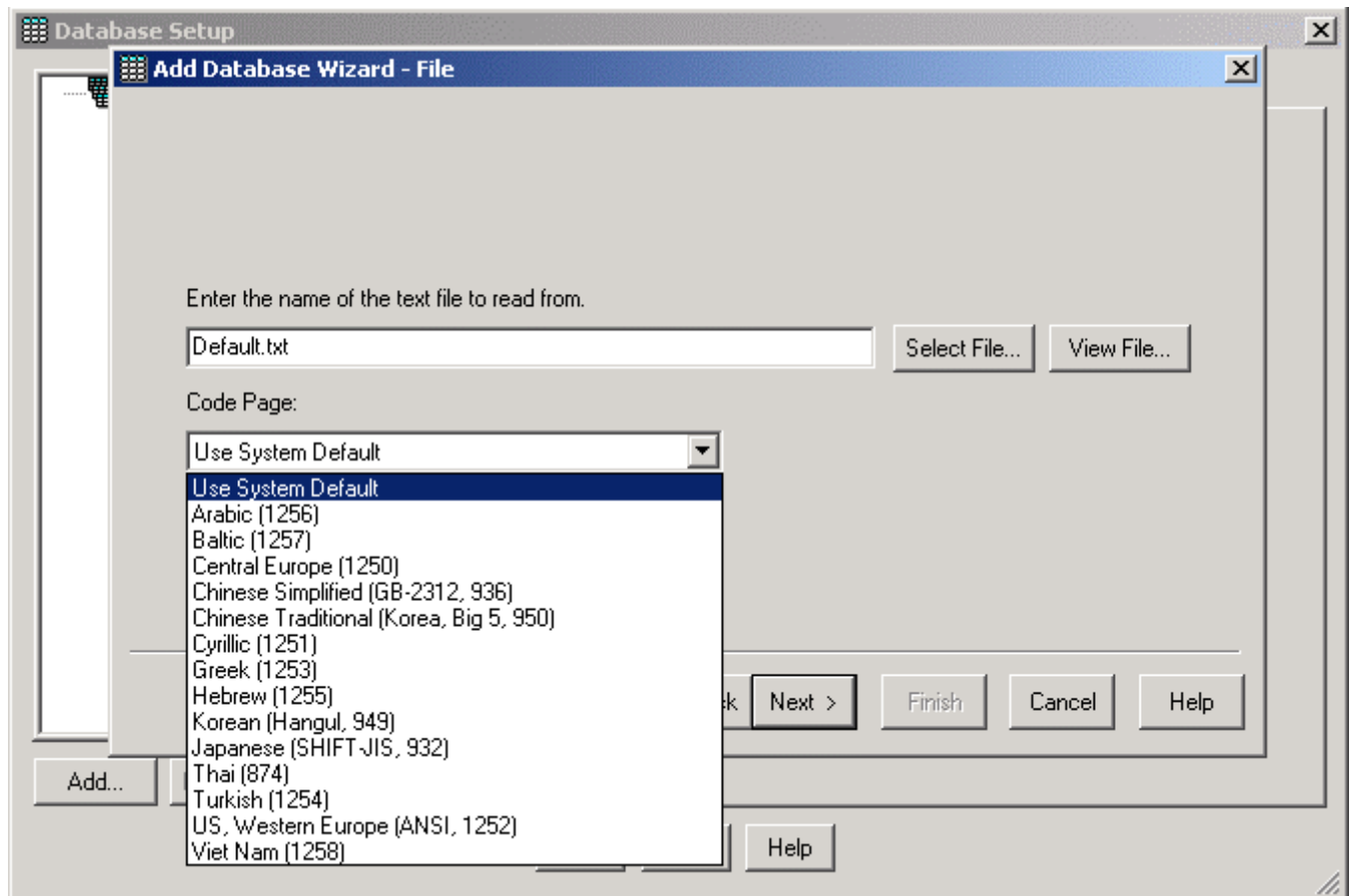
Reading Foreign Text from a Database

You can import data from database fields that use foreign characters even easier than you can enter foreign characters, because there is no need to change BarTender's working language or make any changes in Windows. You use BarTender's **Database Setup Wizard** just as you would for a database in your own language, but you make different choices in a couple of dialogs. These choices are important because the internal code numbers with which the computer represents text will not be mapped to the proper characters and punctuation marks if you do not tell BarTender what code page and script to use. For example, Japanese double-quotation marks are mapped to different code numbers in the Windows Japanese code page than they are in the Western languages code page.

Foreign Text Files

To setup a text database that uses foreign characters, use the **Database Setup Wizard**.

1. Open the wizard, by clicking the **Database Setup** button on the main toolbar. See BarTender's help for details on working through the wizard.
2. When you get to the **Database Setup Wizard – File** page, select the database file, and then use the **Code Page** drop down box to select the code page appropriate to the language of the file. (What matters is the language used in the field from which the label format will read data, if the file uses different languages in different fields.)



3. Finish the **Database Setup Wizard** and return to the **Label Design** view.
4. Double-click the object to open the **Modify Selected Text Object** dialog.
5. Open the **Font** tab.
6. In the **Script** drop down list, select the appropriate script for the foreign characters in the database. (If the list is grayed out, or the appropriate script is not listed, then the **Typeface** must first be changed to one that is compatible with the needed script. See *Typefaces and Scripts* above.)
7. Close the dialog. You can now print your label.

Foreign ODBC Databases

To read foreign character data from an ODBC database you must first perform the steps in *Changing the Windows Language Settings* in order to change this setting to the appropriate foreign language. Since only one language can be selected at a time, a label cannot read data from more than one foreign language from ODBC databases. However, you can have multiple foreign languages on the label because other text objects (or sub-strings of the same object) can be linked to text databases, entered at design time, or entered in response to a print-time prompt.

Once you have changed the language settings, you can setup the ODBC database in BarTender using the **Database Setup Wizard**.

1. Open the wizard, by clicking the **Database Setup** button on the main toolbar. See BarTender's help for details about setting up an ODBC database with the wizard.
2. Finish the wizard to return to the **Label Design** view.
3. Double-click the object to open the **Modify Selected Text Object** dialog.
4. Open the **Font** tab.
5. In the **Script** drop down list, select the appropriate script for the foreign characters in the database. (If the list is grayed out, or the appropriate script is not listed, then the **Typeface** must first be changed to one that is compatible with the needed script.)
6. Close the dialog. You can now print your label.

Appendices

Appendix A: Languages, Codepages, and Scripts

This table identifies the “codepage” used by each of the world’s major languages. Also listed is the name of the script that each language uses, as listed in the **Script** drop-down list of the **Font** tab of the **Modify Selected Text Object** dialog and the **Character Set** drop-down box in the **Windows Character Map**.

<i>Language</i>	<i>Codepage</i>	<i>Script</i>
<i>Arabic</i>	1256	Arabic
<i>Bulgarian</i>	1251	Cyrillic
<i>Chinese (Simplified)</i>	936	Chinese (Simplified)
<i>Chinese (Traditional)</i>	950	Chinese (Traditional)
<i>Chinese (Hong Kong)</i>	950	Chinese (Traditional)
<i>Croatian</i>	1250	Central European
<i>Czech</i>	1250	Central European
<i>Danish</i>	1252	Western
<i>Dutch</i>	1252	Western
<i>English</i>	1252	Western
<i>Estonian</i>	1257	Baltic
<i>Finnish</i>	1252	Western
<i>French</i>	1252	Western
<i>German</i>	1252	Western
<i>Greek</i>	1253	Greek
<i>Hebrew</i>	1255	Hebrew
<i>Hungarian</i>	1250	Central European
<i>Italian</i>	1252	Western
<i>Japanese</i>	932	Japanese
<i>Korean</i>	949	Hangul or Korean

<i>Latvian</i>	1257	Baltic
<i>Lithuanian</i>	1257	Baltic
<i>Norwegian</i>	1252	Western
<i>Polish</i>	1250	Central European
<i>Portuguese(Portugal)</i>	1252	Western
<i>Portuguese(Brazil)</i>	1252	Western
<i>Romanian</i>	1250	Central European
<i>Russian</i>	1251	Cyrillic
<i>Slovak</i>	1250	Central European
<i>Slovenian</i>	1250	Central European
<i>Spanish</i>	1252	Western
<i>Swedish</i>	1252	Western
<i>Thai</i>	874	Thai
<i>Turkish</i>	1254	Turkish
<i>Vietnamese</i>	1258	Vietnamese

Appendix B: Table of Printer Support for Foreign Scripts with Resident and Downloaded Fonts

The following set of tables show, by manufacturer, which scripts are supported by Seagull Scientific printer drivers. The table shows whether the support is provided with resident, downloaded bitmapped, or downloaded scalable fonts. (In these tables, "Scalable" includes TrueType and OpenType fonts.)

Autonics

Models	Supported Scripts (by type of font)
all models	Resident: Western, Japanese Downloaded Bitmap: Not supported Downloaded Scalable: Not supported

Avery

Models	Supported Scripts (by type of font)
all models	Resident: Western Downloaded Bitmap: Not supported Downloaded Scalable: Not supported

Brady

Models	Supported Scripts (by type of font)
Models 200M, 203X, 260M, 300X-Plus, 360X-Plus, and 600X-Plus	Resident: Western Downloaded Bitmap: Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai Downloaded Scalable: Western
Model 1024	Resident: Western Downloaded Bitmap: Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai Downloaded Scalable: Not supported

Models	Supported Scripts (by type of font)	
Models 1243-6441	Resident:	Western (with optional hardware: Greek, Turkish, Baltic, Central European, Cyrillic, Japanese, Chinese Simplified, Korean)
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western, Greek, Turkish, Baltic, Central European, Cyrillic

C.Itoh

Models	Supported Scripts (by type of font)	
X4	Resident:	Western, Japanese
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western
T4	Resident:	Western
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Not supported
all other models	Resident:	Western, Japanese
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported

cab

Models	Supported Scripts (by type of font)	
A Series and Apollo Series	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Western
MAX Series	Resident:	Western, Japanese
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western
Calypso and MP Series	Resident:	Western, Japanese
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported
Gemini Series	Resident:	Not supported
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported

Citizen

Models	Supported Scripts (by type of font)	
CLP 1000-7401	Resident:	Western, Japanese
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported
CLP 8301-9301	Resident:	Western, Japanese
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western

DataMax

Models	Supported Scripts (by type of font)	
DMX 600-800, E-Class, I-Class, M-Class, Ovation 2 & 3, PE Class, Prodigy Max, S-Class, Titan, W-Class, and XL	Resident:	Western (with optional hardware: Greek, Turkish, Baltic, Central European, Cyrillic, Japanese, Chinese Simplified, Korean)
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western, Greek, Turkish, Baltic, Central European, Cyrillic
Ovation	Resident:	Western
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Not supported
Allegro, DMX 400-430, Prodigy and Prodigy Plus	Resident:	Western, Japanese
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported
E-3202	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported

Datasouth

Models	Supported Scripts (by type of font)	
Codewriter series	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported

Eltron

Models	Supported Scripts (by type of font)	
all models	Resident:	Western
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Not supported

IBM

Models	Supported Scripts (by type of font)	
all models	Resident:	Western, Greek, Turkish, Baltic, Central European, Cyrillic
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Western, Greek, Turkish, Baltic, Central European, Cyrillic

Intermec

Models	Supported Scripts (by type of font)	
EasyCoder 3400E, 3440 Series, 4420 Series, 4440 Series, PF-IPL Series, PM-IPL Series	Resident:	Western, Japanese
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western
Models 3100 & 4000, Intermec 8365-8646	Resident:	Western, Japanese
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported
EasyCoder 101-201 EasyCoder 401-501	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported

Models	Supported Scripts (by type of font)	
EasyCoder 71, 91 Series, 7422, C4	Resident:	Western
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Not supported
EasyCoder 3200, 3400 Series, 3600 Series, 4400 Series, 4406, 4830 Series, 7421 Series, Intermec 3400 Series, 4100 Series, 4630	Resident:	Western, Japanese
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Not supported
EasyCoder 301, 501 XP, 601 XP, E4, F2, F4, PF-DP Series, PM-DP Series	Resident:	Western, Turkish, Baltic, Central European
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Western, Greek, Turkish, Baltic, Central European, Cyrillic

Meto

Models	Supported Scripts (by type of font)	
V40-85, mi Series, mn Series	Resident:	Western (with optional hardware: Greek, Turkish, Baltic, Central European, Cyrillic, Japanese, Chinese Simplified, Korean)
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western, Greek, Turkish, Baltic, Central European, Cyrillic

Models	Supported Scripts (by type of font)	
Bandit, MP Series	Resident:	Western
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Not supported
SP40	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported

Monarch

Models	Supported Scripts (by type of font)	
M Series, 9662, 9825, 9840-9856	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Western
Models 1460-9494, 9805-9820, 9830-9835, and 9870	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported
Models 9411, 9642E, 9643E, and 9652E	Resident:	Western
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Not supported
Sierra Sport 2	Resident:	Western
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western

Novexx

Models	Supported Scripts (by type of font)
all models	Resident: Western Downloaded Bitmap: Not supported Downloaded Scalable: Not supported

Okabe

Models	Supported Scripts (by type of font)
all models	Resident: Western, Japanese Downloaded Bitmap: Not supported Downloaded Scalable: Not supported

Pitney Bowes

Models	Supported Scripts (by type of font)
all models	Resident: Western (with optional hardware: Greek, Turkish, Baltic, Central European, Cyrillic, Japanese, Chinese Simplified, Korean) Downloaded Bitmap: Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai Downloaded Scalable: Western, Greek, Turkish, Baltic, Central European, Cyrillic

Pressiza

Models	Supported Scripts (by type of font)	
F Series	Resident:	Western (with optional hardware: Greek, Turkish, Baltic, Central European, Cyrillic, Japanese, Chinese Simplified, Korean)
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western, Greek, Turkish, Baltic, Central European, Cyrillic
406 Series	Resident:	Western, Japanese
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported
408 Series, X-64 Series, TX Series, XT Series	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported
P Series	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Western

Printronix

Models	Supported Scripts (by type of font)	
-FGL models	Resident:	Western (with optional hardware: Greek, Turkish, Baltic, Central European, Cyrillic, Japanese, Chinese Simplified, Korean)
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western, Greek, Turkish, Baltic, Central European, Cyrillic

Models	Supported Scripts (by type of font)	
-PGL models	Resident:	Western, Greek, Turkish, Baltic, Central European, Cyrillic,
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Western, Greek, Turkish, Baltic, Central European, Cyrillic,

QuickLabel

Models	Supported Scripts (by type of font)	
Pronto 47x Series	Resident:	Western, Japanese
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western
Pronto 843	Resident:	Western, Japanese
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported

Ring

Models	Supported Scripts (by type of font)	
all models	Resident:	Western, Japanese
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported

Sato

Models	Supported Scripts (by type of font)
all models	Resident: Western, Kata Kona (a subset of Japanese characters) Downloaded Bitmap: Not supported Downloaded Scalable: Not supported

System Wave

Models	Supported Scripts (by type of font)
all models	Resident: Western, Japanese Downloaded Bitmap: Not supported Downloaded Scalable: Not supported

TEC

Models	Supported Scripts (by type of font)
all models	Resident: Western, Chinese Simplified, Japanese Downloaded Bitmap: Not supported Downloaded Scalable: Not supported

Tharo

Models	Supported Scripts (by type of font)
A Series Apollo Series	Resident: Western Downloaded Bitmap: Not supported Downloaded Scalable: Western
Gemini Series	Resident: Not supported Downloaded Bitmap: Not supported Downloaded Scalable: Not supported

VIPColor

Models	Supported Scripts (by type of font)	
VP2020	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Western

Zebra

Models	Supported Scripts (by type of font)	
Models 90Xi-220Xi, 105S Series, PAX Series, 160S, A300, T300, DA402, PA400, PT400, Stripe, T402, Z4M, Z6M, Z4000, and Z6000	Resident:	Western
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Western
Models 90-223	Resident:	Western
	Downloaded Bitmap:	Not supported
	Downloaded Scalable:	Not supported
Models 2746, 2746e, Companion Plus, Ht-146, LP Series, Orion 2443, TLP Series	Resident:	Western
	Downloaded Bitmap:	Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, Thai
	Downloaded Scalable:	Not supported

Appendix C: Optimizing Performance with Resident and Downloaded Fonts

Overview

When you use a TrueType or OpenType font for a text object, ordinarily the text area must be sent as an image to your printer each time the label prints. Images are large and they take more time to send to a printer than simple text data. But, depending on which foreign script you need, there may be ways you can avoid the performance loss that comes from having to transmit the text object as an image:

- Use a font resident in the printer.
- Use a downloaded font.

Fonts, whether resident or not, are of two broad types:

A **scalable font** is a set of rules and mathematical formulas that tell your computer or printer how to create the shape of each character or symbol.

A **bitmapped font** is a set of pre-defined bitmap images, one for each character in the font, and all of them at a given font size.

This section describes the advantages and disadvantages of resident versus downloaded fonts.

Resident Fonts

Some fonts are in the memory of your printer all the time, and they are called resident or printer-based fonts. When a font is resident, a text object using that font does not have to be sent as an image to the printer. Instead, all that is sent is a set of code numbers, one for each character; so printing jobs execute faster.

The chief advantages of using a resident font are:

- Configuration is easier with resident fonts because you never need to take the time to download the font to the printer.
- Resident fonts use less printer memory.

Downloaded Fonts

Some printers can achieve nearly the same efficiency with a computer-based font as they do with a resident font. This efficiency is attained by downloading the font to the printer before the first BarTender print job. Since the font is thereafter in the printer's memory, text that uses the font does not have to be sent to the printer as a graphic. The font usually remains in the printer until it is deleted by a user. (Some printers can store downloaded fonts only as long as the printer stays powered on. Refer to your printer's manual for specific information.)

Downloaded Bitmapped Fonts

With a great many printers, you can create a bitmapped font identical to any of the TrueType or OpenType fonts installed on your machine. You simply specify the typeface, the font size, and the script. Since TrueType and OpenType fonts are scalable fonts, they contain rules and formulas that specify how each symbol is to be drawn. The driver will use these instructions to create a bitmapped font of the chosen size containing the characters of the chosen script. The new font is downloaded to the printer. (Details are below in *Using Downloaded Fonts*.)

When a printer enables such downloading of bitmapped fonts, you can download fonts containing the symbols of any of the scripts used by single-byte languages. This is because you select the script at the time you create the bitmapped font file on your computer (and download it to the printer). Hence, it is not necessary that the printer itself understand the differences between scripts. The single-byte scripts include Western, Hebrew, Arabic, Greek, Turkish, Baltic, Central European, Cyrillic, Vietnamese, and Thai.

The most significant disadvantage of bitmapped fonts is that they cannot be scaled. Since the number of pixels in the rectangle used by each symbol depends on the size of the font, and since a bitmapped font must provide pixel-by-pixel instructions for each symbol; the bitmapped font can only be a font of a particular point size. If you need to have text objects that use the same typeface but a different size, then you would need to download a second bitmapped font specifying a different font size than you specified the first time. Although any one such bitmapped font usually takes up less printer memory than a scalable font of the same typeface, the combined memory used by several such fonts might exceed the amount of memory used by the scalable font. Accordingly, the size of your printer's available memory may limit you to downloading the scalable font rather than several bitmapped fonts.

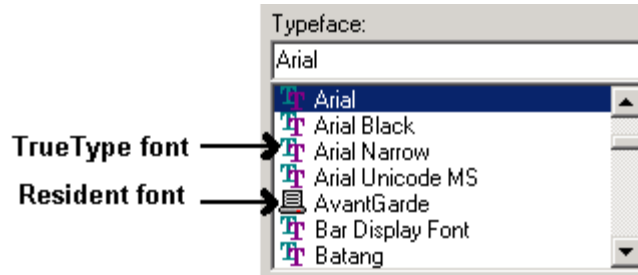
Downloaded Scalable Fonts

You can download a complete scalable font, including any TrueType or OpenType font, if you need multiple font sizes. This provides performance that is nearly as good as a downloaded bitmapped font or a resident font, although performance is somewhat reduced because, as noted above, the printer is not simply being told which pixels are given the color of the font. Instead, it must figure out this information for each symbol, based on the rules and formulas in the font file. But if neither resident nor downloaded bitmapped fonts are usable in your situation, using a downloaded TrueType or OpenType font is still dramatically superior in performance to using that same font without first downloading it.

Putting These Techniques to Work

Using Resident Fonts

There are no special steps to using a resident font, since it is already resident in the printer. Simply be sure that there is a printer icon to the left of the font name in the **Typeface** list of the **Font** tab on the **Modify Selected Text Object** dialog.



Optional Resident Fonts

If the resident font is part of a hardware option you installed in the printer, such as a font card, then it may be necessary to activate the fonts you need in the printer driver's **Installed Features** dialog:

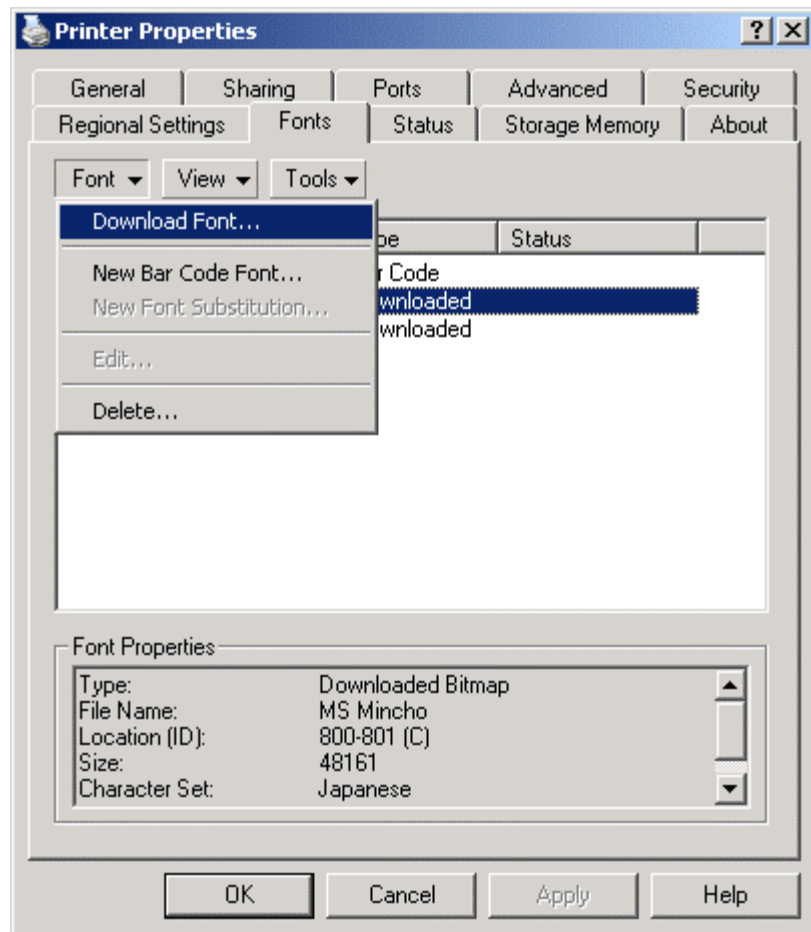
1. In Windows XP, from the **Start** menu, open **Printers and Faxes**. (If you are using the "Classic Start menu," you must first click **Settings**.) In earlier versions of Windows, from the **Start** menu, open **Printers**.
2. Right-click the name of your printer and select **Properties** from the context menu.

3. Click the **Fonts** tab and then the **Tools** button.
4. Select **Installed Features** from the drop down menu.
5. Click the checkboxes for the fonts and scripts you installed.
6. Click **OK** and then **OK** again.

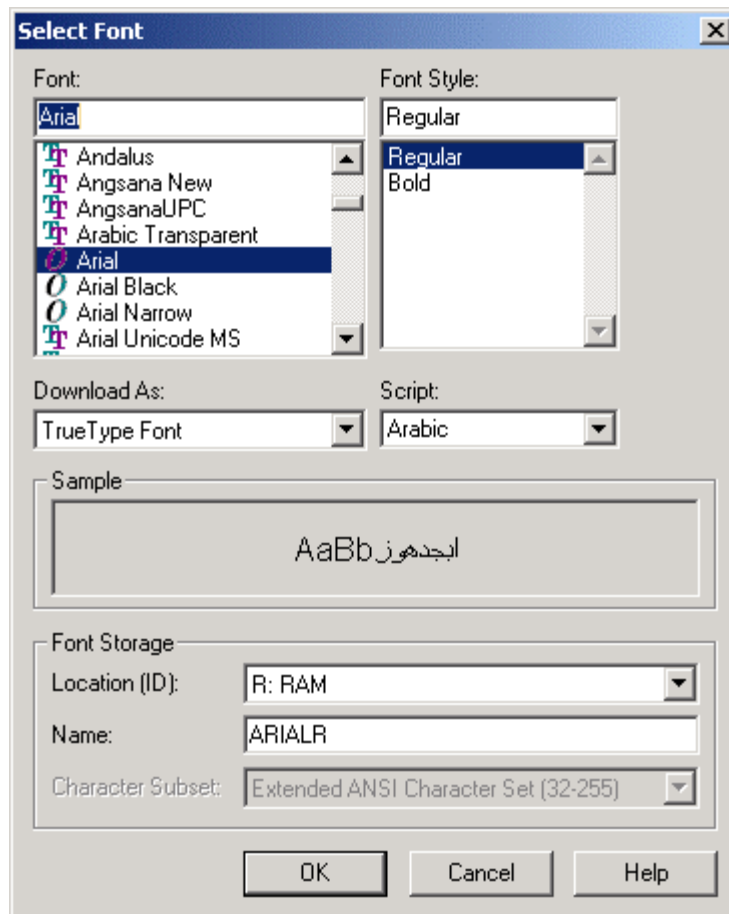
Using Downloaded Fonts

To download a bitmapped or scalable font to a printer, take these steps:

1. In Windows XP, from the **Start** menu, open **Printers and Faxes**. (If you are using the “Classic Start menu,” you must first click **Settings**.) In earlier versions of Windows, from the **Start** menu, open **Printers**.
2. Right-click the name of your printer and select **Properties** from the context menu.
3. Open the **Font** tab. (If there is no **Font** tab, then your printer does not support downloading of fonts.) The image below shows a typical **Properties** dialog and **Font** tab.
4. Click the **Font** button and select **Download Font** from the drop down menu.



5. On the **Select Font** dialog, select the desired font and style.



6. If the printer supports downloading of both bitmapped and scalable fonts, then there will be two options on the **Download As** drop-down list: “Bitmapped” and “TrueType” (which on this dialog refers to any scalable font). If either option is not on the list, then that option is not supported with your printer. Choose which type of download you want. If you are downloading the font as a bitmapped font, select a font size.
7. Choose from the **Script** drop-down list the script that is required for the needed foreign language. (If the required script does not appear on the list, then the selected font is not compatible with that script. Change to a different font.) See *Appendix A* for a table of languages and their scripts.
8. The **Location (ID)** and **Name** settings should be left at their defaults unless you are an advanced user. Consult your printer’s documentation for information on these settings.

9. If you are downloading a bitmapped font, then the **Character Subset** list is enabled. You can use this to conserve printer memory by choosing to download only one of the listed subsets of the font. (Click the dialog's **Help** button for more information.)
10. Click **OK** and font will be downloaded to the printer.
11. Click **OK** on the printer's **Properties** dialog.

You can now select this font on the **Font** tab of the **Modify Selected Text Object** dialog within BarTender. Although it will not have a printer icon beside its name in the **Typeface** drop down list, it is now, in effect, a kind of resident font for the current printer.

For example, suppose you have downloaded the font **Andalus** as a bitmapped font, size 12 pt. (When downloaded, **Andalus** always uses the Arabic script.) You would then use it with these steps:

1. Open the **Font** tab of the **Modify Selected Text Object** dialog for your text object.
2. Select **Andalus** as the **Typeface**.
3. Select 12 pt. as the font size.
4. **Arabic** is automatically selected as the **Script**.

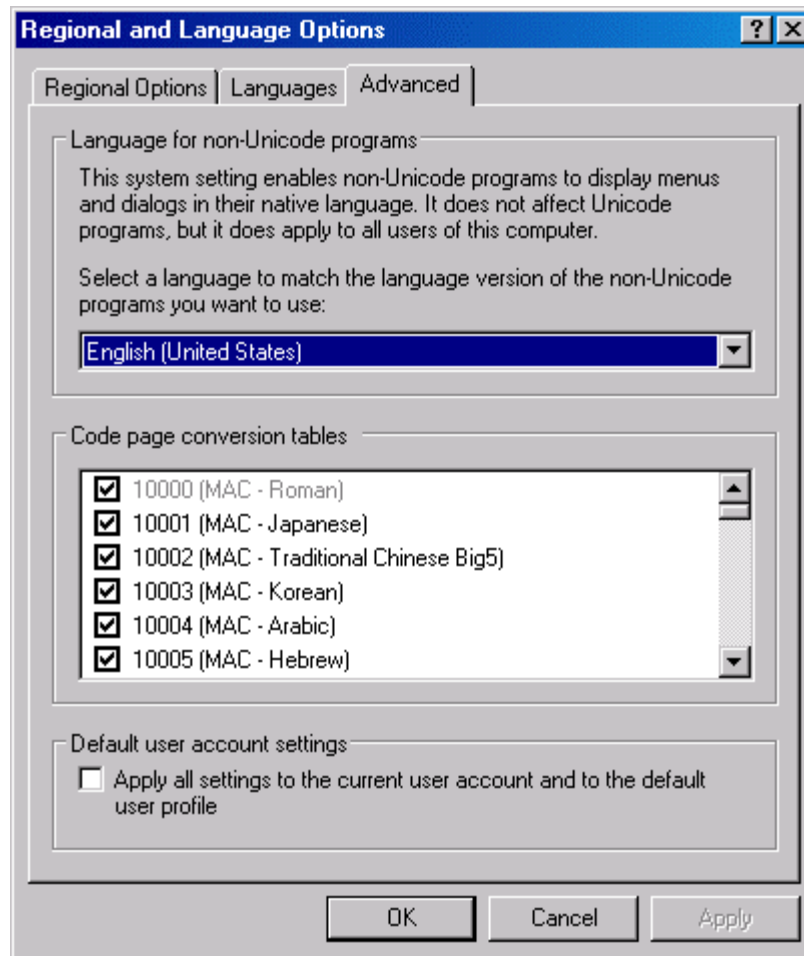
Appendix D: Configuring Windows

Changing Windows Language Settings

If the writing system that contains the foreign characters you need is significantly different from the default language of your edition of Windows, then you will need to make a temporary change in the Windows language settings. (This will not change the language of any Windows menus or dialogs.) The steps for performing this task in Windows 2000 and XP are below. If you have Windows 95, 98, NT, or ME, then you should consult Windows help about "Regional Settings" for the proper steps.

In Windows XP

1. From the **Start** menu, open **Control Panel**. (If you are using the “Classic Start menu”, you must first click **Settings**.)
2. Click the link named **Date, Time, Language, and Regional Options**. (Skip this step if you are using the “Classic Start menu”.)
3. Click **Regional and Language Options**.



4. Click the **Advanced** tab.
5. From the **Language for non-Unicode programs** drop down list, select the language that contains the foreign characters you need.

Note:

If the language is not listed, then you must install support for it. Refer to *Windows Support for Additional Languages* below.

6. Click the **Regional Options** tab.
7. In the **Standards and formats** drop down box, select the language that contains the foreign characters that you will be using.
8. Click **OK**.
9. You will be prompted to restart your computer.
10. After the computer has restarted, reopen BarTender and your label format, and begin entering foreign text. See the sections *Windows Character Map* or *Entering Foreign Text from the Keyboard*.

In Windows 2000

1. From the **Start** menu, open **Settings**, and then **Control Panel**.
2. Click **Regional Options**.
3. Click the **General** tab.
4. Click the **Set Default** button. The **Select System Locale** dialog opens.
5. Select the needed locale from the drop down list.

Note:

If the language is not listed, then you must install support for it. Refer to *Windows Support for Additional Languages* below.

6. Click **OK** to return to the **General** tab of the **Regional Options** dialog.
7. In the **Your locale** drop down list, select the same locale as you chose in step 5.
8. Click **OK**.

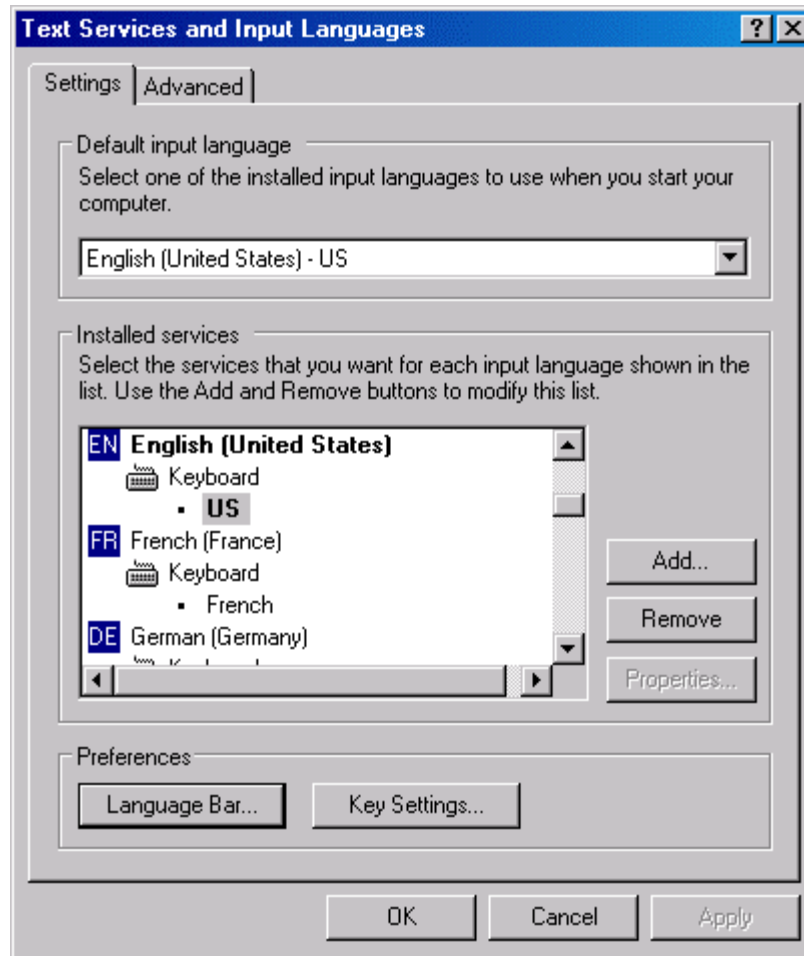
9. You will be prompted to restart your computer.
10. After the computer has restarted, reopen BarTender and your label format, and begin entering foreign text. See the sections *Windows Character Map* or *Entering Foreign Text from the Keyboard*.

Installing Windows Input Support for Foreign Languages

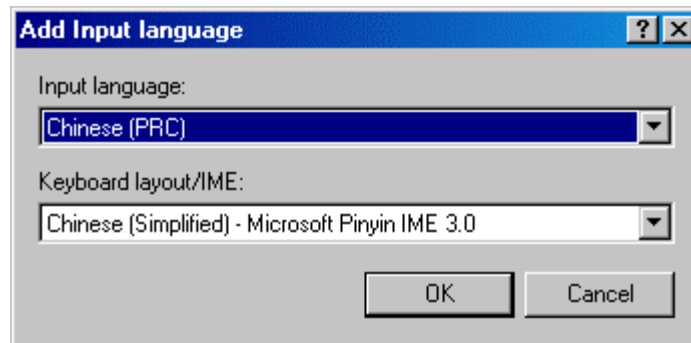
You can turn your keyboard into a foreign language keyboard or add Windows support for inputting foreign languages with special on-screen tools. The steps for performing this task in Windows 2000 and XP are below. If you have Windows 95, 98, NT, or ME, then you should consult Windows help about “Regional Settings” for the proper steps.

In Windows XP

1. From the **Start** menu, open **Control Panel**. (If you are using the “Classic Start menu”, you must first click **Settings**.)
2. Click the link named Date, Time, Language, and Regional Options. (Skip this step if you are using the “Classic Start menu”.)
3. Click **Regional and Language Options**.
4. Click the **Languages** tab.
5. Click the **Details** button. This will open the **Text Services and Input Languages** dialog.
6. Click the **Settings** tab.



7. Click the **Add** button to open the **Add Input language** dialog.



8. Select a language and/or a new keyboard layout from the drop down boxes.

Note:

If the language is not listed, then you must install support for it. Refer to the section *Windows Support for Additional Languages*.

9. Click **OK**.
10. Repeat steps 7 through 9 for each language that has characters you expect to input.
11. Click **OK** to exit from each dialog.
12. If you are prompted to restart the computer or to insert the Windows CD, do so and follow the on-screen prompts.
13. When the installation has completed you can reopen BarTender and your label format and begin entering foreign text from the keyboard or Input Method Editor. (Refer to the sections *Re-mapping Your Keyboard* and *Using an Input Method Editor*.)

In Windows 2000

1. From the **Start** menu, open **Settings**, and then **Control Panel**.
2. Click **Regional Options**.
3. Click the **Input Locales** tab.
4. Click the **Set Default** button. The **Select System Locale** dialog opens.
5. Click the **Add** button to open the **Add Input language** dialog.
6. Select an input locale and/or a new keyboard layout from the drop down boxes.

Note:

If the language is not listed, then you must install support for it. Refer to *Windows Support for Additional Languages* below.

7. Click **OK**.

8. Repeat steps 5 through 7 for each language that has characters you expect to input.
9. Click **OK** to exit from each dialog.
10. If you are prompted to restart the computer or to insert the Windows CD, do so and follow the on-screen prompts.
11. When the installation has completed you can reopen BarTender and your label format and begin entering foreign text from the keyboard or Input Method Editor. (Refer to the sections *Re-mapping Your Keyboard* and *Using an Input Method Editor*.)

Windows Support for Additional Languages

Windows installs with support for the languages you are most likely to need, but you may need to install support for additional languages. The steps for performing this task in Windows 2000 and XP are below. If you have Windows 95, 98, NT, or ME, then you should consult Windows help about “languages” and “Regional Settings” for the proper steps.

In Windows XP

Windows XP divides the world’s languages into three groups:

- Western alphabetic languages
- East Asian ideographic languages
- Complex script and right-to-left languages

The group to which your local language belongs will have already been installed with Windows XP. If you need characters from a language in one of the other groups, you will first have to install support for that group.

1. From the **Start** menu, open **Control Panel**. (If you are using the “Classic Start menu”, you must first click **Settings**.)
2. Click the link named **Date, Time, Language, and Regional Options**. (Skip this step if you are using the “Classic Start menu”.)

3. Click **Regional and Language Options**.
4. Click the **Languages** tab.
5. In the **Supplemental language support** area of the tab you will see check boxes for the language groups that are not already installed in the computer. Check the boxes for the language group(s) you need and click **OK**.
6. Restart your computer when prompted.

In Windows 2000

1. From the **Start** menu, open **Settings**, and then **Control Panel**.
2. Click **Regional Options**.
3. Click the **General** tab.
4. In the **Language settings for the system** area of the tab you will see check boxes for the languages that are not already installed in the computer. Check the boxes for the language(s) you need and click **OK**.
5. Restart your computer when prompted.

You can now perform the steps in *Changing the Windows Language Settings* or *Installing Windows Input Support for Foreign Languages*.