

SAP

Working with Smart Forms and other Transactions



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Carl Valentin is a Silver Member of the SAP Printer Vendor Program and under this program renders support for machine types as provided and the ABAP-PDL driver.

This documentation is an integral part of this support.





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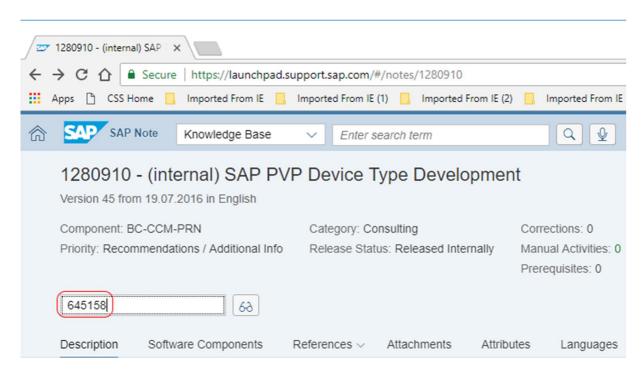
1 Introduction

1.1 Notes

There are various note numbers e.g. (SAP note 1280910) in the following descriptions.

These note numbers can be used in the SAP system to display internal documentation. In the following link, Number is to be replaced by the number of the note.

https://launchpad.support.sap.com/#/notes/Number



1.2 SAP – First steps

This documentation indicates the various steps needed to build simple forms (labels). Specific applications such as the database link and the use, for instance, of functions can be taken from the corresponding SAP instructions. They are not handled here.

All formats and implementation of barcodes and type fonts etc. have been tested on the basis of the SAP test provision (SAP note 1280910) and own forms.

The implemented type fonts are oriented to those available in the printers and in their size have been adapted to a Microsoft Word comparative print-out (on Kyocera laser printers). This explains why minor variations may arise compared to the printing review in SAP.

SAP

1.3 Restrictions

The Carl Valentin ABAP-PDL driver does not support the following features:

- Print Controls (unnecessary, POSS formats
- ABAP list preparations
- Duplex
- Shaft selection
- SAP icons and symbols
- Filled-in boxes with various grey values
- Underlined text
- Datamatrix (manual switch-over of the encoding)
- Any TrueType fonts
- RFID
- SNMP
- Interactive forms

1.4 Basic considerations prior to logging onto PVD

SAP Logon 750					_	. 🗖	×
V <u>a</u> riable Logon	<u>N</u> ew Item	Change Item	<u>M</u> ore √		Explorer View		\sim
		Connections		Ę	Filter Items		
Favorites			 System 			SID	
Shortcuts			JBL Custom	ner mes	ssage processing		
Connections		PVD				PVD	-

The language must be selected when logging on, e.g. EN for English and DE for German.

🔄 User System	<u>H</u> elp	
Ø	× « 📃	
SAP		
New password		
Client	100	Information
User		PVD - Printer Vendor program Development System Send questions to: print@sap.com
Password	******	
		System is installed and supported by
Logon Language	EN	SAP Hosting PSS Development

On opening or building a form, the language with which work is normally undertaken should be

selected. After all, it may not be possible under certain circumstances to print a form under DE if built in EN since no text information is available. The form would remain blank.

Although the original language is displayed on the form and is to be translated into all or selected languages, this does not work in practice. The content of the other language is either blank or is being printed in the original language.

Language Attri	outes	
Language	EN	
Translate		
 Into All La 	inguages	
○ Into Selected Languages		1
O Do Not Translate		

SAP

1.5 Building or opening the form

/o SMARTFORMS is to be selected as the transaction.

🕞 Smart Forms Edit Goto Util	ties S <u>y</u> stem	<u>H</u> elp			
📀 /o SMARTFORMS 🗸 🐇	@ (2)	3 🕆 H	A 000	1	😯 🐎
SAP Smart Forms: Initial Scr	en				
Co 🔩 💼 🗣					
• Form			p		
) Style					
O Text Module					
6ô Display 🧪 Chan	je	Create			
SAP S	MART	FORME	5		

The name of an existing form to be opened can be entered here and opened with Display.

On the other hand, if a new form is to be built, then continue with *Create*.



A blank form is displayed.

Firstly, three particulars are wanted here: The Page format, the Style and the Output.

SAP Form Builder: Change	Form ZCV_TEST6		
🤌 🚑 🥕 획 🛅	📉 🥂 🚔 🗭 For	rm Painter	
Form V 💼 ZCV_TEST6 V 💼 Global Settings • 🖹 Form Attributes	Description New		Inactive
 Form Interface Global Definitions Pages and Windows %PAGE1 New Page 	General Attributes Page Format	DINA4	
	Characters per Inch	10,00	
	Lines per Inch	6,00	
	Style	SYSTEM	

SAP Form Builder: Change P	age %PAGE1	L			
🦻 🚑 🎽 🖬 🛅	N (2 N	Form Pa	ainter		
Form	Page	age %PAGE1			
ZCV_TEST6 Global Settings	Description	Description New Page			
 Form Attributes Form Interface Global Definitions Pages and Windows 	General Attr		tput Options	Backgroun	d Picture
> MPAGE1 New Page	Page Format DINA4) Portrait Forma) Landscape For	t Print	urce Name mode	



Select either \$TMP or local if a form is to be saved at a later stage.

SAP

Introduction

Given that a completely new form size is to be created, make use of the notes further down in the *Create new form sizes*.

It is easy to select an existing form size. To this end, click into the corresponding input box and then in the output box behind it.

General Attributes	Output Options
Page Format	DINA4



NOTE!

A text can be directly entered in most of the input boxes. In many cases an extra button

appears behind the box with which a selection list can be opened:

🔄 Spool: P	age forn	nat (2	2) 52 E	Intries	found	_ × _
Restricti	ons					
				∇		
📀 🗖 H		۵	0 膏	▲ 		
Format 📍	Width	Unit	Height	Unit		
A5	00148	ММ	00210	ММ		^
ANY	00999	MM	00999	MM		~
DINA3	00297	MM	00420	MM		
DINA4	00210	MM	00297	MM		
DINA5	00148	MM	00210	MM		
DLLETTER	00279	MM	00215	MM		
EXECUTIV	00184	MM	00266	MM		
FORMDISP	00175	CM	00175	CM		^
INCH11	01008	РТ	00792	PT		~
52 Entries	s found					1/



NOTE!

It makes a difference as to whether A5 or DINA5 is used. You obtain a printed error notification if the format is not present in the device type.

2 Defining fonts to be used

Any type fonts to be used in a form firstly need to be defined in a style sheet. For this, *Character formats* are defined of applicability in each instance for a type font and font size.

2.1 Style Editor

The following step opens the Style Editor:

/o smartstyles

Either a new or an existing style (e.g. ZCV-TEST) can be opened here.

Character formats are to be created in the Style Editor. A barcode or a font is assigned to any two-digit code e.g. to **BC** or e.g. to **TN**, respectively.

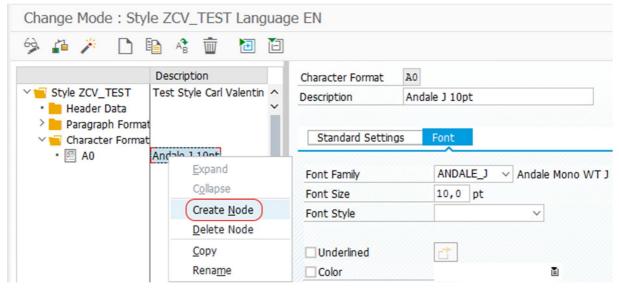
A new node is to be created here.



NOTE!

Editing must be released with the 🤔 spectacle symbol to make changes.

For a change to become effective, it must be activated with the Magic wand.



Barcodes are defined under Standard settings and type fonts under Font.

For each font size etc. a code of its own is to be created.

NOTE!

Only those barcodes and font types supported by the respective driver are to be selected.

SAP

Defining fonts to be used

The style must be *activated* after all the changes have been carried out.

Change Mode : Sty	le ZCV_TEST Langua	age	EN				
🤌 🖧 💌 🗅	🖻 🕸 🗑 🔁 🖆	3					
Activate	(Ctrl+F3) tion	1	Character Format	AL			
Style ZCV_TEST Header Data Paragraph Forma	Header Data Header Data Data Daragraph Format Gharacter Format		Description	Hel	vetica 10		
			Standard Settin	gs	Font		
• 🖭 AL	Helvetica 10 ARTNR Code 128 Interl. 20f5 EAN 13		Font Family		HELVE		✓ Helvetica
• 🗐 B8 • 🗐 BC			Font Size		10,0	pt	
• 🖾 BE			Font Style		3		~

3 Building Forms

3.1 Smart Forms Editor

If not yet undertaken, open the form editor with transaction /o SMARTFORMS.

As already described, the size and style are established under *Form attributes* and the conditions under *PAGE1* at the *Output options*.

The main window is firstly to be adapted to the actual print size and output in the right-hand window area (*Form Painter*).

The newly selected DIN A5 size can now, for instance, be seen in the background. However, the MAIN window still has the 16 x 25.2 mm size with offset. This points to the necessity of adapting the output box:

SAP Form Builder: Change F	Form ZCV_TES	Тб	
🤌 🚑 🥕 🖣 🛅	K) (~ X)	Form Painter	
Form	Form ZCV_TEST6		🗘 👎 📖 📭 🥂 50 % 🗳 🔍 🔍 🖄 📗
V ZCV_TEST6	Description New Form		
 ✓ Global Settings Form Attributes Form Interface Global Definitions ✓ Pages and Windows ✓ % PAGE1 New Page > MAIN Main Window 	General Attrit Page Format Characters per I Lines per Inch Style	DINA5	

The size can be adapted with the mouse (moving) or by entering the required value to 14.8 x 21.0 cm with DIN A5:

SAP Form Builder: Change W	indow MAIN						
🦻 🚑 🅕 🖣 🛅		Form	Painte	er			
Form	Window	MAIN					
V ZCV_TEST6	Description	escription Main Window					
 Global Settings Form Attributes 							
• 📄 Form Interface	General Attributes Output Options Conditions						
 E Global Definitions Pages and Windows 	Position and Siz	e		<u> </u>			
✓	Left Margin	2,5	0 0	CM	Width	16,00 14,8 C	M
MAIN Main Window	Upper margin	2,5	0 0	CM	Height	25,20 21,0 C	M

Creating another window

To create another window (object), select Create - Window in the context menu of the main window.

SAP

Building Form	S						SAP
SAP Form B	Builder: Change	Window MAIN					
🤣 🚑 🏄	a 🖻	🔊 (² 🛓	🔶 Fo	orm Painter			
Form		Window	MAIN	1			
V ZCV_TES		Description	Main	Window			
V 🚾 Global : • 🗐 Forr	n Attributes						
	m Interface	General Att	ributes	Output Opti	ons	Conditions	
	oal Definitions and Windows	Position and	Size				
∽ 🚾 %F > 💶 î	AGE1 New Page	Left Margin		Cl	4	Width	14,80
	Create	<u>W</u> indow		Cl	4 F	Height	21,00
	Cu <u>t</u>	<u>G</u> raphic	777777				
	Copy	Address					
	Paste	Te <u>x</u> t			P	Preview	
	Delete	Table		5			

The window can be given a new name and a description.

SAP Form Builder: Change W	indow %WINDOW1			
🤌 🚑 🥕 🖣 🛅 📋	🔨 🧖 🚆 🌩 For	m Painter		
Form	Window SWIN	DOW1		
V ZCV_TEST6	Description New	Window 1		
V 🧧 Global Settings				↑ %WIND∦
• 🖹 Form Attributes	General Attributes	Output Options Conditions	7	
• 🖹 Form Interface	General Attributes	Output Options Conditions		
Global Definitions				
✓ Pages and Windows	Position and Size			
✓ ♥ %PAGE1 New Page	Left Margin	CM Width	2,00 CM	-
> 🚽 MAIN Main Window > 🕞 (%WINDOW1)New Wi	Upper margin	CM Height	2,00 CM	-
Wew WI				-

Precision positioning is done in the *Output options* as this is difficult in the Editor (*Form Painter*). This allows the size and position of the new window to be adapted and moved here.

SAP Form Builder: Change V	Vindow %WIN	DOW1		
🤌 🚑 🥕 🖣 🛅 🛅	S (Z X X X X X X X X X X	➡ Form Painter		
Form	Window	\$WINDOW1	<u></u>	↓
V ZCV_TEST6	Description	New Window 1		
 Global Settings Form Attributes 				
• Form Interface	General Attrib	outes Output Options Conditions	7	WINDOW1
Global Definitions				
✓	Position and Siz	ze		
✓ ── %PAGE1 New Page	Left Margin	0,50 CM Width	7,00 CM	
> 🚽 MAIN Main Window > 🖕 %WINDOW1 New Wi	Upper margin	0,50 CM Height	2,00 CM	

The window content is defined next. A new text is created, for instance, with the context menu:

S	٩P						Building Forms
П	∨ 📔 Pages and V	Vindows	Position and Size				
		New Page	Left Margin	0,50	CM	Width	7,00
		Main Window	Upper margin	0,50	CM	Height	2,00
		Create	Window				
		Cut	Graphic				
		<u>C</u> opy	Address			Preview	
		<u>P</u> aste	Te <u>x</u> t		•		
		<u>D</u> elete	<u>T</u> able	00	CM		

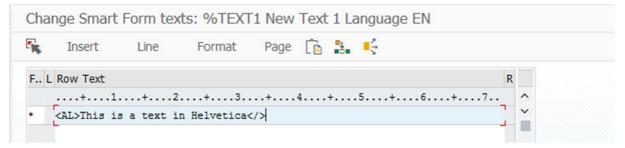
This is also where the text ID and significance can be adjusted.

SAP Form Builder: Change T	ext %TEXT1			
🤌 🚑 🥕 🖣 🛅	🖍 🏹 ≍	Form Painter		
Form	Text	<pre>%TEXT1</pre>		
✓ [™] ZCV_TEST6 ✓ [™] Global Settings	Description	Description New Text 1		
B Form Attributes B Form Interface B Global Definitions	General Attrib	utes Web Properties	Output Options	Conditions
V 🔽 Pages and Windows	Text Type Te	ext Element 🗸 🗸	Start Ne	w Paragraph
 ✓ ● %PAGE1 New Page > ● MAIN Main Window ✓ ● %WINDOW1 New Wi ● ※ %TEXT1 New Tex 	Use the full	screen text editor		

The content is defined with the Text Editor. This is opened with the button in the *General Attributes* of the text:

The appropriate codes defined beforehand in the Style need to be used for a formatted text. Undertake the following entry should, for instance, the AL code for Helvetica have been used in the Style Editor:

<AL>... Text...</>



Several formats and rows can be used inside a window.

The Editor is exited by clicking the orange button.



Building Forms

Ensure that the correct (previously generated) style is selected for the form attributes.

🦻 🗗 🎽 🖣 🎽	S 🔁 📰	🔶 For	m Painter	
Form	Form	ZCV_1	TEST6	Inactive
✓ [™] ZCV_TEST6 ✓ [™] Global Settings	Description	New F	Form	
Global Settings Form Attributes				
• 🖹 Form Interface	General Attr	ibutes	Output Options	
 Global Definitions Pages and Windows 				
Y W WPAGE1 New Page	Page Format		DINA5	
> J MAIN Main Window ~ WINDOW1 New Wi	Characters per	Inch	10,00	
• 🚴 %TEXT1 New Tex	Lines per Inch		6,00	
	Style		ZCV TEST	

NOTE!

The content of the individual boxes can unfortunately not be seen in the Editor (*Form Painter*).

All windows and contents are to be positioned and defined in this way.

3.2 Form testing

To test the new form, click on the screw clamp symbol or **F8**:

SAP Form Builder: Change	Form ZCV_TES	ST6	
🦻 🚑 🥕 🖣 🛅		➡ Form Painter	
Form Test (F8)	Form	ZCV_TEST6	Inactive
ZCV_TEST6 Global Settings	Description	New Form	

This can now be done if the new form has not been saved yet (Local Object):

💽 Te	st Form			×
0	Form must be save save? Yes	d before test. Do y No	ou want to	

SAP

Create Object Directory Entry					
Object R3TR SSF0 ZCV_TEST6					
Attributes	_				
Package					
Person Responsible C					
Original System PVD					
Original language EN English					
Created On					
Local Object 🖍 Lock Overview	0				

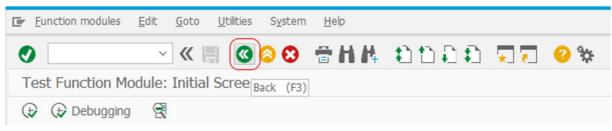
With the form generated, one then proceeds with *Test/Execute* F8:

Function Builder	: Initial Screen	
👍 🎢 🕄 📢	👔 🚋 🗅 🖓 Reassign	
Test/E	ecute (F8)	
Function Module	/1BCDWB/SF00000971	
6à Display	Change Create	

In the event of an error, the next display might, for instance, indicate the following error message:

The test for /1BCDWB/SF00000971 was regenerated but errors occurred

In the event of an error, one must return to the Form Editor via the green button.



There are two cases of error. The first one (probably marked red) involves debugging in the Editor. In the second one, as already shown, it is sufficient to go one step back and return to *Test/Execute*.

Building Forms

Otherwise, one continues with *Execute* **F8**:

Test Function Module: In	nitial Screen	
Debugging		
Tes Execute (F8),n group Function module Uppercase/Lowercase	/1BCDWB/SF00000971 /1BCDWB/SF00000971	

In the following dialog an Output device (Printer) is to be selected (begins with Y or Z).

The *Print now* option is also to be highlighted.

Afterwards either printing is done or a print preview is displayed.

🔄 Print:						×
OutputDevice (Page selection	ZCV-Pr	inter				
Spool Request						
Name	SMART		C5203384]		
Title						
Authorization						
Spool Control		_		Number of Copies		
Print Now		-		Number	1	
Delete After Out	put	-		Group (1-1-1,2-2	2-2,3-3-3,)	
New Spool Reque	est					
Close Spool Requ	est			Cover Page Setting	IS	
Spool Retention		8 Day(s)	SAP cover page	Do Not Print v	•
Storage Mode		Print on	ly ∼	Recipient		
				Department		
				a a		•
				(j) Pi	rint preview 📑 Print	8



NOTE!

It may take a few seconds before the next print dialog is displayed.

SAP

The standard printer set up on the local PC is displayed in the print dialog.

A generic text drive should be used to obtain a prn file. Otherwise, the correct printer can be used for direct printing.

Printer			
<u>N</u> ame:	Generic-185 (from PC-	-10) in sessi 🗸	Properties
Status:	Ready		
Type:	Citrix Universal Printer		
Where:	Client:32:Generic-185		
Comment:	Auto Created Client Printer		Print to file
Print range		Copies	
● <u>A</u> I		Number of copies	s: 1
O Pages	from: to:		3
O Selectio	n	123 12	3
0			

On the Windows PC the generated prn file can be sent to the printer.

4 Adaptions in the Form

4.1 Large fonts

The text must be printed within the defined window and is limited in its width.

Should larger fonts (> 16 pt) be used, ensure that additional line breaks are, if necessary, inserted to stop the font being printed in an interleaved manner. Unfortunately, this effect does not depend on how high the window is.

4.2 Font sizes - Zoom factor

The font sizes are generally established In the Style Editor. As there is no standardization of the transformation of the font size in pt (point) to the actual printout, a printout was taken from Word as a comparison on a laser printer.

A zoom factor can be defined with the **FONT_SIZE** printer command for a more precise adaption of the printout to the size required. The changed size applies to the entire form.

The default value is **735**. Accordingly, a value of, for instance, 1470 would double the font size in the x and y directions.

Use of the printer command is described further in the Use printer commands section below.

4.3 Other TrueType fonts

Although, in principle, own TrueType fonts can be used, they will not be detected by the driver.

On request, the support of other font types can be integrated (in the printer and driver).

4.4 Asian font types

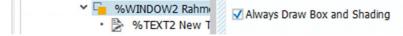
A special firmware (SP83) is needed for the printer.

It is up to the client to acquire and provide the font type needed from a third-party provider. Licensing is thus the client's responsibility.

A font package is generated from this font type (TrueType Font) and saved on the printer memory card in the font sub-directory.

5 Frame and Lines

Drawing lines and/or frames around, for instance, texts and barcodes can only be done at the window when the following tick is set:



A text can also be framed, for instance, inside a window. For the definition, the text is opened with a double click and the tick marked at *Lines With* in the *Output options*. The resulting frame hight depends on the text height.

Y 📔 Pages and Windows	Box and Shading	
 %PAGE1 New Page MAIN Main Window %WINDOW1 Helvet %WINDOW2 Rahme %TEXT2 New T 	Frames	Preview
	Details Shading	
	Color End Saturation % (0% = not filled)	

The best thing is to click on the *Details* button if a certain spacing is required between the lines and the object.

The spacing can be individually adjusted here. If the box is 7×2 cm and with 0.2 cm distance each (bottom (0.1 cm), the box frame is 7.4×2.3 cm.

>	WINDOW2 Rahm	Box a	🔄 Box Details						×
		Fram	Above			Left			
		V Li	✓ Line With		-	✓ Line With		-	
	:	Spac	Spacing	0,20	CM	Spacing	0,20	CM	
	1	Colo	Color		Ē	Color		É	
		Widt	Width	15,00	TW	Width	15,00	TW	
			Below			Right			
		Shac	🗸 Line With	-	1	🗹 Line With		5	
		Colo	Spacing	0,10	CM	Spacing	0,20	CM	
		Satu	Color		Ĩ	Color		Ĩ	
		(0%	Width	15,00	TW	Width	15,00	TW	
									_
		🗹 Alv						0	8

NOTE!

However, if only one line is drawn, then spacing to the lower line needs to be correspondingly raised.

6 Barcodes

A distinction is to be made between new (yellow) and old (light blue) technology (SAP Note 645158) and between 1D and 2D barcodes. Only with new technology barcodes the preview works to a certain degree. The old technology only displays wildcard characters

The available barcodes can be displayed with transaction *Io* **SE73**. This entails highlighting the *System Barcodes* in the start dialog and afterwards clicking on *Display*.

SAPsc	r <mark>ipt</mark> F	ont M	lainten	ance: [Display	y Syst	tem I	Bar Code	es					
a #	ļ.													
Bar Code	Desci	riptio	a			Min.	Max.	Width	Unit	Height	Uni	tBCode 3	Туре	Rotatn
C128A	Code	128 A	utoswit	ch, h=0.	5 in	Code	128		Mod	W06 H001	50Mod	A Chk	Y	Normal
C128A_00	Code	128A,		n.txt,h	n= 5mm	01	15	4,00	CM	0,50	CM	C128_A		000
C128A 01	Code	128A,	r=090,	n.txt,h	n= 5mm	01	15	4,00	CM	0,50	CM	C128 A		090
C128B 00	Code	128B,		n.txt,h	n= 5mm	01	15	4,00	CM	0,50	CM	C128 B		000
01200 00														

6.1 Height of the barcodes

In the above image, the data of a new barcode type (shaded in yellow) is contrasted with old types (light blue).

Unclear details

If barcode C128A is to be used, a character format - in this example C8 - must be assigned to it in the Style Editor:

Change Mode : Style ZCV_TEST Language El	EN
🤗 🚑 🥕 🗅 🖺 🐴 💼 🛅 🗎	
Description Style ZCV_TEST Header Data Paragraph Forma Character Forma Al Helvetica 10 B8 ARTINR Code 128 BC Interl. 2of5 BE EAN 13 C3 Code 39 C4 Code 128A (new) C9	Character Format C8 Description Code 128A (new) Standard Settings Font Effects Superscript Subscript Bar Code Name C128A Code 128 Autoswitch h=0.5 in Width 50,00 MM Height (20,00 MM)

The fatal aspect here is that now both presentations display incorrect values. Yellow highlighted: **h=0.5 in**, thus a height of 0.5 inch and thus 12.7 mm. On the other hand, **H00150** is in the white area. This signifies height 150 1/600 inch, thus 6.35 mm. The third non-sensical value is within the style at **Height 20 mm**.

The result of bringing about compatibility with the SAP test print-outs (SAP Note 1280910) is the need to use **H00150** which is correct. This is to be taken in account in positioning and defining **new** barcode types. As such, the details in the style are clearly false.

6.2 Ratio barcodes

The barcodes involved here are e.g. Code 39, Code 2/5 Interleaved and Codabar etc. The two *NARROW_MODULE_WIDTH* and *RATIO* parameters can be specified with new barcode types. The first parameter specifies the width of the smallest unit of the barcode in 1/600 Inch and is thus based on a 600 DPI printer.

The pixels are twice and three times as large with a 300 DPI printer and a 200 DPI printer, respectively.

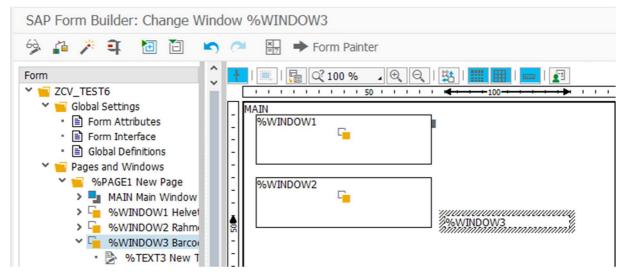
A NARROW_MODULE_WIDTH value of 5 corresponds to 6 pixels (600 DPI). Hence to get to the same size of the barcode, 3 pixels and 2 pixels are needed with a 300 DPI printer and a 200 DPI printer respectively for the smallest unit.

A 30 (3.0:1) ratio value thus produces a ratio of 9:3 (300 DPI) or 6:2 (200 DPI).

6.3 Positioning

The barcode lower edge conforms with the upper edge of the window. The apparent assumption of the SAP Designer is that a normal text is involved.

If the barcode is to go up to the upper edge of the label, then its window needs to be set correspondingly lower. A window height of e.g. 0.5 cm is adequate in this case.



If a frame is to be used around the barcode, this must be set in the box or the hight of the barcode must be considered. With an EAN13, with height 13 mm, the upper frame must have 15 mm distance (2 mm distance to the upper edge).

✓ [™] %WINDOW3 Barco	Fran	Above			Left		
• 🍃 %TEXT3 New T	VL	🖌 Line With		1	🗸 Line With		5
	Spa	Spacing	1,5	CM	Spacing	0,2	C
:	Cold	Color		Ē	Color		i
E	Wid	Width	15,00	TW	Width	15,00	T
		Below			Right		
	Sha	✓ Line With		5	✓ Line With		
	Cold	Spacing	0,2	CM	Spacing	0,2	С
	Sati	Color		Ē	Color		i
	(0%	Width	15,00	TW	Width	15,00	T
	Colo Sati	Color		Ē	Color		

The total height of the frame is 17 mm.

The BC_EAN13 barcode used has a height of 13 mm.

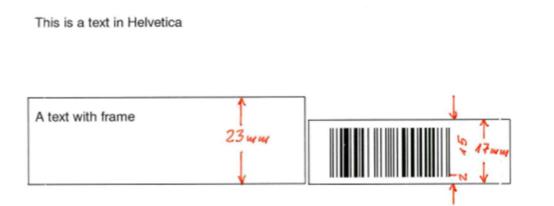
SAPsc	ript Font Mainte	nance: Display	/ Syst	tem E	Bar Code	es			
a 🕏	1								
Bar Code	Description		Min.	Max.	Width	Unit	Height	UnitBCode Type	Rotatn.
BC_EAN13	EAN 13,	n.txt, h=13mm	12	12	5,00	CM	1,30	CM EAN13	000
BC_EAN8	EAN 8,	n.txt,h=13mm	07	07	3,00	CM	1,30	CM	000
BC_EANH	EAN 128,	n.txt, h=13mm	01	40	9,00	CM	1,30	CM	000

As a result, the Print view tallies to the greatest possible extent with the printout.

Print Preview of ZCV-Printer Page 00001 of 00001					
🔄 Archive 🐁 Print and Archive 🕀 🔍					
This is a text in Helvetica					
A text with frame					

Barcodes

Printout



6.4 Human readable line

As there are no details on the human readable line in defining new barcodes, this option can be controlled with the **BC_HUMAN_READ** printer command. It is shut down in the default status. The *Using printer commands* section shows how this command can be used.

6.5 2D Barcodes

In contrast to 1D barcodes, the window height must at least fit - otherwise there is no printout.

The lower edge of the barcode is located approximately in the centre of the window. This means the positioning in the Editor needs to be correspondingly moved down. Thus, the preview and the printout approximately match.

PDF417



NOTE!

Used for the size of the PDF417 are the parameters of Narrow Module Width for the symbol size and the ratio of Narrow Module Width to Single Row Height for the ratio of width to height. Linear Height is not used; instead a max. 2 cm window height is assumed in SAP.



NOTE!

The presentation in the print preview is based on an unknown ZPL emulation within the SAP which permits no inferences to be drawn as to the adjustable values. Hence, the printout will practically never be identical.

SAP Bar Code Name	ZPDF417A
Bar Code Symbology	PDF 417
Bar Code Alignment	Normal
Narrow Module Width	10
Linear Height	00150
Single Row Height	00022
# of Columns (1-30)	00
# of Rows (3-90)	00
SecurityLevel	2
Truncation	

Normally 00 is in *# of Columns* and *Rows*, signifying *Set automatically* for the driver. This means calculating all values based on the text length. A value which is higher than the calculated one for *SecurityLevel* is taken on. Normally the *SecurityLevel* is also based on the text length.

The *# of Columns* parameter allows the number of the data columns to be raised. The *# of Rows* parameter should remain at 0 unless the matching value is known It is exactly the same vice versa. The height of the barcode can be determined with the *# of Rows* parameter. *# of Columns* should remain at 0 if it is changed.

Example with 4 columns



Generally, the row height should be approx. 3x as high as the column width. This means that in the example above, the *Single Row Height* value should be 30.



NOTE!

All values of the barcode cam also be specified with the printer command.

6.6 Defining a new barcode

If there are not enough barcodes on hand, a new barcode can be designed. Select Modify on the start page. From the general list, click **F5** Create.

🔄 Interleaved 2of5 Bar	Code Parame 🗙
Narrow Module Width	06
Linear Height	00150
Mod-10 Check Digit	X
Bar Ratio	30
	S

One needs to know from the details which units are postulated and what the values means

Narrow Module Width	Narrowest unit of the barcode	Value (+ 1) in 1/600 inch
Linear Height	Height of the barcode	Value in 1/600 inch
Bar Ratio	Ratio 20, 25, 30	produces e.g. 2:1, 5:2, 3:1

The smallest unit is the *Narrow Module Width*. A 6/600 inch value produces 2 pixels for a 300 DPI printer The driver would calculate a 9:3 ratio. This means 3 pixels for the thin unit and thus at a 3.0:1 ratio 9 pixels for the width unit of the barcode.

1/600 inch and thus 6.35 mm would arise as the height.

6.7 Size of barcodes

Given a lack of scope for a clear-cut definition of an (old) barcode within *Io* SE73, printer commands can be used to control module widths, ratios and SC numbers etc.

Attribute name	Range of values	Unit – Note
BC_SC	1	e.g. EAN13
BC_THICK	2	e.g. Code 39 5:2, thus 5 – 2D: Width
BC_THIN	1	e.g. Code 39 5:2, thus 2 – 2D: Height
BC_MOD_WIDTH	1	e.g. Code 128
BC_SYMBOL_SIZE	3 24	e.g. PDF417 - Symbol size

In order to clearly define a ratio barcode such as Code 39 or Code 2/5 Interleaved, as, for instance, 5:2, the two values can be specified via BC_THICK (5) and BC_THIN (2).

6.8 More Barcodes

On request.

7 Graphic – Logos and Bitmaps

7.1 Insert graphic

For this purpose, insert a new window and then a new graphic in the Smart Forms Editor:

> 🖕 %W	INDOW3 Barco	Box and Shading			
> 🖕 %GI	RAPHIC1 Logo	Frames		Preview	
	<u>C</u> reate	Window			
	Cut	Graphic	СМ		
	<u>C</u> opy	Address			
	Paste	Te <u>x</u> t	TT		

A double click on the new GRAPHIC1 entry opens the *General Attributes*:

🦻 🚑 🎽 🗎 🗎	🔊 (~ 🔛 🄶	Form Painter	
Form	Graphic §	GRAPHIC1	
 ZCV_TEST6 Global Settings 	Description N	lew Graphic 1	
 Form Attributes Form Interface Global Definitions 	General Attributes	Output Options	Conditions
 Pages and Windows Pages and Windows %PAGE1 New Page MAIN Main Window %WINDOW1 Helvet %WINDOW2 Rahm 			
 > - %WINDOW3 Barco > - %GRAPHIC1 Logo • > %GRAPHIC1 Ne 			

In the search dialog, masking can be set or one can go directly to *Execute* **F8**:

🔄 Find Graphic				×
Name	[to		<u>_</u>
🗹 Black and White Bitmap Image	2	_		
🗌 Color Bitmap Image				
Graphic object		to		<u></u>
Graphic ID		to		<u> </u>
			🕞 🕌 Check	8

Thereupon, a list of the available graphics is displayed:

🔄 Find Graphic (2) 117 Entries found								
Restrictions								
	- 							
📀 🗵 H H 🚍 🗸								
Name	Object	ID	GraphicT.	Descript.				
CV-LOGO-1	GRAPHICS	BMAP	Black and White Bitmap Image					
CV-LOGO-1BIT	GRAPHICS	BMAP	Black and White Bitmap Image					
CV-LOGO-BW	GRAPHICS	BMAP	Black and White Bitmap Image					



NOTE!

Quality and resolution determine whether an image is shown in a larger manner on the form. The reason for this difference is to be found in colour information size (bits per pixel).

Whilst the monitor only has 96 DPI, the printer has 300 DPI. This means that in contrast to the printout, presentation on the display screen can, for instance, be three times as large. To avoid this, the printer resolution can be specified at the General Attributes of the image.

👻 🔚 Pages and Windows	Name	CV-LOGO-1BIT
Y 🧧 %PAGE1 New Page	Object	GRAPHICS
> 🚽 MAIN Main Window > 🖕 %WINDOW1 Helvet	ID	BMAP
 General Systems Gen	O Color Bit	nd White Bitmap Image (BMON) tmap Image (BCOL) ine Dynamically (BMON, BCOL) Attributes

However, bear in mind here that the image only matches one printer type in the case of printers with different resolutions. No statement on the quality of the image can then come from the preview image.

7.2 Uploading new graphics

Transaction /o SE78 opens the Administration of form graphics.

A double click on BMAP opens an input box on the right-hand side, in which the graphic name is entered. The graphic file can be selected with the *Import* **F5** button.

Administration of Form Graphics		
🔁 🛱 🖊 🔺 🕅		
Y 🧧 Form Graphics	Stored on Document Server	
Stored on Document Server	Name	ට
 GRAPHICS General Graphics BMAP Bitmap Images 	Black and White Bitmap Image	
Stored as Text (Obsolete)	O Color Bitmap Image	

NOTE!

Only BMP or TIF files can be used.

The SAP system does not recognize a color image, this is to be specified.

🖙 Import Graphic	>
File name	\\dewdfcv102.wdf.global.corp.sap\TSHome\$\C \Documer
Save as	
Name	CV-Logo Color
Description	
Туре	OBlack and White Bitmap Image
	Color Bitmap Image
Print Attributes	
Resides in the F	rinter Memory
✓ Reserve Height	Automatically
Compression	

Graphic – Logos and Bitmaps

In the selection dialog the file name, under Network select *Client*\ and change on the local PC to the pictures.

Look in:	Pictures		v 🕝 🎓 📴 🛛		
_	Name		Date modified	Туре	^
	a configurat	tor	6/12/2017 9:26 AM	Bitmaj	~
uick access	a configurat	tor-stucki	6/12/2017 9:30 AM	Bitmaj	
	CV_Logo_	123	6/8/2018 2:43 PM	Bitmaj	
	CV_Logo_	vertikal_246	6/12/2017 10:20 AM	Bitma	
Desktop					
-					
Libraries					
EWDFM0387					
٢					^
Network					~
	< >	ш		$\langle \rangle$	
	File <u>n</u> ame:		~	<u>O</u> pen	
	Files of type:	Windows Bitmap (*.bmp)	~	Cancel	

Open gets you to the next dialog:

🔄 Import Graphic	×
File name	\\Client\D\$\Eigene Bilder\CV_Logo_123.bmp
Save as	
Name	CV-Logo Color
Description	
Туре	Black and White Bitmap Image
	Color Bitmap Image
Print Attributes	
Resides in the P	Printer Memory
✓ Reserve Height	Automatically
Compression	

Click on *Permit* in the following query to enable the SAP system to access the local PC.

Given there is no data interchange when the client is selected from the dialog, the file explorer can be used to firstly upload the file onto the SAP system. The file to be installed can, for instance, be stored in its own document folder on the SAP system:

File Home Sha	re View		
← → ~ ↑ 🗄 › (DEWDFM0387 > Documents	~ č) Search Documents
🗸 💣 Network	Name ^	Date modified	Туре
✓ 💻 Client∖	CV Device Types	3/24/2017 10:32 AM	File folder
> 📮 CS	Notes	9/22/2014 4:04 PM	File folder
V DS	Report	8/9/2017 2:07 PM	File folder
> 🛱 Documents	SAP	3/20/2017 12:37 PM	File folder
_	🛤 configurator	6/12/2017 9:26 AM	Bitmap image
> 🕂 Downloads	📾 configurator-stucki	6/12/2017 9:37 AM	Bitmap image
> Driver		6/8/2018 2:43 PM	Bitmap image
> E Pictures	CV_Logo_vertikal_110x106	5/29/2017 2:38 PM	Bitmap image
> Projekt	CV_Logo_vertikal_246	6/12/2017 10:20 AM	Bitmap image
> SAP			
~	,		

NOTE!

Bear in mind with the pictures that the higher the quality of the graphic, the higher is the grade of the printing result. A high-grade black/white picture (1 bit per pixel) may possibly have a better print quality than the renderer integrated in the driver.

7.3 Renderer

The renderer determines the way in which colour and grey tone images are converted into black/white photos. In this way, the quality, for instance, of logos and other graphics can be influenced.

The following renderers are supported at the moment:

1, 2, and **3** various Dithering processes

4 Black/white

The renderer can be switched over with the **RENDERER** printer command and applies to all the graphics on the form.

The *Using printer commands* section shows how this command can be used. One of the abovementioned numbers is to be used as the attribute value.

8 Binary Colour Print

The binary colour print can be activated in the form. This requires various commands to be generated. The *Printer commands* section shows how these commands can be used.

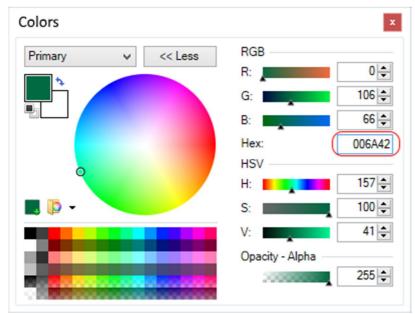
Colour separation is switched on with the command (*Attribute name*) **COLOR_SEP** and the value **1** t.

Y 🧧 Pages and Windows	Output Options	
 	Include Printer Co	ntrol
 * %COMMAND1 N * %WINDOW1 Helvet * %WINDOW2 Rahme 	Free Attributes	of Spool Request
> 🖕 %WINDOW3 Barco	Attribute Name	Attribute Value
> 🖕 %GRAPHIC1 Logo Y 🖕 %GRAPHIC2 Icon	COLOR_SEP	'1'
• 🏷 %GRAPHIC2 Ne	COLOR_TOL	'100'
	RGB_VALUE	'006a42'
		~
	< >	

COLOR_TOL is for setting the tolerance. This value determines a tolerance with which comparable colours are assigned to the colour range.

The **RGB_VALUE** command is for using an alternative colour value. This value is to be specified in the Hex format. Each colour value must have 2 points and therefore a total of 6.

An RGB value can, for instance, be easily taken from a character program:



8.1 Colour text

Colour text is defined in the Style Editor:

Change Mode : Sty	le ZCV_TEST Langu	age	EN	
🦻 🚑 🥕 🗋	🗈 🕸 🖬 🖿	Ē		
	Description		Character Format	GH
Y 🧧 Style ZCV_TEST	Test Style Carl Valentin	^	Description	Helve 12pt green
Header Data		Ť		
Paragraph Forn			Standard Setting	as Font
Character Form			Standard Secting	
• 🧮 A0	Andale J 10pt			
• 🗮 AL	Helvetica 10		Font Family	HELVE V Helvetica
• 🛅 B8	ARTNR Code 128		Font Size	12,0 pt
• 📰 BC	Interl. 2of5		Font Style	
• 📰 BE	EAN 13		For Style	<u> </u>
• 🖾 C3	Code 39			
• 🖾 C4	Code 39		Underlined	<u></u>
• 📰 GH	Helve 12pt green		Color	
• 🖾 LG	Letter Gothic 10		COID	

8.2 Colour separation with graphics

Mode of operation

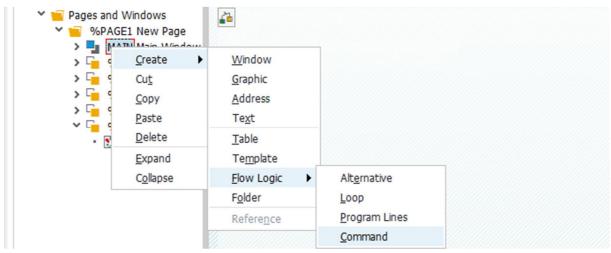
The driver either takes the pre-defined colour **#EF4136** or an alternative colour defined with RGB_VALUE. As the pixels of each graphic have to be transformed into a black/white image, on this occasional second image can be simultaneously generated a second with the colour information. White pixels are deployed in the original image instead of the colour ones. Two images arise as a result which perfectly match one to the other.

Additionally, colour information is provided in the text. If the colour is being detected, an extra parameter set (AC) is sent to the printer, which, in turn, activates the second print head.

9 Using printer commands

Various printer commands (*Command*) can be defined in the form. This permits the printing speed, for instance, to be set. This means that printer commands are always saved with the form and thus are deployable individually.

For this purpose, in the window *MAIN* a new *Command* per context menu (right mouse button) is created:



Ensure here that the attribute name is written correctly and that the attribute value is specified in 'inverted commas'.

Pages and Windows	Output Options			
 MAGE1 New Page MAIN Main Window W %COMMAND2 N 	Include Printer Co	ntrol		
> 🔓 %WINDOW1 Helvet > 🔓 %WINDOW2 Rahm	Free Attributes	of Spool Request		
> 🖕 %WINDOW3 Barco	Attribute Name	Attribute Value		iii
 GRAPHIC1 Logo GRAPHIC2 Icon %GRAPHIC2 Ne 	SPEED	'50'		
				^
				~
	< >	ш	< >	

Using printer commands

Attribute name	Range of values	Unit – Note
SPEED	50 600	mm/s
CONTRAST	10 200	%
GAP	10 9999	1/10 mm
ROTATE	0, 1	0: Off
MIRROR	0, 1	0: Off
CONTINOUS	0, 1	0: Off (Single)
XOFFSET	-999 +999	1/10 mm
YOFFSET	-999 +999	1/10 mm
CUTTER	06	0: Off
CUTTER_OFFSET	0 500	1/10 mm
CUTTER_INTERVA	0 99	
DISPENSER	06	0: Off
SCANNER	02	0: Off
ASIA	0, 1	0: Off *

Support is currently given to the following values:

* Given that a Device type -I (ISO 8859-1) is used as the basis and the code page has been changed over to 4110 (UTF-8), then the editing of Asian characters can be activated with this attribute name (font package needed).

Further printer commands for controlling the printout:

Attribute name	Range of values	Unit – Note
FONT_SIZE	735	Zoom factor for font size
RENDERER	1 4	Renderer type
COLOR_SEP	0, 1	0: Off
COLOR_TOL	25 125	90
RGB_VALUE	000000 FFFFFF	RGB in the Hex format, #EF4136
DISABLE_LANDSC	0, 1	0: Off

Further printer commands for controlling of barcodes:

Attribute name	Range of values	Unit – Note
BC_SC	1	e.g. EAN13
BC_THICK	2	e.g. Code 39 5:2, thus 5
BC_THIN	1	e.g. Code 39 5:2, thus 2
BC_MOD_WIDTH	1	e.g. Code 128
BC_HUMAN_READ	0, 1	0: Off
BC_SECURITY_LE	08	PDF417 security level
BC_NUM_ROW	0, 1 30	PDF417
BC_NUM_COL	0, 3 90	PDF417

Further commands can be provided on request.

10 Securing Form

A form can be downloaded from the SAP system and uploaded to it.

For this purpose, in the *Smart Forms* dialog, firstly select the form and then under *Utilities* select the *Download Form* command:

🕞 Smart Forms	<u>E</u> dit	<u>G</u> oto	<u>U</u> tilities	S <u>v</u> stem	<u>H</u> elp						
0		~ (S <u>e</u> ttir	igs		4 H	14	+5. +5	e e	•	0 %
			Upl <u>o</u> a	d Form			11.4		+_ +_	_5 L★	💛 ¥
SAP Smart Fo	orms:	Initial	Down	load <u>F</u> orm							
Lo 🖧 👼	4		<u>M</u> igrat	tion	•						
Form			ZCV_TEST	6			þ	1			
○ Style											
O Text Module											

11 Supported Font Types

You get to font management with Io SE73.

➡ Eont Maintenance Edit Goto Environment	System <u>H</u> elp		
🔮 🚺 🔄 😒 💉	8 ehk	ឯងឯង 🗐	* 📀
SAPscript Font Maintenance: Initial Scre	een		
Font Families System Fonts Printer Fonts	System Bar Codes	Printer Bar Codes	
Selection Font Families System Fonts System Bar Codes Printer Bar Codes Display Change			

There, select the *Printer Fonts* option and then *Change*.

Thereupon, a list of the available device type is displayed. The current Valentin type is designated **YCVPRINT**.

Device Type	<u>E</u> dit <u>G</u> oto	En <u>v</u> ironment S <u>v</u> s	tem <u>H</u> elp		
Ø	~ ((: 📳 🕜 🙆 🤅	3 🖶 H 🛱	1111	* 🕤 🗔 🐨
SAPscript Fo	ont Maintenan	ce: Display Prir	nter Fonts		
3 📀 🚑	Print Controls				
Device Type	Descriptio	n			
YCVPRINT	Carl Valen	tin CVPL univers	sal		

A double click on the entry wanted opens the overview with the fonts which are available.

Supported Font Types

SAP Font	Valentin Font	Size	Note
COURIER	Monospace	6 72	Scalable
HELVE	Helvetica		Scalable
LETGOTH	Font 5 and 7	6,5 and 10	
LNPRINT	Font 1, 2 and 3	2.5 5.5 and 9	
OCRA	OCRA	6 72	in double steps
OCRB	OCRB	6 72	in double steps
TIMES	Baskerville		scalable (only Ascii)

The following font types are supported at the moment:

11.1 TrueType fonts – Unknown font types

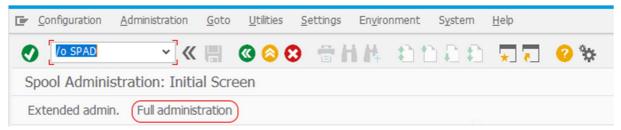
TrueType fonts are shown in yellow in the list of printer fonts. For test purposes, the Swiss721 Lt font type was installed and given the ZCV_SWLT family name.

SAPscript	Font Main	tenance	: Display	Printer For	nts			
Font Conv	version	Display	Metrics	Displ. F	Print Control			
Device Type	Family	Font Si:	ze Bold	Italic	CPI	PrtCtl.1	PrtCt1.2	Scaleable
YCVPRINT	TIMES	Scal.			AFM	SF100	SF006	\checkmark
YCVPRINT	TIMES	Scal.		\checkmark	AFM	SF100	SF006	\checkmark
YCVPRINT	ZCOURIER	Scal.			AFM	00007	Couri	\checkmark
YCVPRINT	ZCV SWLT	Scal.			AFM	80000	Swis7	\checkmark

This one and all the other unknown font types are re-directed to the Swiss Light Printer Font 5.

12 Creating New Form Sizes

You get to the Spool management with the action /o SPAD.



By way of the Full administration button (text) you can have the Device Types displayed.

12.1 Adding form size

The device types are to be displayed first.

imple admin. Exter	dod odmin		
	lueu aumin.		
Devices / servers	Output management systems Devi	ceTypes Char]] < > 🗖	
Device Types		Display	
Print Controls		Display	
Format Types		Display	

The device type (e.g. YCVP-DUO) is selected from the list which is shown afterwards and its attributes displayed.

1 🗟 🖓 🚺	🖬 Formats 📑		
evice type	YCVP-DUO	Name	Carl Valentin CVPL universal
Version	1		
SAPscript handling		BAP driver CVPL	×

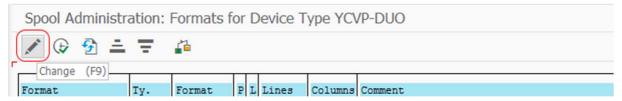
Clicking the *Preparations (F6)* button gets you the current list of form sizes available in the device type.

1 🕞 😏	辛 至	4				
Format	Ty.	Format	P T.	Lines	Columns	Comment
DINA4	S	DINA4	XX		001 dataro	SAPscript 8 1/2 * 11 paper size equivalent (US)
DINA5	S	DINA5	XX			SAPscript DIN A5 (Caution: Not defined for all device types!)
EXECUTIV	S	EXECUTIV	XX			SAPscript US EXECUTIVE
G RAW	G	ANY				SAP Graphics: Raw data for SAP1pd/SAPWIN
INCH11	S	INCH11	х			SAPscript format for 11 inch continuous form (=66 lines at 6 lpi), no title
INCH12	S	INCH12	х			SAPscript format for 12 inch continuous form (=72 lines at 6 lpi)
INCH2	S	INCH2	х			SAPscript 2 inch cont. form (=12 lines with 6 LPI), no title
INCH3	S	INCH3	х			SAPscript format for 3 inch continuous form (=25 lines at 6 lpi), no title
INCH4	S	INCH4	х			SAPscript format for 4 1/6 inch continuous form (=25 lines at 6 lpi), no titl
INCH4C	S	INCH4C	х			SAPscript format for 4 inch continuous form (=24 lines at 6 lpi), no title
INCH5	S	INCH5	х			SAPscript 5 inch cont. form (=30 lines with 6 LPI), no title
INCH6	S	INCH6	Х			SAPscript format for 6 inch continuous form (=36 lines at 6 lpi), no title
INCH7	S	INCH7	X X			SAPscript format for 7 inch continuous form (=42 lines at 6 lpi), no title
INCH8	S	INCH8	Х			SAPscript format for 8 inch continuous form (=48 lines at 6 lpi), no title
LEGAL	S	LEGAL	XX			SAPscript US LEGAL
LETTER	S	LETTER	XX			SAPscript US LETTER
LINE_21	S	LINE_21	Х			SAPscript format for 3 1/2 inch continuous form (=21 lines at 6 lpi), no titl
LINE_22	S	LINE_22	х			SAPscript format for 3 2/3 inch continuous form (=22 lines at 6 lpi), no titl
X PAPER	L	ANY		00010	00010	ABAP/4 list: Default list formatting

NOTE!

Although forms which are wider than the print head width can be used, they are automatically width-limited by the driver. Therefore, the content should be limited to the print head width.

To add a new form, you firstly need to change over the list to Change



Only afterwards is the switch Create displayed:

SAP

	Spool Administration: Formats for Device Type YCVP-DUO (Change)								
	60	Ð	3	<u> </u>	$\overline{\Xi}^{+}$	Transferration			
٢							Create	(Shift+F1)	
	Form	at			Ty.	Format		Lines	Comment

🔄 Spool Administration: Fo	ormats for Device	×
Format		<u>_</u>
ronnac	L (
-		_
	0	ω

The form to be supported as a new one is selected from the following list:

🔄 Spool Administra	tion: Formats for Device Type YCVP-DUO (Change)	×
Format	Comment	^
rormat	comment	
ZCUSTDEL	Not documented	*
ZCUSTOM1	for 127*279 mm	
ZCV100X60	Testformat CV Labelprinter	
ZDLVNOTE	Not documented	
ZEARA	Not documented	~
ZEFECGAL	Not documented	~
< >	<	>
		0

The form is listed afterwards in the device list.

12.2 Creating new form size

The button for page formats is also available in the device type dialog. With this device, you get into the generally available page formats.

mple admin. Ext	ended admin.	
Devices / servers	Output management systems	evice Types Char 👔 < ゝ 🗖
Devices / servers	Output management systems	eviceTypes Char 👔 < ゝ 🗖
Devices / servers Device Types	Output management systems	eviceTypes Char Char
	Output management systems	
Device Types	Output management systems	Display

Spool Ac	Spool Administration: List of Page Formats							
69 🕀	60 😥 🔂 프 〒 💼 🗋 🔚 🥵							
Format	Ρ	L	Width		Height			
A5	Х		00148	MM	00210	MM		
ANY		Х	00999	MM	00999	MM		
ANY	х		00999	MM	00999	MM		
DINA3		х	00420	MM	00297	MM		
DINA3	х		00297	MM	00420	MM		
DINA4			00297	MM	00210	MM		
DINA4	х		00210	MM	00297	MM		
DINA5			00210	MM	00148	MM		
DINA5	х		00148		00210	MM		

Here you can either copy and change existing forms or create new ones.

As described in the section above, the newly created form can subsequently be added to the printer type.

13 Conversions – Units

Different units are used in dialogues and definitions - for instance, for barcodes. It is advisable to know what the values mean in determining the printed height or width of the narrowest element of a barcode.

DPI	Dots per Inch, that is the number of pixels per 25.4 mm					
1/600 inch	4.23 1/100 mm or 0.0423 mm,					
	Pixel size of a 600 DPI printer					
	i.e. 10 1/600 inch signifies 10 pixels					
300 DPI	Pixel size 0.0847 mm					
	i.e. 1 pixel is twice as large as with a 600 DPI printer					
	and thus 10 1/600 inch signifies 5 pixels with a 300 DPI printer					
305 DPI	Pixel size 0.0833 mm					
203 DPI	Pixel size 0.125 mm					
1 inch	25.4 mm = 72 points					
1 point	int 20 TWIP (twentieth point) = 10 FNTH (font height)					
1 inch	1440 TWIP					
1/600 inch	1440 / 600 TWIP					
x TWIP	x * 1764 / 10 mm or					
	x * 1764 / 1000 1/100 mm					

Thus a height of 180 1/600 inch with a barcode signifies 7.614 mm.





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