

Printing Unicode characters from SAP to Sato GT4xxe Printers

User Guide

Version 061030-01

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Table of Contents

1.	Introduction	3
2.	Configuration at SAP environment	4
3.	Using SATO firmware with Unicode character set	5
4.	Example	6
5.	Appendix	9
5.1.	Command Specifications.....	9
	Cartridge built-in TrueType font print command	9

1. Introduction

This document is to explain how to print **Unicode characters** from SAP with SAPScript (ITF file upload method) to Sato **GT4xxe** printers. The following languages will be explained in the following section:

- European languages
- Chinese (Simplified and Traditional)
- Thais
- Korean
- Japanese

Please refer to the following document on how to use Label Gallery to create the ITF file:
<http://satoworldwide.com/labelgallery/downloads/WhitePapers/SAP%20guidelines.pdf>

Note:

- 1) It is assumed the Unicode characters are entered on the Text Editor or read from database in the SAP environment. Currently, Label Gallery is not able to create ITF file containing foreign languages characters.
- 2) It is also assumed that the SAP system is Unicode Compliant, or at least supports inputting and displaying of all European languages, Simplified Chinese, Traditional Chinese, Thais, Korean and Japanese.

2. Configuration at SAP environment

The original SATO device type “ZLB_SAT.pri” uses codepage 1103 (IBM PC Multilingual 850). This codepage is not able to support Unicode character set. Codepage **4110**, Unicode UTF 8, has to be used instead in order to print the Unicode characters.

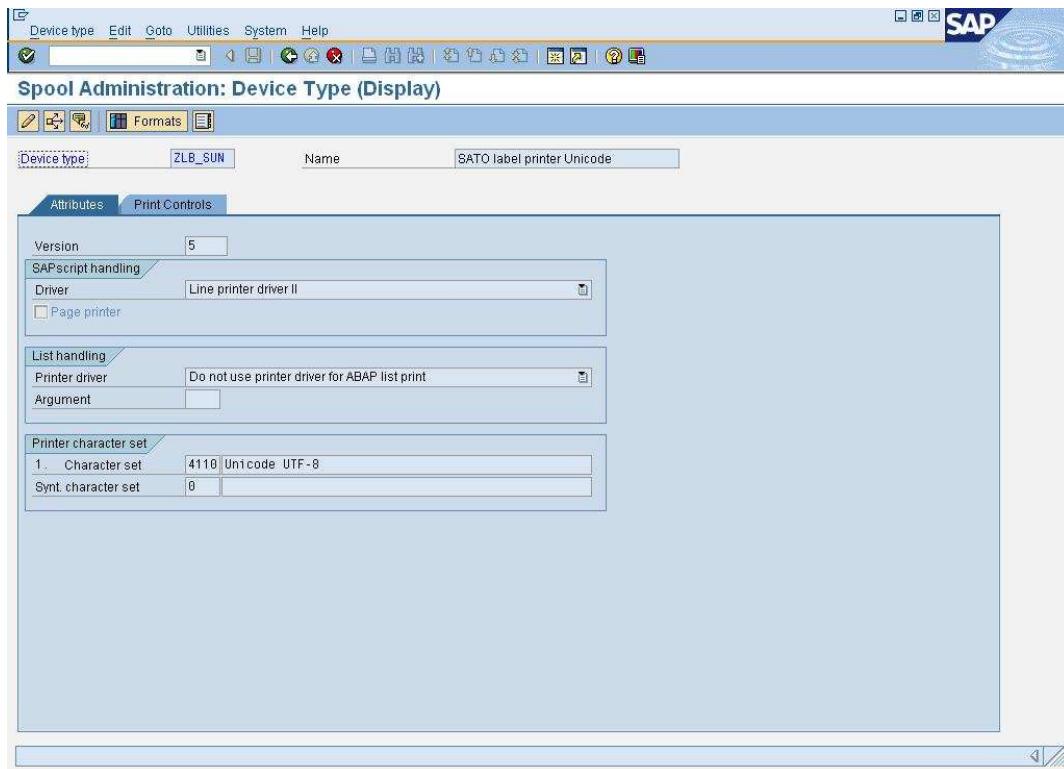


Figure 1 Using 4110 Codepage to support Unicode character set

3.Using SATO firmware with Unicode character set

The following firmware has to be downloaded to the GT4xxe printer in order to print the Unicode characters:

Firmware version 13.24.00.00 (Please email printersupport@sato-int.com for more information)

Note: For GT4xxe printers, the language cartridge has to be inserted to the printer to print the required language.

The following commands are to be used to print the Unicode characters

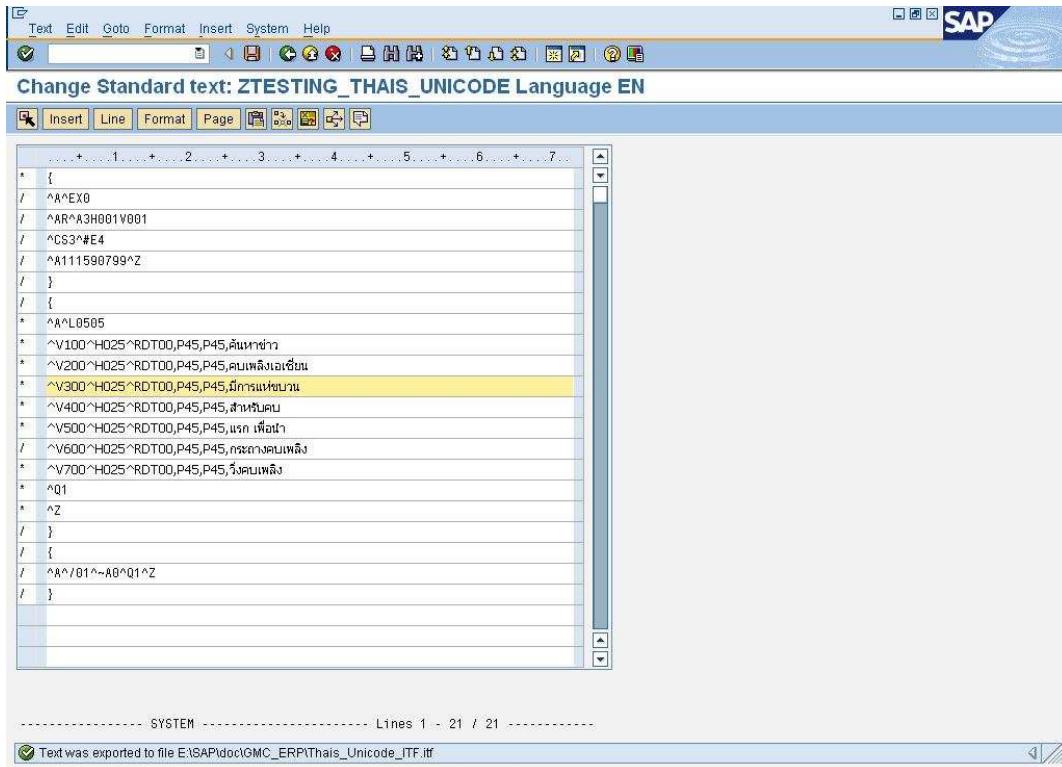
Command	Descriptions
RDt	Printing European languages such as Greece, Spain and Arabic.
RDT	Printing Thais
RDc	Printing Traditional Chinese
RDC	Printing Simplified Chinese
RDK	Printing Korean
\$	Printing Japanese

Table 1 Commands to print Unicode characters

Please refer to the appendix for the detail description of the commands.

4. Example

The sample of the ITF files below can be downloaded from the appendix.

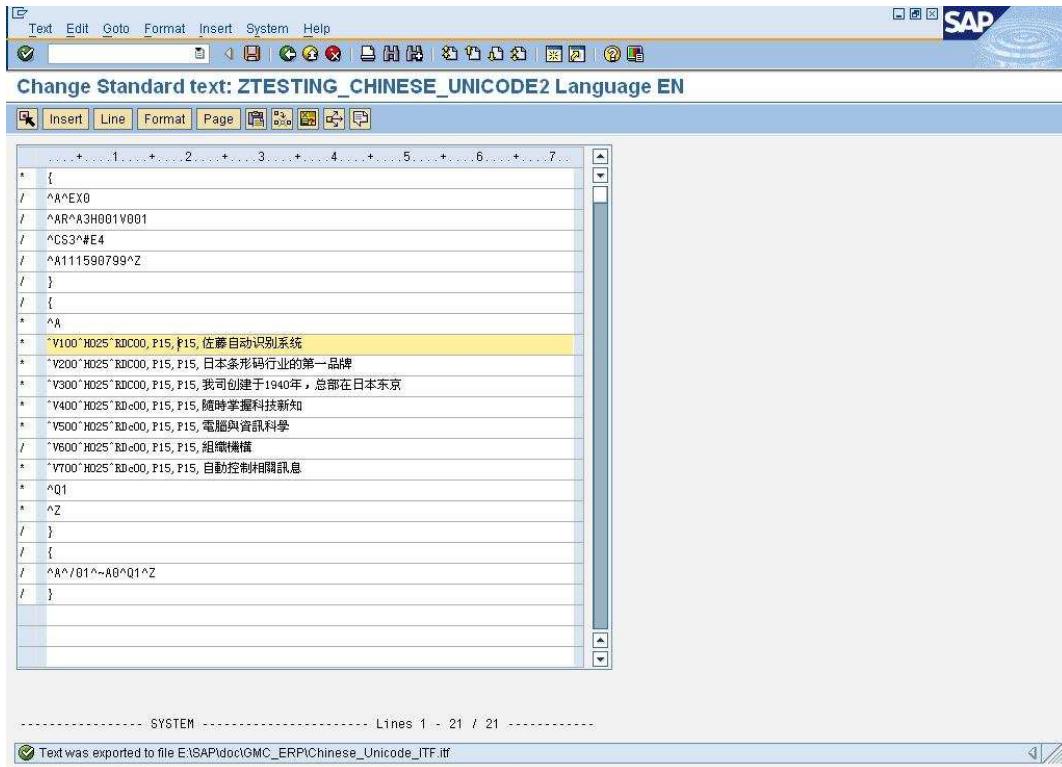


SAP ERP interface showing the ITF file for the Thais language. The window title is "Change Standard text: ZTESTING_THAIS_UNICODE Language EN". The text area contains ITF code, with several lines highlighted in yellow. The highlighted lines represent text for Thai characters and symbols. The SAP logo is visible in the top right corner.

```
Text Edit Goto Format Insert System Help
Change Standard text: ZTESTING_THAIS_UNICODE Language EN
Insert Line Format Page
{ ... + .1 .2 .3 .4 .5 .6 .7
^A^EX0
^AR^A3H001V001
^CS^#E4
^A111590799^Z
}
{
^AL0505
^V100^H025^RDT00,P45,P45,คิมชาเข้า
^V200^H025^RDT00,P45,P45,สอนพิมพ์ชื่อ
^V300^H025^RDT00,P45,P45,ก้าวหนีบาน
^V400^H025^RDT00,P45,P45,ล้านหุ่น
^V500^H025^RDT00,P45,P45,แม่ เที่ยง
^V600^H025^RDT00,P45,P45,กระดาษหนาเหลือง
^V700^H025^RDT00,P45,P45,รังสรรค์เพลิง
^Q1
^Z
}
{
^A^/01^~A0^Q1^Z
}

----- SYSTEM ----- Lines 1 - 21 / 21 -----
Text was exported to file E:\SAP\doc\GMC_ERP\Thais_Unicode_ITF.itf
```

Figure 2 ITF file with Thais



SAP ERP interface showing the ITF file for Simplified and Traditional Chinese languages. The window title is "Change Standard text: ZTESTING_CHINESE_UNICODE2 Language EN". The text area contains ITF code, with several lines highlighted in yellow. The highlighted lines represent text for Chinese characters and symbols. The SAP logo is visible in the top right corner.

```
Text Edit Goto Format Insert System Help
Change Standard text: ZTESTING_CHINESE_UNICODE2 Language EN
Insert Line Format Page
{ ... + .1 .2 .3 .4 .5 .6 .7
^A^EX0
^AR^A3H001V001
^CS^#E4
^A111590799^Z
}
{
^A
^V100^H025^RDC00,P15,P15,佐藤自动识别系统
^V200^H025^RDC00,P15,P15,日本条形码行业的第一品牌
^V300^H025^RDC00,P15,P15,我司创建于1940年，总部在日本东京
^V400^H025^RDc00,P15,P15,随时掌握科技新知
^V500^H025^RDc00,P15,P15,电脑与资讯科学
^V600^H025^RDc00,P15,P15,组微模块
^V700^H025^RDc00,P15,P15,自动控制相關訊息
^Q1
^Z
}
{
^A^/01^~A0^Q1^Z
}

----- SYSTEM ----- Lines 1 - 21 / 21 -----
Text was exported to file E:\SAP\doc\GMC_ERP\Chinese_Unicode_ITF.itf
```

Figure 3 ITF file with Simplified and Traditional Chinese

```
Text Edit Goto Format Insert System Help
SAP

Change Standard text: ZTESTING_UNICODE Language EN

Insert Line Format Page

....+...1....+...2....+...3....+...4....+...5....+...6....+...7...
*
{
/
 ^A^EX0
/
 ^AR^A3H001V001
/
 ^CS3^#E4
/
 ^A111590799^Z
/
 {
*
 ^A
*
 "V100^H025^RD00,P15,P15,Ўдніаюївостпстїѡѡ"
*
 "V200^H025^RD00,P15,P15,Н~о~о~>~а~с~а~и~о~"
*
 "V300^H025^RD00,P15,P15,ЭЮЯ б г д ж и к л п ч щ ю"
*
 "V400^H025^RD00,P15,P15,Е В Д Ж З И К Л П У Ф Ч Щ Ъ"
*
 "^V500^H025^RD100,P15,P15,Ўдніаюївостпстїѡѡ
/
 ^V600^H025^RDt00,P15,P15,ќАЌЌЕИДН~ВÙР
*
 ^V700^H025^RDt00,P15,P15,ќааџ~еօիօ+~եր
*
 ^Q1
*
 ^Z
/
 }
/
 ^
/^A^/01^~A0^Q1^Z
/
}

----- SYSTEM ----- Lines 1 - 21 / 21 -----
```

Figure 4 ITF File with European Languages

The screenshot shows the SAP ERP interface with a text editor open. The title bar reads "Change Standard text: ZTESTING_KOREANE_UNICODE Language EN". The menu bar includes "Text", "Edit", "Goto", "Format", "Insert", "System", and "Help". The toolbar contains icons for various functions like Find, Replace, Copy, Paste, etc. The main area is a text editor with the following content:

```
* {  
/ ^A^EX0  
/ ^AR^A3H001V001  
/ ^CS^#E4  
/ ^A111590799^Z  
/ }  
/  
* ^A  
* ^V100^H025^RDK00,P25,P25,0버지  
* ^V200^H025^RDK00,P25,0기  
* ^V300^H025^RDK00,P25,P25,좀도와 주실래요?  
* ^V400^H025^RDK00,P25,P25,좋은데요!  
* ^V500^H025^RDK00,P25,P25,빨리 나으셔야 돼요  
/ ^V600^H025^RDK00,P25,P25,감akan요  
* ^V700^H025^RDK00,P25,P25,아디 오셨어요?  
* ^Q1  
* ^Z  
/ }  
/  
* ^A^/01^~A0^Q1^Z  
/ }
```

The line containing the Korean text "아디 오셨어요?" is highlighted in yellow. At the bottom, there is a status bar with "SYSTEM" and "Lines 1 - 21 / 21" and a note that the text was exported to file E:\SAP\obj\GMC_ERP\korean_Unicode_ITF.itf.

Figure 5 ITF file with Korean

The screenshot shows the SAP Text Editor interface. The title bar reads "Change Standard text: ZTESTING_JAPANESE_UNICODE Language EN". The menu bar includes "Text", "Edit", "Goto", "Format", "Insert", "System", and "Help". The toolbar contains icons for "Insert", "Line", "Format", "Page", and various document-related functions. The main area is a text editor displaying an ITF (International Text Format) file. The file content is as follows:

```
* .+...1.+...2.+...3.+...4.+...5.+...6.+...7...
* {
/ ^A^EX0
/ ^AR^A3H001V001
/ ^CS3^#E4
/ ^A111590799^Z
/ }
/ {
* ^A
* ^V100^H025$L,50,50,0$=株式会社サト-
* ^V200^H025$L,50,50,0$=本社所在地
* ^V300^H025$L,50,50,0$=東京都渋谷区恵比寿
* ^V400^H025$L,50,50,0$=創業
* ^V500^H025$L,50,50,0$=昭和十五年
/ ^V600^H025$L,50,50,0$=設立
* ^V700^H025$L,50,50,0$=代表取締役執
* ^Q1
* ^Z
/ }
/ {
/ ^A^/01^~^A0^Q1^Z
/ }
```

The line containing the Japanese character sequence "代表取締役執" is highlighted in yellow. Below the text editor, a status bar displays "----- SYSTEM ----- Lines 1 - 21 / 21 -----". At the bottom, a message indicates "Text was exported to file E:\SAP\doc\GMC_ERP\japanese_Unicode_ITF.itf".

Figure 6 ITF file with Japanese characters

5. Appendix

5.1. Command Specifications

Cartridge built-in TrueType font print command

【Format】

<RD>a b c, d d d, e e e, n ~ n

• Parameter

a 「Font type」 =	C 「MKaiSO-Medium-U(simplified)」
	c 「MHeiS-Bold-U(simplified)」
	K 「HYGungSo-Bold」
	T 「AngsanaUPC」
	F 「FuturaIIBook」
	P 「CG Palacio」
	S 「CG Century Schoolbook」
	G 「CG Triumvirate Condensed」
	V 「Univers Medium」
	t 「CG Times」
b 「Character set」 =	O w/out specifying character set
	1 「Latin1」 ISO 8859/1 Latin 1
	2 「Latin2」 ISO 8859/2 Latin 2
	3 「Latin5」 ISO 8859/9 Latin 5
	4 「Grk」 CP-737 DOSGreek
	5 「Cyr」 CP-855 DOSCyrillic
	6 「Arb」 CP-864 DOSArabic
	7 「Codepage874」 CP-874 Thai
	8 「CP-850」 CP-850 Multilingual
c 「character style」 =	O 「standard」 Medium
d 「horizontal size」 =	O O 4 ~ 9 9 9 (dot) / P O 2 ~ P 9 9 (point)
e 「vertical size」 =	O O 4 ~ 9 9 9 (dot) / P O 2 ~ P 9 9 (point)
n 「print data」 =	data

【Supplementary explanation】

1. When it is specified in [0], specification without character set, the applied character set will be the one for SATO standard.
2. Possible combination of font type and character set is shown in below table.

Character set	Font type
CP-850	FuturaIIBook CG Palacio CG Century Schoolbook CG Triumvirate Condensed Univers Medium
Codepage874	AngsanaUPC
Latin1	Univers Medium CG Times
Latin2	Univers Medium CG Times
Latin5	Univers Medium CG Times
Grk	Univers Medium CG Times
Cyr	Univers Medium CG Times
Arb	CG Times
No specification	MKaiSO-Medium-U(simplified) MHeiS-Bold-U(traditional) HYGungSo-Bold

8.8 Font

Shape of Outline Font

E S C + \$

Hexadecimal code	ESC	\$	Parameter
	<1B> ₁₆	<24> ₁₆	a,bbb,ccc,d
Initial value	Nil		

Valid range and term of command	When power switch is OFF	The set parameter is not maintained.
	Valid range within items	The set parameter is valid until the next specification is made.
	Valid range between items	The set parameter becomes initial value at the next item <A>.

[Function]

Specifying the type, size, and shape of font.

[Format]

<\$>a,bbb,ccc,d

• Parameter

a	[Font type specification]	=	K: Hex character L: Binary code
b	[Font width specification]	=	Valid range : 24 to 999 dots
c	[Font height specification]	=	Valid range : 24 to 999 dots
d	[Font shape specification]	=	0: Standard font (Black) 1: Outline font 2: Gray font (Pattern 1) 3: Gray font (Pattern 2) 4: Gray font (Pattern 3) 5: Shaded font 6: Outline and shaded font 7: Mirror rotation font 8: Standard italic font 9: Outline, shaded, and italic font

[Coding Example]

Font type specification	: L
Font width specification	: 100 dots
Font height specification	: 100 dots
Font shape specification	: 1

<A>

<V>100<H>100<P>2

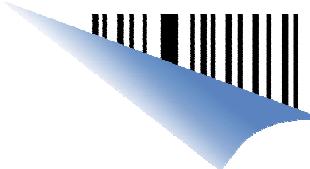
<\$>L, 100, 100, 1<\$=>株式会社サト—

<Q>2

<Z>

[Supplementary Explanation]

1. Shape of Italic font is inclined 15-degree within font width specification
2. Specify this command prior to Print of Outline Font <\$=>.
3. If specified dots in 1 ~ 9 of [Font shape specification] are tiny, they may be unrecognizable as font.
4. Font width and height specification up to 24 dots are printable; however, some fonts may be unreadable because of character crowding.



8.9 Font

Print of Outline Font

E S C + \$ =

Hexadecimal code	ESC	\$=	Parameter
	<1B> ₁₆	<24> ₁₆ <3D> ₁₆	n~n
Initial value	Nil		

Valid range and term of command	When power switch is OFF	The set parameter is not maintained..
	Valid range within items	The set parameter becomes invalid.
	Valid range between items	The set parameter becomes invalid.

[Function]

Specifying the print outline font.

[Format]

<\$>n~n

•Parameter

n [Print data] = Data

[Coding Example]

Print data: SATO

```
<A>
<V> 1 0 0 <H> 1 0 0 <P> 2
<$> A, 1 0 0, 1 <$=>S A T O
<Q> 2
<Z>
```

[Supplementary Explanation]

1. Specify Shape of Outline Font <\$> prior to this command.
2. Font height specification includes ascender and descender areas. For proportional pitch, letter size width of outline font varies depending on the individual font.
3. Use Character Pitch <P> to specify font pitch.
4. Shape of Italic font is inclined 15-degree within font width specification. Font height specification includes ascender and descender areas.
5. If specified dots in 1 ~ 9 of [Font shape specification] are tiny, they may be unrecognizable as font.
6. In Shape of Outline Font <\$>, font width and height specification up to 24 dots are printable; however, some fonts may be unreadable because of character crowding.

[Valid Commands]

Print position	<V>	<H>						
Modification	<P>	<%>	<\$>	<F>				
Calendar	<WA>							

** END **