

White Paper

What's New in BarTender 7.7

An In-Depth Look at the
New Features in BarTender 7.7

Contents

INTRODUCTION..... 3
UNICODE..... 3
 WHAT IS IT AND WHY IS IT IMPORTANT?..... 3
 BAR TENDER AND UNICODE..... 4
FONT STYLE EMULATION 6
SUPPORT FOR NEW INPUT AND OUTPUT CHARACTER ENCODING STANDARDS..... 6
READING ORDER..... 6
SUPPORT FOR MICRO QR CODE 8

Introduction

BarTender 7.7 introduces the following features to assist with label design, integration with other applications, and printing:

- Full Unicode Compliance makes it easier than ever to print international characters.
- Font Style Emulation enables you to have bold and italic print even with fonts that do not natively support these styles.
- Support for New Input And Output Character Encoding Standards for databases and BarTender logging, including Unicode (UTF-16), Unicode (Big Endian), Unicode (UTF-8), and Korean (Johab). This simplifies integration with other applications.
- Reading order support gives you greater control over the appearance of text that mixes right-to-left languages, like Hebrew and Arabic, with left-to-right languages.
- Support for Micro QR Code enables you to encode data in smaller spaces than QR code.

Unicode

What is it and why is it important?

When a business enters the global marketplace, it must support customers across many languages. To that end, the business must be able to exchange text data between software applications without corruption. The applications, in turn, must support a character set that contains virtually all of the symbols from the world's languages. Unicode is the only such character set.

Fundamentally, computers work only with numbers. Letters and other symbols are stored as code numbers. Unicode provides a unique code number for every character and symbol in virtually every language.

Before Unicode was invented, there were hundreds of different systems for assigning these code numbers. No single character encoding standard contained all the world's characters and symbols. The European Union alone requires several character encoding standards to cover all its languages. Even for a single language, like English, no single character encoding standard assigned numbers to every letter, punctuation mark, and technical symbol in common use. Moreover, the character encoding standards conflicted: in different character encoding standards, the same code number was assigned to different symbols, and the same symbol was

assigned to different code numbers. Computers, especially servers, needed to support many character encoding standards, and whenever data was converted to a different character encoding standard, there was an increased chance that the data would be corrupted.

BarTender and Unicode

BarTender, Commander, and Seagull License Server now natively support the Unicode standard, making multiple language labeling easier than ever. You can now:

- Print text from multiple languages using a single text object or substring.
- Import data from a database in which the language varies from field to field and from record to record.
- Take advantage of printer-based Unicode fonts for high performance printing of multilingual labels.
- Copy and paste text with multiple languages to and from other applications.
- Access files and file servers even when the server name, path, and file name contains foreign characters.
- Use printers and print servers even when the server and printer name contain foreign characters.
- Read from databases and database servers even when there are foreign characters in the names of the server, database, user, password, tables, and fields.
- Type foreign text with the Windows' Input Method Editors easier than before.
- Print languages that are supported only by Unicode.
- Print characters that were not previously supported, such as subscripted and superscripted digits.
- Instantly change the language of the user interface in any Seagull Scientific application, and there's never a need to reboot.

Below is an example of a BarTender label with multiple languages. This is only a small sample of the languages that can be printed simultaneously.

Arabic	تصميم ملصق BarTender
Chinese (Simplified)	BarTender 格式文件
Chinese (Traditional)	BarTender 格式檔案
English	BarTender Label Format
Hebrew	BarTender תיווך תרצ
Hungarian	BarTender Címke formátum
Greek	BarTender Μορφοποίηση ετικέτας
Japanese	BarTender ラベルフォーマット
Korean	BarTender 레이블 형식
Russian	Формат этикеток BarTender
Thai	BarTender รูปแบบฉลาก
Turkish	BarTender Etiket Formatı

Here is an example of BarTender’s database browsing feature showing how BarTender can read databases where the language varies from field to field and record to record.

	Mixed	Chinese Traditional	Greek	Thai	German
1	Bilder	所有網頁	Αναζήτηση -	ปรับแต่งตัวเลือก	Bilder
2	เกี่ยวกับ	網上論壇	Αναζητήστε στις	เกี่ยวกับ	Erweiterte Suche
3	網頁目錄	網頁目錄	Κατάλογος	เครื่องมือเกี่ยวกับ	Groups
4	Εικόνες	進階搜尋	Εικόνες	ค้นหาแบบละเอียด	Sprachtools
5	φλδοжу	圖片	Ομάδες	เว็บ	Suche Seiten auf Deuts
6	Еллп 卞	搜尋所有中文網	Παγκόσμιος	กลุ่มข่าว	Verzeichnis
7	ciáelviš	搜尋所有網站	Σύνθετη	รูปภาพ	Verzeichnis-Hilfe
8		搜尋繁體中文網	Σχετικά με το	สารบบเว็บ	Web-Suche

For details about entering international characters onto a label and using printer-based fonts, see the Seagull Scientific white paper [Printing Foreign Text Using BarTender](#).

Font Style Emulation

Some fonts do not come with built-in support for italic, bold, or bold-italic styles. Tahoma, for example, supports bold, but not italic or bold-italic. But BarTender 7.7 uses a technique called “font style emulation” to provide the styles that are not built-in. So now you can have every style with every OpenType or TrueType font.

This is especially valuable for the ideographic fonts of East Asia which less frequently support italic or bold. There are thousands of symbols in such fonts and it is very labor-intensive for the font designer to create each one separately for each style. Also, East Asian fonts with built-in support for styles take up much more space in the computer’s memory and on its disk.

Support for New Input and Output Character Encoding Standards

BarTender can import data from text databases that use any of the most common character encoding standards of Unicode, including UTF-8, UTF-16, and “Big Endian” Unicode (typically used by text files exported from Unix applications). BarTender 7.7 also supports an additional pre-Unicode character encoding standard: the Johab character encoding standard (codepage 1361) can represent every possible symbol of Korea’s Hangul writing system.

All of the character encoding standards, including the new Unicode character encoding standards, can be used in BarTender, Commander, and the Seagull License Server for log files and e-mail messages. The addition of Unicode input and output to BarTender greatly simplifies its integration with other Unicode-compliant applications.

Reading Order

The great power of mixing languages in a single text object brings with it a potential problem when right-to-left (RTL) languages like Hebrew are mixed with left-to-right (LTR). Here is an example of a sentence mixing Hebrew and English in which all the parts read in the correct directions:

The Hebrew word for hat is כובע, which is hard to pronounce.

|1→

| ←2|3→

|

Each of the three runs of characters has an internal reading order that is inherent to the language, as indicated by the arrows. But the three runs themselves have a reading order relative to each other that is defined by the author’s intent. When text is printed with the

wrong reading order, the results can be dramatic. The following text, which is a translation into Hebrew of the English term *2.5" Screw*, is displayed LTR as intended.

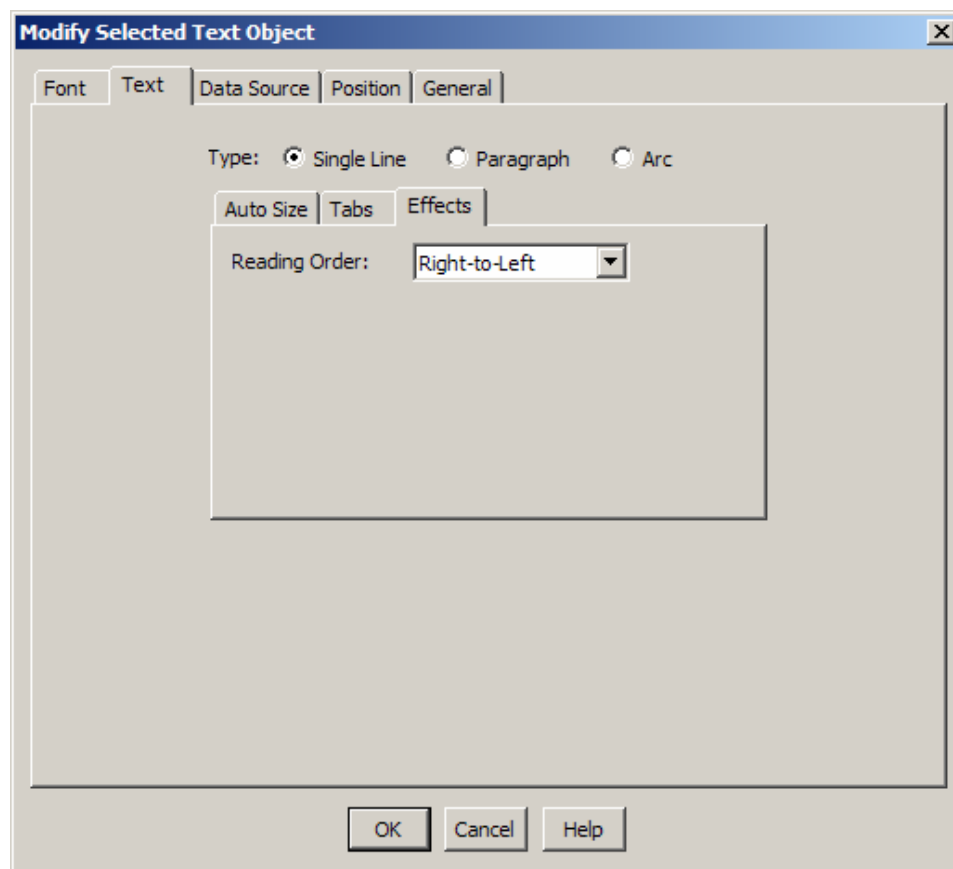
2.5" הברג
|1→ | ←2|

If the text were displayed RTL, it would look like this:

"2.5 הברג
| ←2|1→ |

Notice how the sequence of the runs is reversed and the “inches” marker has moved confusingly to the left of the number.

To avoid problems like this, BarTender enables you to specify the reading order of the runs in directionally mixed text. For example, you can set a reading order for all edit boxes in the BarTender user interface on the **Format Options** dialog. Moreover, each text object on a label format has its own **Reading Order** setting on the **Text** tab of the **Modify Selected Text Object** dialog for the object. Similarly, every prompt object that has text has its own **Reading Order** setting on the **Modify Selected Objects** dialog.



For more information, see the BarTender help topic *Understanding Reading Order*.

Support for Micro QR Code

BarTender 7.7 supports Micro QR Code, a compact version of QR Code. Both versions are popular in Japan. Micro QR Code is useful when the space for a label is too small for a full size QR Code. See BarTender's help for details.



QR Code



Micro QR Code

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