



TOSHIBA Bar Code Printer

SAP ABAP Printer Driver

Operating Manual

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Introduction

Thank you for purchasing the TOSHIBA Barcode Printer.

SAP PDL Driver for Toshiba Barcode printers is a SAP Smart Forms printing solution to Toshiba barcode printers. It allows users to use a driver for a Page Description Language (PDL) that is implemented in ABAP and resided in the SAP environment to print Toshiba printer without 3rd party solutions. With this device driver, TEC Printer Command Language (TPCL) is send to the Toshiba barcode printer directly from SAP – providing greater performance and efficiency.

Please refer Printer's External Interface Specification for more details on TEC Printer Command Language (TPCL) commands.

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Toshiba Tec Corporation

1. General Description

1.1 SAP Environment

Please refer to the SAP Notes: 1097563 for the updated information about the overview of SAP PDL driver.

Toshiba Barcode PDL Driver and Device Types are verified in SAP_BASIS 750, with Support package SAPK-75014.

1.2 Solution Overview

This solution is primarily for Smart Forms printing for Toshiba Barcode printers. The solution is achieved by converting the SAP generic output formats to Toshiba printer specific commands using

- Device Type files
- ABAP Based PDL device driver
- Users define Smart Styles for printing items include
 - Fonts
 - Barcodes
- Use Smart Forms to design the form layout. Form layout shall contain
 - Embedded text,
 - Embedded images,
 - Barcodes.
- Define Output Device that points to the given Device Type
- Print the Smart Forms using the output device.

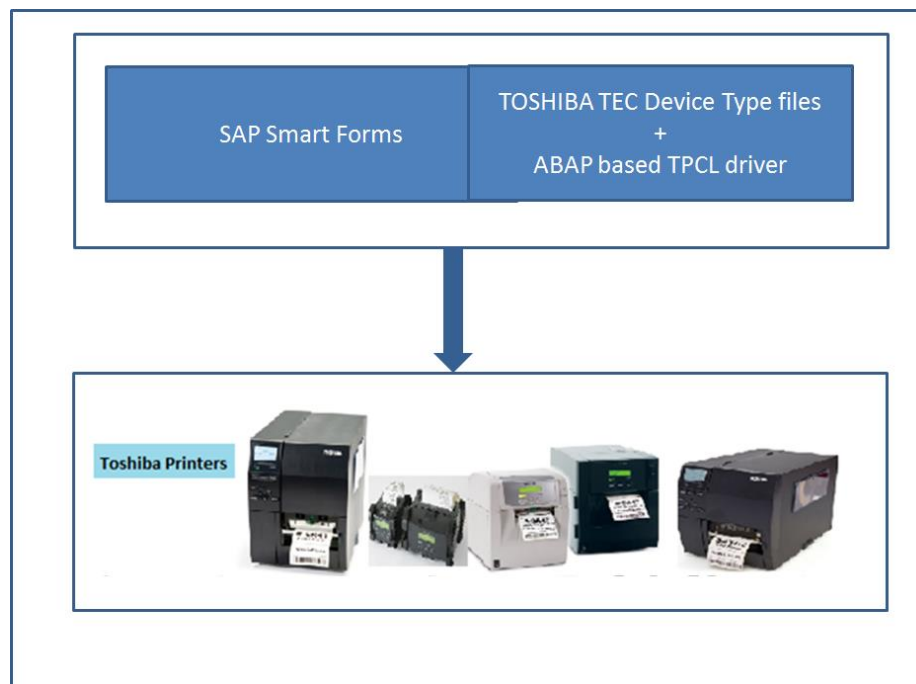


Figure 1: Overview of Solution

Please refer to the [SAP Notes: 1135105](#) for the updated information about the Toshiba Barcode PDL Driver.

1.3 Trademark

SAP, ABAP are trademarks or registered trademarks of SAP in Germany and/or other countries.

1.4 Supported Printer Models

SAP Smartform printing is supported in following Toshiba barcode Printers.

B-EX4T1-GS, B-EX4T2-GS, B-EX4D2-GS, B-EX6T1-GS, B-EX6T3-GS, B-SX4, B-FV4D-GS, B-FV4T-GS, B-EV4D-GS, B-EV4T-GS, B-EP2DL, B-EP4DL, B-FP3D, B-FP2D, B-SA4TP-GS, B-SA4TM-GS, BA410T-G, BA420T-G, BV410-G, BV420-G, BV410-T, BV420-T, B-EX4T2-TS, B-SA4TP-TS, B-SA4TM-TS, BA410T-T, BA420T-T, B-FV4D-TS, B-FV4T-TS, B-EV4D-TS, B-EV4T-TS, B-SX5, B-SX8, B-EX4T1-TS, B-EX6T1-TS, B-EX6T3-TS, B-EX4T2-HS, B-EX4T3-HS, B-852, B-858

1.5 Device Type Information

Device Type	Supported Code Pages	Printer Model
YTLLNX0G	Latin 1 (ISO8859-1)	B-EX4T1-GS B-EX4T2-GS B-EX4D2-GS
YTLEUX0G	European Characters (CodePage 850)	
YTLSHX0G	Simplified Chinese (GB2312)	
YTLJAX0G	Japanese (Shift-JIS)	
YTLLNX4G	Latin 1 (ISO8859-1)	B-EX6T1-GS B-EX6T3-GS
YTLEUX4G	European Characters (CodePage 850)	
YTLSHX4G	Simplified Chinese (GB2312)	
YTLJAX4G	Japanese (Shift-JIS)	
YTLLNH0G	Latin 1 (ISO8859-1)	B-SX4
YTLEUH0G	European Characters (CodePage 850)	
YTLSHH0G	Simplified Chinese (GB2312)	
YTLJAH0G	Japanese (Shift-JIS)	
YTLLNV0G	Latin 1 (ISO8859-1)	B-FV4D-GS B-FV4T-GS B-EV4D-GS B-EV4T-GS
YTLEUV0G	European Characters (CodePage 850)	
YTLSHV0G	Simplified Chinese (GB2312)	
YTLJAV0G	Japanese (Shift-JIS)	
YTLLNV1G	Latin 1 (ISO8859-1)	BV410-G BV420-G
YTLEUV1G	European Characters (CodePage 850)	
YTLSHV1G	Simplified Chinese (GB2312)	
YTLJAV1G	Japanese (Shift-JIS)	
YTLLNP1G	Latin 1 (ISO8859-1)	B-EP2DL
YTLEUP1G	European Characters (CodePage 850)	
YTLSHP1G	Simplified Chinese (GB2312)	
YTLJAP1G	Japanese (Shift-JIS)	
YTLLNP2G	Latin 1 (ISO8859-1)	B-EP4DL
YTLEUP2G	European Characters (CodePage 850)	
YTLSHP2G	Simplified Chinese (GB2312)	
YTLJAP2G	Japanese (Shift-JIS)	
YTLLNP0G	Latin 1 (ISO8859-1)	B-FP3D
YTLEUP0G	European Characters (CodePage 850)	
YTLSHP0G	Simplified Chinese (GB2312)	
YTLJAP0G	Japanese (Shift-JIS)	
YTLLNP3G	Latin 1 (ISO8859-1)	B-FP2D
YTLEUP3G	European Characters (CodePage 850)	

Device Type	Supported Code Pages	Printer Model
YTLSHP3G	Simplified Chinese (GB2312)	
YTLJAP3G	Japanese (Shift-JIS)	
YTLLNA0G	Latin 1 (ISO8859-1)	
YTLEUA0G	European Characters (CodePage 850)	B-SA4TP-GS B-SA4TM-GS
YTLSHA0G	Simplified Chinese (GB2312)	
YTLJAA0G	Japanese (Shift-JIS)	
YTLLNA1G	Latin 1 (ISO8859-1)	BA410T-G BA420T-G
YTLEUA1G	European Characters (CodePage 850)	
YTLSHA1G	Simplified Chinese (GB2312)	
YTLJAA1G	Japanese (Shift-JIS)	
YTLLNA2T	Latin 1 (ISO8859-1)	B-852 B-858
YTLEUA2T	European Characters (CodePage 850)	
YTLJAA2T	Japanese (Shift-JIS)	
YTLLNX1T	Latin 1 (ISO8859-1)	B-EX4T2-TS
YTLEUX1T	European Characters (CodePage 850)	
YTLSHX1T	Simplified Chinese (GB2312)	
YTLJAX1T	Japanese (Shift-JIS)	
YTLLNA0T	Latin 1 (ISO8859-1)	B-SA4TP-TS B-SA4TM-TS
YTLEUA0T	European Characters (CodePage 850)	
YTLSHA0T	Simplified Chinese (GB2312)	
YTLJAA0T	Japanese (Shift-JIS)	
YTLLNA1T	Latin 1 (ISO8859-1)	BA410T-T BA420T-T
YTLEUA1T	European Characters (CodePage 850)	
YTLSHA1T	Simplified Chinese (GB2312)	
YTLJAA1T	Japanese (Shift-JIS)	
YTLLNV0T	Latin 1 (ISO8859-1)	B-FV4D-TS B-FV4T-TS B-EV4D-TS B-EV4T-TS
YTLEUV0T	European Characters (CodePage 850)	
YTLSHV0T	Simplified Chinese (GB2312)	
YTLJAV0T	Japanese (Shift-JIS)	
YTLLNV1T	Latin 1 (ISO8859-1)	BV410-T BV420-T
YTLEUV1T	European Characters (CodePage 850)	
YTLSHV1T	Simplified Chinese (GB2312)	
YTLJAV1T	Japanese (Shift-JIS)	
YTLLNH1T	Latin 1 (ISO8859-1)	B-SX5
YTLEUH1T	European Characters (CodePage 850)	
YTLSHH1T	Simplified Chinese (GB2312)	
YTLJAH1T	Japanese (Shift-JIS)	

Device Type	Supported Code Pages	Printer Model
YTLLNH2T	Latin 1 (ISO8859-1)	B-SX8
YTLEUH2T	European Characters (CodePage 850)	
YTLSHH2T	Simplified Chinese (GB2312)	
YTLJAH2T	Japanese (Shift-JIS)	
YTLLNX0T	Latin 1 (ISO8859-1)	B-EX4T1-TS
YTLEUX0T	European Characters (CodePage 850)	
YTLSHX0T	Simplified Chinese (GB2312)	
YTLJAX0T	Japanese (Shift-JIS)	
YTLLNX4T	Latin 1 (ISO8859-1)	B-EX6T1-TS B-EX6T3-TS
YTLEUX4T	European Characters (CodePage 850)	
YTLSHX4T	Simplified Chinese (GB2312)	
YTLJAX4T	Japanese (Shift-JIS)	
YTLLNX1H	Latin 1 (ISO8859-1)	B-EX4T2-HS
YTLEUX1H	European Characters (CodePage 850)	
YTLSHX1H	Simplified Chinese (GB2312)	
YTLJAX1H	Japanese (Shift-JIS)	
YTLLNX3H	Latin 1 (ISO8859-1)	B-EX4T3-HS
YTLEUX3H	European Characters (CodePage 850)	
YTLSHX3H	Simplified Chinese (GB2312)	
YTLJAX3H	Japanese (Shift-JIS)	

Table 1: Device Type Information

2. Installation Procedure

2.1 Importing transport files to SAP system

1. Copy the transport files to the proper locations in SAP system:
 - a. Copy the K*.PDT to the Cofile folder located at \usr\sap\trans\cofile
 - b. Copy the R*.PDT to the Data folder located at \usr\sap\trans\data
2. Logon to the SAP ECC Dev System and open transaction AL11. Find your DIR_TRANS directory.

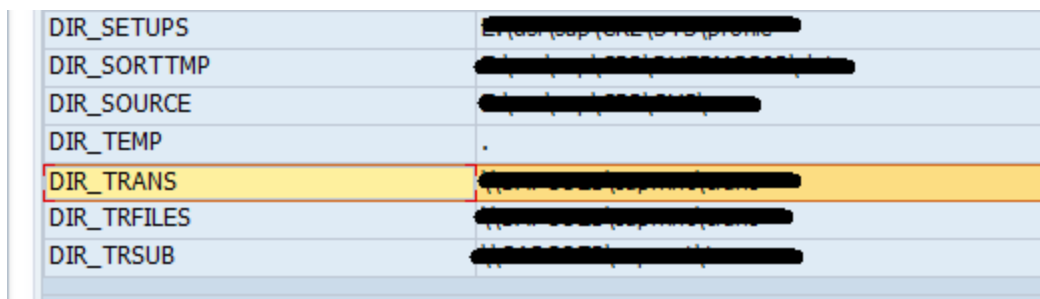


Figure 2: Referring DIR_TRANS directory

3. Go to transaction CG3Z. Then import header and data of your request into external system. For example, if the PDT files are K000xxx.PDT for header part and R000xxx.PDT for data part, then path should be like this;

For header of request:

Source file on front end : PDT file path of K000xxx.PDT
Target file on application server : DIR_TRANS \cofiles\K000xxx.PDT

For data of request:

Source file on front end : PDT file path of R000xxx.PDT
Target file on application server : DIR_TRANS \data\R000xxx.PDT

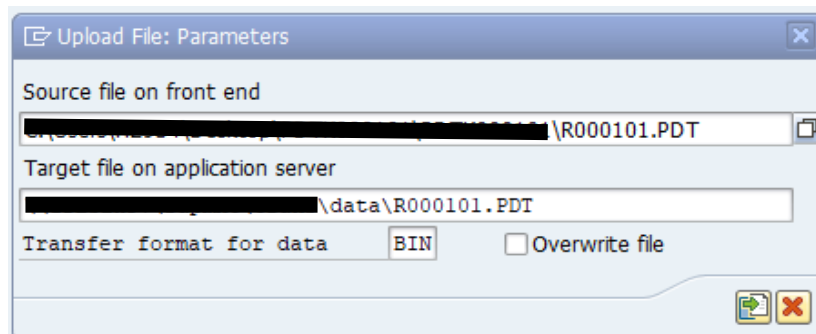


Figure 3: Uploading the Data file to SAP system

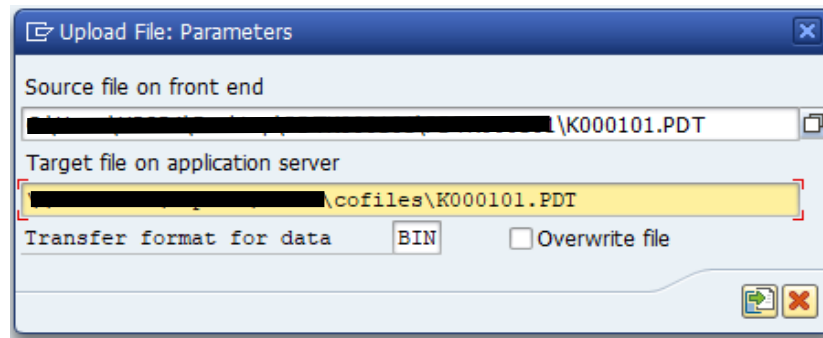


Figure 4: Uploading the Cofile file to SAP system

4. Go to transaction **STMS**. Click **Import Overview** button and double-click to appropriate queue, which you want to import the request. Then, from the Menu bar click **Extras** Then **Other Requests** then **Add**.

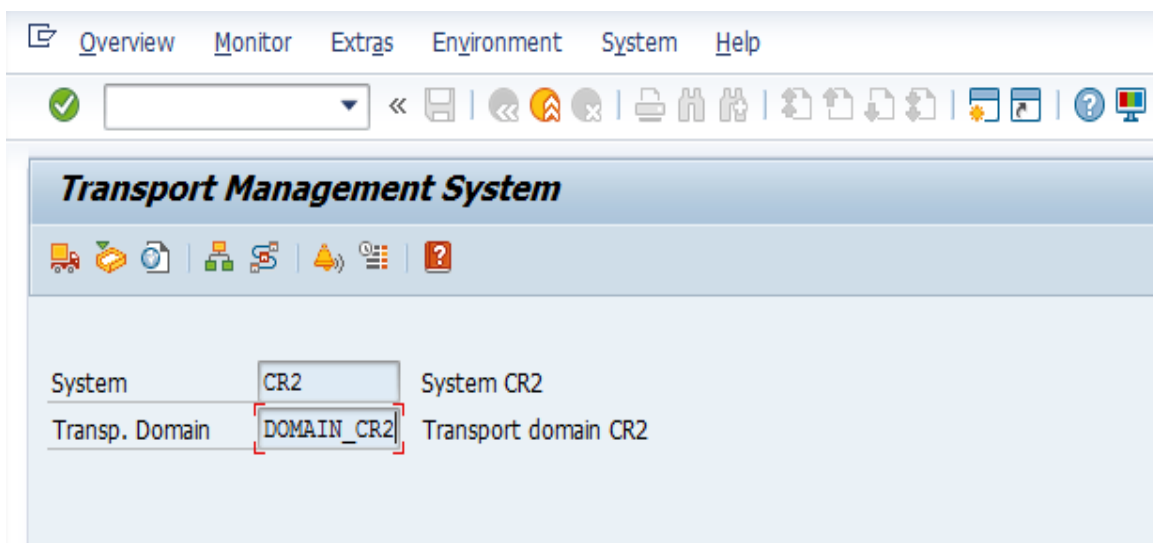


Figure 5 : Transaction STMS

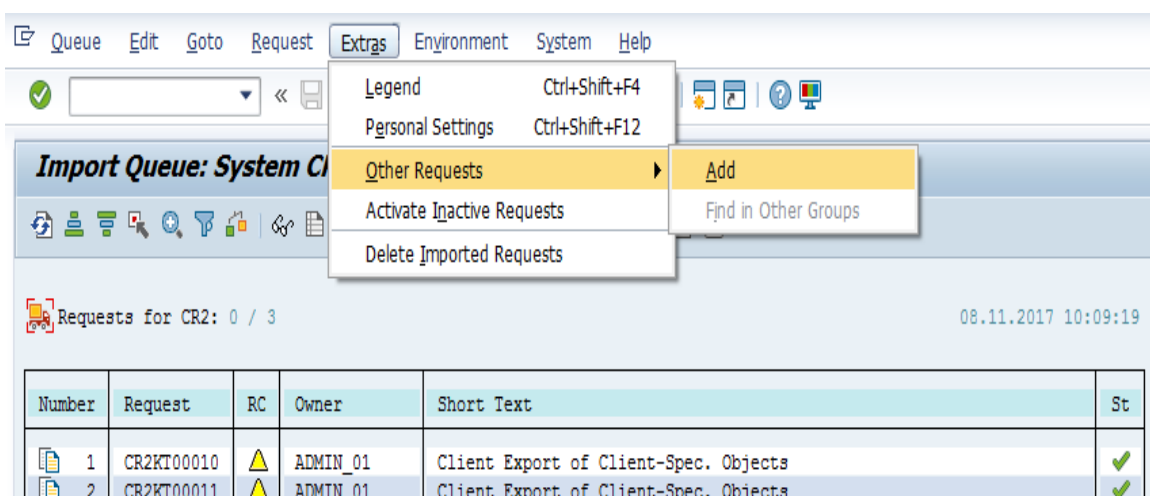


Figure 6: Adding transport request for PDL driver

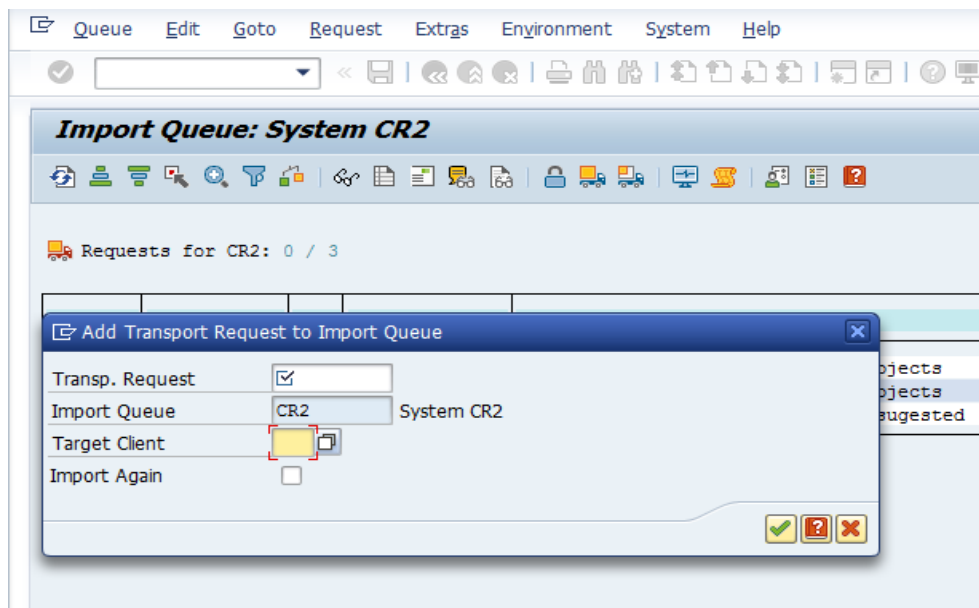


Figure 7: Enter target client and search for transport request

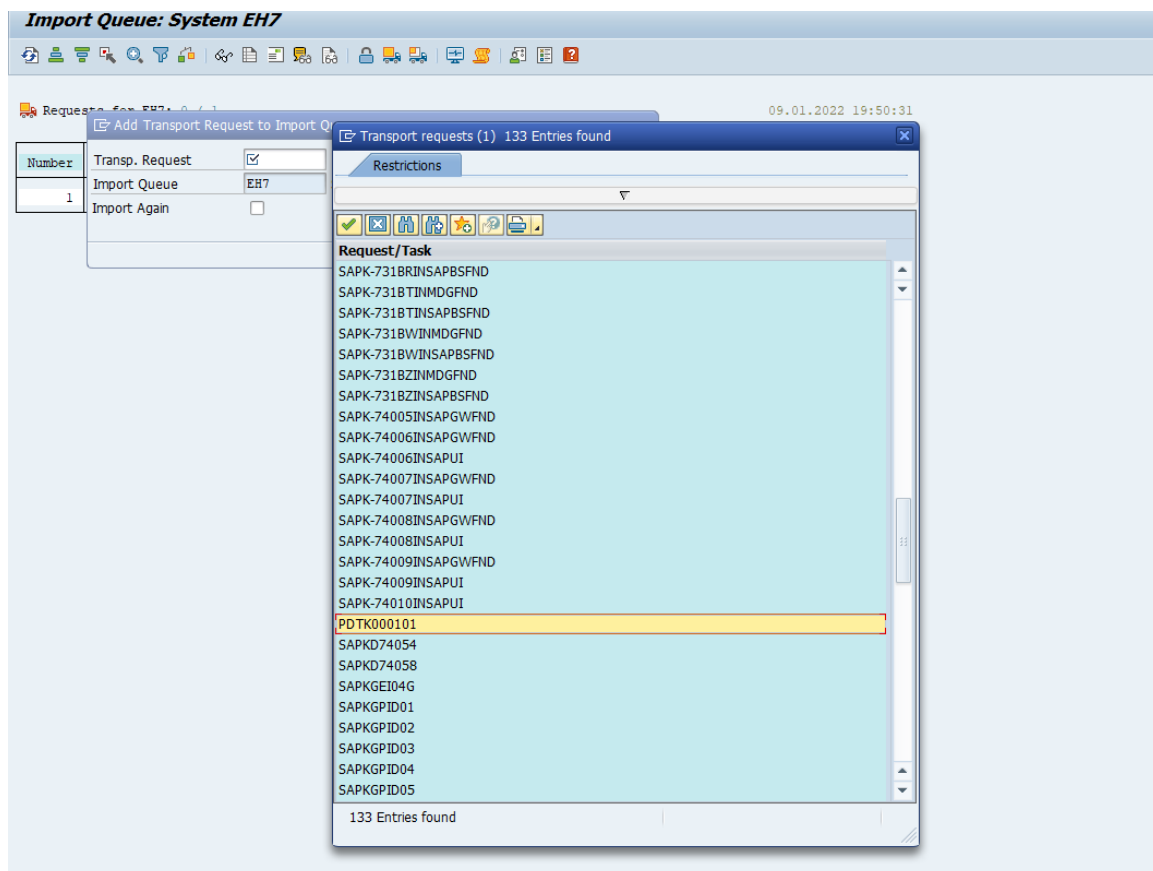


Figure 8: Search for the desired transport request

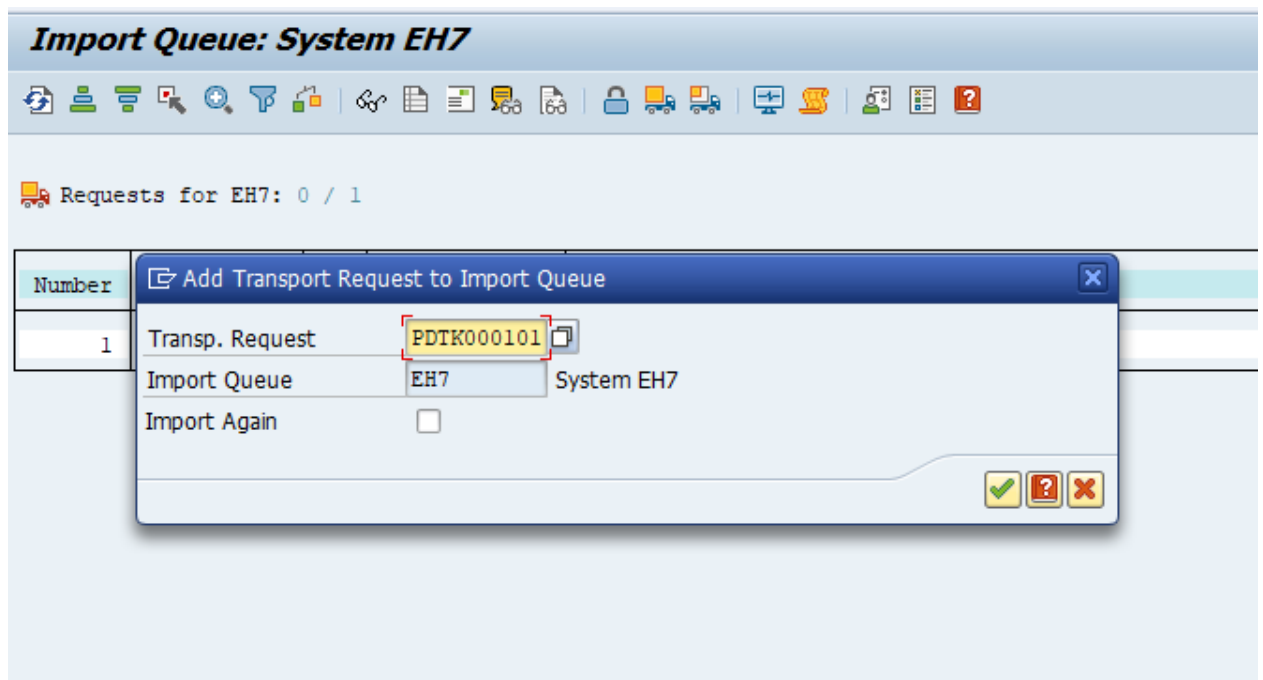


Figure 9: Select transport request by clicking tick mark button

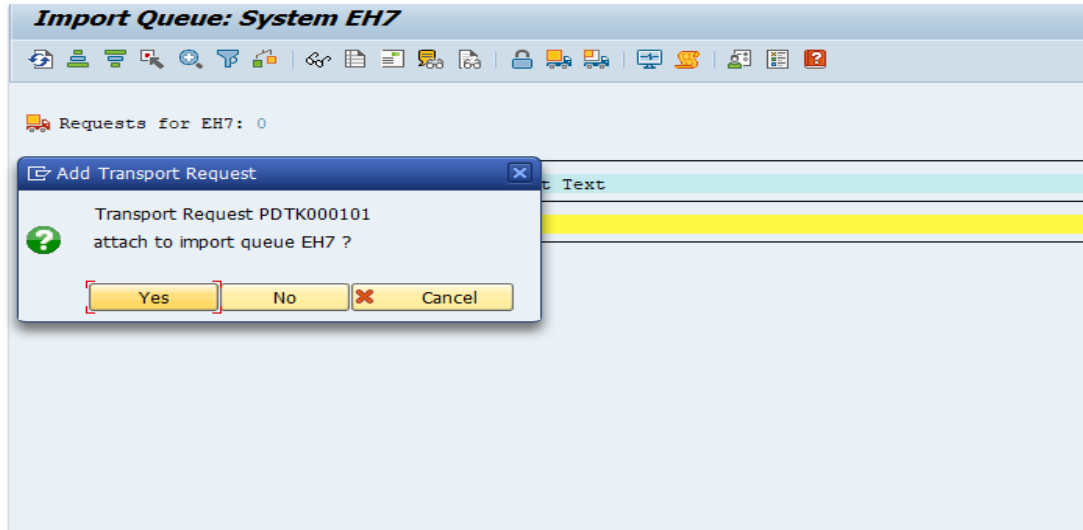


Figure 10: Confirm transport request by pressing 'Yes' button

5. Importing the transport request to the target client from the import queue by selecting the transport request and click the Import request button.

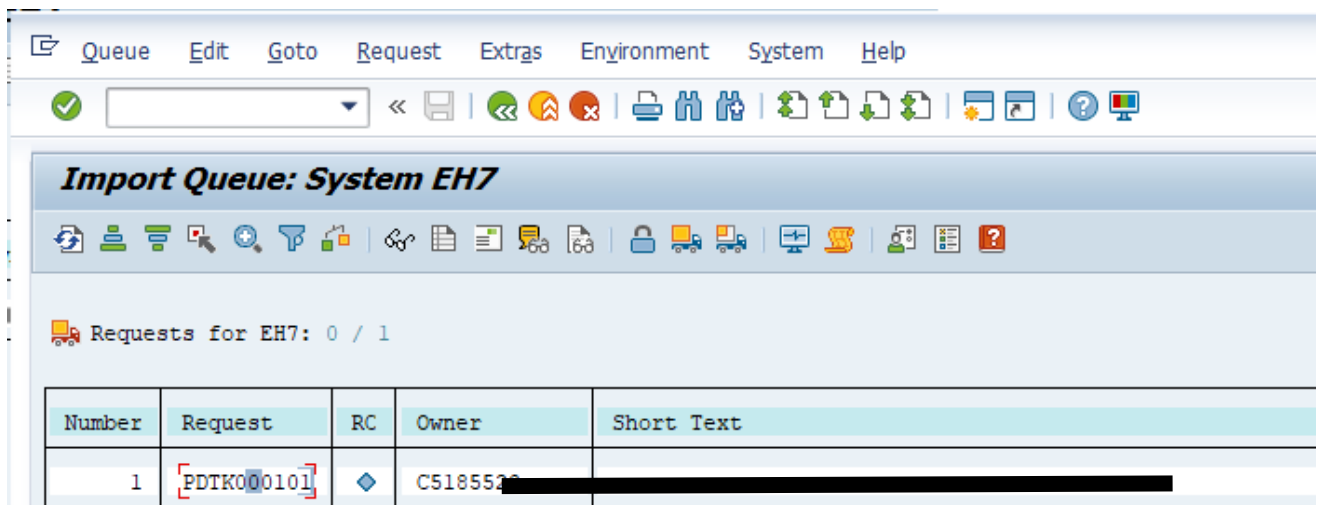


Figure 11 : Import Request

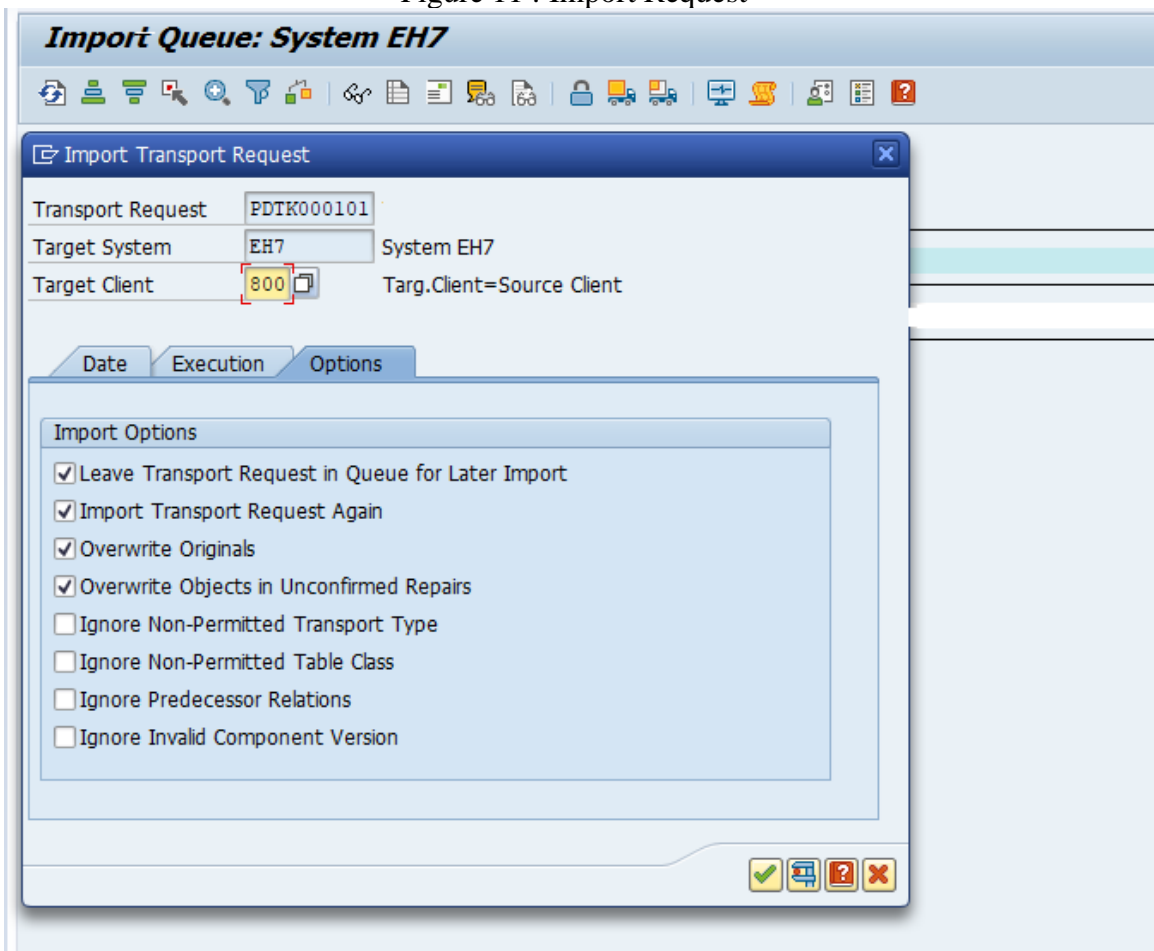


Figure 12: Select the import options and confirm the import by clicking the tick button

*Please note the images containing PDTK000101 is for illustration purpose only, actual PDT file name could be different .

2.2 Importing Device Type files

The Toshiba Device Types can be uploaded into the SAP system by Importing through SPAD transaction.

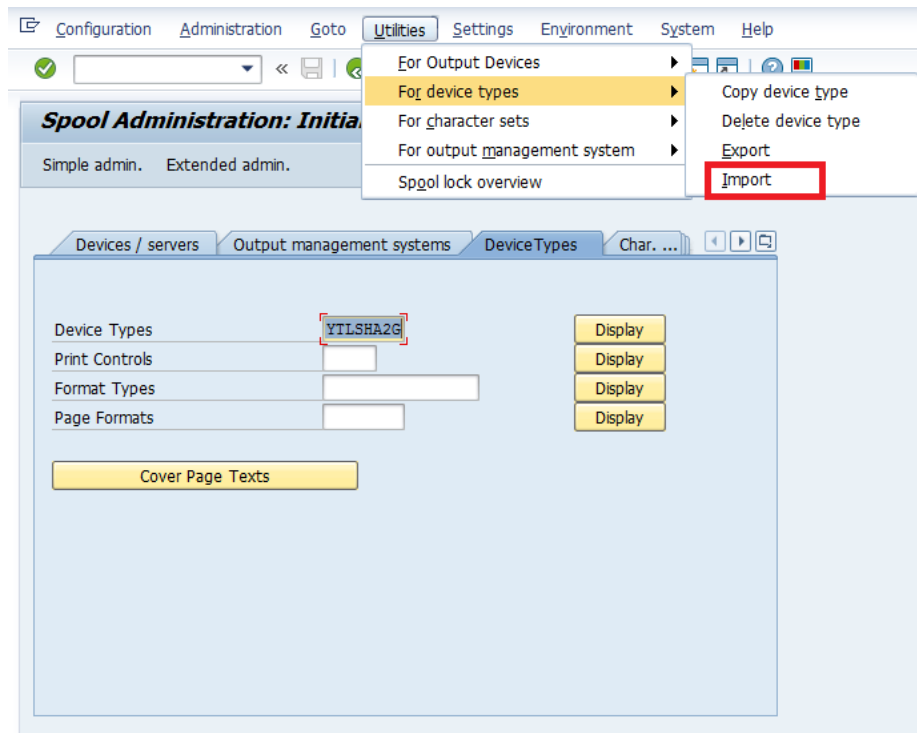


Figure 13: Importing Device Type file-1

Select Import as per above Figure 13. The following screen will be displayed:

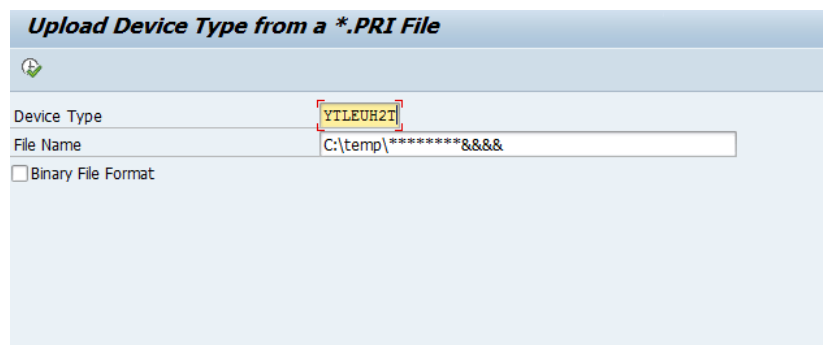


Figure 14: Importing Device Type file-2

Execute the program by clicking ‘F8’ to import the device type and select the device type files (.PRI files) from the list and click ‘Save’ button.

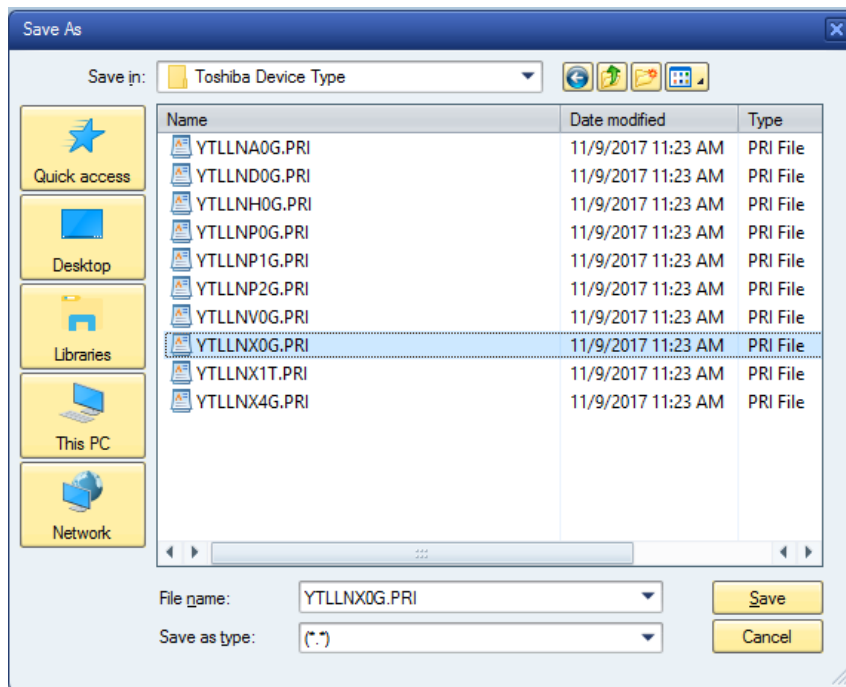


Figure 15: Selecting device type file.

Note: The device type name must start with ‘YTL’ for Toshiba Device type. It should contain 8 characters. The object name must match with the file name of the device type (without the extension).

3. Output Device Creation

Go to the Spool Administration application by using transaction code ‘SPAD’.

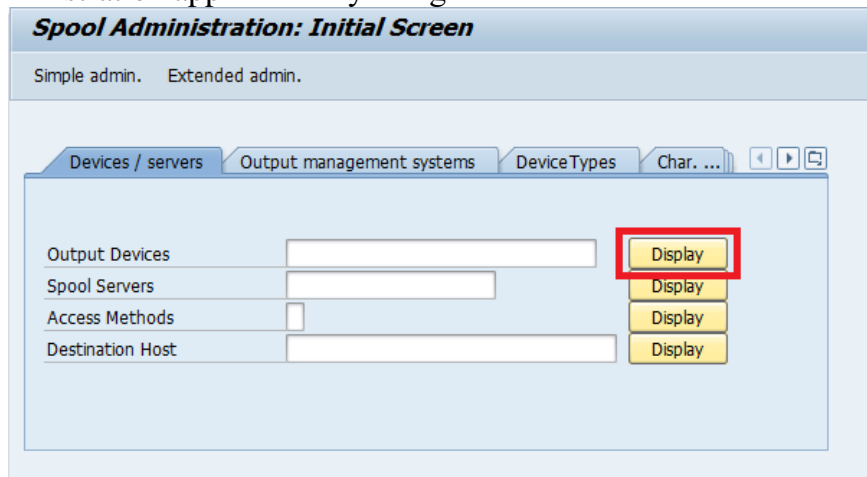


Figure 16: click on “Display” button for ‘Output Devices’

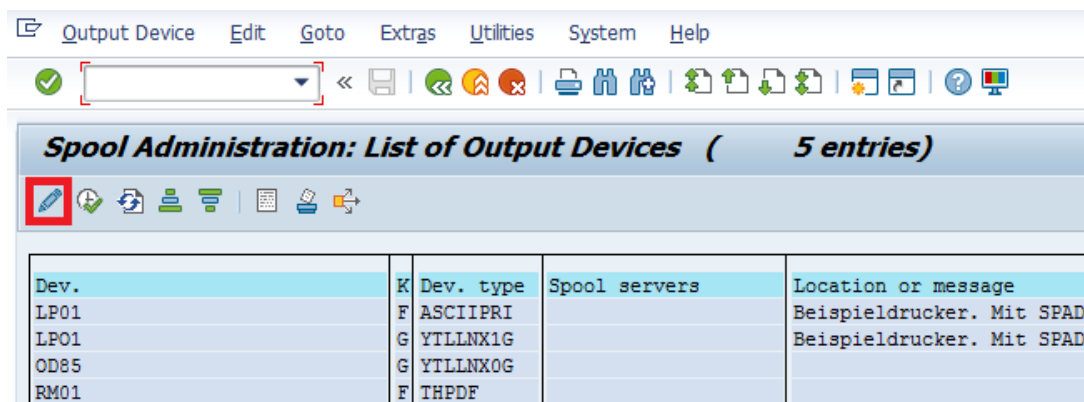


Figure 17: Click on the 'Edit' button to change from Display mode to Edit mode

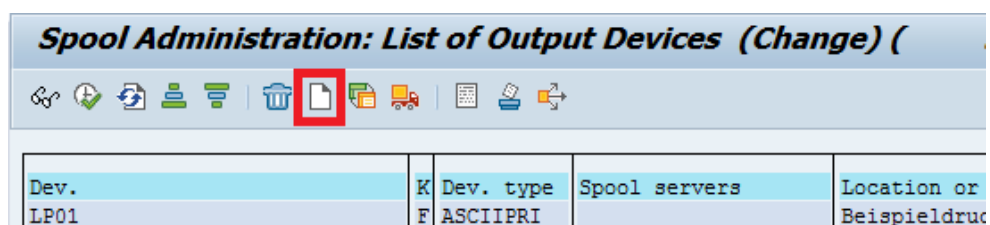


Figure 18: Click on the ‘Create’ button to create a new Output Device.

Spool Administration: Create Output Device

Output Device: YTL_OUTPUTDV1 Short name:

Description:

DeviceAttributes Access Method Output Attributes Tray Info

Device Type: YTLNX0G : Toshiba 203dpi B-EX4T-Latin Device Class: Standard printer

Authorization Group:

Model: Location: Message:

☐ Lock Printer in SAP System

Figure 19: Select the uploaded Device Type into the SAP system

Spool Administration: Create Output Device

Output Device: YTL_OUTPUTDV1 Short name: YTL1

Description:

DeviceAttributes Access Method Output Attributes Tray Info

Host Spool Access Method: G: Front End Printing with Control Tech.

Host printer: _DEFAULT

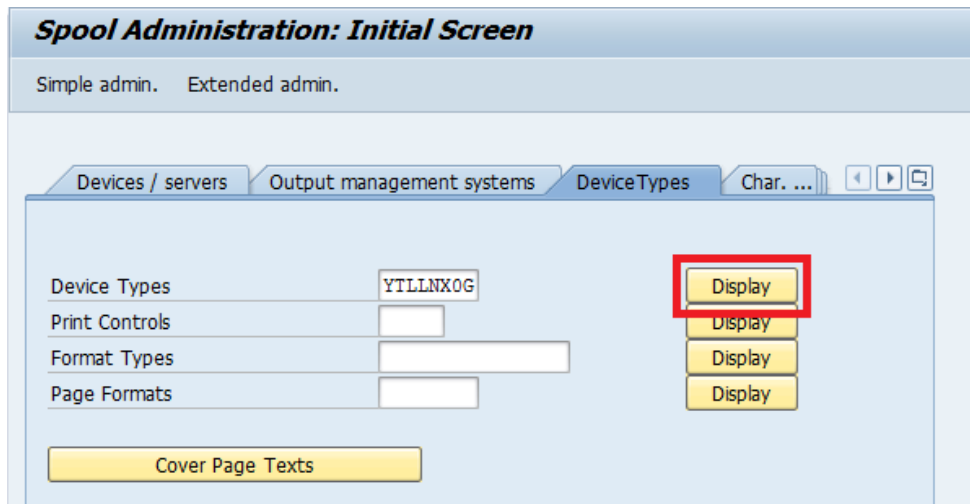
☐ No Device Selection at Frontend

No status information available

Figure 20: Defining Access Method

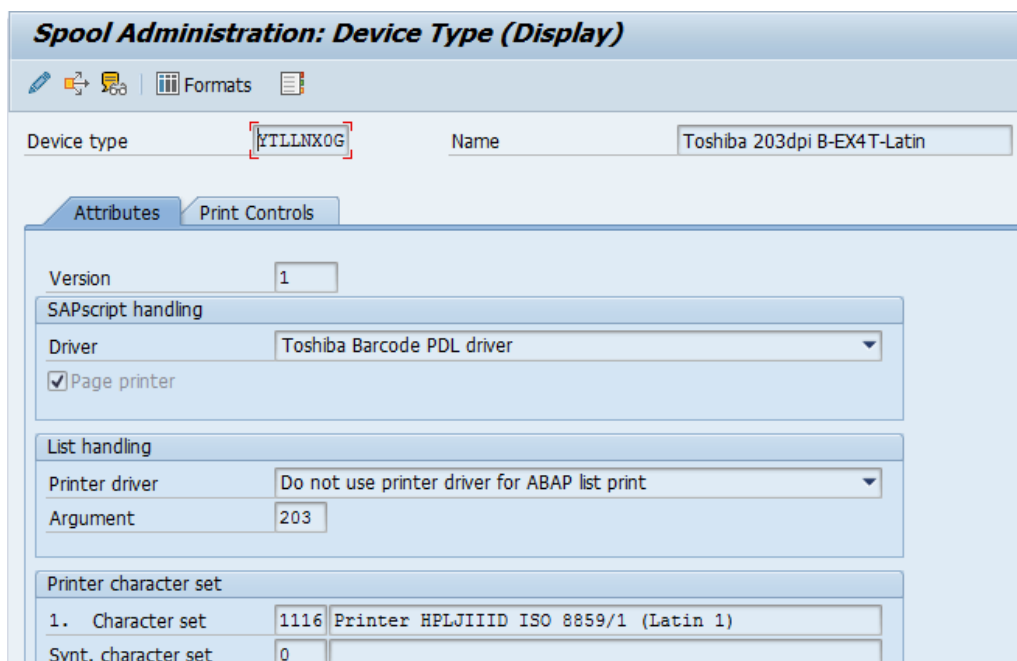
3.1 Accessing Device Types

Go to the Spool Administration application by using transaction code 'SPAD'. Enter the Device type name and click 'Display' button.



The screenshot shows the 'Spool Administration: Initial Screen' with tabs for 'Devices / servers', 'Output management systems', 'DeviceTypes', and 'Char. ...'. The 'DeviceTypes' tab is active. It contains input fields for 'Device Types' (YTLNXXOG), 'Print Controls', 'Format Types', and 'Page Formats'. To the right of these fields is a vertical stack of four 'Display' buttons, with the top one highlighted by a red rectangle. A 'Cover Page Texts' button is located at the bottom left.

Figure 21: Spool Administration



The screenshot shows the 'Spool Administration: Device Type (Display)' screen. It features a top bar with icons and a 'Formats' button. Below this, there are input fields for 'Device type' (YTLNXXOG) and 'Name' (Toshiba 203dpi B-EX4T-Latin). The 'Attributes' tab is selected, showing fields for 'Version' (1), 'SAPscript handling' (Toshiba Barcode PDL driver), 'Page printer' (checked), 'List handling' (Do not use printer driver for ABAP list print), 'Argument' (203), and 'Printer character set' (1116, Printer HPLJIIID ISO 8859/1 (Latin 1)).

Figure 22: Displaying Device Type definition

4. Toshiba PDL driver Functions

4.1 Barcode

Both SAP traditional and new barcode technology are supported. (Please refer to SAP notes: 430887 and 645158 for more information about the barcode technology). To create Barcode definition, user needs to create the required barcode definition as System Barcode in SE73. Then link the barcode definition to the print control as Printer Barcode.

4.1.1 Defining Barcode

Before a Barcode can be used in the Smart Forms, the definition of the Barcode must be made.

Run the transaction code 'SE73' (SAP Script Font Maintenance) to get the following screen.

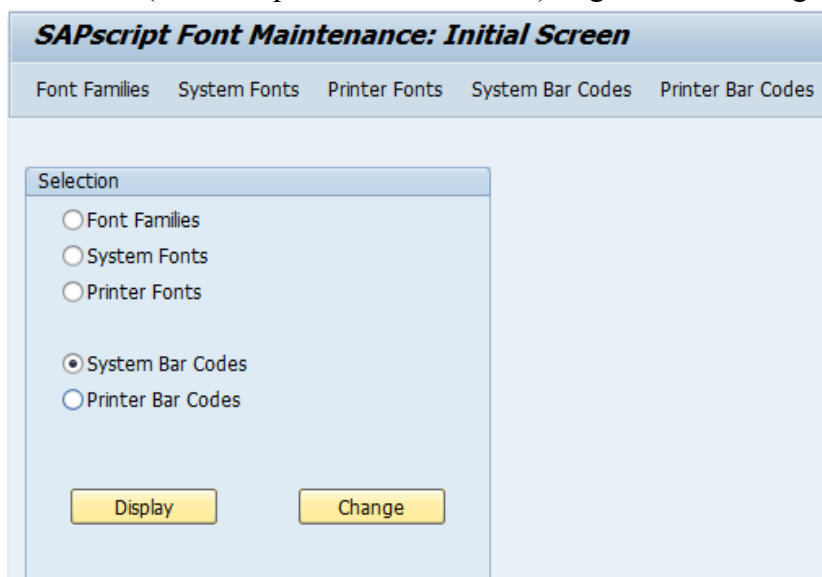


Figure 23 : System Barcode selection

Select the radio button 'System Bar Codes' and click the 'Change' button to go to the following screen.

SAPscript Font Maintenance: Change System Bar Codes								
Bar Code	Description	Min.	Max.	Width	Unit	Height	UnitBCode Type	Rotatn.
ARTNR	Artikelnummer	01	10	4,80	CM	1,20	CM	000
AUFNR	Auftragsnummer	01	08	4,80	CM	1,20	CM	000
BARCLVS	Test Barcode im LVS	01	20	5,00	CM	2,00	CM	000
BAR_TEST	test making	Code 39				ModW06 H00150Chk Y Ratio 30		Normal
BC_93	Code 93	01	40	7,00	CM	1,30	CM C93	000
BC_C128B	Code 128 B, n.txt,h=13mm	01	40	9,00	CM	1,30	CM	000
BC_CD39	Code 39 no chk, n.txt,h=13mm	01	40	5,00	CM	1,30	CM	000
BC_CD39C	Code 39 w.chk, n.txt,h=13mm	01	40	5,00	CM	1,30	CM	000
BC_EAN13	EAN 13, n.txt,h=13mm	12	12	5,00	CM	1,30	CM EAN13	000

Figure 24 : New Barcode creation

Click the ‘Create’ button or press ‘F5’ key to create a new System Barcode definition. A pop-up will show asking to select the New or Old Bar code technology.

4.1.2 New Barcode Technology

The ‘New Barcode Technology’ supports the following barcodes:

- Code39
- Code93
- Interleaved 2 of 5
- Code128
- QR Code
- DataMatrix
- PDF417

Please refer SAP Note 645158 for more details on New bar code technology

The following instruction provides how to create Barcode definitions using New Barcode Technology.

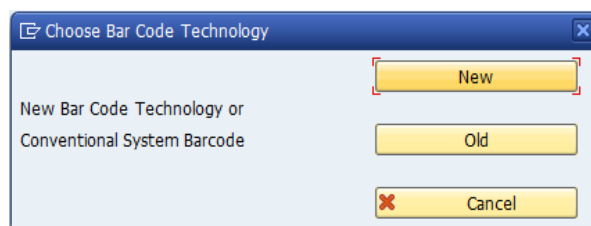


Figure 25 : Select the ‘New’ button from the pop-up.

Figure 26 : Entering Barcode information

For Toshiba barcode, it is recommended to define a Barcode name with prefix 'YT'. For example, to define a new Code93 barcode, the following Barcode name can be used: YTBCOD93. Enter some description on the textbox for 'Short text'. Press the tick button to continue.

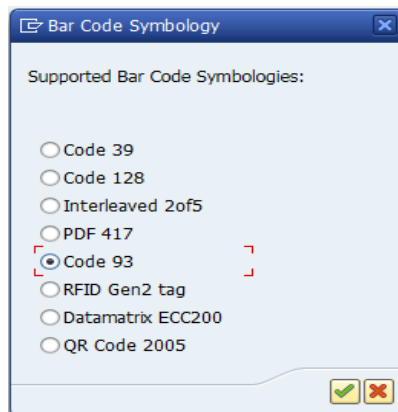


Figure 27 : Selecting Bar code type

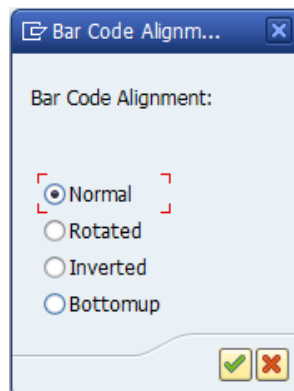


Figure 28 : Select the Bar code Alignment as 'Normal' for zero rotation

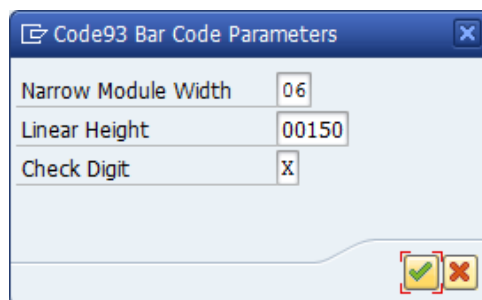


Figure 29: Entering Bar code information

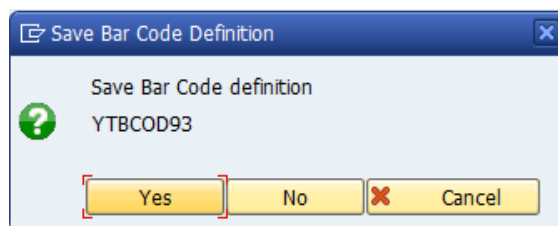


Figure 30 : Saving the Bar code definition

4.1.2.1 QR code:

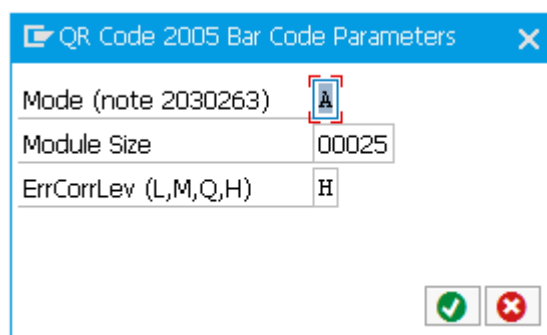


Figure 31 : QR Code Parameter Defintition

Barcode Parameters	Supported	Notes
Barcode Alignment	Yes	Only Rotation 270 will match to Print Preview.
Mode	Yes	Automatic, BYTE_UTF8, BYTE_LATIN1, FNC1_POS1 FNC1_POS2 will be converted as Automatic mode in TPCL. Numeric, Alphanumeric will be converted as Manual mode in TPCL.
Module Size in Pixel	Yes	Maximum Module Size: 203 dpi – 156, 300/305 dpi – 105, 600 dpi – 52. Module size greater than maximum value will be set to maximum value.
Error Correction Level	Yes	
Invocation codes	Yes	\\ , \c###\, \BIN:xyyyzz\ are supported. Invocation codes other than SAP notes will be processed as data and \' will be ignored.

Table 2: QR code Parameters

Note: For More Details, Please refer SAP Note 2030263 - Support for QR Code 2005 Barcode in SAPscript and Smart Forms

4.1.2.2 Datamatrix :

The screenshot shows a 'Font Administration' window with the following parameters defined for a Datamatrix barcode:

- SAP Bar Code Name: YTBDM
- Bar Code Symbology: Datamatrix ECC200
- Bar Code Alignment: Normal
- Mode: A - Auto
- Module Size in Pixel: 0025
- Shape: ☐ Square, ☐ Rectangle

Figure 32 : DataMatrix Parameter Defintition

Barcode Parameters	Supported	Notes
Barcode Alignment	Yes	Only Rotation 270 will match to Print Preview.
Mode	No	Mode will be handled automatically on the Printer.
Module Size in Pixel	Yes	Maximum Module Size: 203 dpi – 295, 300 dpi – 199, 305 dpi -196, 600 dpi - 99
Square/Rectangle	No	
Invocation codes	Yes	\c###\ and Standard ASCII control characters invocation codes are supported. \FNC1\ is not supported.

Table 3: Datamatrix Parameters

Note: For More Details, Please refer SAP Note 2001392 - Support for Datamatrix ECC200 Barcode in SAPscript and Smart Forms

4.1.2.3 PDF417:

PDF417 Bar Code Parameters	
Narrow Module Width	04
Linear Height	00150
Single Row Height	00010
# of Columns (1-30)	03
# of Rows (3-90)	04
SecurityLevel	0
Truncation	

Figure 33 : PDF417 Parameter Defintition

Barcode Parameters	Supported	Notes
Barcode Alignment	Yes	Only Rotation 270 will match to Print Preview.
Narrow module width	Yes	
Linear height	No	This value has no impact on TPCL command.
Single row height	Yes	
Security Level	Yes	
Number of columns	Yes	Setting value as '0' will result Syntax error in Printer.
Number of rows	No	This value has no impact on TPCL command. It is automatically calculated in Printer.
Truncation	No	
Invocation codes	Yes	\&, \\ and \0xYY are supported.

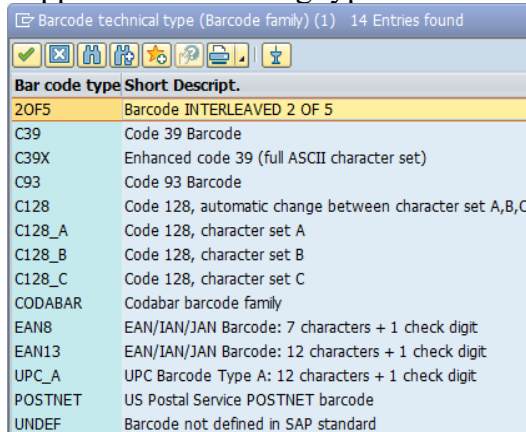
Table 4: PDF417 Parameters

Note: For More Details, Please refer SAP Note 645158 - New bar code technology

4.1.3 Old Barcode Technology

Click the 'Old' button (as in Figure 26, while choosing Bar Code Technology) to define a Barcode with Old Barcode Technology.

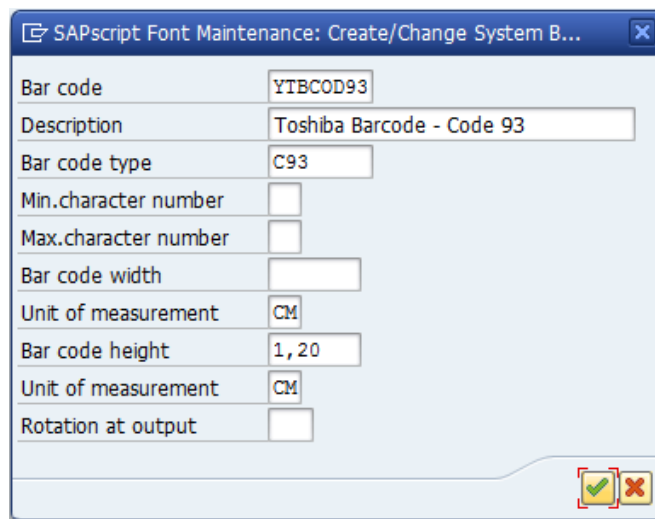
Old Barcode Technology supports the following types of Barcode's.



The screenshot shows a SAP window titled 'Barcode technical type (Barcode family) (1) 14 Entries found'. It contains a table with two columns: 'Bar code type' and 'Short Descript.'. The table lists various barcode types and their descriptions.

Bar code type	Short Descript.
2OF5	Barcode INTERLEAVED 2 OF 5
C39	Code 39 Barcode
C39X	Enhanced code 39 (full ASCII character set)
C93	Code 93 Barcode
C128	Code 128, automatic change between character set A,B,C
C128_A	Code 128, character set A
C128_B	Code 128, character set B
C128_C	Code 128, character set C
CODABAR	Codabar barcode family
EAN8	EAN/IAN/JAN Barcode: 7 characters + 1 check digit
EAN13	EAN/IAN/JAN Barcode: 12 characters + 1 check digit
UPC_A	UPC Barcode Type A: 12 characters + 1 check digit
POSTNET	US Postal Service POSTNET barcode
UNDEF	Barcode not defined in SAP standard

Figure 34 : Standard Barcodes



The screenshot shows a SAP dialog box titled 'SAPscript Font Maintenance: Create/Change System B...'. It contains several input fields for defining a barcode.

Bar code	YTBCOD93
Description	Toshiba Barcode - Code 93
Bar code type	C93
Min.character number	
Max.character number	
Bar code width	
Unit of measurement	CM
Bar code height	1,20
Unit of measurement	CM
Rotation at output	

At the bottom right, there are two buttons: a green checkmark button and a red X button.

Figure 35 : Defining Barcode with Old Barcode Technology

Maintain the Barcode height and other details and click Confirm button. Other parameters like Barcode module width and check digit can be passed through Print control.

Print controls are also defined to pass additional information to the Barcode Definition. User have to select the print control which carries the required information and link the barcode definition to the print control as Printer Bar codes.

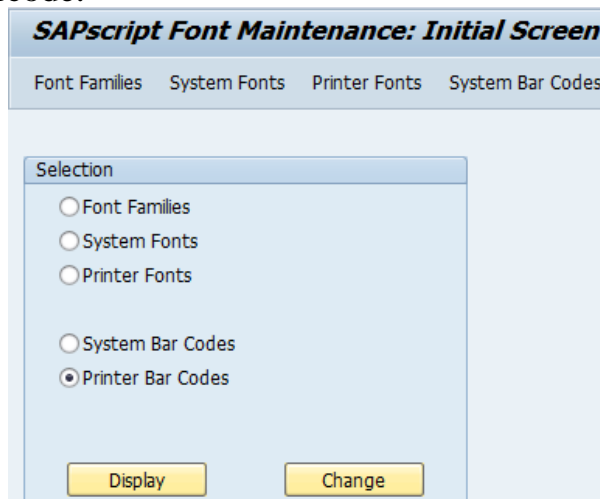
Barcode Type	SAP Print Control	TPCL Command
CODE 93	SB001-SB012	ESC XB :<Check digit, Module Width>
JAN/EAN8	SB041-SB052	ESC XB :<Check digit, Module Width>
JAN/EAN13	SB071-SB082	ESC XB :<Check digit, Module Width>
Postnet	SB111-SB122	ESC XB :<Check digit, Module Width>
CODE128 (with auto code selection)	SB241-SB252	ESC XB :<Check digit, Module Width>
NW-7 (Codabar, Ratio 1:3)	SB471-SB482	ESC XB :<Check digit, Narrow bar width, Narrow space width, Wide bar width, Wide space width, Character to Character >
NW-7 (Codabar, Ratio 1:2)	SB511-SB522	ESC XB :<Check digit, Narrow bar width, Narrow space width, Wide bar width, Wide space width, Character to Character >
NW-7 (Codabar, Ratio 2:5)	SB541-SB552	ESC XB :<Check digit, Narrow bar width, Narrow space width, Wide bar width, Wide space width, Character to Character >
Interleaved 2 of 5 (Ratio 1:3)	SB571-SB582	ESC XB :<Check digit, Narrow bar width, Narrow space width, Wide bar width, Wide space width, Character to Character >
Interleaved 2 of 5 (Ratio 1:2)	SB611-SB622	ESC XB :<Check digit, Narrow bar width, Narrow space width, Wide bar width, Wide space width, Character to Character >
Interleaved 2 of 5 (Ratio 2:5)	SB641-SB652	ESC XB :<Check digit, Narrow bar width, Narrow space width, Wide bar width, Wide space width, Character to Character >
Code 39 (Ratio 1:3)	SB671-SB682	ESC XB :<Check digit, Narrow bar width, Narrow space width, Wide bar width, Wide space width, Character to Character >
Code 39 (Ratio 1:2)	SB711-SB722	ESC XB :<Check digit, Narrow bar width, Narrow space width, Wide bar width, Wide space width,

Barcode Type	SAP Print Control	TPCL Command
		Character to Character >
Code 39 (Ratio 2:5)	SB741-SB752	ESC XB :<Check digit, Narrow bar width, Narrow space width, Wide bar width, Wide space width, Character to Character >

Table 5: Print controls for Old Barcode Technology

4.1.4 Defining Printer Barcodes

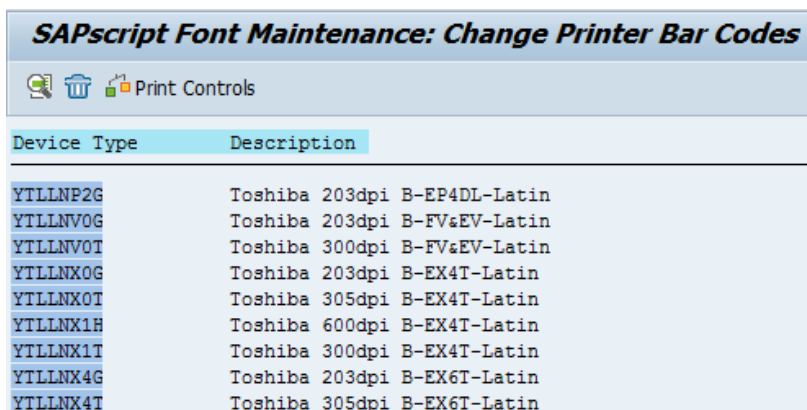
Once the System Barcode (Old Technology) has been defined, then proceed to define the printer barcode.



The screenshot shows the 'SAPscript Font Maintenance: Initial Screen'. It has a menu bar with 'Font Families', 'System Fonts', 'Printer Fonts', and 'System Bar Codes'. Below the menu is a 'Selection' box containing five radio buttons: 'Font Families', 'System Fonts', 'Printer Fonts', 'System Bar Codes', and 'Printer Bar Codes'. The 'Printer Bar Codes' option is selected. At the bottom are two buttons: 'Display' and 'Change'.

Figure 36 : Defining Printer Bar Codes

Choose the 'Printer Barcode's and then click the 'Change' button to create a Printer Barcode definition.



The screenshot shows the 'SAPscript Font Maintenance: Change Printer Bar Codes' screen. It has a toolbar with icons for a printer, a trash can, and a print icon, followed by the text 'Print Controls'. Below the toolbar is a table with two columns: 'Device Type' and 'Description'. The table lists several Toshiba printer models with their respective descriptions.

Device Type	Description
YTLLNP2G	Toshiba 203dpi B-EP4DL-Latin
YTLLNV0G	Toshiba 203dpi B-FV&EV-Latin
YTLLNV0T	Toshiba 300dpi B-FV&EV-Latin
YTLLNX0G	Toshiba 203dpi B-EX4T-Latin
YTLLNX0T	Toshiba 305dpi B-EX4T-Latin
YTLLNX1H	Toshiba 600dpi B-EX4T-Latin
YTLLNX1T	Toshiba 300dpi B-EX4T-Latin
YTLLNX4G	Toshiba 203dpi B-EX6T-Latin
YTLLNX4T	Toshiba 305dpi B-EX6T-Latin

Figure 37 : Device List for Printer Barcodes

Select the desired Toshiba Device type which starts with prefix 'YTL' and double click on it.

SAPscript Font Maintenance: Change Printer Bar Codes				
Maint. Print Control				
Device Type	Bar Code	Prefix	Suffix	Baseline Alignment
YTLLNXOG	YTBEAN13	SB005	SB005	<input type="checkbox"/>
YTLLNXOG	YTBEAN8	SB003	SB003	<input type="checkbox"/>
YTLLNXOG	YTBAN13	SB004	SB004	<input type="checkbox"/>
YTLLNXOG	YTBAN8	SB002	SB002	<input type="checkbox"/>
YTLLNXOG	YTBANW712	SB015	SB015	<input type="checkbox"/>
YTLLNXOG	YTBANW713	SB014	SB014	<input type="checkbox"/>
YTLLNXOG	YTBANW725	SB016	SB016	<input type="checkbox"/>
YTLLNXOG	YTBPSNT	SB001	SB001	<input type="checkbox"/>
YTLLNXOG	YTBUPCA	SB006	SB006	<input type="checkbox"/>
YTLLNXOG	YTC128A	SB010	SB010	<input type="checkbox"/>
YTLLNXOG	YTC128B	SB010	SB010	<input type="checkbox"/>
YTLLNXOG	YTC128C	SB010	SB010	<input type="checkbox"/>
YTLLNXOG	YTC128WA	SB009	SB009	<input type="checkbox"/>

Figure 38 : Printer Barcode List in the device type

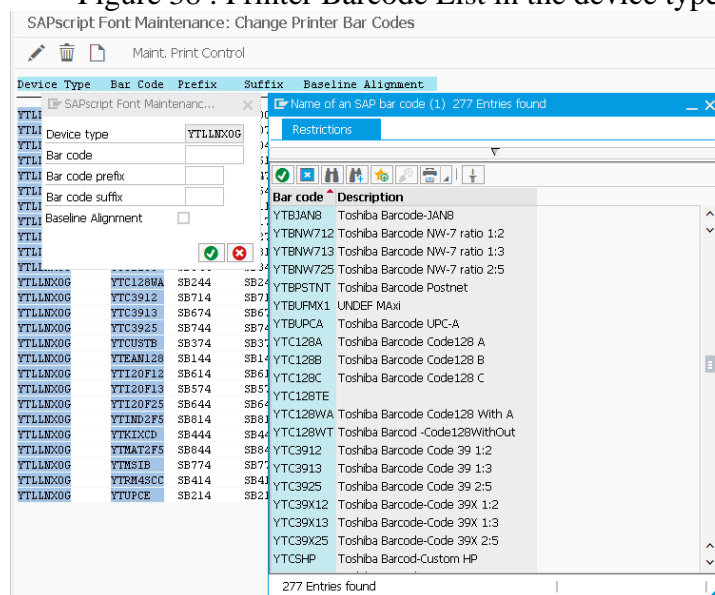


Figure 39 : Selecting System Bar code from entry list

Select the System Barcode, which has been defined previously from the entry list. Then key in the required Print Control. Note: Key in the same print control for both 'Bar code prefix' and 'Bar code suffix'.

In need of printing standard barcodes defined in Old barcode technology, define the required standard barcodes in Transaction SE73 Printer Bar Codes.

4.2 Fonts

Toshiba Barcode PDL driver supports the following fonts.

Code Page	SAP Font	TPCL Font	Font Type	Print controls	Remarks
LATIN 1	HELVETICA	TEC FONT1 (Proportional)	Scalable	Not Available	
	TIMES	DUTCH801 Bold	Scalable	Not Available	
	COURIER BOLD	Courier (Bold)	Fixed	203 dpi : SF301 to SF311 300/305 dpi: SF301 to SF316 600 dpi : SF301 to SF319	Refer Table 10
	LETGOTH	Letter Gothic (Medium)	Fixed	203 dpi : SF101 to SF113 300/305 dpi: SF101 to SF119 600 dpi : SF101 to SF119	Refer Table 8
	LNPRINT	Prestige Elite (Medium)	Fixed	203 dpi : SF201 to SF219 300/305 dpi: SF201 to SF219 600 dpi : SF201 to SF219	Refer Table 9
CP850	HELVETICA	TEC FONT1 (Proportional)	Scalable	Not Available	
	TIMES	DUTCH801 Bold	Scalable	Not Available	
	COURIER BOLD	Courier (Bold)	Fixed	203 dpi : SF301 to SF311 300/305 dpi: SF301 to SF316 600 dpi : SF301 to SF319	Refer Table 10
	LETGOTH	Letter Gothic (Medium)	Fixed	203 dpi : SF101 to SF113 300/305 dpi: SF101 to SF119 600 dpi : SF101 to SF119	Refer Table 8
	LNPRINT	Prestige Elite (Medium)	Fixed	203 dpi : SF201 to SF219 300/305 dpi: SF201 to SF219 600 dpi : SF201 to SF219	Refer Table 9
GB2312 (Chinese)	HELVETICA	TEC FONT1 (Proportional)	Scalable	Not Available	
	TIMES	DUTCH801 Bold	Scalable	Not Available	

Code Page	SAP Font	TPCL Font	Font Type	Print controls	Remarks
	COURIER BOLD	Courier (Bold)	Fixed	203 dpi : SF301 to SF311 300/305 dpi: SF301 to SF316 600 dpi : SF301 to SF319	Refer Table 10
	LETGOTH	Letter Gothic (Medium)	Fixed	203 dpi : SF101 to SF113 300/305 dpi: SF101 to SF119 600 dpi : SF101 to SF119	Refer Table 8
	LNPRINT	Prestige Elite (Medium)	Fixed	203 dpi : SF201 to SF219 300/305 dpi: SF201 to SF219 600 dpi : SF201 to SF219	Refer Table 9
	CNSONG	Chinese (24 x 24 dots)	Fixed	203 dpi : SF801 to SF819 300/305 dpi: SF801 to SF819 600 dpi : SF801 to SF819	Refer Table 11
Shift-JIS (Japanese)	HELVETICA	TEC FONT1 (Proportional)	Scalable	Not Available	
	TIMES	DUTCH801 Bold	Scalable	Not Available	
	COURIER BOLD	Courier (Bold)	Fixed	203 dpi : SF301 to SF311 300/305 dpi: SF301 to SF316 600 dpi : SF301 to SF319	Refer Table 10
	LETGOTH	Letter Gothic (Medium)	Fixed	203 dpi : SF101 to SF113 300/305 dpi: SF101 to SF119 600 dpi : SF101 to SF119	Refer Table 8
	LNPRINT	Prestige Elite (Medium)	Fixed	203 dpi : SF201 to SF219 300/305 dpi : SF201 to SF219 600 dpi : SF201 to SF219	Refer Table 9
	DBGothic	Kanji (16 x 16 dots) (Square Gothic)	Fixed	203 dpi : SF601 to SF625 300/305 dpi : SF601 to SF631 600 dpi : SF601 to SF632	Refer Table 12-a, 12-b, 12-c, 12-d
		Kanji (24 x 24 dots) (Square Gothic)	Fixed	*1 203 dpi: SF401 to SF425	

Code Page	SAP Font	TPCL Font	Font Type	Print controls	Remarks
		Kanji (32 x 32 dots) (Square Gothic)	Fixed	* ¹ 300 dpi: SF401 to SF431	
		Kanji (48 x 48 dots) (Square Gothic)	Fixed		
	DBMincho	Kanji Mincho (24 x 24 dots)	Fixed	203 dpi : SF701 to SF732 300/305 dpi : SF701 to SF734 600 dpi : SF701 to SF734	Refer Table 13-a, 13-b, 13-c
	JPMincho	Kanji Mincho (32 x 32 dots)	Fixed		

Table 6: Font Table

Note: SAP Font 'TIMES' will be printed as TEC FONT1 (Proportional) Font in B-FV4D-GS, B-FV4T-GS, B-EV4D-GS, B-EV4T-GS, B-EP2DL, B-EP4DL, B-FP3D, B-FP2D, B-FV4D-TS, B-FV4T-TS, B-EV4D-TS, B-EV4T-TS, BV410-G, BV420-G, BV410-T, BV420-T Printer Models.

Helvetica and Times fonts should have minimum size of 2.0 mm\5.6 points.

To support Japanese or Chinese character set, Fonts should be installed in printer.

*¹ Print Controls for BA410T/BA420T, BV410/BV420, B-FP2D Printer Models.

4.3 Printer Parameter in Smart forms

User can pass the printer parameter settings defined in a Smart Form to the device driver by using the Command nodes.

Open the Smart form using transaction code 'SMARTFORMS'. Right click on the Window node->Create->Flow Logic->Command to display Command node feature.

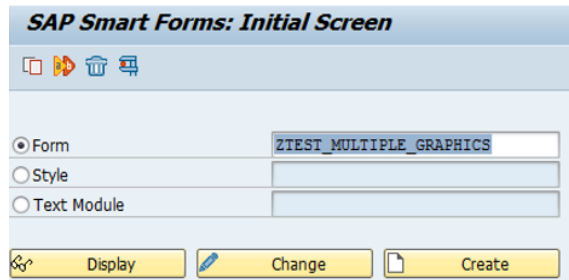


Figure 40 : Enter the Smartform name in Form field and press Change button.

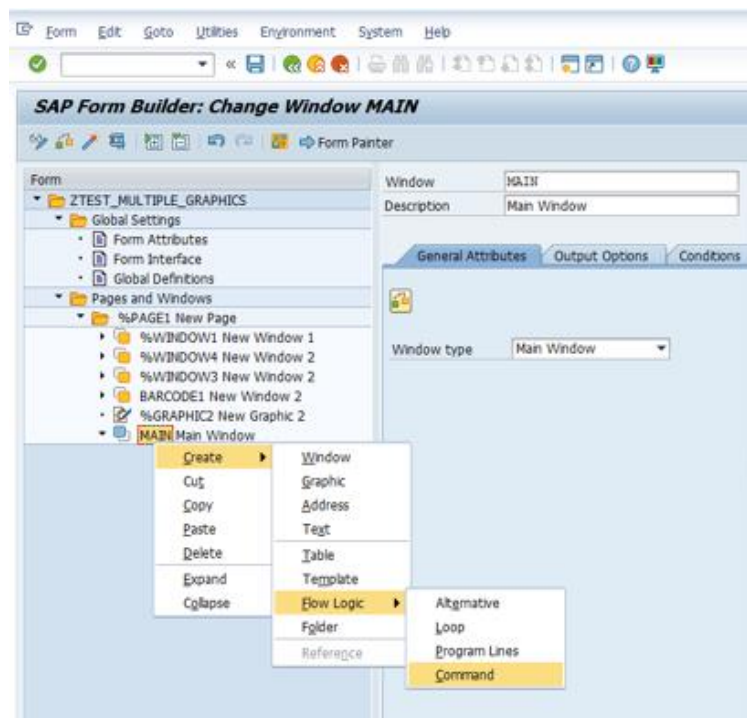


Figure 41 : Creating Command Node in Smart form by right clicking the Main Window.

Command: %COMMAND1
Description: New Command 1

General Attributes | Conditions

☐ Go to New Page

Reset Paragraph Numbering ☐

Output Options
Include Printer Control ☒

Free Attributes of Spool Request

Attribute Name	Attribute Value
PRINT_MODE	'0'
SENSOR_TYPE	'1'
ISSUE_MODE	'C'
ISSUE_SPEED	'4'

Figure 42 : Sample Command Parameters

Under the ‘Output Options’, user to define the parameters for printer settings in the Name-Value pairs format. The value provided must be enclosed within the single quote character (‘1’).

The following are the available printer parameters supported by Toshiba PDL driver:

Parameter Name	Function	TPCL Command
BAR_TEXT	Print numerals under barcode	Command : ESC XB Value : p
CUT_INTERVAL	Designates the number of labels to be printed before cut.	Command : ESC XS Value : bbb
CUT_OPERATION	Ejects (or cuts) the label presently left between the print head and the cutter, and returns the next label to the original position.	Command : ESC IB
ISSUE_MODE	Issue mode	Command : ESC XS Value : d
ISSUE_SPEED	Issue speed	Command : ESC XS Value : e
LABEL_POSITION	Position fine adjust command	Command : ESC AX Value : abbb,cddd,eff
LABEL_SIZE	Label size set command	Command : ESC D Value : bbbb,cccc

Parameter Name	Function	TPCL Command
PRINT_DENSITY	Print density fine adjust command	Command : ESC AY Value : abb,c
PRINT_DIRECTION	Printing direction	Command : ESC XS Value : g
PRINT_END_POS	Label pitch length calculation	Command : ESC D Value : aaaa Effective Length + PRINT_END_POS (input)
SET_GAP_SIZE	Sets the label gap size/ black mark size	Command : ESC D Value : aaaa Effective Length + SET_GAP_SIZE (input)
PRINT_CHAR_AT_X	Character attribution of Bitmap, Outline fonts	Command : ESC PC, ESC PV, Value : j
PRINT_CTL_CODE	TPCL command's Control code selection	N/A
PRINT_QUANTITY	Number of labels to be issued	Command : ESC XS Value : aaaa
RIBBON_PARA	Whether to use ribbon	Command : ESC XS Value : f
ROTATE_180_x	180 degree rotation for text, graphics	For Text: Command : ESC PC,ESC PV Value (PC) : ii For Graphics: Command : ESC SG *Image rotated through ABAP driver
ROTATE_270_x	270 degree rotation for text, graphics	
ROTATE_90_x	90 degree Rotation for text, graphics	
SENSOR_TYPE	Type of sensor	Command : ESC XS Value : c
START_POINT	X and Y Position to draw a barcode , text or graphics	Command :ESC PC, ESC SG and ESC XB Value (PC) : bbbb,cccc Value (XB) : bbbb,cccc Value (SG) : aaaa,bbbb

4.3.1 Printer Parameter Descriptions

Parameter 1:	BAR_TEXT
Description:	BAR TEXT parameter decides Whether or not to print numerals under barcodes.
TPCL command:	ESC XB: p 0: Not printed 1: Printed
Default value:	0
Input Example:	BAR_TEXT = '1'
Note:	Bar text cannot be set for the postal codes
Parameter 2:	CUT_INTERVAL
Description:	Designates the number of labels to be printed before cut.
TPCL command:	ESC XS: bbb 000 to 100 (no cut when 000)
Default value:	000
Input Example:	CUT_INTERVAL = '001'
Note:	Only possible when the Cutter Unit is installed. Input value should follow the conditions given in TPCL manual.
Parameter 3:	CUT_OPERATION
Description:	Ejects (or cuts) the label presently left between the print head and the cutter, and returns the next label to the original position.
TPCL command:	ESC IB There is no parameter value for ESC IB command
Default value:	None
Input Example:	CUT_OPERATION = '1'
Note:	Cut operation (ESC IB) will be executed only if the input value is '1'.
Parameter 4:	ISSUE_MODE
Description:	Issue mode
TPCL command:	ESC XS: d C: Batch mode D: Strip mode (with back feed and the strip sensor enabled.) E: Strip mode (with back feed enabled, the strip sensor ignored, the applicator supported)
Default value:	C
Input Example:	ISSUE_MODE = 'C'
Note:	Based on the printer model and accessories. Input value should follow the conditions given in TPCL manual.

Parameter 5: **ISSUE_SPEED**
 Description: Issue speed
 TPCL command: **ESC XS: e**
 Based on the printer model parameter value will vary
 Default value: 1
 Input Example: ISSUE_SPEED = '6'
 Note: Default value for issue speed for Mobile model and desktop model is '1'.
 Input value should follow the conditions given in TPCL manual.

Parameter 6: **LABEL_POSITION**
 Description: Position fine adjust command
 TPCL command: **ESC AX: abbb,cddd,eff**
 a: Whether the print start position is shifted forward or backward
 +: Forward
 -: Backward
 bbb: Feed amount fine adjustment value
 000 to 500 (in 0.1 mm units)
 c: Whether the cut position/strip position is shifted forward or backward
 +: Forward
 -: Backward
 ddd: Fine adjustment value for the cut position/strip position
 000 to 500 (in 0.1 mm units)
 e: Whether the back feed amount is increased or decreased.
 +: Increase
 -: Decrease
 ff: Back feed amount fine adjustment value
 00 to 99 (in 0.1 mm units)
 Default value: None
 Input Example: LABEL_POSITION = '+001,+001,+01'
 Note: There is no default value for this parameter, this parameter will be added to the print job only if the printer parameter is entered by the end user. Input value should follow the conditions given in TPCL manual.

Parameter 7: **LABEL_SIZE**
Description: Label size set command
TPCL command: **ESC D: bbbb,cccc**
bbbb: Effective print width
Fixed to 4 digits (in 0.1 mm units)
cccc: Effective print length
4 or 5 digits (in 0.1 mm units)
Default value: None
Input Example: LABEL_SIZE = '152004980'
Where '1520' is Effective print width and '04980' is Effective print length
Limitations: There is no default value for this parameter. Input values should follow the conditions given in TPCL manual. Based on the input from the user pitch length will be calculated and for this calculation there is a dependency with printer model.

Parameter 8: **PRINT_DENSITY**
Description: Print density fine adjust command
TPCL command: **ESC AY: abb,c**
a: Whether to increase or decrease the print density
+: Increase (darker)
-: Decrease (lighter)
bb: Print density fine adjustment value
When parameter a is set to "+": 00 to 10 (in units of 1 step)
When parameter a is set to "-": 00 to 20 (in units of 1 step)
c: Print method
0: Thermal transfer
1: Direct thermal
Default value: None
Input Example: PRINT_DENSITY = '+03,1'
Note: There is no default value for this parameter, this parameter will be added to the print job only if the printer parameter is entered by the end user. Input value should follow the conditions given in TPCL manual.

Parameter 9: **PRINT_DIRECTION**
Description: Printing direction
TPCL command: **ESC XS: g**
0: Printing bottom first
1: Printing top first
2: Bottom first mirror printing
3: Top first mirror printing
Default value: 1
Input Example: PRINT_DIRECTION = '2'
Note: Input value should follow the conditions given in TPCL manual.

Parameter 10:	PRINT_END_POS
Description:	Label pitch length calculation
TPCL command:	ESC D
Default value:	None
Input Example:	PRINT_END_POS= '55'
Note:	Based on the input value from user, we will calculate maximum pitch length.ie, Value: Effective Print Length + PRINT_END_POS (input in mm units). This command will be effective only when SENSOR_TYPE is "NO sensor".
Parameter 11:	PRINT_QUANTITY
Description:	Number of labels to be issued
TPCL command:	ESC XS: aaaa 0001 to 9999
Default value:	0000
Input Example:	PRINT_QUANTITY= '%PAGE1:3,%PAGE2:3'
Note:	If this print command is not specified, the page is printed once. Example of the value: '%PAGE1:3,%PAGE2:2' means : Subsequent page number can be added with a comma separator. '%PAGE1' is printed 3 times and page '%PAGE2' is printed 2 times.
Parameter 12:	RIBBON_PARA
Description:	Whether to use ribbon
TPCL command:	ESC XS: f 0: Without ribbon 1: With ribbon (ribbon saving function enabled) 2: With ribbon (ribbon saving function disabled) 3: Without ribbon (head up function enabled)
Default value:	Desktop Model: '1' and Mobile Model: '0'
Input Example:	RIBBON_PARA= '3'
Note:	Input value should follow the conditions given in TPCL manual.

Parameter 13:	ROTATE_180_x
Description:	180 degree rotation for text
TPCL command:	ESC PC: Value (PC) – ii ESC PV: Value (PV) – ii
ESC SG : Graphic rotated through ABAP driver	Based on TPCL manual.
Default value:	0
Input Example:	Text: ROTATE_180_1 = ‘MAIN,1’ , where ‘1’ indicates rotation for text Graphic: ROTATE_180_1 = ‘MAIN,2’ where ‘2’ indicates rotation for graphics and ‘MAIN’ is the name of window to be rotated.
Limitations:	Input value should follow the conditions given in TPCL manual. ‘X’ is any number to make sure the command name is not repeated in the Smart forms. For rotation while designing the smart form we required to keep one component (Text) in one window.
Parameter 14:	ROTATE_270_x
Description:	270 degree rotation for text
TPCL command:	ESC PC: Value (PC) - ii ESC PV: Value (PV) – ii ESC SG : Graphic rotated through ABAP driver
	Based on TPCL manual.Default value: 0
Input Example:	Text: ROTATE_270_1 = ‘MAIN,1’ , where ‘1’ indicates rotation for text Graphic: ROTATE_270_1 = ‘MAIN,2’ where ‘2’ indicates rotation for graphics and ‘MAIN’ is the name of window to be rotated.
Limitations:	Input value should follow the conditions given in TPCL manual. ‘X’ is any number to make sure the command name is not repeated in the Smart forms. For rotation while designing the smart form we required to keep one component (Text) in one window.
Parameter 15:	ROTATE_90_x
Description:	90 degree rotation for text
TPCL command:	ESC PC: Value (PC) – ii ESC PV: Value (PV) – ii ESC SG : Graphic rotated through ABAP driver
	Based on TPCL manual.
Default value:	0
Input Example:	Text: ROTATE_90_1 = ‘MAIN,1’ , where ‘1’ indicates rotation for text Graphic: ROTATE_90_1 = ‘MAIN,2’ where ‘2’ indicates rotation for graphics and ‘MAIN’ is the name of window to be rotated.
Limitations:	Input value should follow the conditions given in TPCL manual. ‘X’ is any number to make sure the command name is not repeated in the Smart forms. For rotation while designing the smart form we required to keep one component (Text) in one window.

Parameter 16: **SENSOR_TYPE**
Description: Type of sensor
TPCL command: **ESC XS: C**
0: No sensor
1: Reflective sensor
2: Transmissive sensor (when using normal labels)
3: Transmissive sensor (when using preprinted labels)
4: Reflective sensor (when using a manual threshold value)
Default value: 2
Input Example: **SENSOR_TYPE= '3'**
Note: Based on the printer model and accessories. Input value should follow the conditions given in TPCL manual.

Parameter 17: **START_POINT**
Description: X and Y Position to draw a barcode, text or graphics
TPCL command: **ESC PC, ESC PV, ESC SG and ESC XB**
Value (PC): bbbb,cccc , Value (XB) : bbbb,cccc
and Value (SG) : aaaa,bbbb
Based on TPCL manual.
Default value: None
Input Example: **START_POINT = '000100001'**
Note: Based on the printer parameter input value there may be a chance for the design change in physical output with Smart forms.

Parameter 18: **PRINT_CHAR_AT_X**
Description: Bitmap font, Outline font support for character attribution
TPCL command: **ESC PC, ESC PV : j**
Based on TPCL manual.
Default value: B
Input Example: **PRINT_CHAR_AT = ' % WINDOW1,W0505'**
Note: **'% WINDOW1'** is the name of window where the text is placed and next is character attribute rotated

Parameter 19: **SET_GAP_SIZE**
 Description: Sets the label gap size/ black mark size
 TPCL command: **ESC D**
 Default value: None
 Input Example: SET_GAP_SIZE= '0010'
 Note: Based on the input value from user, Pitch length (aaaa): Effective Print Length(cccc) + SET_GAP_SIZE (input in 0.1 mm units). Based on TPCL manual
 On using PRINT_END_POS with No sensor and SET_GAP_SIZE printer parameter together PRINT_END_POS works in priority

Parameter 20: **PRINT_CTL_CODE**
 Description: Command to set TPCL control code (ESC, LF, NUL or {||}) command.
 To set TPCL control code as ESC,LF,NUL set printer parameter value as 0 and to set TPCL control code as {||} set printer parameter value as '1'
 TPCL command: Applicable for all TPCL commands
 Default value: ESC, LF, NUL
 Input Example: PRINT_CTL_CODE ='0'
 Note: -

The above spool attributes are passed from Smart form to the device driver by the FREE_PARAMS attribute (which is an internal table) of the interface IF_PDL_ADRV implemented in the PDL device driver while printing. Based on the spool attributes logic will be developed in the device driver using TPCL commands.

If the spool attributes are not maintained in the Smart form, then the default values will be passed to the TPCL command while printing.

It is important to refer to the printer settings of the printer models to understand the correct range of value that can be used for the Parameter values. Note that the Smart Form Parameter Names are case-sensitive. Parameters for printer settings should be used carefully. Invalid input may result in unexpected outcome of the printout.

*: Cut is only possible when the Cutter Unit is installed.

5. Limitations

- This driver was tested in **SAP_BASIS 750 with Support package SAPK-75014**.
In case of using other versions, please verify and test before actual usage.
- When printing a Smart Form, user is advised to examine the actual printout of the form from the printer, rather than just relying on the print preview image.
- In PDF417, Defining Number of rows and Number of columns as value '0' will result in Syntax Error on the Printer.
- Following cases may occur while printing Smart Forms:
 - a) The printer Fonts Size, Style, Type may not match with the Font in Smart form.
 - b) If an object is placed outside the print area or the print start position of an object is placed within the print area but the end position is outside the print area, the part beyond the print area will be printed starting on the left end of the new line.

6. Font Print Controls

6.1 LETGOTH

SAP FONT	PrintControl	Hex Value	ASCII Value* ²	Font height (In points)			
				203 dpi	300 dpi	305 dpi	600 dpi
LETGOTH	SF101	30352C30352C4E	05,05,N	7.2	4.8	4.8	3
	SF102	31302C31302C4E	10,10,N	14.3	9.5	9.5	6
	SF103	31352C31352C4E	15,15,N	21.5	14.3	14.3	9
	SF104	32302C32302C4E	20,20,N	28.6	19	19	12
	SF105	32352C32352C4E	25,25,N	35.8	23.8	23.8	15
	SF106	33302C33302C4E	30,30,N	42.9	28.5	28.5	18
	SF107	33352C33352C4E	35,35,N	50.1	33.3	33.3	21
	SF108	34302C34302C4E	40,40,N	57.2	38	38	24
	SF109	34352C34352C4E	45,45,N	64.4	42.8	42.8	27
	SF110	35302C35302C4E	50,50,N	71.5	47.5	47.5	30
	SF111	35352C35352C4E	55,55,N	78.7	52.3	52.3	33
	SF112	36302C36302C4E	60,60,N	85.8	57	57	36
	SF113	36352C36352C4E	65,65,N	93	61.8	61.8	39
	SF114	37302C37302C4E	70,70,N		66.5	66.5	42
	SF115	37352C37352C4E	75,75,N		71.3	71.3	45
	SF116	38302C38302C4E	80,80,N		76	76	48
	SF117	38352C38352C4E	85,85,N		80.8	80.8	51
	SF118	39302C39302C4E	90,90,N		85.5	85.5	54
	SF119	39352C39352C4E	95,95,N		90.3	90.3	57

Table 8: :LETGOTH Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*²ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

6.2 LNPRINT

SAP FONT	PrintControl	Hex Value	ASCII value*2	Font height (In points)			
				203 dpi	300 dpi	305 dpi	600 dpi
LNPRINT	SF201	30352C30352C4F	05,05,O	5.3	3.5	3.5	2.4
	SF202	31302C31302C4F	10,10,O	10.5	7	7	4.8
	SF203	31352C31352C4F	15,15,O	15.8	10.5	10.5	7.1
	SF204	32302C32302C4F	20,20,O	21	14	14	9.5
	SF205	32352C32352C4F	25,25,O	26.3	17.5	17.5	11.9
	SF206	33302C33302C4F	30,30,O	31.5	21	21	14.3
	SF207	33352C33352C4F	35,35,O	36.8	24.5	24.5	16.6
	SF208	34302C34302C4F	40,40,O	42	28	28	19
	SF209	34352C34352C4F	45,45,O	47.3	31.5	31.5	21.4
	SF210	35302C35302C4F	50,50,O	52.5	35	35	23.8
	SF211	35352C35352C4F	55,55,O	57.8	38.5	38.5	26.1
	SF212	36302C36302C4F	60,60,O	63	42	42	28.5
	SF213	36352C36352C4F	65,65,O	68.3	45.5	45.5	30.9
	SF214	37302C37302C4F	70,70,O	73.5	49	49	33.3
	SF215	37352C37352C4F	75,75,O	78.8	52.5	52.5	35.6
	SF216	38302C38302C4F	80,80,O	84	56	56	38
	SF217	38352C38352C4F	85,85,O	89.3	59.5	59.5	40.4
	SF218	39302C39302C4F	90,90,O	94.5	63	63	42.8
	SF219	39352C39352C4F	95,95,O	99.8	66.5	66.5	45.1

Table 9:LNPRINT Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*2ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

6.3 COURIER

SAP FONT	PrintControl	Hex Value	ASCII value* ²	Font height (In points)			
				203 dpi	300 dpi	305 dpi	600 dpi
COURIER	SF301	30352C30352C52	05,05,R	9	6	6	3
	SF302	31302C31302C52	10,10,R	18	12	12	6
	SF303	31352C31352C52	15,15,R	27	18	18	9
	SF304	32302C32302C52	20,20,R	36	24	24	12
	SF305	32352C32352C52	25,25,R	45	30	30	15
	SF306	33302C33302C52	30,30,R	54	36	36	18
	SF307	33352C33352C52	35,35,R	63	42	42	21
	SF308	34302C34302C52	40,40,R	72	48	48	24
	SF309	34352C34352C52	45,45,R	81	54	54	27
	SF310	35302C35302C52	50,50,R	90	60	60	30
	SF311	35352C35352C52	55,55,R	99	66	66	33
	SF312	36302C36302C52	60,60,R		72	72	36
	SF313	36352C36352C52	65,65,R		78	78	39
	SF314	37302C37302C52	70,70,R		84	84	42
	SF315	37352C37352C52	75,75,R		90	90	45
	SF316	38302C38302C52	80,80,R		96	96	48
	SF317	38352C38352C52	85,85,R				51
	SF318	39302C39302C52	90,90,R				54
	SF319	39352C39352C52	95,95,R				57

Table 10: COURIER Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*²ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

6.4 CNSONG

SAP FONT	PrintControl	Hex Value	Ascii value*2	Font height (In points)			
				203 dpi	300 dpi	305 dpi	600 dpi
CNSONG	SF801	30352c30352c72	05,05,r	4.3	2.9	2.8	1.4
	SF802	31302c31302c72	10,10,r	8.5	5.8	5.7	2.9
	SF803	31352c31352c72	15,15,r	12.8	8.6	8.5	4.3
	SF804	32302c32302c72	20,20,r	17	11.5	11.3	5.8
	SF805	32352c32352c72	25,25,r	21.3	14.4	14.2	7.2
	SF806	33302c33302c72	30,30,r	25.5	17.3	17	8.6
	SF807	33352c33352c72	35,35,r	29.8	20.1	19.8	10.1
	SF808	34302c34302c72	40,40,r	34	23	22.6	11.5
	SF809	34352c34352c72	45,45,r	38.3	25.9	25.5	12.9
	SF810	35302c35302c72	50,50,r	42.5	28.8	28.3	14.4
	SF811	35352c35352c72	55,55,r	46.8	31.6	31.1	15.8
	SF812	36302c36302c72	60,60,r	51	34.5	33.9	17.3
	SF813	36352c36352c72	65,65,r	55.2	37.4	36.8	18.7
	SF814	37302c37302c72	70,70,r	59.5	40.3	39.6	20.1
	SF815	37352c37352c72	75,75,r	63.7	43.1	42.4	21.6
	SF816	38302c38302c72	80,80,r	68	46	45.3	23
	SF817	38352c38352c72	85,85,r	72.2	48.9	48.1	24.4
	SF818	39302c39302c72	90,90,r	76.5	51.8	50.9	25.9
	SF819	39352c39352c72	95,95,r	80.7	54.6	53.7	27.3

Table 11:CNSONG Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*2ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

6.5 DBGOTHIC

Following Print Control values are valid for B-EX4T1-GS, B-EX4T2-GS, B-EX4D2-GS, B-EX6T1-GS, B-EX6T3-GS, B-SX4, B-SA4TP-GS, B-SA4TM-GS, B-EX4T2-TS, B-SA4TP-TS, B-SA4TM-TS, B-SX5, B-SX8, B-EX4T1-TS, B-EX6T1-TS, B-EX6T3-TS, B-EX4T2-HS, B-EX4T3-HS, B-852/B-858 Printer Models.

SAP FONT	PrintControl	Hex Value	ASCII value*2	Font height (In points)		
				203 dpi	300 dpi	305 dpi
DBGOTHIC	SF601	30352c30352c56	05,05,U	2.8	1.9	1.9
	SF602	31302c31302c55	05,05,V	4.3	2.9	2.8
	SF603	31302c31302c56	10,10,U	5.7	3.8	3.8
	SF604	31302c31302c57	10,10,V	8.5	5.8	5.7
	SF605	31352c31352c56	10,10,W	11.3	7.7	7.6
	SF606	31302c31302c58	15,15,V	12.8	8.6	8.5
	SF607	32352c32352c56	10,10,X	17	11.5	11.3
	SF608	32302c32302c57	25,25,V	21.3	14.4	14.2
	SF609	31352c31352c58	20,20,W	22.7	15.3	15.1
	SF610	32352c32352c57	15,15,X	25.5	17.3	17
	SF611	33352c33352c56	25,25,W	28.3	19.2	18.9
	SF612	32302c32302c58	35,35,V	29.8	20.1	19.8
	SF613	34352c34352c56	20,20,X	34	23	22.6
	SF614	33352c33352c57	45,45,V	38.3	25.9	25.5
	SF615	32352c32352c58	35,35,W	39.7	26.8	26.4
	SF616	34302c34302c57	25,25,X	42.5	28.8	28.3
	SF617	33302c33302c58	40,40,W	45.3	30.7	30.2
	SF618	35302c35302c57	30,30,X	51	34.5	33.9
	SF619	33352c33352c58	50,50,W	56.7	38.3	37.7
	SF620	34302c34302c58	35,35,X	59.5	40.3	39.6
	SF621	34352c34352c58	40,40,X	68	46	45.3
	SF622	37302c37302c57	45,45,X	76.5	51.8	50.9
	SF623	35302c35302c58	70,70,W	79.3	53.7	52.8
	SF624	35352c35352c58	50,50,X	85	57.5	56.6
	SF625	36302c36302c58	55,55,X	93.5	63.3	62.2
	SF626	36352c36352c58	60,60,X		69	67.9
	SF627	37302c37302c58	65,65,X		74.8	73.5
	SF628	37352c37352c58	70,70,X		80.5	79.2
	SF629	38302c38302c58	75,75,X		86.3	84.9
	SF630	38352c38352c58	80,80,X		92	90.5
	SF631	39302c39302c58	85,85,X		97.8	96.2

Table 12-a : DBGOTHIC Print Controls (203,300,305 dpi)

SAP FONT	PrintControl	Hex Value	ASCII value* ²	Font height (In points)
				600 dpi
DBGOTHIC	SF601	30352c30352c56	05,05,V	1.4
	SF602	31302c31302c55	10,10,U	1.9
	SF603	31302c31302c56	10,10,V	2.9
	SF604	31302c31302c57	10,10,W	3.8
	SF605	31352c31352c56	15,15,V	4.3
	SF606	31302c31302c58	10,10,X	5.8
	SF607	32352c32352c56	25,25,V	7.2
	SF608	32302c32302c57	20,20,W	7.7
	SF609	31352c31352c58	15,15,X	8.6
	SF610	32352c32352c57	25,25,W	9.6
	SF611	33352c33352c56	35,35,V	10.1
	SF612	32302c32302c58	20,20,X	11.5
	SF613	34352c34352c56	45,45,V	12.9
	SF614	33352c33352c57	35,35,W	13.4
	SF615	32352c32352c58	25,25,X	14.4
	SF616	34302c34302c57	40,40,W	15.3
	SF617	33302c33302c58	30,30,X	17.3
	SF618	35302c35302c57	50,50,W	19.2
	SF619	33352c33352c58	35,35,X	20.1
	SF620	34302c34302c58	40,40,X	23
	SF621	34352c34352c58	45,45,X	25.9
	SF622	37302c37302c57	70,70,W	26.8
	SF623	35302c35302c58	50,50,X	28.8
	SF624	35352c35352c58	55,55,X	31.6
	SF625	36302c36302c58	60,60,X	34.5
	SF626	36352c36352c58	65,65,X	37.4
	SF627	37302c37302c58	70,70,X	40.3
	SF628	37352c37352c58	75,75,X	43.1
	SF629	38302c38302c58	80,80,X	46
	SF630	38352c38352c58	85,85,X	48.9
	SF631	39302c39302c58	90,90,X	51.8
	SF632	39352c39352c58	95,95,X	54.6

Table 12-a : DBGOTHIC Print Controls(600 dpi)

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*²ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

Following Print Control values are valid for B-EP2DL, B-EP4DL, B-FP3D Printer Models.

SAP FONT	PrintControl	Hex Value	ASCII value* ²	Font height (In points)
				203 dpi
DBGOTHIC	SF601	30352c30352c55	05,05,U	2.8
	SF602	30352c30352c56	05,05,V	4.3
	SF603	31302c31302c55	10,10,U	5.7
	SF604	31302c31302c56	10,10,V	8.5
	SF606	32302c32302c55	20,20,U	11.3
	SF607	31352c31352c56	15,15,V	12.8
	SF608	32352c32352c55	25,25,U	14.2
	SF609	32302c32302c56	20,20,V	17
	SF611	33352c33352c55	35,35,U	19.8
	SF612	32352c32352c56	25,25,V	21.3
	SF613	34302c34302c55	40,40,U	22.7
	SF614	33302c33302c56	30,30,V	25.5
	SF616	35302c35302c55	50,50,U	28.3
	SF617	33352c33352c56	35,35,V	29.8
	SF618	34302c34302c56	40,40,V	34
	SF619	34352c34352c56	45,45,V	38.3
	SF620	35302c35302c56	50,50,V	42.5
	SF621	35352c35352c56	55,55,V	46.8
	SF622	36302c36302c56	60,60,V	51
	SF623	36352c36352c56	65,65,V	55.2
	SF624	37302c37302c56	70,70,V	59.5
	SF625	37352c37352c56	75,75,V	63.7
	SF626	38302c38302c56	80,80,V	68
	SF627	38352c38352c56	85,85,V	72.2
	SF628	39302c39302c56	90,90,V	76.5
	SF629	39352c39352c56	95,95,V	80.7

Table 12-b: DBGOTHIC Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*²ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

Following Print Control values are valid for BA410T-G, BA420T-G, BA410T-T, BA420T-T, BV410-G, BV420-G, BV410-T, BV420-T, B-FP2D Printer Models.

SAP FONT	PrintControl	Hex Value	ASCII value*2	Font height (In points)	
				203 dpi	300 dpi
DBGOTHIC	SF401	30352c30352c67	05,05,g	2.8	1.9
	SF402	30352c30352c68	05,05,h	4.3	2.9
	SF403	31302c31302c67	10,10,g	5.7	3.8
	SF404	31302c31302c68	10,10,h	8.5	5.8
	SF405	31302c31302c69	10,10,i	11.3	7.7
	SF406	31352c31352c68	15,15,h	12.8	8.6
	SF407	31302c31302c6a	10,10,j	17	11.5
	SF408	32352c32352c68	25,25,h	21.3	14.4
	SF409	32302c32302c69	20,20,i	22.7	15.3
	SF410	31352c31352c6a	15,15,j	25.5	17.3
	SF411	32352c32352c69	25,25,i	28.3	19.2
	SF412	33352c33352c68	35,35,h	29.8	20.1
	SF413	32302c32302c6a	20,20,j	34	23
	SF414	34352c34352c68	45,45,h	38.3	25.9
	SF415	33352c33352c69	35,35,i	39.7	26.8
	SF416	32352c32352c6a	25,25,j	42.5	28.8
	SF417	34302c34302c69	40,40,i	45.3	30.7
	SF418	33302c33302c6a	30,30,j	51	34.5
	SF419	35302c35302c69	50,50,i	56.7	38.3
	SF420	33352c33352c6a	35,35,j	59.5	40.3
	SF421	34302c34302c6a	40,40,j	68	46
	SF422	34352c34352c6a	45,45,j	76.5	51.8
	SF423	37302c37302c69	70,70,i	79.3	53.7
	SF424	35302c35302c6a	50,50,j	85	57.5
	SF425	35352c35352c6a	55,55,j	93.5	63.3
	SF426	36302c36302C6A	60,60,j		69
	SF427	36352c36352C6A	65,65,j		74.8
	SF428	37302c37302C6A	70,70,j		80.5
	SF429	37352c37352C6A	75,75,j		86.3
	SF430	38302c38302C6A	80,80,j		92
	SF431	38352c38352C6A	85,85,j		97.8

Table 12-c: DBGOTHIC Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*2ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

Following Print Control values are valid for B-EV4D-GS, B-EV4T-GS, B-EV4D-TS, B-EV4T-TS Printer Models. The DBMICHO, JPMINCHO, DBGOTHIC fonts has same Print Controls.

SAP FONT	PrintControl	Hex Value	Ascii value*2	Font height (In points)	
				203 dpi	300 dpi
DBGOTHIC DBMINCHO JPMINCHO	SF601	30352c30352c55	05,05,U	2.8	1.9
	SF602	30352c30352c56	05,05,V	4.3	2.9
	SF603	31302c31302c55	10,10,U	5.7	3.8
	SF604	31302c31302c56	10,10,V	8.5	5.8
	SF605	31302c31302c57	10,10,W	11.3	7.7
	SF606	31352c31352c56	15,15,V	12.8	8.6
	SF607	31352c31352c57	15,15,W	17	11.5
	SF608	32352c32352c56	25,25,V	21.3	14.4
	SF609	32302c32302c57	20,20,W	22.7	15.3
	SF610	33302c33302c56	30,30,V	25.5	17.3
	SF611	32352c32352c57	25,25,W	28.3	19.2
	SF612	33352c33352c56	35,35,V	29.8	20.1
	SF613	33302c33302c57	30,30,W	34	23
	SF614	34352c34352c56	45,45,V	38.3	25.9
	SF615	33352c33352c57	35,35,W	39.7	26.8
	SF616	35302c35302c56	50,50,V	42.5	28.8
	SF617	34302c34302c57	40,40,W	45.3	30.7
	SF618	34352c34352c57	45,45,W	51	34.5
	SF619	35302c35302c57	50,50,W	56.7	38.3
	SF620	35352c35352c57	55,55,W	62.3	42.2
	SF621	36302c36302c57	60,60,W	68	46
	SF622	36352c36352c57	65,65,W	73.7	49.8
	SF623	37302c37302c57	70,70,W	79.3	53.7
	SF624	37352c37352c57	75,75,W	85	57.5
	SF625	38302c38302c57	80,80,W	90.7	61.3
	SF626	38352c38352c57	85,85,W	96.3	65.2
	SF627	39302c39302c57	90,90,W		69
	SF628	39352c39352c57	95,95,W		72.9

Table 12-d: DBGOTHIC, DBMINCHO, JPMINCHO Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*2ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

6.7 DBMINCHO, JPMINCHO

Following Print Control values are valid for B-EX4T1-GS, B-EX4T2-GS, B-EX4D2-GS, B-EX6T1-GS, B-EX6T3-GS, B-SX4, B-SA4TP-GS, B-SA4TM-GS, B-EX4T2-TS, B-SA4TP-TS, B-SA4TM-TS, B-SX5, B-SX8, B-EX4T1-TS, B-EX6T1-TS, B-EX6T3-TS, B-EX4T2-HS, B-EX4T3-HS, B-852/B-858 Printer Models.

SAP FONT	PrintControl	Hex Value	ASCII value*2	Font height (In points)			
				203 dpi	300 dpi	305 dpi	600 dpi
DBMINCHO JPMINCHO	SF701	30352c30352c76	05,05,v	4.3	2.9	2.8	1.4
	SF702	30352c30352c77	05,05,w	5.7	3.8	3.8	1.9
	SF703	31302c31302c76	10,10,v	8.5	5.8	5.7	2.9
	SF704	31302c31302c77	10,10,w	11.3	7.7	7.6	3.8
	SF705	31352c31352c76	15,15,v	12.8	8.6	8.5	4.3
	SF706	31352c31352c77	15,15,w	17	11.5	11.3	5.8
	SF707	32352c32352c76	25,25,v	21.3	14.4	14.2	7.2
	SF708	32302c32302c77	20,20,w	22.7	15.3	15.1	7.7
	SF709	33302c33302c76	30,30,v	25.5	17.3	17	8.6
	SF710	32352c32352c77	25,25,w	28.3	19.2	18.9	9.6
	SF711	33352c33352c76	35,35,v	29.8	20.1	19.8	10.1
	SF712	33302c33302c77	30,30,w	34	23	22.6	11.5
	SF713	34352c34352c76	45,45,v	38.3	25.9	25.5	12.9
	SF714	33352c33352c77	35,35,w	39.7	26.8	26.4	13.4
	SF715	35302c35302c76	50,50,v	42.5	28.8	28.3	14.4
	SF716	34302c34302c77	40,40,w	45.3	30.7	30.2	15.3
	SF717	35352c35352c76	55,55,v	46.8	31.6	31.1	15.8
	SF718	34352c34352c77	45,45,w	51	34.5	33.9	17.3
	SF719	36352c36352c76	65,65,v	55.2	37.4	36.8	18.7
	SF720	35302c35302c77	50,50,w	56.7	38.3	37.7	19.2
	SF721	37302c37302c76	70,70,v	59.5	40.3	39.6	20.1
	SF722	35352c35352c77	55,55,w	62.3	42.2	41.5	21.1
	SF723	37352c37352c76	75,75,v	63.7	43.1	42.4	21.6
	SF724	36302c36302c77	60,60,w	68	46	45.3	23
	SF725	38352c38352c76	85,85,v	72.2	48.9	48.1	24.4
	SF726	36352c36352c77	65,65,w	73.7	49.8	49	24.9
	SF727	39302c39302c76	90,90,v	76.5	51.8	50.9	25.9
	SF728	37302c37302c77	70,70,w	79.3	53.7	52.8	26.8
	SF729	39352c39352c76	95,95,v	80.7	54.6	53.7	27.3
	SF730	37352c37352c77	75,75,w	85	57.5	56.6	28.8
	SF731	38302c38302c77	80,80,w	90.7	61.3	60.3	30.7
	SF732	38352c38352c77	85,85,w	96.3	65.2	64.1	32.6
	SF733	39302c39302c77	90,90,w		69	67.9	34.5
	SF734	39352c39352c77	95,95,w		72.9	71.7	36.4

Table 13-a: DBMINCHO/JPMINCHO Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*2ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

Following Print Control values are valid for B-EP2DL, B-EP4DL, B-FP3D Printer Models.

SAP FONT	PrintControl	Hex Value	ASCII value*2	Font height (In points)
				203 dpi
DBMINCHO JPMINCHO	SF701	30352c30352c77	05,05,w	5.7
	SF702	31302c31302c77	10,10,w	11.3
	SF703	31352c31352c77	15,15,w	17
	SF704	32302c32302c77	20,20,w	22.7
	SF705	32352c32352c77	25,25,w	28.3
	SF706	33302c33302c77	30,30,w	34
	SF707	33352c33352c77	35,35,w	39.7
	SF708	34302c34302c77	40,40,w	45.3
	SF709	34352c34352c77	45,45,w	51
	SF710	35302c35302c77	50,50,w	56.7
	SF711	35352c35352c77	55,55,w	62.3
	SF712	36302c36302c77	60,60,w	68
	SF713	36352c36352c77	65,65,w	73.7
	SF714	37302c37302c77	70,70,w	79.3
	SF715	37352c37352c77	75,75,w	85
	SF716	38302c38302c77	80,80,w	90.6
	SF717	38352c38352c77	85,85,w	96.3

Table 13-b: DBMINCHO/JPMINCHO Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*2ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

Following Print Control values are valid for BA410T-G, BA420T-G, BA410T-T, BA420T-T, BV410-G, BV420-G, BV410-T, BV420-T, B-FP2D Printer Models.

SAP FONT	PrintControl	Hex Value	Ascii value*2	Font height (In points)	
				203 dpi	300 dpi
DBMINCHO JPMINCHO	SF501	30352c30352c6c	05,05,l	4.3	2.9
	SF502	30352c30352c6d	05,05,m	5.7	3.8
	SF503	31302c31302c6c	10,10,l	8.5	5.8
	SF504	31302c31302c6d	10,10,m	11.3	7.7
	SF505	31352c31352c6c	15,15,l	12.8	8.6
	SF506	31352c31352c6d	15,15,m	17	11.5
	SF507	32352c32352c6c	25,25,l	21.3	14.4
	SF508	32302c32302c6d	20,20,m	22.7	15.3
	SF509	33302c33302c6c	30,30,l	25.5	17.3
	SF510	32352c32352c6d	25,25,m	28.3	19.2
	SF511	33352c33352c6c	35,35,l	29.8	20.1
	SF512	33302c33302c6d	30,30,m	34	23
	SF513	34352c34352c6c	45,45,l	38.3	25.9
	SF514	33352c33352c6d	35,35,m	39.7	26.8
	SF515	35302c35302c6c	50,50,l	42.5	28.8
	SF516	34302c34302c6d	40,40,m	45.3	30.7
	SF517	35352c35352c6c	55,55,l	46.8	31.6
	SF518	34352c34352c6d	45,45,m	51	34.5
	SF519	36352c36352c6c	65,65,l	55.2	37.4
	SF520	35302c35302c6d	50,50,m	56.7	38.3
	SF521	37302c37302c6c	70,70,l	59.5	40.3
	SF522	35352c35352c6d	55,55,m	62.3	42.2
	SF523	37352c37352c6c	75,75,l	63.7	43.1
	SF524	36302c36302c6d	60,60,m	68	46
	SF525	38352c38352c6c	85,85,l	72.2	48.9
	SF526	36352c36352c6d	65,65,m	73.7	49.8
	SF527	39302c39302c6c	90,90,l	76.5	51.8
	SF528	37302c37302c6d	70,70,m	79.3	53.7
	SF529	39352c39352c6c	95,95,l	80.7	54.6
	SF530	37352c37352c6d	75,75,m	85	57.5
	SF531	38302c38302c6d	80,80,m	90.7	61.3
	SF532	38352c38352c6d	85,85,m	96.3	65.2
	SF533	39302c39302c6d	90,90,m		69
	SF534	39352c39352c6d	95,95,m		72.9

Table 13-c: DBMINCHO/JPMINCHO Print Controls

SAP Font will generate TPCL command {PCaaa;bbbb,cccc,**d,e,ff**,ii,j=printdata|}.

*2ASCII value denotes the command parameter **d,e,ff**. Please refer External Equipment Interface Specification for Command details.

7. Barcode Print Controls

Barcode	PrintControl	Hex Value	ASCII Value
CODE 93	SB001	332C3031	3,01
	SB002	332C3032	3,02
	SB003	332C3033	3,03
	SB004	332C3034	3,04
	SB005	332C3035	3,05
	SB006	332C3036	3,06
	SB007	332C3037	3,07
	SB008	332C3038	3,08
	SB009	332C3039	3,09
	SB010	332C3130	3,10
	SB011	332C3131	3,11
	SB012	332C3132	3,12
JAN/EAN8	SB041	332C3031	3,01
	SB042	332C3032	3,02
	SB043	332C3033	3,03
	SB044	332C3034	3,04
	SB045	332C3035	3,05
	SB046	332C3036	3,06
	SB047	332C3037	3,07
	SB048	332C3038	3,08
	SB049	332C3039	3,09
	SB050	332C3130	3,10
	SB051	332C3131	3,11
	SB052	332C3132	3,12
JAN/EAN13	SB071	332C3031	3,01
	SB072	332C3032	3,02
	SB073	332C3033	3,03
	SB074	332C3034	3,04
	SB075	332C3035	3,05
	SB076	332C3036	3,06
	SB077	332C3037	3,07
	SB078	332C3038	3,08
	SB079	332C3039	3,09
	SB080	332C3130	3,10
	SB081	332C3131	3,11

Barcode	PrintControl	Hex Value	ASCII Value
	SB082	332C3132	3,12
Postnet	SB111	332C3031	3,01
	SB112	332C3032	3,02
	SB113	332C3033	3,03
	SB114	332C3034	3,04
	SB115	332C3035	3,05
	SB116	332C3036	3,06
	SB117	332C3037	3,07
	SB118	332C3038	3,08
	SB119	332C3039	3,09
	SB120	332C3130	3,10
	SB121	332C3131	3,11
	SB122	332C3132	3,12
CODE128 (with auto code selection)	SB241	332C3031	3,01
	SB242	332C3032	3,02
	SB243	332C3033	3,03
	SB244	332C3034	3,04
	SB245	332C3035	3,05
	SB246	332C3036	3,06
	SB247	332C3037	3,07
	SB248	332C3038	3,08
	SB249	332C3039	3,09
	SB250	332C3130	3,10
	SB251	332C3131	3,11
	SB252	332C3132	3,12
NW-7 (Codabar, Ratio 1:3)	SB471	332C30312C30312C30332C30332C3031	3,01,01,03,03,01
	SB472	332C30322C30322C30362C30362C3032	3,02,02,06,06,02
	SB473	332C30332C30332C30392C30392C3033	3,03,03,09,09,03
	SB474	332C30342C30342C31322C31322C3034	3,04,04,12,12,04
	SB475	332C30352C30352C31352C31352C3035	3,05,05,15,15,05
	SB476	332C30362C30362C31382C31382C3036	3,06,06,18,18,06
	SB477	332C30372C30372C32312C32312C3037	3,07,07,21,21,07
	SB478	332C30382C30382C32342C32342C3038	3,08,08,24,24,08
	SB479	332C30392C30392C32372C32372C3039	3,09,09,27,27,09
	SB480	332C31302C31302C33302C33302C3130	3,10,10,30,30,10
	SB481	332C31312C31312C33332C33332C3131	3,11,11,33,33,11
	SB482	332C31322C31322C33362C33362C3132	3,12,12,36,36,12
NW-7	SB511	332C30312C30312C30322C30322C3031	3,01,01,02,02,01

Barcode	PrintControl	Hex Value	ASCII Value
(Codabar, Ratio 1:2)	SB512	332C30322C30322C30342C30342C3032	3,02,02,04,04,02
	SB513	332C30332C30332C30362C30362C3033	3,03,03,06,06,03
	SB514	332C30342C30342C30382C30382C3034	3,04,04,08,08,04
	SB515	332C30352C30352C31302C31302C3035	3,05,05,10,10,05
	SB516	332C30362C30362C31322C31322C3036	3,06,06,12,12,06
	SB517	332C30372C30372C31342C31342C3037	3,07,07,14,14,07
	SB518	332C30382C30382C31362C31362C3038	3,08,08,16,16,08
	SB519	332C30392C30392C31382C31382C3039	3,09,09,18,18,09
	SB520	332C31302C31302C32302C32302C3130	3,10,10,20,20,10
	SB521	332C31312C31312C32322C32322C3131	3,11,11,22,22,11
	SB522	332C31322C31322C32342C32342C3132	3,12,12,24,24,12
NW-7 (Codabar, Ratio 2:5)	SB541	332C30312C30312C30332C30332C3031	3,01,01,03,03,01
	SB542	332C30322C30322C30352C30352C3032	3,02,02,05,05,02
	SB543	332C30332C30332C30382C30382C3033	3,03,03,08,08,03
	SB544	332C30342C30342C31302C31302C3034	3,04,04,10,10,04
	SB545	332C30352C30352C31332C31332C3035	3,05,05,13,13,05
	SB546	332C30362C30362C31352C31352C3036	3,06,06,15,15,06
	SB547	332C30372C30372C31382C31382C3037	3,07,07,18,18,07
	SB548	332C30382C30382C32302C32302C3038	3,08,08,20,20,08
	SB549	332C30392C30392C32332C32332C3039	3,09,09,23,23,09
	SB550	332C31302C31302C32352C32352C3130	3,10,10,25,25,10
	SB551	332C31312C31312C32382C32382C3131	3,11,11,28,28,11
	SB552	332C31322C31322C33302C33302C3132	3,12,12,30,30,12
Interleaved 2 of 5 (Ratio 1:3)	SB571	332C30312C30312C30332C30332C3030	3,01,01,03,03,00
	SB572	332C30322C30322C30362C30362C3030	3,02,02,06,06,00
	SB573	332C30332C30332C30392C30392C3030	3,03,03,09,09,00
	SB574	332C30342C30342C31322C31322C3030	3,04,04,12,12,00
	SB575	332C30352C30352C31352C31352C3030	3,05,05,15,15,00
	SB576	332C30362C30362C31382C31382C3030	3,06,06,18,18,00
	SB577	332C30372C30372C32312C32312C3030	3,07,07,21,21,00
	SB578	332C30382C30382C32342C32342C3030	3,08,08,24,24,00
	SB579	332C30392C30392C32372C32372C3030	3,09,09,27,27,00
	SB580	332C31302C31302C33302C33302C3030	3,10,10,30,30,00
	SB581	332C31312C31312C33332C33332C3030	3,11,11,33,33,00
	SB582	332C31322C31322C33362C33362C3030	3,12,12,36,36,00
Interleaved 2 of 5 (Ratio 1:2)	SB590	312C30342C30342C31322C31322C3030	1,04,04,12,12,00
	SB611	332C30312C30312C30322C30322C3030	3,01,01,02,02,00
	SB612	332C30322C30322C30342C30342C3030	3,02,02,04,04,00

Barcode	PrintControl	Hex Value	ASCII Value
	SB613	332C30332C30332C30362C30362C3030	3,03,03,06,06,00
	SB614	332C30342C30342C30382C30382C3030	3,04,04,08,08,00
	SB615	332C30352C30352C31302C31302C3030	3,05,05,10,10,00
	SB616	332C30362C30362C31322C31322C3030	3,06,06,12,12,00
	SB617	332C30372C30372C31342C31342C3030	3,07,07,14,14,00
	SB618	332C30382C30382C31362C31362C3030	3,08,08,16,16,00
	SB619	332C30392C30392C31382C31382C3030	3,09,09,18,18,00
	SB620	332C31302C31302C32302C32302C3030	3,10,10,20,20,00
	SB621	332C31312C31312C32322C32322C3030	3,11,11,22,22,00
	SB622	332C31322C31322C32342C32342C3030	3,12,12,24,24,00
Interleaved 2 of 5 (Ratio 2:5)	SB641	332C30312C30312C30332C30332C3030	3,01,01,03,03,00
	SB642	332C30322C30322C30352C30352C3030	3,02,02,05,05,00
	SB643	332C30332C30332C30382C30382C3030	3,03,03,08,08,00
	SB644	332C30342C30342C31302C31302C3030	3,04,04,10,10,00
	SB645	332C30352C30352C31332C31332C3030	3,05,05,13,13,00
	SB646	332C30362C30362C31352C31352C3030	3,06,06,15,15,00
	SB647	332C30372C30372C31382C31382C3030	3,07,07,18,18,00
	SB648	332C30382C30382C32302C32302C3030	3,08,08,20,20,00
	SB649	332C30392C30392C32332C32332C3030	3,09,09,23,23,00
	SB650	332C31302C31302C32352C32352C3030	3,10,10,25,25,00
	SB651	332C31312C31312C32382C32382C3030	3,11,11,28,28,00
	SB652	332C31322C31322C33302C33302C3030	3,12,12,30,30,00
Code 39 (Ratio 1:3)	SB671	332C30312C30312C30332C30332C3031	3,01,01,03,03,01
	SB672	332C30322C30322C30362C30362C3032	3,02,02,06,06,02
	SB673	332C30332C30332C30392C30392C3033	3,03,03,09,09,03
	SB674	332C30342C30342C31322C31322C3034	3,04,04,12,12,04
	SB675	332C30352C30352C31352C31352C3035	3,05,05,15,15,05
	SB676	332C30362C30362C31382C31382C3036	3,06,06,18,18,06
	SB677	332C30372C30372C32312C32312C3037	3,07,07,21,21,07
	SB678	332C30382C30382C32342C32342C3038	3,08,08,24,24,08
	SB679	332C30392C30392C32372C32372C3039	3,09,09,27,27,09
	SB680	332C31302C31302C33302C33302C3130	3,10,10,30,30,10
	SB681	332C31312C31312C33332C33332C3131	3,11,11,33,33,11
	SB682	332C31322C31322C33362C33362C3132	3,12,12,36,36,12
	SB690	312C30342C30342C31322C31322C3034	1,04,04,12,12,04
Code 39 (Ratio 1:2)	SB711	332C30312C30312C30322C30322C3031	3,01,01,02,02,01
	SB712	332C30322C30322C30342C30342C3032	3,02,02,04,04,02
	SB713	332C30332C30332C30362C30362C3033	3,03,03,06,06,03

Barcode	PrintControl	Hex Value	ASCII Value
	SB714	332C30342C30342C30382C30382C3034	3,04,04,08,08,04
	SB715	332C30352C30352C31302C31302C3035	3,05,05,10,10,05
	SB716	332C30362C30362C31322C31322C3036	3,06,06,12,12,06
	SB717	332C30372C30372C31342C31342C3037	3,07,07,14,14,07
	SB718	332C30382C30382C31362C31362C3038	3,08,08,16,16,08
	SB719	332C30392C30392C31382C31382C3039	3,09,09,18,18,09
	SB720	332C31302C31302C32302C32302C3130	3,10,10,20,20,10
	SB721	332C31312C31312C32322C32322C3131	3,11,11,22,22,11
	SB722	332C31322C31322C32342C32342C3132	3,12,12,24,24,12
Code 39 (Ratio 2:5)	SB741	332C30312C30312C30332C30332C3031	3,01,01,03,03,01
	SB742	332C30322C30322C30352C30352C3032	3,02,02,05,05,02
	SB743	332C30332C30332C30382C30382C3033	3,03,03,08,08,03
	SB744	332C30342C30342C31302C31302C3034	3,04,04,10,10,04
	SB745	332C30352C30352C31332C31332C3035	3,05,05,13,13,05
	SB746	332C30362C30362C31352C31352C3036	3,06,06,15,15,06
	SB747	332C30372C30372C31382C31382C3037	3,07,07,18,18,07
	SB748	332C30382C30382C32302C32302C3038	3,08,08,20,20,08
	SB749	332C30392C30392C32332C32332C3039	3,09,09,23,23,09
	SB750	332C31302C31302C32352C32352C3130	3,10,10,25,25,10
	SB751	332C31312C31312C32382C32382C3131	3,11,11,28,28,11
	SB752	332C31322C31322C33302C33302C3132	3,12,12,30,30,12
MSI barcode	SB788	312C30342C30342C31322C31322C3030	1,04,04,12,12,00
	SB774	332C30342C30342C31322C31322C3030	3,04,04,12,12,00
	SB789	342C30342C30342C31322C31322C3030	4,04,04,12,12,00
	SB790	352C30342C30342C31322C31322C3030	5,04,04,12,12,00

Table 14: Barcode Print Controls