

Zebra Printers and SAP[®] Smart Forms[™]

Bar Code Label Design and Printing from mySAP[™] Business Suite

Solution Guide



13760L-001

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About This Document



This section provides you with contact information, document structure and organization, and additional reference documents.

Contents

How This Document Is Organized	4
Contacts	5
Document Conventions	6

How This Document Is Organized

The Solution Guide is set up as follows:

Section	Description
Introduction on page 9	This section describes who should use this guide.
Getting Started on page 27	This section describes how to set up mySAP Business Suite for use with Zebra Device Types. It also includes general guidelines for upgrading Smart Forms for Bar Coding.
<i>Output Devices and Print Queues</i> on page 35	This section provides information on using the Smart Forms Zebra Device Types with Output Devices and Print Queues.
Test Printing on page 75	This section covers test printing from Smart Form to an Output Device / Print Queue.
Basic Smart Form Design on page 45	This section explains how to design a basic Smart Form.
Advanced Form Design on page 79	This section provides information on more advanced programming techniques.
Resources on page 93	This section provides additional resources.

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Key: T: Telephone

F: Facsimile E: E-mail

Document Conventions

The following conventions are used throughout this document to convey certain information.

Alternate Color (online only) Cross-references contain hot links to other sections in this guide. If you are viewing this guide online in **.pdf** format, you can click the cross-reference (blue text) to jump directly to its location.

Command Line Examples Command line examples appear in Courier New font. For example, type ZTools to get to the Post-Install scripts in the bin directory.

Files and Directories File names and directories appear in Courier New font. For example, the Zebra<version number>.tar file and the /root directory.

Icons Used



Important • Advises you of information that is essential to complete a task.



Note • Indicates neutral or positive information that emphasizes or supplements important points of the main text.

Example • Provides an example, often a scenario, to better clarify a section of text.

Contents



About This Document	3
How This Document Is Organized	4
Contacts	5
Document Conventions.	6
1 • Introduction	9
Intended Audience for This Guide 1	10
Device Type Printer Wizard1	11
Creating a New Zebra Device in SPAD	11
Updating Information Tables on Your System	23
2 • Getting Started	27
Installing Zebra Device Type for Smart Forms	28
Smart Forms Bar Code Rendering Library (BRL)	28
Smart Forms Industrial Bar Code Printer Support (ZPL II)	28
Smart Forms and Zebra Device Types 2	29
Installation of mySAP Business Suite Zebra Device Types	30
Allocate a Development Class 3	32
Select the Local Driver	33
3 • Output Devices and Print Queues	35
Configuring Output Devices	36
Printing Terminology	41
4 • Basic Smart Form Design 4	15
Initial Setup	46
Disable PC Editor	46
Smart Styles—Planning for Smart Forms	48
Create the Bar Codes You Need	48

Create Smart Styles to Select Text and Bar Codes	53
Add a Bar Code to the Smart Style	54
Add Text Styles to the Smart Style	55
Create a Default Paragraph for the Header Data	57
Save the Smart Style	60
Laying Out the Smart Form	61
Map to Smart Style	62
Add Text and Bar Code Fields	65
Add Lines and Boxes	68
Add Logos/Graphics	70
Save and Activate the Smart Form	73
5 • Test Printing	75
Test Printing from Smart Forms to an Output Device / Print Queue	76
6 • Advanced Form Design	79
Smart Forms	80
Field Positioning—X, Y Coordinates	80
Lines and Boxes	80
Text Objects	81
Western European—IBM CodePage 850	81
International Printing (EMEA Only)—Unicode™	81
Global International Printing including APAC—Unicode	81
Text Reversing	81
TrueType Fonts	82
Download a TTF Font to Zebra Flash Memory	83
Modify the Zebra SAP Device Type	83
Font Licensing (TTF) / Disclaimer	84
Logos/Graphics	85
Resident Graphics in Smart Forms.	85
Uploading Graphics into Smart Forms	85
Printer Resident Bar Codes (Flash Memory)	85
Printer Settings	86
Bar Codes	88
Printer Bar Codes	89
System Bar Codes	89
New Technology—System Bar Code	90
Unsupported Bar Codes / New Symbologies	91
A • Resources	93
Zebra Technologies Web Site	94
SAP Developer Network	94



This section describes who should use this guide.

Contents

Intended Audience for This Guide	10
Device Type Printer Wizard	11
Creating a New Zebra Device in SPAD	11
Updating Information Tables on Your System	23

Intended Audience for This Guide

This reference guide is intended to help systems engineers and systems integrators install, configure and use the Zebra Device provider on a typical SAP system. It is also intended to help SAP Smart FormsTM designers discover the special techniques for formatting output needed when designing labels with text, graphics and bar codes.

The SAP Smart Forms[™] Zebra Device types feature:

- Support for printer resident or downloadable fonts including scalable fonts.
- Support for Unicode Fonts.
- Support for all printer resident bar codes including WYSIWYG previews for the most popular symbols.

Device Type Printer Wizard

In order to make the output device creation process easier, a new wizard has been introduced in transaction **SPAD**. With a few pieces of specified information, the wizard will recommend an appropriate device type for your Zebra printer. The wizard is available on 6.20 systems and higher with the following Support Packages:

- SAP_BASIS Release 6.20: SAPKB62063
- SAP_BASIS Release 6.40: SAPKB64021
- SAP_BASIS Release 7.00: SAPKB70014
- SAP_BASIS Release 7.10: SAPKB71004

Some features exist only in certain Netweaver Enhancement Packages.

- Device type uploading capability:
 - Netweaver 7.0 Enhancement Package 1 or higher
 - Netweaver 7.1 Enhancement Package 1 or higher

Creating a New Zebra Device in SPAD

1. Open the SPAD transaction.



2. Click Display in the Output Devices Row.

Figure 1	 Spool 	Administration:	Initial Screen
----------	---------------------------	-----------------	-----------------------

pool Adm	ninistration	n: Initial	Screen			
- Extended admin	. Full adminis	tration				
][
Devices / se	rvers Admir	n.				
						-
Output Devices	3			0	Display	_
					Dioplay	
Spool Servers					Display	
Spool Servers Access Method	ts				Display	

The List of Output Devices opens (Figure 2).

3.	Click	0	(Change).
----	-------	---	-----------

Figure 2 • List of Output Devices

Output Device Edit Goto Extra	s Utilities(M) S	System Help		
		2 2 8 8 2 2	A 2 🗵 🖉 😨 🖪	
Spool Administration:	List of Out	put Devices (405 entries)	
/ O I A 7 E 2				
Dev. B450P Tes PCL B6500 B930 SAP B930 SNMP Test BPIEST BP_TEST Brother BAN Multi-Func PCL	K Dev. type G SH1DA000 G DK1B6500 G DK1B930 G DKB930F G TWHPLJ4 G TWHPLJ4 G RMM0R	Spool servers	Location or message	6
The Cl	nange wind	low opens (<mark>Figu</mark>	re 3).	

4. Click (Create).

Figure 3 • Change Window

Output Device Edit Goto E	Extras Utilities(M) S	ystem Help		
Ø 1] 4 🛛 ☎ 🙆 🖗	2 2 3 3 6 6 2 7	44 🛛 🖉 🕼 🖪	
Spool Administratio	n: List of Outp	out Devices (Ch	ange) (405 ent	
	6. 24			
			I	
Dev. 8450P TestPCL	K Dev. type	Spool servers	Location or message	6
B6500	6 0KIB6500			
8930 SAP 8930 SNMP Test	6 0K18930 6 0KB930F			
BPIS01PVP	6 TWHPLJ4			

The Spool Administration: Create Output Device window opens (Figure 4).

- **5.** In the Spool Administration: Create Output Device window, do the following:
 - **a.** Enter an Output Device Name.
 - **b.** Enter a Short name.
 - **c.** Click *(Device Type Selection)*.



pool Admini	stratio	Device	ate Out	tput De	evice	Short name	TS	11
DeviceAttributes	Acce	ss Method	Output	Attributes	Tray Info	٥	Ь,	
Device Type Device Class		YZB200 Standar	i ∶Zebra lab d printer	iel printer 2	03dpi			
Authorization Group								
Model								ç
Location								
Message	AP Syste	m						

The Device Type Selection window opens (Figure 5).

- 6. In the Device Type Selection window (Figure 5), do the following:
 - **a.** Select Zebra from the Manufacturer's Name drop-down box.
 - **b.** Select the desired Language from the drop-down box.

Note • If you select Unicode, the appropriate Unicode device types will be listed.

c. Click **the Show Printers** to see a list of the available Zebra Printer models.



Figure 5 • Device Type Selection Window

d. To select the printer model, right-click over the box on the left-hand side. Press F2 or select Choose (Figure 6).

Help	F1
Choose	F2
Back	F3
Possible Entries	F4
Cancel	F12
Exit	Shift+F3
Exit	Shift+F3

Figure 6 • Submenu Window



7. Have you loaded the device types?

lf	Then
Yes	Skip to step 15.
No	Figure 7 opens.
	Figure 7 • Information Window
	Device type " not exist on the system.
	Continue with step 8.
Click	Continue with step 8. Image: With step 8. Image: With step 8.

9. To install the device types, click 🔜 (Install Device Type).

The Device Type Installation Instructions window opens (Figure 8).

Device Type Installation Installation Instructions If you have already downloaded device types from SAP Notes, click OK button. If you haven't, download device types as follows: 1 Click Cancel button to go back to the wizard screen. 2 Select a printer. 3 Right click on an SAP Note number. 4 Select "Display Note". Then an internet browser opens up. 5 Click "Attachments". Then download a required file to a local PC. 6 Unzip the file on the PC if it contains several device types. 7 Repeat steps 2 to 6 for required device types. 8 Then, come back here to install device types. }

Figure 8 • Device Type Installation Instructions Window

10. Click (OK). The Uploading Device Types window opens (Figure 9).

C Uploading Device Types	×
Device Type Selection	
Select device types in the next dialog box.	
Multiple device types can be selected.	
4 Back Next 92 C	ancel

Figure 9 • Uploading Device Types

11. Click Next .

The Device Type Selection window opens (Figure 10).

- **12.** Navigate to the location of the .pri device type files.
 - **a.** Select the appropriate device type.
 - **b.** Click Open.

Device Type Selection	2 🛛
Look jn: 😪 \\Client\c\$ on EntireNetwork 💿 💽 📰	
Image: Second	
File name: YZB200.PRI	<u>)</u> pen
Files of type: Device Types (*.PRI, *.ZIP)	ancel

Figure 10 • Device Type Selection Window

The Uploading Device Types window opens (Figure 11).

13. Click 🕨 Ne	ext .
	Figure 11 • Uploading Device Types Window
	C Uploading Device Types
	Transport Request
	Please specify a transport request. If not specified, you will be asked later.
	Transport request
	Temporary work directory on a local PC.
	Work directory
	A Back Next X Cancel

The Uploading Device Types window opens (Figure 12).

14. Click N	ext.	
	Figure 12 • Uploading Device Types wind	ow
	C Uploading Device Types	\times
	Sart Uploading	
	(A few minutes for each device type.)	
	🖌 Back 🕨 Next 🔀 Cance	I

The Spool Administration: Create Output Device window opens (Figure 13).

≧ Output Device E	dit <u>G</u> oto E	dr <u>a</u> s Util	lities(M)	System	Help			
Ø	۵	4 📙	0 😋	😒 🖴	60 68 I :	8988	× 2	2
Spool Admir	nistratio	n: Cre	ate Ou	utput D	evice			
₹, 🗷								
Output Device	TestD	evice				Short name	TST	1
Description								
DeviceAttribute	s Access	Method	Outpu	t Attributes	Tray I	nfo		
Device Type		¥78200	· Zehra Is	ahel nrinter	203dni		n 😳	
Device Class		Standard	i printer	aber printer	20300		2	
Authorization Gro	đr		-		• •	5		
Location					-			1
Message								1
🗌 Lock Printer in	n SAP System							

Figure 13 • Spool Administration: Create Output Device Window

- **15.** In the Spool Administration: Create Output Device window (Figure 13), do the following:
 - **a.** Enter the Model number.
 - **b.** Enter the Location, as required.

16. Click the Access Method Tab.

Figure 14 opens.

- 17. In the Spool Administration: Create Output Device window (Figure 14), do the following:
 - a. Change the Host Spool Access Method to F: Printing from Front End Computer.
 - b. Type in __DEFAULT as the Host Printer.This will route the print jobs from your local machine to the default printer installed.
- **18.** If desired, you can check the No Device Selection at Frontend.

No printer selection will be made at print time, so the job will be routed directly to the default printer.

19. Click [] (Save).



CP Output Device Edit Goto Extras Utilities(M) System Help	
■ (3 C C C C C C C C C C C C C C C C C C	2 😨 🖪
Spool Administration: Create Output Device	
Output Device TestDevice Short name	TST1
DeviceAttributes Access Method Output Attributes Tray Info	
Host Spool Access Method F: Printing on Front End Computer	
Host printerDEFAULT	

Updating Information Tables on Your System

The information the wizard shows is stored in database tables. Since new printers are being introduced on a regular basis, the tables need periodic updating.



Note • It is not necessary to update the tables if you do not create an output device, as the tables are used only by the wizard and there is no dependency.

The exact steps for installing the database updates are described in Chapter 3 of the selectdevtype_wizard document. A copy of this is available at the following URL: https://websmp107.sap-ag.de/~sapidb/012006153200000457182009E/ selectdevtype_wizard.pdf

The file name of a new dataset is tspopi-yyyymmdd.xml (zipped) where yyyymmdd is the date.

Important • When you use the wizard for the first time, it is necessary to update the information database tables.

The relationship between printer models and device types are stored in table **TSPOPIP**, and the list of printer manufacturers is stored in table **TSPOPIMAN**. The version of the current data on your system is displayed at the top right corner of the window.

- **1.** From the Device Type Selection window, do the following:
 - **a.** Click [1] (Update Printer Information).

Figure 15 • Device Type Selection Window

🖻 Device Type Selection						×
Select Criteria Manufacturer's Name Language	🚹 Sh	ow Printers	Datas	et Version:	201010	29
Select a Printer				⊾/		
Printer Model	Dev Type	Alternative	Customer's	SAP Note	Remark	
Manufacturer's Name						
Printer Model						
Language Group			Unicode Pr	inting		
Remark			Reference	SAP NOte		
Select a Device Type Default Alternative Customer's						
🖌 🗙 🚔 🛐 🚺						

b. Note the Dataset Version.

The latest data is provided as an attachment to SAP Note 1036961, '*Device type selection in transaction SPAD*'. The file name is tspopi-yyyymmdd.xml where yyyymmdd is the date of the file creation. (The xml file is zipped, so the actual attached file names are tspopiyyymmdd.zip.)

The Table Update window opens (Figure 16).

2. Click (File Open/Browse).

🖙 Table Update	
XML File Name	۲ ۲
✓ × ■	

Figure 16 • Table Update Window

The Open window opens (Figure 17).

3. Select the appropriate .xml file and then click

Open					2 🛛
Look jn:	😪 \\Client\c\$ on	EntireNetwork	1	1 🕫 🖽	
My Recent Do My Recent Do Desktop Desktop My Documents USPALM103	BAAN Cache CiscoVPN Config.Msi DELL Documents and MDT MSOCache MY Documents Program Files RECYCLER System Volume : WINDOWS ZD22642	Settings	1130.xml		
My Network P	File name:	tspopi-20101130.xml		8	<u>O</u> pen
-	riles of Type:	All Files (1.1)		8	Cancer

Figure 17 • Open Window

The Table Update window opens (Figure 18).

Figure 18 • Table Update Window



4. Click **(**OK).

The information window opens to inform you that the table has updated successfully (Figure 19).

Figure 19 • Information Window



5. Click ✔ (OK).

You can proceed with creating new Zebra Devices in SPAD.



This section describes how to set up mySAP Business Suite for use with Zebra Device Types. It also includes general guidelines for upgrading Smart Forms for Bar Coding.

Contents

Installing Zebra Device Type for Smart Forms.	. 28
Smart Forms Bar Code Rendering Library (BRL)	. 28
Smart Forms Industrial Bar Code Printer Support (ZPL II)	. 28
Smart Forms and Zebra Device Types	. 29
Installation of mySAP Business Suite Zebra Device Types	. 30
Allocate a Development Class	. 32
Select the Local Driver	. 33

Installing Zebra Device Type for Smart Forms

Smart Forms Bar Code Rendering Library (BRL)

The Bar Code Rendering Library allows SAP to render (draw) bar codes for print preview and output purposes. SAP AG has licensed this BRL from Zebra, which allows Smart Forms to generate bar code output, as bitmap graphics, on PDF documents and PCL®-, PostScript®-, and Prescribe-compatible printers. SAPWin is also supported via SAPlpd although not recommended for mission-critical printing.

Smart Forms Industrial Bar Code Printer Support (ZPL II)

SAP AG has, for the first time, added true support for native bar code printers in mySAP Business Suite. This printer support, along with the BRL, allows SAP users to easily implement industrial mission-critical bar code label printing without the additional cost of middleware. Bar coding support is added in the form of the Zebra Programming language (ZPL II). Refer to www.zebra.com for more information on bar code label printers.

Smart Forms and Zebra Device Types

Before you can begin using Zebra printers with SAP Smart Forms, one of the following device types must be uploaded to mySAP Business Suite. Loading these device types is usually performed by a systems administrator. These device types will also ship with SAP NetWeaver 05. SAP Smart Forms support only the Zebra Programming Language (ZPL II).

□ IBM® CodePage 850 - CG Triumvirate Bold Condensed Scaleable Font

- Zlzeb6.priAll 600 dpi ZPL-II printers
- Zlzeb3.priAll 300 dpi ZPL-II printers
- Zlzeb2.priAll 203 dpi ZPL-II printers

The above device types are primarily designed to work with Zebra's preloaded Swiss Scaleable Font (EMEA Only). Containing 936 characters, this font includes support for Baltic, Central European, Cyrillic, Greek, Turkish, Arabic, Hebrew and Western.

□ Unicode UTF-8 - Andale Monospaced Scaleable Fonts

- Zlzebu6.priAll 600 dpi ZPL-II printers
- Zlzebu3.priAll 300 dpi ZPL-II printers
- Zlzebu2.priAll 203 dpi ZPL-II printers

To obtain the Zebra device types, visit the SAP Developer Network web site at www.sdn.sap.com. Refer to SAPnet notes 750002 and 750772.

Installation of mySAP Business Suite Zebra Device Types

The next series of steps outline the import procedure of the device type definition file (for example, ZLBZEB2.PRI) to the mySAP Business Suite printing system.

1. Execute the Program Execution transaction SA38 by keying in /nSA38 at the command line:

SE38		
------	--	--

 Press Enter or click once on the Checkmark adjacent to the command line text box. The ABAP: Execute Program window opens (Figure 20).



l⊄ _ <u>P</u> r	ogram	<u>E</u> dit	<u>G</u> oto	Utilities(M) Eny	ronment	S <u>y</u> ste	m <u>F</u>	Help				
0				٦	۹ 🛛	😋 🙆	🚷	l (1 🖧 (8 1	C (C (C	💥 🖉	🕜 星
AB	AP E	dito	r: In	itial S	creer	ו							
6	* 🕒		•		😥 [🕒 Debu	gging	🕀 V	/Vith Vari	iant	🔁 Varian	its	
_		-									_		
Progr	am	R	SIXSUR	r			1		Cre	ate			
Subo	bjects	/											
ØS	ource C	ode											
OV:	ariants												
O At	tributes												
OD	ocumer	ntation											
OT	ext elem	ients											
ଟେ	Dis	play		P Ch	ange								

3. In the Program text box, type RSTXSCRP, then click execute the device type definition import program. (Execute) or press F8 to

The SAPscript Export to Dataset / SAPscript Import from Dataset window opens (Figure 21).

- **4.** Select the Device type option.
- 5. For Object name, enter the device type name that you plan to use (for example, ZLZEB2).
- 6. For Mode (EXPORT/IMPORT), enter IMPORT.

7. Select From/on frontend (or File system: GUI on older releases).

Figure 21 • SAPscript Export to Dataset / SAPscript Import from Dataset Window

E∕ Program Edit Goto System Helg)			
8 I I I I I I I I I I I I I I I I I I I	④ ④ ● 二 12 12 12 12 12 13 19			
SAPscript Export to Data	set / SAPscript Import from Dataset			
Object selection and session ctrl				
⊖ Form				
⊖ Style				
 Standard text 				
Text ID ST				
Language EN				
Device Type				
Object name	YZB200			
Mode (EXPORT/IMPORT)				
Ctrl parameters for file operation				
From/on frontend				
○ From/on application server				
File Name	C:\temp*******&&&&			
Binary file format				
Display File Contents				
Control of language versions				
Language vector				
Only export original language				

8. When all the required fields above are entered correctly, click (Execute) or press F8 to start the import process. Ignore all other options.

Allocate a Development Class

The user must either allocate a development class to the device type or make it a local object. The development class is only required if the customer wishes to transport this device type to other mySAP Business Suite systems. This is done from the screen below (Figure 22).

1. Has the device you plan to use already been uploaded into the system?

lf	Then				
No	Choose one of the following:				
	 Skin the Development class and click [] (Save). 				
	 Skip the Development class and click Local object. Important • Local object device types cannot be transported to other 				
	mySAP Business Suite systems.				
	Figure 22 • Create Object Directory Entry Window				
	🖙 Create Object Directory Entry 🛛 🖂 🖊				
	Object R3TR FORM ZEBRA_DEMO				
	Attributes				
	Development class				
	Person responsible ZEBRA				
	Original system CE6				
	Local object 🔎 Lock overview				
Vac	Continue with Select the Level Driver on page 22				
res	Continue with <i>Select the Local Driver</i> on page 33.				

Select the Local Driver

Figure 23 prompts for the device type definition file and its location.

- **1.** Browse **±** to locate the file, for example, ZLB_ZEB.PRI.
- **2.** Click Transfer to start the upload process.

Figure 23 • Import from a Local File Window

🔄 Import from a Local F	ile	
File name	C:\BARONER3\BIN\ZLZEB2.PRI	æ
Data format	ASC	
Transfer 📳 X		

When the process is complete, update messages will be displayed (Figure 24).

Figure 24 • Update Messages Window



Important • The above drivers are only for use with Smart Forms. These drivers do not support SAPscript or SAPscript generated and uploaded by Zebra's Designer[®] for mySAPTM Business Suite.



Output Devices and Print Queues



This section provides information on using the Smart Forms Zebra Device Types with Output Devices and Print Queues.

Contents

Configuring Output Devices	36
Printing Terminology	41

Configuring Output Devices

Before you can use a printer (device type) in SAP mySAP Business Suite, you must create and configure a print queue (output device).

1. Initiate the Spool Administration program, SPAD, by entering /nSPAD in the transaction command line. Press Enter or click on the checkbox adjacent to the command line text box entry.

/nSPAD	•

2. At the Spool Administration Initial Screen window (Figure 25), select the Output Device option.

Configuration Administration	<u>G</u> oto Utilities(M) <u>S</u> ettings Environment System <u>H</u> elp
8) 4 🕒 I 😋 😧 😂 H)
Spool Administratio	n: Initial Screen
Extended admin. Full adminis	stration
Devices / servers Admi	in.
Output Devices	Display
Spool Servers	Display
Access Methods	Display
Destination Host	Display

Figure 25 • Spool Administration Initial Screen Window
3. At the Spool Administration: List of Output Devices window (Figure 26), click (Change).

⊡ Output Device Edit Goto Extras Utilities(M) System Help					
🎯 👂 🖯 I 😋 🚱 😫 🛗 I	8 D 🛛 C 😧 🕄 🛗 🛗 🖏 🖏 🗳 🖓 🖓 🔛 🖉 🔛				
Spool Administration: List of Output Devices (402 entries)					
		[
Dev.	K	Dev. type	Spool servers		Location or message
ZPL200	G	YZB200			
ZPL200K	G	LZEB2			
ZPL200KS	G	LZEBS2			
ZPL200KU	G	LZEBU2			
ZPL200U	G	YZB200U			
ZPL300	G	YZB300			
ZPL300K	G	LZEB3			
ZPL300KS	G	LZEBS3			
ZPL300KU	G	LZEBU3			
ZPL300U	G	YZB300U			
ZPL600	G	YZB600			
ZPL600K	G	LZEB6			
ZPL600KS	G	LZEBS6			
ZPL600KU	G	LZEBU6			
ZPL600U	G	YZB600U			

Figure 26 • Spool Administration: List of Output Devices Window

You should see Figure 27, exactly the same as the previous screen but with a new line of icons.

4. Click (Create).

Figure 27 • Spool Administration: List of Output Devices (Change) Window

C Output Device Edit Goto Extras Utilities(M) System Help					
	ð	ស្រុយល្	XI 💥 🖉 😗 🖪		
Spool Administration: List of Output Devices (Change) (402 ent					
Dev.	к	Dev. type	Spool servers	Location or	` messade
ZPL200	G	YZB200			
ZPL200K	G	LZEB2			
ZPL200KS	G	LZEBS2			
ZPL200KU	G	LZEBU2			
ZPL200U	G	YZB200U			
ZPL300	G	YZB300			
ZPL300K	G	LZEB3			
ZPL300KS	G	LZEBS3			
ZPL300KU	G	LZEBU3			
ZPL300U	G	YZB300U			
ZPL600	G	YZB600			
ZPL600K	G	LZEB6			
ZPL600KS	G	LZEBS6			
ZPL600KU	G	LZEBU6			
ZPL600U	G	YZB600U			

At the Spool Administration: Create Output Device (Figure 28), perform the following:

- **5.** Allocate the Output Device name. You may also allocate a shortname.
- **6.** Select the Device Type, for example, YZB200.
- 7. Enter Location and Message, if required.

Figure 28 • Spool Administratio	1: Create Outp	put Device Window
---------------------------------	----------------	-------------------

C Output Device Ed	다 Output Device Edit Goto Extras Utilities(M) System Help					
Ø Þ 🛛 I 😋 🤅	8 > 📙 8 8 😣 🗎 Hi Hi Sa ta La Sa 📰 🗾 🔞 🖪					
Spool Admin	istratio	n: Crea	ate Output Dev	vice		
₹. 🗷						
Output Device	Zebra	110Xi4		8	Short name	Z110
Description						
DeviceAttributes	a Access	Method	Output Attributes	Tray Info		
		V7D000	. Zahas lahat mintan 20	Quiu i		
Device Type		YZB200 Ctondord	: Zebra label printer 20	3dpi		
Authorization Grou	a					
	<u>r</u>					
Model						
Location						
Message						
🗌 Lock Printer in	SAP System					

8. Click the Access Method Tab (Figure 29.

Figure 29 • Spool Administration: Create Output Device Window Access Method Tab

⊡ Output Device Edit Goto Extr <u>a</u> s Utilities(M) System <u>H</u> elp
🖉 👂 🖪 🔇 🚱 🕒 🛗 🖧 🏝 🏝 🖓 🔛 🖉 🖉
Spool Administration: Create Output Device
Output Device Zebra 110Xi4 Short name Z110
Description
DeviceAttributes Access Method Output Attributes Tray Info
Host Spool Access Method F: Printing on Front End Computer
Host printerDEFAULT
No status information available

!

Important • For testing and demonstration purposes only, it is recommend that you use Front End Printing. For volume or mission-critical industrial printing, refer to *Access Methods* on page 41.

- **9.** To complete the configuration of the output device, perform the following:
 - **a.** Ensure Host spool access method is set as option F.
 - **b.** Type in **_____DEFAULT** for Host printer.
 - **c.** Click 📙 (Save).

Printing Terminology

Below is a detailed explanation of mySAP Business Suite printing terminology:

Output Device

This is the name of the print queue. You must also type in a short name; this is four characters.

Device Type

This is the name of the printer (device type) and could be YZB200. This selection will be based on printer resolution and Codepage/language.

Spool Server

This is the name of the server that will do the spooling. Use Browse to pick a server that has a spool process associated with it (if it doesn't have a spool server associated with it, it will be highlighted in red).

Access Methods

This field must be filled before host printer, although it is listed after it! This is the most important, and complicated, field for setup of print queues (output devices). Summaries of the options are below:

Access Method	Access Method Description				
	PC Front End Printing (requires SAPlpd running)				
F	Required if no HOSTNAME available, such as remote WAN printing to a standalone PC. It is recommended that this only be used for testing purposes.				
L	Local Unix lpd spooler (Print Queue)				
С	Local NT or AS/400 print manager				
	 Print Server (dedicated server such as UNIX or even a ZebraNet® 10/100) You can print direct to a print server such as a ZebraNet 10/100, but Zebra does not advise this if you will be printing from multiple clients simultaneously. When printing from multiple clients simultaneously, you must have a print queue setup. 				
U	See the example below: Access method U Host Printer PORTLF1 Destination Host Your Printers IP Address				
	server and this may be caused by flow control. Please use a print queue.				
U or S	PC with Windows® 95/98/NT4/2000 (requires SAPlpd running)				

Destination Host

(For example: the name of the target PC / print server)

This is not required for **F**-Front End Printing as the destination host is the client PC that the print request was made from (requires SAPlpd running).

For **U** or **S**, This must be the Host Name of the PC that will have SAPlpd running on it or the Host Name of a dedicated Print Server with print queue set up. The easiest way to determine the host name of a PC is to run SAPlpd and you will find it near the top of the start up window. SAPlpd can be started by selecting Start-> Programs-> SAP Frontend-> SAPlpd.

This parameter is not required for L or C as the local server is the destination host.

Host Printer

(For example: the name of the target print queue on a PC or print server)

When using **F**, **U** or **S** with SAPlpd, this could be "__DEFAULT" (underscore underscore DEFAULT) for the Default Windows printer or it could be the exact name of the printer not the share name, (that is, Generic / Text Only). This is the name listed in Windows->Start->Settings->Printers.

When using L or C, this is the long name of the printer; this is not the share name.

LPQ Format

This can be ignored.

Location

This is just an optional simple description/comment of where the printer is located.

Message

This is just an optional simple comment/message that you may wish to associate with the specific print queue.

SAP LPD

If you have chosen to use access method F, you will have to run SAPlpd on the local PC.

SAPlpd is a proprietary print server that runs on a PC taking input from the mySAP Business Suite server and sending it to printers on the local PC. The printers on the local PC MUST use a generic text driver.

SAPlpd can be started by selecting Start-> Programs-> SAP Frontend-> SAPlpd. You should see Figure 30.

Figure 30 • SAP LPD Window

🔛 Saplpd.log - SAPLPD	_ 🗆 🗵
<u>File Protocol Options Debug</u> Language <u>H</u> elp	
(14:20:56) Network Communication via SAP-NiLib	_
(14:20:56) Hostname: kens-home	
(14:20:56) IP Address: 195.112.185.240	-1
(14:20:56) TRACE: SncInit(): Reading configuration from 'SAPLPD.INI'.	
(14:20:56) TRACE: SncInit(): Reading configuration from 'WIN.INI'.	
(14:20:56)	
(14:20:56) SAPLPD Version 4.26 for Windows 98 (OPT) is listening	
[14:20:56] OS-Info: version = 4.10, build = 40A/1998, text =	
[14:20:56] Copyright © 1992-1999 SAP AG	
	▼

SAPlpd needs to be run on any PC that requires a Windows printer driver to be used with mySAP Business Suite. This is the case if you are using Generic Text drivers or full-blown Windows drivers.



Important • Zebra does not recommend using SAPlpd for volume or mission-critical industrial printing.

Page Size

Page Size specifies the physical size and orientation of an output page. SAP supplies predefined page formats and formats for all standard SAP*script* forms. If needed, you can create custom sizes that accommodate your application.

Portrait vs. Landscape

Portrait and Landscape refer to the shape of the form. Portrait is defined as the form being taller than it is wide. Landscape is defined as the form being wider than it is tall. A box with equal lengths is essentially in portrait **and** landscape mode. (Common practice is to use Portrait for this instance.)





4 Basic Smart Form Design

This section explains how to design a basic Smart Form.

Contents

Initial Setup
Disable PC Editor 46
Smart Styles—Planning for Smart Forms 48
Create the Bar Codes You Need 48
Create Smart Styles to Select Text and Bar Codes
Add a Bar Code to the Smart Style 54
Add Text Styles to the Smart Style 55
Create a Default Paragraph for the Header Data
Save the Smart Style
Laying Out the Smart Form
Map to Smart Style
Add Text and Bar Code Fields 65
Add Lines and Boxes
Add Logos/Graphics
Save and Activate the Smart Form 73

Initial Setup

Before starting to design your form, use the old editor for full screen editor operations within Smart Forms. This can be achieved as outlined below.

Disable PC Editor

1. Start the Standard Text: Request transaction by entering /nSO10 in the command line text box (Figure 31) located just below the menu bar of the current active window of mySAP Business Suite system.

Figure 31 • Command Line Text Box



2. Press Enter or click on the Checkmark 🧭 adjacent to the command line text box entry.

3. From the main menu, select Setting > PC Editor.

Figure 32 opens.

🖻 User-Specific Settings	
Transport Organizer SAPscript eCATT Proxy Generation	
Form Painter	
PC Editor Graphical PC editor	
 ✓ × 	

Figure 32 • User-Specific Settings Window

4. Ensure that both of the checkboxes in Figure 32 are unchecked.

Smart Styles—Planning for Smart Forms

Before starting to lay out your form, you must determine which text and bar code objects you will require. You actually need to build a collection of all of the derivatives of text and bar codes you will use within the Smart Form. All of these objects need to be created and collected within a Smart Style.

Bar codes are more complex, as you need to create the specific bar code derivatives that you will need; this is done with transaction /nSE73.

Text is relatively simple and does not normally require any additional management other than within Smart Styles.



Important • Before proceeding, Zebra strongly recommends that you read the chapter entitled *Advanced Form Design* on page 79.

The following procedure will create a Smart Style that uses the Font "HELVE" 12 point and 24 point. You will also use a Code 39 bar code with a height of 20 mm and a narrow bar width 0.25 mm (2 dots on a 203-dpi/8-dpm printer).

Create the Bar Codes You Need

To create bar codes, perform the following:

1. Execute Transaction /nSE73.



Figure 33 opens.

2. Select System Bar Codes and click 🥖 (Change).

☑ Font Maintenance Edit Goto Environment S	lystem Help	SAP
	1 3 4 4 3 1 4 6 6 6	
SAPscript Font Maintenance: In	nitial Screen	
Font Families System Fonts Printer Fonts S	ystem Bar Codes Printer Bar Codes	
Selection O Font Families O System Fonts O Printer Fonts O Printer Bar Codes Display Change		
TrueType-Font installieren		
		م//

3. Click (Create).

Figure 34 opens.

Figure 34 • Choose Bar Code Technology Window

📴 Choose Bar Code Technology	×
	New
New Bar Code Technology or	
Conventional System Barcode	Old
	🗙 Cancel

4. Click New (may appear as "Neu") to select New Bar Code Technology (Figure 34). Figure 35 opens.

📴 Create New System Bar Code 🛛 🛛 🖂		
Bar Code Name	C39_20	
Short text	C39 20mm high 0.25 narrow bar	
✓ ×		

Figure 35 • Create New System Bar Code Window

5. Enter in the bar code name C39_20 and the Short text of C39 20mm high 0.25 narrow bar (Figure 35) and press Enter.

Figure 36 opens.

Figure	36 •	Bar	Code	Symbology	Window
	••			•,	

🖻 Bar Code Symbology	\times
Supported Bar Code Symbologies:	
Code 39	
O Code 128	
O Interleaved 2of5	
O PDF 417	
O Code 93	
O RFID Gen2 tag	
 ✓ × 	

6. Select Code 39 as the Symbology (Figure 36) and press Enter. Figure 37 opens.

🔄 🖻 Bar Code Alignment? 🖂 🦯
Bar Code Alignment:
Normal
O Rotated
O Inverted
O Bottomup
✓ ×

Figure 37 • Bar Code Alignment Window

7. Select Normal as the Rotation (Figure 37) and press Enter. Figure 38 opens.

Figure 38 • Code39 Bar Code Parameters Window

🖻 Code39 Bar Code Parameters 🛛 🛛 🌶		
Narrow Module Width	06	
Mod-43 Check Digit	X	
Bar Ratio	30	
✓ ×		

- **8.** On the Code 39 Bar Code Parameters window (Figure 38), enter 6 for the Narrow Module Width.
- **9.** Enter 480 for the Linear Height.
- **10.** Leave the check digit enabled.
- **11.** Leave the ratio at 30.

12. Press Enter.

Figure 39 opens.

Figure 39 • Save Bar Code Definition Window



13. Click Yes to Save.

Figure 40 opens.

Figure 40 • Prompt for Workbench Request Window

🖙 Prompt for Workbench request			×
Table Contents TF	005		
Request	PVDK000254	Workbench request	
Short Description	Changed DPI Value to correct it		
🖌 🚱 🖪 🗋 Own Requests 🗶			

14. Depending on your SAP version, you may be prompted for a Workbench request (Figure 40), then press Enter.

Figure 41 opens.

Figure 41 • Information Window



15. Press Enter.

You have successfully created the New Technology-based bar code.

Repeat step 1 through step 15 for all bar codes that you will need.

Create Smart Styles to Select Text and Bar Codes

To create Smart Styles, perform the following:

1. Execute Transaction /nSmartStyles.



٦

2. Enter the Style Name ZZEBRA_SHIPPING and click (Create) in Figure 42.

Figure 42 • Smart Styles: Initial Screen

C Smart Styles Edit Goto Util	ities(M) System <u>H</u> elp	SAP
8 E	🔍 🖯 🕻 🚱 🚱 😫 🛗 🎝 🖓 🏷	
Smart Styles: Initial	Screen	
C 😥 🗊 🔺 🖧		
044-		
Style		
ଝିନ Display 🥖	Change Create	
		٩//

Add a Bar Code to the Smart Style

1. Select Character Formats from the tree, right-click, and then select Create Node (Figure 43).

다 Style Edit Goto Utilities System Help	
🖉 🔲 🖉 🤇	2 🛠 I 🗕 🖬 陆 12 12 A I 🕱 🗷 I 🖗 🖷
Change Mode : Style ZZEBRA	SHIPPING Language EN
🎾 🗗 🗋 🖻 🗭 🛅 🖿 🛅	
Description Image: Construction in the second se	Style ZZEBRA_SHIPPING Inactive/Not saved Description Style ZZEBRA_SHIPPING Inactive/Not saved
Paragraph Formats Character Formats	Standard Settings Administration
	Standard Paragraph Characters per Inch 10.00 Tab Stop 1.00 CM I Lines per Inch 6.00 Standard Formats Allowed Standard Formats Allowed Standard Formats Allowed
	Font COURIER Courier Font Size 12.0 pt Font Siyle
	Underlined
	Preview Style ZZEBRA_SHIPPING
	۹ <i>//</i> //

Figure 43 • Change Mode Window

Figure 44 opens.

Figure 44 • Create Node Window

🔄 Create Node	⊠ ∕
Character Format	C3
 ✓ × 	

2. Enter C3 as the Character Format and press Enter. Figure 45 opens.

Figure 45 • Change Mode Window

문 Style Edit Goto Utilities System Help				
Change Mode : Style ZZEBRA_SHIPPING Language EN				
Description ♥ Style ZZEBRA_SHIF Style ZZEBRA_SHIPPING ● Header Data ▶ Paragraph Form ♥ Character Form: ♥ C3 Code 39 20mm High 0.2	Character Format C3 Description Code 39 20mm High 0.25 Narrow Standard Settings Font Effects Superscript Subscript Subscript Bar Code C39_20 Name C39_20 C39 20 MM Height 20.00 MM			

- 3. Enter the Description Code 39 20mm High 0.25 Narrow.
- **4.** Select C39_20 as the Bar Code (created in /nSE73).

Repeat step 1 through step 4 for all bar codes that you wish to add to the Smart Style.

Add Text Styles to the Smart Style

 Select Character Formats from the tree, right-click, and then select Create Node. Figure 46 opens.

Figure 46 • Create Node Window

🔄 Create Node	×
Character Format	TS
✓ ×	

2. Enter TS (Text Small) as the Character format and press Enter. Figure 47 opens.

I⊂ Style Edit Goto Utilities System Help					
	😒 🖵 🛗 🛗 🏝 🗅 🖧 🐹 🕖 😨 🖪				
Change Mode : Style ZZEBRA_S	HIPPING Language EN				
🤊 🗗 🗋 🖻 🖗 🗂 🖻 🎦					
Description Style ZZEBRA_SHIF Style ZZEBRA_SHIPPING Header Data Paragraph Form Character Form:	Character Format TS Description HELVE 12pt Standard Settings Font				
國 C3 Code 39 20mm High 0.2 國 TS HELVE 12pt	Font Family HELVE Helvetica Font Size 12 pt Font Style Image: Style Image: Style Underlined Image: Style				
	Color				

- 3. Enter HELVE 12 pt in the Description field.
- 4. Click the Font Tab. Figure 48 opens.

Figure 48 • Change Mode Window

도 Style Edit Goto Ut	tilities S <u>y</u> stem <u>H</u> elp			
Ø	🗈 🔄 📙 I 😋 🚱	😵 🖴 🎁 陆 約 約 🕰) 🕄 🔣 🖉 I 😨 📑	
Change Mode :	: Style ZZEBRA_S	HIPPING Language	e EN	
🎾 🗗 🔭 🗋 🗎	þ 🖬 🖪 🔁			
 ✓ C Style ZZEBRA_SHI ✓ Header Data ▷ Paragraph Form ✓ Character Form ☑ C3 ☑ TS 	Description F Style ZZEBRA_SHIPPING m n: Code 39 20mm High 0.2 HELVE 12pt	Character Format TB Description HELVE Standard Settings Font Family	E 24pt	
В ТВ	HELVE 12pt Left Justifica	Font Size Font Style Underlined Color	24 pt	

- 5. Select HELVE as the Font family (CG triumvirate bold condensed for ZLZEBx).
- **6.** Select 12 point as the point size.
- 7. Repeat step 1 through step 6 for 24 Point and call it TB (Text Big).

Create a Default Paragraph for the Header Data

C Style Edit Goto Litilities System Heln	
	3 H H I 2 2 A A I 🕱 🛛 I 🖗 🖪
Change Mode : Style ZZEBRA_SHIPF	PING Language EN
🎾 🚰 🚹 🗋 📾 陀	
Description ✓ □ Style ZZEBRA_SHIPPING □ Header Data □ Paragraph Formats ✓ □ Character Timats □ C3 □ C3 □ HELVE 12pt □ □ □	Character Format TS Description HELVE 12pt Standard Settings Font Effects Superscript Subscript Bar Code Name Width 0.00

Figure 49 • Change Mode Window

 Select Paragraph Formats from the tree, right-click, and then select Create Node. Figure 50 opens.

Figure 50 • Create Node Window

🔄 Create Node	⊠ ∕
Paragraph Format	LJ
✓ ×	

2. Enter LJ (Left Justification) as the Paragraph format and press Enter. Figure 51 opens.

它 Style <u>E</u> dit <u>G</u> oto <u>U</u> tilities System <u>H</u> elp	SAP
	24.0 A 🕱 🖪 I 🖗 🖪
Change Mode : Style ZZEBRA_SHIPPING Lan	iguage EN
🦻 🚰 📘 🖻 🗭 🗂 🖿 🎦	
Description Image: Style ZZEBRA_SHIPPING Style ZZEBRA_SHIPPING Image: Header Data Image: Style ZzeBRA_SHIPPING Image: Paragraph Formats Image: Style ZzeBRA_SHIPPING Image:	Style ZZEBRA_SHIPPING Active/Saved Description Style ZZEBRA_SHIPPING Standard Settings Administration Standard Paragraph LJ Characters per Inch Tab Stop 1.00 CM Standard Formats Allowed Innes per Inch 6.00 Font COURIER Courier Font Size 12.0 pt Font Style Image: Standard Style Image: Standard Style Underlined Image: Standard Style Image: Standard Style
	٩ ///

Figure 51 • Change Mode Window

3. Enter LJ (Left Justification) as the Paragraph format and press Enter. Figure 52 opens.

Figure 52 • Change Mode Window

다 Style Edit Goto Utilities System Help	
S 4 🖬 S 3 8 1) H) H) 42 42 43 1 🕱 🗷 1 9 🗳
Change Mode : Style ZZEBRA_SHIPP	ING Language EN
🎾 🚰 👔 🗋 🐚 🕅 🎦	
Description Description Style ZZEBRA_SHIPPING Header Data For Particular Formate	Paragraph Format LJ Description Left Justification
✓ Grang approximats ☑ L ✓ □ Charaster Formats	Indents and Spacing Font Tabs Numbering and Outline
図 C3 Code 39 20mm High 0.2 図 TS HELVE 12pt	Alignment Left-aligned
	Indent Left Margin CM Indent First Line Right Margin CM Indent First Line
	Spacing Space Before CM Interspacing Space After CM Interspace Text Flow Page Protection Next Paragraph Same Page Next Paragraph Same Page

4. Use the default setting—you do not need to change any other settings for the Paragraph Format. Double-click on Header data.

Figure 53 opens.

도 Style Edit Goto Utilities System Help						
8 I	ଏ 📙 ᢗ⊂ 🙆 😡 🞚) 🖬 🕼 🍄 🗅 🖧 🕱 🖉 📲				
Change Mode : Styl	e ZZEBRA_SHIPP	ING Language EN				
🎾 🗗 🔭 🗋 🗎						
Style ZZEBRA_SHIPPING	Description Style ZZEBRA_SHIPPING	Style ZZEBRA_SHIPPING Description Style ZZEBRA_SHIPPING	Active/Not saved			
 ✓ ❑ Paragraph Formats □ U □ Character Formats □ C3 	Left Justification Code 39 20mm High 0.2	Standard Settings Administration	rsperinch 10.00			
國 TS	HELVE 12pt	Tab Stop 1.8 CM E Lines pe	r Inch 6.00			
		Font COURIER Courier Font Size 12.0 pt Pt Font Style Image: Style Image: Style				
		Underlined Color				

Figure 53 • Change Mode Window

5. Select LJ for the Standard Paragraph.

Save the Smart Style

1. Click 📙 (Save).

Figure 54 opens.



E Style Edit Goto Utilities System Help						
	😧 🕼 🔛 🖄 🛱 & A A I 🛒 🗖 I 🖗 📲					
Change Mode : Style ZZE_RA_SHIPPING Language EN						
🎾 🗗 🕨 🗋 🖿 🖻 🖿						
Description	Style ZZEBRA_SHIPPING Inactive/Not saved Description Style ZZEBRA_SHIPPING					
	Standard Settings Administration					
Ciaracter Formats C3 C3 Code 39 20mm Hi ELVE 12pt	Standard Paragraph L Characters per Inch 10.00 Tab Stop 1.00 CM Lines per Inch 6.00					
	Standard Formats Allowed					
	Font COURIER Courier					
	Font Style					
	Underlined					
	Preview					
	Style ZZEBRA_SHIPPING					

- 2. Click Local object
- **3.** From the main menu, select Style > Activate.

You have successfully created and activated your Smart Styles.

Laying Out the Smart Form

- **1.** Start the Smart Forms transaction by entering /nSMART FORMS in the command line text box located just below the menu bar of the current active window of mySAP Business Suite system.
- **2.** Press Enter or click on the Checkmark 🧭 adjacent to the command line text box entry.

١

3. Enter the name ZZEBRA_FORM as the Form and click (Create). Figure 55 opens.

SMARTFORMS

C Smart Forms Edit Goto	Utilities(M) System <u>H</u> elp	SAP	
Ø	1 4 日 6 6 8 日 出 出 2 5 5 5	3 19	
SAP Smart Forms	: Initial Screen		
● Form	ZZEBRA_FORM		
O Style			
O Text Module			
🚱 Display 🥖	Change Create		
			-
			4 //

Figure 55 • SAP Smart Forms: Initial Screen

Map to Smart Style

To map the Smart Style to this Form, perform the following steps:

1. Double-click on Form Attributes (Figure 56).

Figure 56 • SAP Form Builder: Change Form Window

Form Edit Goto Utilities Environment Syst	em Help	
SAP Form Builder: Change Forr	n ZZEBRA_FORM	
🎾 🚰 🏋 🕮 🔚 🛅 🔝 🗠 🔛 🔿 For	n Painter	
♥	Form ZZEBRA_FORM Active Description New Form General Attributes Output Options Created by C5115573 Changed by C5115573 Date 20.07.2010 Date 21.07.2010 Time 19.16.58 Time 20.10.48 Package \$TMP Language EN Translate Access O Into All Languages O O Into Selected Languages Image O Do Not Translate Only Process Installed Languages	Image: Second

Figure 57 opens.

- **2.** In the SAP Form Builder: Change Form window, do the following:
 - **a.** Click the Output Options Tab.
 - **b.** Enter ZZEBRA_SHIPPING as the Style name.

다 Form Edit Goto Utilities Environment Sys	tem <u>H</u> elp		
🖉 📄 4 📙 😋 🤂	R 🛛 🖓 🕹 🕸 🕂 🖓 🗮 🕄 🖓 📲		
SAP Form Builder: Change For	m ZZEBRA_FORM		
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Figure 57 • SAP Form Builder: Change Form Window

3. Click on the Main window, and then click on the Output Options Tab (Figure 58), if not already active.

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Figure 58 • SAP Form Builder: Change Form Window

- 4. Change the Left margin and Upper margin to 0 (Zero).
- 5. Change the Width and Height to that of the Label Size.



Note • It is safer (and will prevent SAP from automatically moving fields) to ensure that this is bigger than the actual label.

Add Text and Bar Code Fields

1. Right-click on MAIN Main window tree (Figure 59) to open the submenu.

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Figure 59 • SAP Form Builder: Change Form Window

2. From the submenu, select Create > Window. You will create a separate window for each field in the Main Window. The Main Window is the layout for the Label.

3. Right-click on %Window1 New Window tree.

Figure 60 opens.

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Figure 60 • SAP Form Builder: Change Form Window

4. Select Create > Text.

- **5.** In the SAP Form Builder: Change Form window, do the following:
 - **a.** Click the General Attributes Tab, if needed.

Figure 61 opens.

b. Select Editor **2**.

Figure 61 • SAP Form Builder: Change Form Window

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SAP Form Builder: Change Tex	t %TEXT1	
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Figure 62 opens.

6. Enter &SYST-DATUM& in the Text Editor box to add the System Date.

Figure 62 • Change Smart Forms Text Editor Window

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		7. C	lick 🚱	(Back)	to exit the	e Text E	ditor. a	and the	en click		Save)		

Repeat step 1 through step 7 for each field you need to add.



Important • Remember to create a separate Window with a separate Node for Each Field (otherwise, they will all align under each other).

Add Lines and Boxes

1. Right-click on the MAIN Main window tree to open the submenu (Figure 63).

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Figure 63 • SAP Form Builder: Change Form Window

- 2. From the submenu, select Create > Window. Figure 64 opens.
- 3. From the SAP Form Builder: Change window, do the following:
 - **a.** Click the Output Options Tab.
 - **b.** Enable the Lines With checkbox.

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SAP Form Builder: Change Win	dow %WINDOW2	
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Global Definitions C Pages and Windows C % PAGE1 New Page	General Attributes Output Options Conditions Position and Size	
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	(v≫ = not meet) ✓ Always Draw Box and Shading	

Figure 64 • SAP Form Builder: Change Window

- **c.** In the Width field, enter the point size of the desired line width.
- d. Enable the Always Draw Box and Shading checkbox.
- **e.** In the Saturation field, enter 100 for a solid box (leave as blank or 0 for lines or boxes).



Note • You need to create a separate Window for each box you wish to draw. You can also draw boxes around any existing Window used for text, bar codes or graphics.

For Text Reversing, select the Output Options Tab of the Text Node and not the window.

See Lines and Boxes on page 80 for more information.

Add Logos/Graphics

1. Right-click on MAIN Main window tree to open the submenu (Figure 65).

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Figure 65 • SAP Form Builder: Change Window

- From the submenu, select Create > Window.
 You may want to move / position the window.
- **3.** Right-click on the window you just created.
- **4.** From the Create menu, select Graphic. Figure 66 opens.



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Figure 66 • SAP Form Builder: Change Graphic Window

Figure 67 opens.

6. Click \bigoplus (Execute) or press F8.



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Name Black and White Bitmap Image Color Bitmap Image	■ SAP LOGO + TRA	DEMAI to	¢
Graphic object Graphic ID	GRAPHICS BMAP	to to	<u></u>
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Figure 68 opens.

7. Double-click on the logo you require (for this example, use SAP LOGO + TRADEMARK).

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Figure 68 • Find Graphic Window

Figure 69 opens.

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Figure 69 • SAP Form Builder: Change Graphic Window
Save and Activate the Smart Form

1. Click [] (Save) (Figure 69). Figure 70 opens.

Figure 70 • Create Object Directory Entry Window

🗁 Create Object Directory Entry	⊠ /
Object R3TR SSF0 ZZEBR	A_FORM
Attributes	
Development class	<u>\$TMP</u>
Person responsible	KMOIR
Original system	DM1
Original language	EN English
Local object 🙎 Lock overview	

- 2. Click Local object (if prompted).
- **3.** From the Main Menu, select Form > Activate.

Notes •	 	 	 	

5 Test Printing

This section covers test printing from Smart Form to an Output Device / Print Queue.

Contents

Test Printing from Smart Forms to an Output Device / Print Queue

To do a test print directly from Smart Forms, perform the following:



Important • Please ensure that the form you test print with has been designed for your device. Do not try and print a form that has been designed with "HELVE" on an ANDALE Unicode Device type (zlzebuX).

1. Open the form you wish to print (/nSmart Forms). Type in the Form Name and click (Change).

Figure 71 opens.

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Figure 71 • SAP Form Builder: Change Graphics Window

2. Click (Test) or press F8.

Figure 72 opens.



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Function Module /18CDWB/SE00000303
🗞 Display 🥖 Change 🗋 Create

3. Click (Test) or press F8. Figure 73 opens.

Figure 73 • Test Function Module: Initial Screen

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4. Click 😔 (Execute) or press F8.

Figure 74 opens.

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OutputDevice ZPL200			
Page selection			
Spool Request			
Name SMART C5115573			
Title			
Authorization			
Spool Control	Number of Copies		
Print immediately	Number 1		
Delete After Output	Group (1-1-1,2-2-2,3-3-3,)		
Vew Spool Request			
Close Spool Request	Cover Page Settings		
Spool retention pd 8 Day(s)	SAP cover page Do Not Print		
Storage Mode Print only	Recipient		
	Department		
Print C Print preview 🔀			

You must enter/edit the following fields:

- **Output device:** Enter the name of the print queue.
- **Print immediately:** Ensure this is checked.
- **Delete after print:** Ensure this is checked.
- New Spool request: Ensure this is checked.
- **5.** Click **Print** . If the print was successful, the Zebra printer will print out your form.



This section provides information on more advanced programming techniques.

Contents

Smart Forms
Field Positioning—X, Y Coordinates 80
Lines and Boxes
Text Objects
Western European—IBM CodePage 850 81
International Printing (EMEA Only)—Unicode™
Global International Printing including APAC—Unicode
Text Reversing
TrueType Fonts
Download a TTF Font to Zebra Flash Memory
Modify the Zebra SAP Device Type 83
Font Licensing (TTF) / Disclaimer 84
Logos/Graphics
Resident Graphics in Smart Forms 85
Uploading Graphics into Smart Forms
Printer Resident Bar Codes (Flash Memory) 85
Printer Settings
Bar Codes
Printer Bar Codes
System Bar Codes
New Technology—System Bar Code
Unsupported Bar Codes / New Symbologies

Smart Forms

Smart Forms was originally developed for Form and Report design, not labels. Smart Forms can be successfully used to design labels on high performance bar code label printers, but you need to be aware of the tips and tricks not documented within the original Smart Forms manuals.

Field Positioning—X, Y Coordinates

Labels normally use a field concept whereas Smart Forms use a Page Window style of design. Label fields normally have a fixed origin whereas text in forms is much more dynamically positioned.

Zebra recommends that you make a separate window for each field on the label. Each window should then have an associated node (text, bar code or logo). Multi-line text fields may all be tied to a single window. The reason for this is the location of each window specifies the fields (Nodes) X and Y co-ordinates.

All of these fields must be inside the main windows. please ensure that your main window is large enough! It is good practice not to associate any nodes with the main window.

Lines and Boxes

Lines and boxes are drawn, as with any Smart Form, via drawing a new window, selecting the Output Options Tab and then entering a point size for the box and shading options.

Reverse boxes, for text reversing, can be enabled by using the ^LRY command in the printer settings node S_LZPL_SETUP. See *Printer Settings* on page 86 for more information.



Note • Ensure that you have the Always draw box and shading checkbox checked in the Output Options of your windows. The Grey Value must be 0 (hollow) or 100 (solid).

Text Objects

Smart Forms supports Zebra preloaded printer-resident scaleable fonts. It also supports TrueType font downloading and TrueType fonts stored in Zebra printer Flash memory. It is strongly recommended that you use printer-resident fonts for simplicity and maximum printer throughput.

Western European—IBM CodePage 850

You will normally design your forms/labels for Zebra printers using the SAP "HELVE" font. This font maps to Zebra's printer-resident CG Triumvirate bold condensed (IBM Codepage 850) when using device type ZlbzebsX.pri (X=2,3 or 6).

International Printing (EMEA Only)—Unicode™

SAP "HELVE", "HELVECYR" (Cyrillic) and "HELVE_I7" (Greek) can also be used for international printing using Zebra's ZlbzebsX.pri (X=2,3 or 6) device type. This Unicode UTF-8 device type maps to Zebra's printer-resident Swiss 721 font. This is preloaded on all printers shipped in EMEA. This font is available for download FOC for other countries if required. This will allow you to print local languages using Unicode (UTF-8) even on non-Unicode SAP systems.

Global International Printing including APAC—Unicode

SAP end users wishing to print Asian characters on Zebra printers must use the SAP font ANDALE_J (Japanese), ANDALE_K (Korean), ANDALE_S (Simplified Chinese) or ANDALE_T (Traditional Chinese) with the Zebra Device Type ZlbzebuX.pri (X=2,3 or 6) and the corresponding optional matching font card available from Zebra. Refer to the section on device types at the beginning of this document for more information. This will allow you to print local languages using Unicode (UTF-8) even on non-Unicode SAP systems.

Text Reversing

Text reversing is supported via Solid Boxes. Refer to *Lines and Boxes* on page 80 and also *Printer Settings* on page 86 for detailed information.

TrueType Fonts

Smart Forms allows users to upload TrueType fonts and then use these fonts for the form/label design (See OSS Note 201307). TrueType fonts are uploaded using transaction SE73; see Figure 75.

Font maintenance Edit Goto
SAPscript Font Maintenance: Initial Screen
Font families System fonts Printer fonts System bar codes Printer ba
 Font families System fonts Printer fonts System bar codes Printer bar codes Display Change
TrueType-Font installieren

Figure 75 • SAPscript Font Maintenance: Initial Screen

For detailed information on how to upload a TrueType font, refer to OSS Note 130658.

In the case of ZPL II printers, this font is automatically downloaded to the printer at the beginning of the print run as an IBM Codepage 850 scaleable font, and then deleted at the end of the print run. It is also possible to tell the printer device type that the TTF is permanently stored in printer Flash memory and therefore does not need downloading. If downloading performance or network traffic is an issue, Zebra strongly advises that you use a printer-resident scaleable font or store the TTF on the printer's Flash memory.

Download a TTF Font to Zebra Flash Memory

- **1.** You should store the Font on **E:** or **B:** (Flash) not **R:** (RAM).
- **2.** Download Zebra ZToolsTM utility from http://www.zebra.com.
- **3.** Install, Run and select Convert > Unbound TT.

Figure 76 opens.

Convert Unbound TrueType			
	Arial (UNBOUND TT)		
Source	ARIAL Browse		
Destination	ARIAL Convert		
ZPL Name	B ARIAL Exit		
	Help		

Figure 76 • Convert Unbound TrueType Window

4. Please ensure that the name uses no more than 5 characters. (ZTools support 8 characters, but SAP has a 5-character limitation.)

This will create a file with the extension of ZSU. In the case of Arial, this would be Arial.ZSU. You then must download this to the printer.

Modify the Zebra SAP Device Type

- **1.** Select Transaction SE73 (Printer Fonts) and click 🥖 (Change).
- **2.** Scroll down and double-click on the target device type. (This must be one of the IBM Codepage 850 device types Zlzebx (x=2, 3 or 6.)
- **3.** Double-click on the TrueType font (for example, ZArial).
- **4.** Enter the name of the font that you downloaded to the printer (for example, ARIAL—do not specify the memory location).

Font Licensing (TTF) / Disclaimer

It is the responsibility of the end users to ensure that they comply with the font licensing requirements provided by the owners of such fonts. Any fonts stored in the Flash memory of Zebra printers may require licensing from the font vendor. This applies to fonts converted using ZTools, fonts downloaded via ^DY or fonts copied directly onto CompactFlash® memory cards.



Important • Windows Core Fonts require licensing from Agfa Monotype Corporation before they can be stored in the Flash memory of any Zebra printer as a permanent printer resident font. Arial Unicode MS requires licensing from Microsoft Corporation before it can be stored in the Flash memory of any Zebra printer as a permanent printer resident font.

Logos/Graphics

The Zebra printer driver:

- converts colored bitmap graphics to monochrome (black/white) graphics
- imports the monochrome graphics into Smart Forms
- justifies graphics (left, center, right)
- will not convert monochrome graphics

To improve or retain picture quality, Zebra recommends that you manually convert colored bitmaps to monochrome graphics using a graphics program to avoid any picture quality deterioration.

Resident Graphics in Smart Forms

During the import to Smart Forms, you have the option to flag a bitmap graphic as "resident". Once flagged, the printer driver saves the graphic in the printer's RAM (specifically, the "R:" device of the Zebra printer). At the end of the spool request, the driver deletes the graphic from the printer's RAM to free up all available memory.



Note • Resident graphics can be a faster method of printing labels from Smart Forms. However, this speed is only realized when a single label containing the resident graphic is printed repeatedly within a given spool request.

Uploading Graphics into Smart Forms

Transaction SE78 can be used to upload logos. You can also run program **RSTXLDMC** from transaction /nSA38.

Printer Resident Bar Codes (Flash Memory)

The only way to support graphics stored in the printer's Flash memory is to recall the object with a direct ZPL II command. This could be done very simply with the **S_LZPL_SETUP** command node (see *Printer Settings* on page 86) or alternatively by creating a custom Printer Bar Code or print control (see *Printer Bar Codes* on page 89).

Printer Settings

Command Nodes allow you to set printer specific settings from within individual Smart Forms. Each Smart Form may have different settings associated with it. This means that you can have a Smart Form set the printer's darkness (burn temperature) and print speed (as well as many more settings).

1. Command Nodes are set by selecting a page Windows, right-click over the tree structure, and then select Create > Flow Logic > Command.

Figure 77 opens.

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Form interface				
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	Parameter for	spool settings		
	S LZPL SETI	JP SPD '10'		
	S_LZPL_SET	JP_MD '20'		

Figure 77 • SAP Form Builder: Change Command Window



Important • The 78 II commands must be entered in the command node using quotation marks.

Description	Command Node	Supported Values
Human Readable	S_LZPL_HR S_LZPL_HR1 S_LZPL_HR2 S_LZPL_HR2	System Bar Code Style Name
Print Speed (^PR)	S_LZPL_SETUP_SPD	Supports: 2,3,4,5,6,8,9,10,11,12
Media Tracking (^MN)	S_LZPL_SETUP_MTR	N = Continuous Y = Non-Continuous W = Web Sensing M = Black Mark Sensing
Media Type (^MT)	S_LZPL_SETUP_MT	D = Direct Thermal T = Thermal Transfer
Print Mode (^MM)	S_LZPL_SETUP_PM	T = Tear off R = Rewind P = Peel Off C = Cutter
Top Position (^LT)	S_LZPL_SETUP_TP	Range is: -120 to 120
Tear Off Position (~TA)	S_LZPL_SETUP_TO	Range is: -120 to 120
Media Darkness (^MD)	S_LZPL_SETUP_MD	Range is: -30 to 30
Generic commands	S_LZPL_SETUP	Any ZPL-II Command

Table 1 • Supported Command Nodes



Important • If the System Bar Code name used in the Smart Style is entered against S_LZPL_HRx (x=1 to 3), then the Human Readable will be enabled for that specific object (only human readable below the bar code is supported).

Other ZPL II commands can be added via Printer Bar Code Objects, that is, a circle, box with rounded corners, RF-ID field or a ZTools bar code! This is also useful for enabling box reversing to support reverse text via using the command ^LRY.

Bar Codes

Bar Codes are managed via transaction /nSE73.

Figure 78 opens.

Font maintenance Edit Goto
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Font families System fonts Printer fonts System bar codes Printer
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System bar codes
 Printer bar codes
Display Change
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Individual bar code types need to be created for each flavor of bar code. A Smart Style then needs to be created to include bar code types for each Node. The first step is to create/configure printer bar codes or system bar codes.

Printer Bar Codes

Printer bar codes are bar codes that are specific to a specific printer. These bar codes actually have the commands and parameters hard coded for each separate bar code symbology and derivative. This is known as SAP's old bar code technology. You will also need to create new printer bar codes if you wish to change any parameters such as ratio, narrow bar width, or height. You should try and avoid this old technology, if possible. (See Figure 79.)

Figure 79 • SAPscript Font Maintenance: Maintain Print Control Window

System Bar Codes

System bar codes can either use the old bar code technology and use a specific printer bar code based on the device type selected, or alternatively use the new bar code technology. (See Figure 80.) Zebra recommends that you use new technology, if possible, as this has the following advantages:

- Does not require the creation of printer bar codes for every single possible device type being used.
- Does not require knowledge of the printer's command language.
- You can preview the bar code (SAP NetWeaver 04 onwards).
- This can also be rendered on non-Zebra printers (although as a graphic)

Figure 80 • Choose Bar Code Technology Window

🔄 Choose Bar Code Technology	⊠ ∕
	New
New Bar Code Technology or	
Conventional System Barcode	Old
	🗙 Cancel

You will have to create a separate system bar code for separate styles. This means that a separate system bar code, based on new technology, would have to be created for all derivatives of rotation, height, narrow bar width, ratio and check digits, etc. You would then include all of the bar codes you need for your form within a Smart Style (/nSmartstyles).

New Technology—System Bar Code

This new rendering technology was actually developed by Zebra Technologies Corporation and licensed to SAP AG. These new bar codes are rendered as graphics using Zebra's Bar Code Rendering Library in the kernel of mySAP Business Suite. PCL, PostScript and Prescribe printers receive the graphic as a bitmap. Zebra printers receive the graphic as a ZPL II command, ensuring maximum performance and data validation.

📴 Create New Syste	m Bar Code	×
Bar Code Name	Newbar	
Short text	New Barcode	
 ✓ × 		

Figure 81 • Create New System Bar Code Window

Figure 82 • Bar Code Symbology Window

🖻 Bar Code Symbology	\times
Supported Bar Code Symbologies:	
● Code 39 ○ Code 128	
O Interleaved 2of5	
O PDF 417	
O Code 93	
O RFID Gen2 tag	
 ✓ X 	



Figure 83 • Bar Code Alignment Window

Figure 84 • Code39 Bar Code Parameters

🔄 Code39 Bar Code Pa	rameters	\times
Narrow Module Width	06	
Linear Height	00150	
Mod-43 Check Digit	X	
Bar Ratio	30	
✓ ×		



Important • The bar code parameters of Linear Height and Module Width (Figure 84) are entered at a resolution of 600 dpi independent of the resolution of the target printer. This means that a bar code height of 120 would print 10 mm on a 203-, 300- or 600-dpi printer.

For more information on this New Technology, see OSS Note 430887.

Unsupported Bar Codes / New Symbologies

You can create new or custom bar codes by creating a Printer Bar Code and create a System Bar Code using Old Technology that refers to the Printer Bar Code. This mechanism lets you create an object that has ZPL II associated with it. You could use this feature to create any object or ZP II command. Examples of this could be:

- Creating a MaxiCode bar code
- Drawing a circle or ellipse and having it come out as ZPL II (not a graphic)
- Boxes with rounded corners (via ZPL II)
- Reversed text (White on a black background)
- Recalling a graphic that is stored in Flash memory



A Resources



This section provides additional resources.

Contents

Zebra Technologies Web Site	94
SAP Developer Network	94

Zebra Technologies Web Site

Visit the Zebra Technologies SAP Web site to keep up to date on bar code printing and RFID solutions for SAP End Users:

http://www.zebra.com/sap

SAP Developer Network

Additional Smart Forms information can be found by visiting the SAP Developer Network web site at:

http://www.sdn.sap.com

Refer to SAPnet notes 750002 and 750772.



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