

International Language Support for Crestron® Touchpanels

Reference Guide



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International Language Support for Crestron® Touchpanels

Introduction

NOTE: Unless otherwise indicated, references to SIMPL™ Windows throughout this document also apply to the SIMPL+® programming language.

Crestron VT Pro-e® and SIMPL Windows programming tools allow entry of international languages for display on Crestron® touchpanels. The languages consist of single-byte or multibyte characters:

- Single-byte characters for English and most European languages are expressed with one byte per character. Due to the one-byte limitation per character, a font contains a maximum of 255 characters.
- Multibyte characters for Chinese, Japanese, and Korean languages are expressed with two bytes per character since a font contains thousands of characters.

NOTE: In order for VT Pro-e to compile multibyte characters properly, the appropriate Windows operating system—Chinese, Japanese, or Korean—must be used.

Because different languages use different visual character representations (accented characters, different alphabets, and so on), Microsoft® Windows® operating systems use the technique of a code page to specify the set of visual character representations for a font. In the “Font” dialog box of various Windows applications, making a selection from a drop-down list labeled *Script* or *Character Set* selects the code page. Examples of code pages are Western (English and most European languages), Greek, Turkish, Hebrew, and Cyrillic.

The VT Pro-e programming tool supports the selection of code pages. Some languages (such as Arabic, Hebrew, Thai, and Vietnamese) will not be displayed properly on the touchpanel unless native (built-in) fonts of the touchpanel are used.

NOTE: Unicode is a more advanced and recent technique for specifying a language and font and does not rely on code pages or distinguish between single-byte and multibyte fonts. Support of Unicode by VT Pro-e and SIMPL Windows programming tools is planned for a future date.

A basic tutorial about Unicode, Windows code pages, and single- and double-byte languages is provided at www.joelonsoftware.com/articles/Unicode.html.

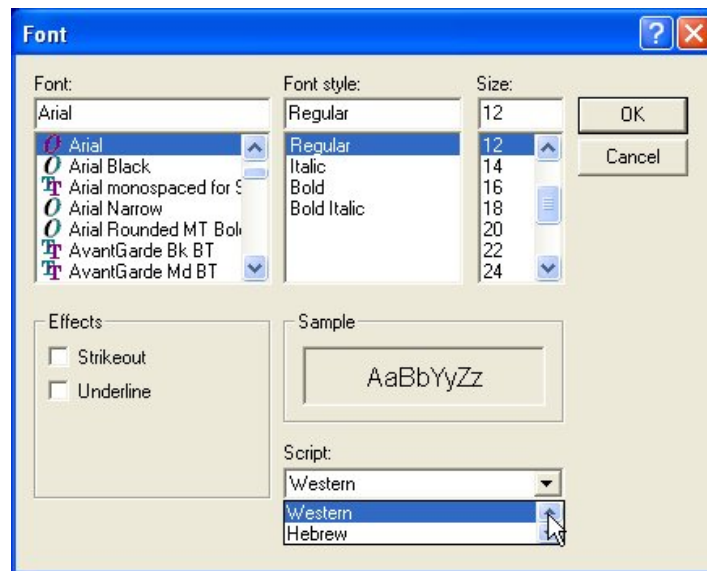
Entering Static Text in VT Pro-e

Single-byte or multibyte characters can be entered into VT Pro-e for display of static text on Crestron touchpanels.

NOTE: In order for VT Pro-e to compile multibyte characters properly, the appropriate Windows operating system—Chinese, Japanese, or Korean—must be used.

Static text is displayed on Crestron touchpanels in English (default) or in the script (code page) selected in the VT Pro-e “Font” dialog box.

VT Pro-e “Font” Dialog Box (Shown Using English Windows Operating System)



To enter static text in VT Pro-e, select the desired font properties and script in the “Font” dialog box, and then type the characters. To enter characters not found on the keyboard of the PC, perform either of the following options:

- Option 1: Use the Windows On-Screen Keyboard (refer to page 3)
- Option 2: Use Windows Alt Key Commands (refer to page 4)

Option 1: Use the Windows On-Screen Keyboard

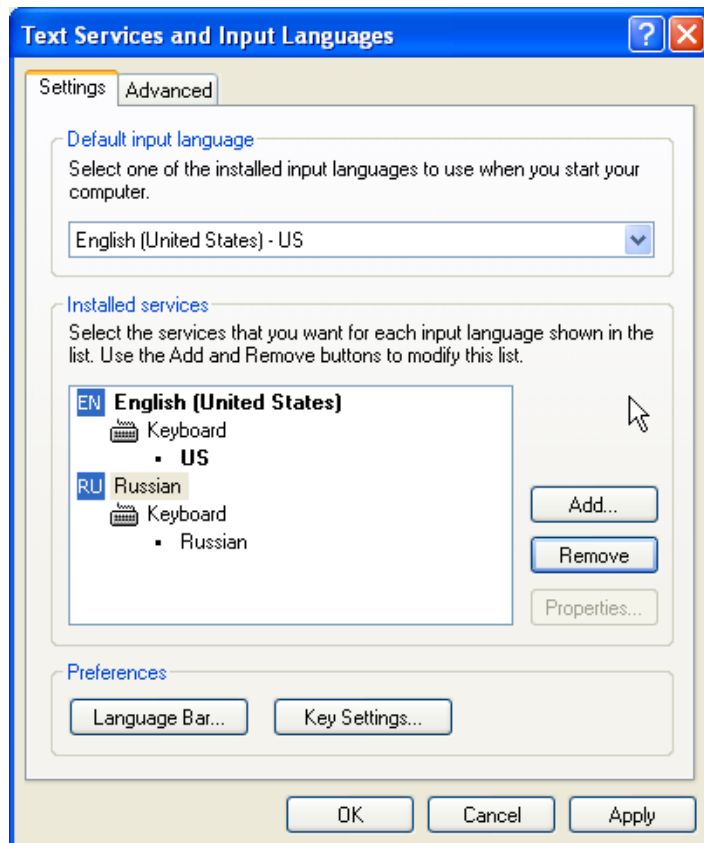
Set your keyboard language to the desired language, and then use the On-Screen Keyboard to enter text on VT Pro-e objects.

The following example provides a summary of the steps necessary to enter Russian text based on the use of the English Windows XP operating system. Depending on the operating system you are using, the steps you must perform may vary from those provided in the example.

Example Using English Windows XP: To enter Russian text, do the following:

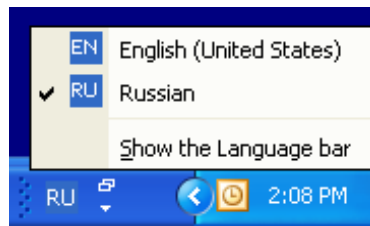
NOTE: In order for Russian text to be displayed on an object, *Cyrillic* must be selected as the script in the VT Pro-e “Font” dialog box.

1. Using the Windows Control Panel, select *Regional and Language Options* and set your keyboard language to Russian using the “Text Services and Input Languages” dialog box.

“Text Services and Input Languages” Dialog Box

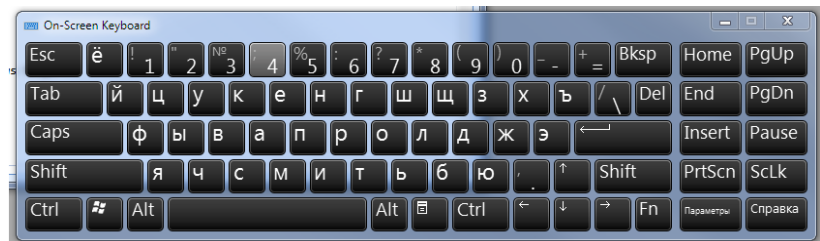
- Open the Windows On-Screen Keyboard, and then select Russian in the Language bar.

Language Bar



The On-Screen Keyboard shows the correct keyboard layout for Russian.

On-Screen Keyboard Layout in Russian



- Use the On-Screen Keyboard to enter Russian text on VT Pro-e objects that have the script set to *Cyrillic* in the VT Pro-e “Font” dialog box.

Option 2: Use Windows Alt Key Commands

Enter a character by pressing and holding the **Alt** key while entering the decimal equivalent of the character using the numeric keypad on the keyboard.

Example 1: To enter the Cyrillic character **Д** (Cyrillic Small Letter De):

After selecting *Cyrillic* as the script in the VT Pro-e “Font” dialog box, press and hold the **Alt** key while typing *0228* using the numeric keypad on the keyboard.

The character **Д** is displayed on the VT Pro-e object.

NOTE: The Windows Character Map with the Windows Cyrillic character set shows the **Д** character as hex value E4, which is 228 decimal.

Example 2: To enter the character **ñ** (Small Letter **n** with Tilde):

Using the default script, *Western*, as the script selected in the VT Pro-e “Font” dialog box, press and hold the **Alt** key while typing the ASCII code *164* using the numeric keypad on the keyboard. The character **ñ** is displayed in the VT Pro-e object dialog box and on the object.

Entering Indirect Text in SIMPL Windows

Single-byte and multibyte characters can be entered in SIMPL Windows for display of indirect text on Crestron touchpanels.

NOTE: In order for indirect text to be displayed on a touchpanel, you must also do the following in VT Pro-e: enable indirect text, select a join number for the indirect text, and specify the font properties and script for the indirect text.

NOTE: (Not applicable to SIMPL+) In SIMPL Windows, enter an indirect text string of characters in the *Serial I/O* or *Serial Send* symbol field. For multibyte text, each serial signal must be connected to a *Send As Raw Text* symbol.

To enter an indirect text string of characters in SIMPL Windows, do any of the following as appropriate:

- Enter the hex value as `\xHH` where HH represents the hex value of the character to send. Do not enter the Unicode value.

Example: To enter the Cyrillic character **А**, type `\xE4` as the hex value.

NOTE: In this example, the Windows **Cyrillic** script must be selected in VT Pro-e in order for the character **А** to be displayed on the touchpanel.

- Press and hold the **Alt** key while typing the decimal equivalent of a character.

NOTE: In order for the desired character to be displayed in SIMPL Windows, the native character set of the operating system must be the same as the desired indirect text.

Example: To enter the character **ñ**, press and hold the **Alt** key while typing the ASCII code `164` using the numeric keypad on the keyboard.

- Copy and paste the characters from the Windows Character Map.

NOTE: In order for the paste operation to work properly, the character set chosen in the Character Map must be the same as the native character set of the operating system. For example, the Windows Western character set must be selected in the Character Map for English Windows operating systems.

- Use the Windows On-Screen Keyboard.

NOTE: Use of the Windows On-Screen Keyboard is applicable only for entry of indirect text using the native operating system language.

Encoding a Text File for Indirect Text in SIMPL Windows

In order for SIMPL Windows to process single-byte or multibyte characters correctly from a text file, the file must be created and encoded using a word processing application such as Microsoft Word.

NOTE: Notepad and WordPad applications do not encode a file as required by SIMPL Windows; therefore, the applications are not recommended. (A list of Notepad encoding options is provided in the Appendix on page 10 for reference only.)

NOTE: When creating your document, you can copy characters from the Windows Character Map or change your operating system keyboard and type the characters.

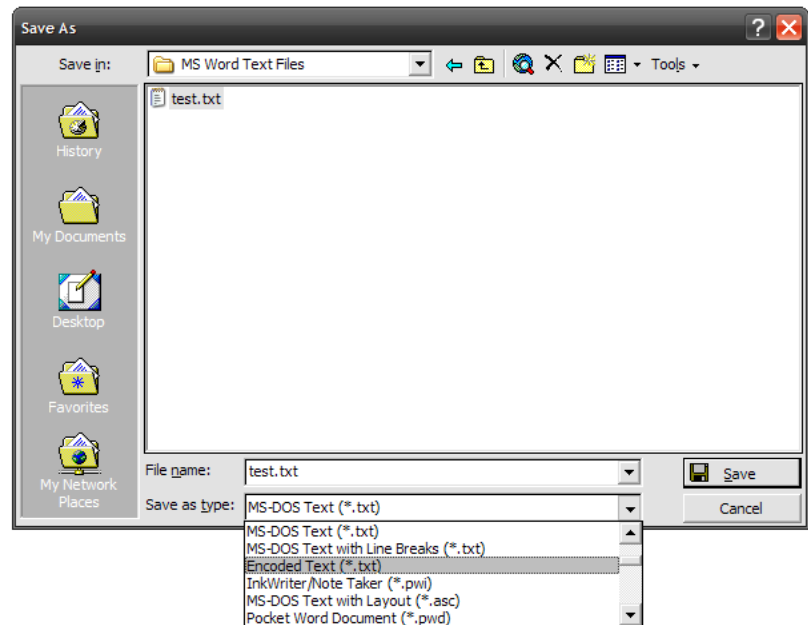
NOTE: Before saving a document as encoded text, it is strongly recommended that you save the document in the default encoding format to ensure that it can be opened and modified for future use (for example, in Microsoft Word the default is .doc).

The following example provides the steps necessary to save a Microsoft Word document (*.doc) as encoded text (*.txt) using the English Windows XP operating system. Depending on the Windows operating system you are using, the steps you must perform may vary from those provided in the example.

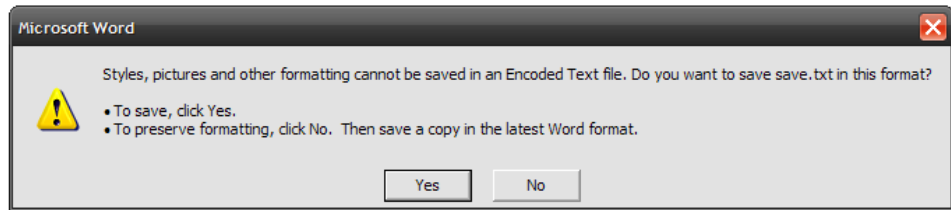
Example Using English Windows XP: To save a Microsoft Word document (*.doc) as encoded text, do the following:

1. Save the file using the *Encoded Text (*.txt)* selection within the *Save as type:* drop-down list, and then click **Save**.

Saving Microsoft Word File as Encoded Text

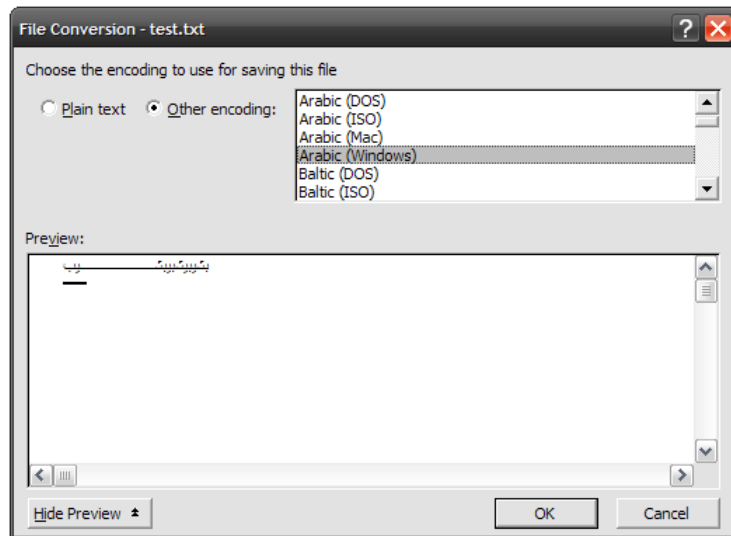


As shown below, a prompt appears asking you whether you want to save the file without preserving the formatting.



2. Click **Yes** to save the file without preserving the formatting. The “File Conversion” dialog box opens.

“File Conversion” Dialog Box



3. Select the appropriate encoding from the list. For example, if your document contains Arabic characters, select *Arabic (Windows)* from the list as the encoding type.
4. Click **OK**. The text file is then encoded in a format that SIMPL Windows can decode.

Mixing Languages

Observe the following regarding the mixing of languages in VT Pro-e and SIMPL Windows:

- VT Pro-e version 4.0 and later allows you to mix languages within the same project; that is, you can select different code pages for different objects within the project. (The code page for an object is selected from the *Script:* drop-down list of the “Font” dialog box as shown on page 2.)

As a result, a project can have a mix of languages such as English, Spanish, Cyrillic, and any other language listed in the *Script:* drop-down list. (Prior to VT Pro-e version 4.0, only one code page could be used in a project.)

- You cannot implement multibyte language text on a single-byte language PC in VT Pro-e (for example, Chinese text will not compile properly on an English PC running VT Pro-e). In order for VT Pro-e to compile multibyte characters properly, the appropriate Windows operating system—Chinese, Japanese, or Korean—must be used.
- SIMPL Windows requires that one of two methods be used on a multibyte PC in order to send a mix of single-byte and multibyte characters in an indirect text string to touchpanels. Determine which of the following methods is required for each touchpanel in your program:
 - ⇒ Convert all single-byte characters to multibyte by adding a trailing \x00 to each single-byte character
 - ⇒ Use the native (built-in) multibyte fonts provided by the Multi-Language Pack* (requires VT Pro-e 4.2 or later).

Native Multibyte Fonts of Multi-Language Pack

NATIVE FONT NAME	ENGLISH NAME	OPERATING SYSTEM
新宋体	SimSun	Chinese Simplified
宋体	SimSun	Chinese Simplified
細明體	MingLiu	Chinese Traditional
MS Pゴシック	MS Pgothic	Japanese
MS ゴシック	MS UI Gothic	Japanese
굴림	Gulim	Korean

* The Multi-Language Pack is available as a special firmware build for various touchpanels. Installation of the Multi-Language Pack reduces the amount of space available for the project on the touchpanel.

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling Crestron at 1-888-CRESTRON [1-888-273-7876].

You can also log onto the online help section of the Crestron Web site (www.crestron.com/onlinehelp) to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

Appendix: Notepad Encoding Options

Notepad provides the following encoding options:

- **ANSI:** Default encoding for single-byte fonts
- **Unicode:** Saves all characters in double-byte format. Single-byte characters are converted to double-byte format with the addition of the \x00 byte. This encoding may also support multibyte encoding of four and eight bytes.
- **Unicode Big Endian:** Saves all character in double-byte format and swaps the two bytes.
- **UTF-8:** Saves all characters with code values from 0 to 127 as single-byte characters and those with code values above 127 as double-byte characters.

NOTE: UTF-8 encoded files saved in Notepad contain the Unicode value of the character instead of the character's hexadecimal equivalent. The Multi-Language Pack supporting double-byte fonts requires that each character be encoded in its hexadecimal equivalent.

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Reference Guide – DOC. 7139A
(2029671)
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