TBarCode/Embedded

Barcode Filter for SEH ISD400 / ISD410

Version 9.1

User Manual

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3 Introduction

3.1 About

TBarCode/Embedded is a filter for the Intelligent Spooling Device ISD400 / ISD410 which turns all your PostScript® or PCL® printers into barcode-enabled printers without the need of installing a bar-code extension cartridge or a special barcode font.

You can print linear barcodes as well as high-density 2D barcodes from within any application (e.g. SAP® R/3®) by embedding control sequences into your print job. This works in a completely trans-parent way to your applications. Print-jobs without barcodes are not influenced in any way.

3.2 Supported Barcode Symbologies

For an overview of currently supported barcodes (linear and 2D) please refer to chapter 8.

For additional information on these barcode symbologies, please refer to the TEC-IT Barcode Reference http://www.tec-it.com/download/PDF/Barcode_Reference_EN.pdf.

3.3 Supported Printers

The current version supports two large printer families:

- PostScript printers (PostScript Level 2 or higher)
- PCL printers (PCL 5 or higher, HPGL is required)

3.4 License Restrictions

TBarCode/Embedded may be used in combination with the Intelligent Spooling Device SEH ISD400 / ISD410 (or later versions) only.

Please refer to our license terms available on http://www.tec-it.com.

4 Installation

4.1 General Information

The following pages will guide you through the installation of **TBarCode/Embedded** on the ISD400 / ISD410.

The instructions in sections 4.4 to 4.7 are basically taken from the ISD400 / ISD410 User Manual (sections “How to Uninstall/Install Software Modules” and “How to Assign a Filter Application to a Queue”). For detailed information on maintaining software and setting up printer queues we recommend you to check out the ISD400 / ISD410 User Manual.

4.2 Installation Steps

The following steps are required in order to enable barcode printing:

- Install **TBarCode/Embedded** on the ISD400 / ISD410 – see section 4.4.
- Assign **TBarCode/Embedded** to the required printer queues on the ISD400 / ISD410 – see section 4.5.

For testing the installation you can finally perform a test print-out – see chapter 5.

4.3 Required Files

For installation the file *“TBarCodeEmbedded-XXX-ISD400.zip”* is required (XXX stands for the version number of **TBarCode/Embedded**). You can download this file from http://www.tec-it.com or you can request it from support@tec-it.com. It contains the following files:

File	Description
tbarcode-XXX-filter.bin	The **TBarCode/Embedded** filter software package. Install this package via the ISD400 / ISD410 administration page (see section 4.4) in order to enable barcode printing.
tbarcode-enable-debug.bin	An optional package to enable debugging. If you want to track down any errors, additionally install this package via the ISD400 / ISD410 administration page (see section 4.4). If installed, **TBarCode/Embedded** will create extensive trace output for each printed document respectively for each printed barcode. The log can be viewed in the web browser (see Appendix B).
seh_test.pcl	A test file for PCL printers. You can use this file to test your installation of **TBarCode/Embedded** (see chapter 5).
seh_test.ps	A test file for PostScript printers. You can use this file to test your installation of **TBarCode/Embedded** (see chapter 5).
TBarCode_SEH_ISD400_Man.pdf	This user manual.

Please note:

- The subdirectory “V1Format” contains a version of **TBarCode/Embedded** which accepts the older v1 parameter format (see also section 6.4). – However, in general we recommend using the default parameter format, because it is more flexible and more intuitive.
- The v1 parameter format might eventually be relevant for SAP® R/3® because of the length limitations in the Print-Controls. The v1 format needs less space than the default format.

► Only one version (either the default parameter version or the v1 parameter version) may be installed on one ISD device at the same time!

4.3.1 License File

File	Description
tbarcode-license-XXX.bin	The license package for **TBarCode/Embedded** (on request). Additionally install this package via the ISD400 / ISD410 administration page (see section 4.4) in order to upgrade your demo version of **TBarCode/Embedded** to the full version. For more details on licensing, please refer to chapter 9!

4.4 Installation

In order to install **TBarCode/Embedded** (filter package, license package and/or debugging package) open the ISD400 / ISD410 administration homepage and login as administrator.

Proceed as follows:

1. Select *MAINTENANCE* ❶.
2. Select *Software* ❷.
3. Mark the option “Install software” ❸.
4. Click *Next* ❹.
5. Click *Browse…* ❺.
6. Select the file “tbarcode-XXX-filter.bin” (or which package you actually want to install).
7. Click *Next* ❻.
8. Click *Next* again.
9. Click *OK* to confirm.

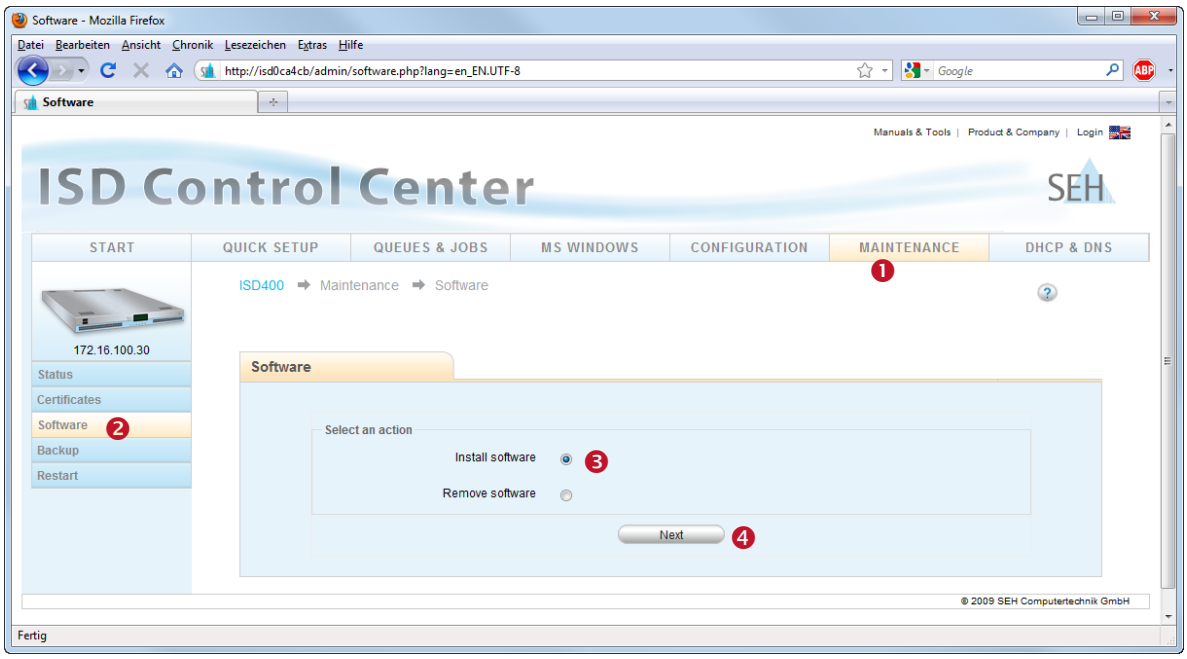

Figure 1: Install Software – Step 1

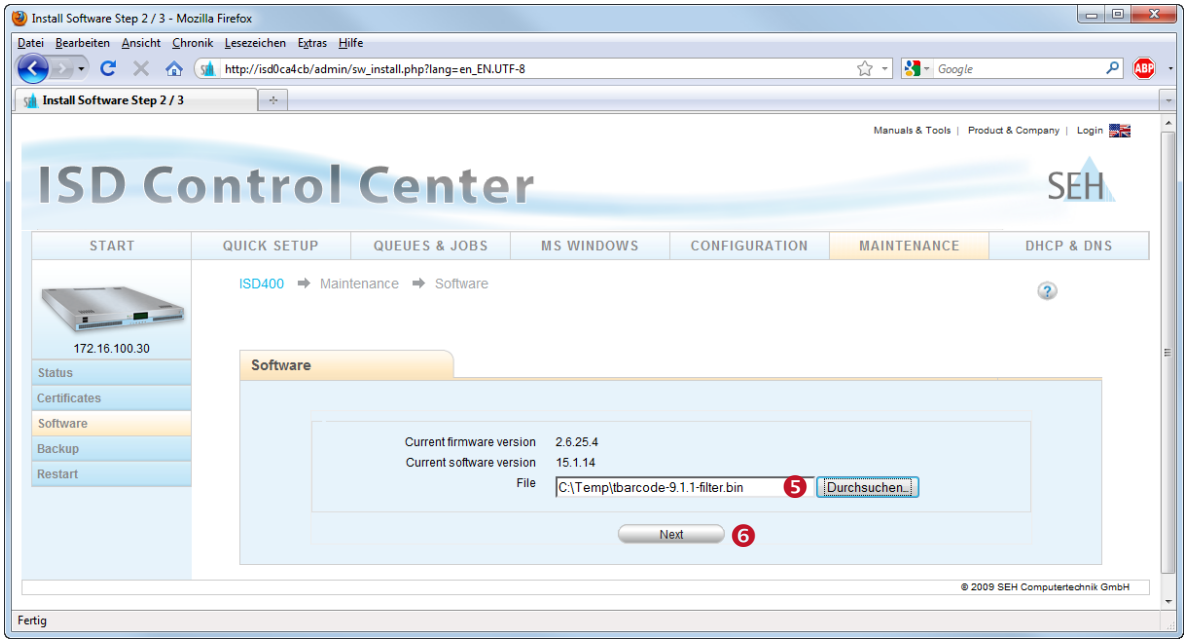

Figure 2: Install Software – Step 2

4.4.1 Check Installed Software Modules

You can check for installed software modules by following these steps:

1. Select *MAINTENANCE* ❶.
2. Select *Software* ❷.
3. Mark the option “Remove software”.
4. Click *Next* .

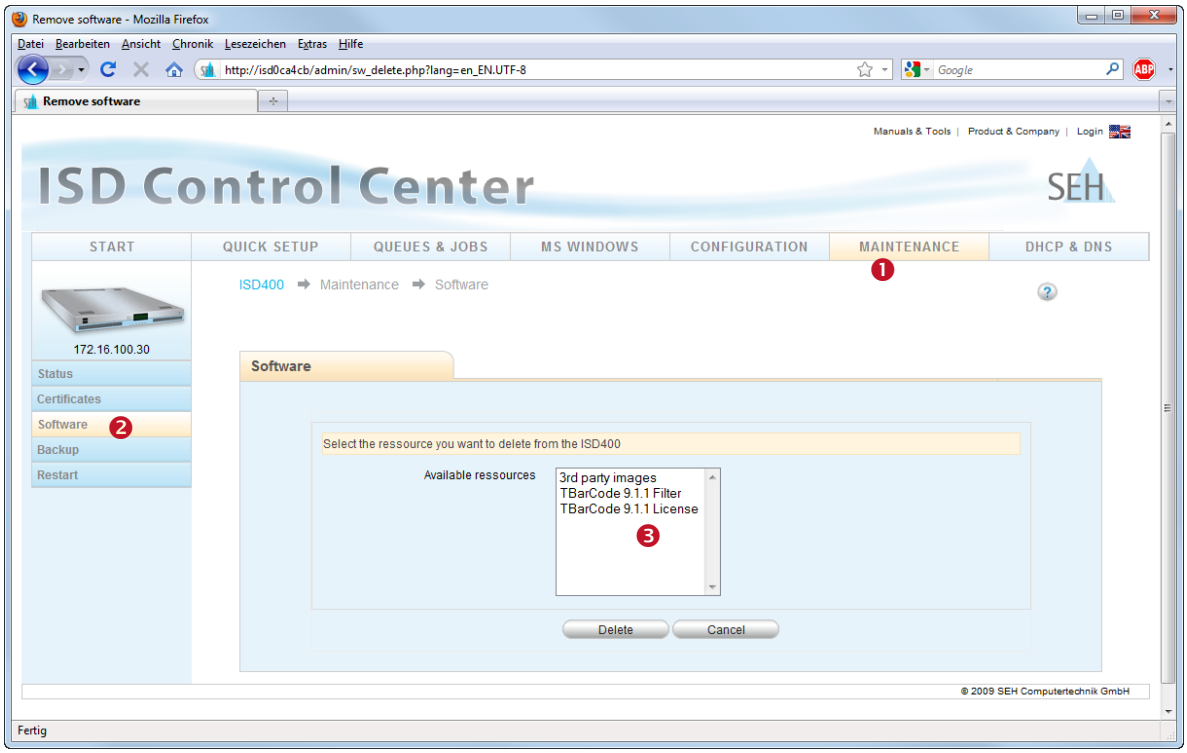

Figure 3: Check Installed Packages

All installed software packages are listed in ❸. In order to use **TBarCode/Embedded** the list must contain an item called “TBarCode XXX Filter” (XXX is the software version).

4.5 Assign TBarCode to the Printer Queue

In order to assign the filter to one of the printing queues proceed as follows:

1. Select *QUEUES & JOBS* ❶.
2. Select *Settings* ❷ for the relevant queue.
3. Select *Filter* ❸.
4. Mark the filer “tbarcode” in the “Available” list ❹.
5. Click *Add* ❺.
6. Click *OK* ❻ to confirm.

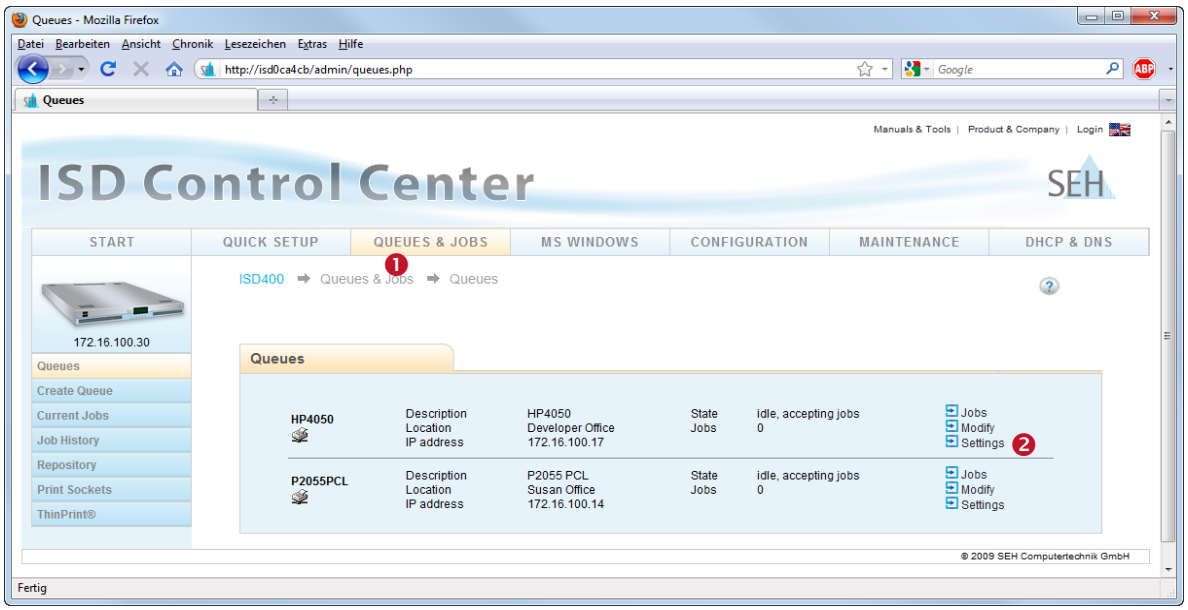

Figure 4: Assign Filter to Print Queue – Step 1

Figure 5: Assign Filter to Print Queue – Step 2

4.6 How to Update TBarCode/Embedded

If you want to upgrade to a newer versions of **TBarCode/Embedded** just install the package as described above. We recommend removing any previous version of **TBarCode/Embedded** before installing the newer version.

4.7 How to Remove TBarCode/Embedded

In order to remove **TBarCode/Embedded** proceed as follows:

1. Select *MAINTENANCE* ❶.
2. Select *Software* ❷.
3. Mark the option “Remove software”.
4. Select the resource “TBarCode XXX-Filter” (or which package you actually want to remove).
5. Click *Delete*.
6. Confirm with *OK*.

5 Test the Installation

5.1 Perform a Test-print for Postscript Printers

In order to test the installation of **TBarCode/Embedded** you can send the file *"seh_test.ps"* to any postscript printer queue on the ISD400 / ISD410 which has the "tbarcode" filter assigned. Open a command shell and type the following command:

Under Windows[1]:

```
lpr -S hostname -P printerqueue seh_test.ps
```

Under Linux / UNIX:

```
lpr -H hostname -P printerqueue seh_test.ps
```

hostname	This is either the host name or the IP address of the ISD400 / ISD410.
printerqueue	This is the name of the queue on the ISD400 / ISD410.
seh_test.ps	This is the test file provided by TEC-IT. Please note: If you have installed the **TBarCode/Embedded** filter package for the v1 parameter format use the file *"seh_test_v1format.ps"* instead!

The expected output is shown in Figure 7 below.

5.2 Perform a Test-print for PCL Printers

For PCL printers run the same command as described above but use the file *"seh_test.pcl"* (or *"seh_test_v1format.pcl"*) instead of the PostScript file.

5.3 Troubleshooting

Problem	Solution
No barcodes are printed.	Please check out, if **TBarCode/Embedded** is correctly assigned to the printer queue in use (see also section 4.5)!
	Please make sure that you used the correct test file! There is one test file which uses the default parameter format and one test file which uses the older v1 parameter format. The test file version must match your **TBarCode/Embedded** filter package installation! Otherwise the control sequences will not be recognized.
All barcodes are drawn with an additional horizontal line.	Your copy of **TBarCode/Embedded** is not licensed. For more information, please refer to chapter 9!

If none of the solutions above worked for you, please try to identify the exact error using the following methods and contact TEC-IT for support.

- Examine the CUPS log – see Appendix A
- Enable the trace file (debugging mode) and check for any error messages – see Appendix B

[1] In order to use lpr.exe under Window Vista or Window 7 you have to add the "LPR Port Monitor" (Control Panel ► Programs and Features ► Turn windows features on or off ► Print and Document Services)!

5.4 The Test Document

The figure below shows the test document with the embedded controls sequences. When printing this document via a queue on the ISD400 / ISD410 using **TBarCode/Embedded** filter, all control sequences will be replaced by the corresponding barcodes (see Figure 7 below).

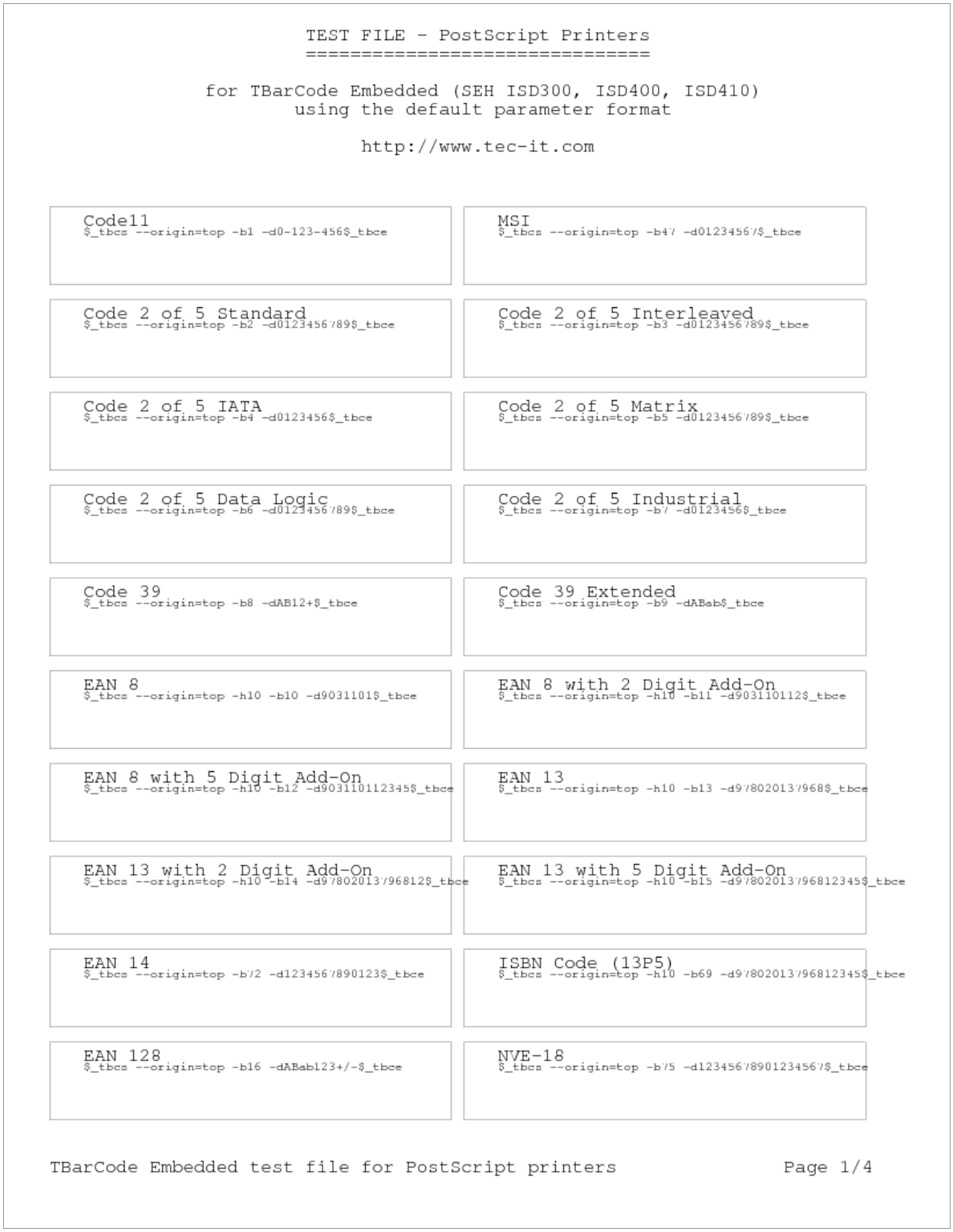

Figure 6: Raw Test Document (First Page) – with Control Sequences

Figure 7: Printed Test Document (First Page) – with Barcodes

6 Using TBarCode/Embedded

6.1 General Information

For adding barcode graphics to your print-out you have to embed special control sequences into your document. These control sequences are used to specify the format of the barcodes you want to print.

TBarCode/Embedded processes these control sequences and replaces them by the appropriate barcode graphics. By default the position of the control sequence is used as origin for drawing a barcode. But any other position can be specified as well.

The syntax of the control sequences is described below.

6.2 Control Sequence Structure

The following control sequence is needed to create a barcode on the print-out:

TBarCode/Embedded decodes this control sequences and inserts a barcode into the printer data stream (spool file).

Each control sequence starts with `$_tbcs` followed by barcode parameters (such as size, barcode type, check digit calculation and so on). The barcode data is prefixed by `-d` and terminated with `$_tbce`.

Examples for barcode control sequences are:

```
$ tbcs -b20 -d"Hello World"$ tbce
$ tbcs -b20 -m0.254 -h10.2 -tHIDE --origin=BOTTOM -d0123456789$ tbce
$ tbcs -b71 -m0.508 -dMyBarcodeData$ tbce
$_tbcs -b3 -w300 -h100 -d1234567890$_tbce
```

- For a description of the most common barcode parameters, please refer to chapter 7.
- For more detailed information on barcode parameters, please refer to the product manual of **TBarCode for Linux** (http://www.tec-it.com/download/PDF/TBarCodeX9_Manual_EN.pdf).
- For additional information on barcode symbologies, please refer to the TEC-IT Barcode Reference (http://www.tec-it.com/download/PDF/Barcode_Reference_EN.pdf).

6.3 Using TBarCode/Embedded in SAP

The necessary control sequences can be integrated into SAP by adapting the *SAP Print-Controls* on device type level.

6.3.1 Background Information

- SAP R/3 has so-called "system barcodes". These barcodes are defined globally and can be used within SAP R/3.

- For each device type (e.g. device type ZPOST2 for Postscript printers or ZHPLJ4 for PCL printers) you can define so-called “printer barcodes”. A printer barcode is a specific Print-Control, which consists of a prefix and a suffix.
- In the Prefix and in the Suffix of the Print-Control specify the control sequence characters, which are needed by **TBarCode/Embedded.**

6.3.2 Detailed Documentation

- You can request a detailed manual about the integration of **TBarCode/Embedded** into SAP from TEC-IT. The manual contains step by step instructions with screenshots.
- On demand TEC-IT sends you predefined SAP Device Types, which are ready to use with **TBarCode/Embedded** for ISD400 / ISD410. Device Types for PCL and PostScript are available.
- Please contact support@tec-it.com.

6.4 Alternative Control Sequence Format (v1 Format)

For backward compatibility the **TBarCode/Embedded** software package is also available for the older v1 parameter format (see also section 4.3). This format differs from the default format in the following points:

- Less parameters (= not as many adjustment possibilities than in the default format).
- Shorter syntax (might eventually be relevant for SAP, due to the length limitations for Print-Controls).

Please note:

- The two different parameter formats (default and v1) cannot be mixed. You can only install one of the packages on the ISD400 / ISD410 at the same time.

The example below shows the control sequences for the same four barcodes in both parameter formats.

Default parameter format:

```
$ tbcs -b20 -d"Hello World"$ tbce
$_tbcs -b20 -m0.254 -h10.2 -tHIDE --origin=BOTTOM -d0123456789$_tbce
$ tbcs -b71 -m0.508 -dMyBarcodeData$ tbce
$_tbcs -b3 -w300 -h100 -d1234567890$_tbce
```

V1 parameter format:

```
$_tbcs b20 dHello World$_tbce
$ tbcs b20 m0.254 h10.2 n ob d0123456789$ tbce
$ tbcs b71 m0.508 dMyBarcodeData$ tbce
$_tbcs b3 w300 h100 d1234567890$_tbce
```

7 Barcode Parameters

7.1 General Information

This chapter describes all parameters which are available in both, the default parameter format and the v1 parameter format. For a complete list of parameters, please refer to the product manual of **TBarCode for Linux** (http://www.tec-it.com/download/PDF/TBarCodeX9_Manual_EN.pdf).

7.2 Sequence Prefix and Suffix

Short	Long	Equivalent in v1 Format	Description
	`$_tbcs`	`$_tbcs`	Marks the beginning of the sequence.
	`$_tbce`	`$_tbce`	Marks the end of the sequence.

Table 1: Prefix and Suffix

7.3 Barcode Symbology

Short	Long	Equivalent in v1 Format	Description

`-b`	`--barcode=`*NUMBER*	`b`*NUMBER*	Sets the barcode symbology.
			For a list of valid *NUMBERs*, please refer to chapter 8!
			Examples:
			`-b20`
			`--barcode=20`

Table 2: Barcode Parameters: Symbology

7.4 Barcode Data

Short	Long	Equivalent in v1 Format	Description

`-d`	`--data=`*DATA*	`d`*DATA*	Sets the barcode data.
			Examples:
			`-d12345`
			`--data=12345`
			`-d"ABCD 12345"`
			`--data="ABCD 12345"`
			Please note:
			The data must always be the last parameter before the suffix $_tbce!

`-c`	`--checkdigit=`*NUMBER*	`c`*NUMBER*	Sets the check-digit calculation method.
			This parameter is only required if you want to override the default check digit method.
			For a list of valid *NUMBERs,* please refer to the **TBarCode for Linux** user manual.
			Examples:
			`-c3`
			`--checkdigit=3`

	`--autocorrect=`*STATE*	`A`*STATE*	Enables or disables auto-correction. Relevant for Code 2of5 Interleaved only. This feature adds a leading zero to the

			barcode data to produce an even number of digits. Possible values are: ▪ on ▪ off Example: `--autocorrect=ON`
	`--trimwhitespaces`	`W`	Removes all whitespaces (spaces, tabs, etc.) at the beginning and at the end of the barcode data.
`-e`	`--translation=`*STATE*	`s`*STATE*	Enables or disables the translation of escape sequences. Possible values are: ▪ on ▪ off
	`--formatstring=`*FORMAT*	`F`*FORMAT*	Sets the format string. For information on the format string syntax, please refer to the **TBarCode for Linux** user manual. Example: `--formatstring="A##B&"`

Table 3: Barcode Parameters: Data

7.5 Barcode Size and Position

Short	Long	Equivalent in v1 Format	Description

`-w`	`--width=`*WIDTH*	`w`*WIDTH*	Sets the width of the barcode.
			The unit of measurement is millimeters.
			Examples:
			`-w25.4`
			`--width=55`

`-h`	`--height=`*HEIGHT*	`h`*HEIGHT*	Sets the height of the barcode.
			The unit of measurement is millimeters.
			Examples:
			`-h15`
			`--height=25.4`

`-x`	`--xpos=`*POSITION*	`x`*POSITION*	Sets the (absolute or relative) x-position of the barcode.
			The unit of measurement is millimeters.
			The positioning mode (absolute or relative) can be set with `--pos`.
			Examples:
			`--pos=abs --xpos=100`
			`--pos=rel --xpos=-10.5`
			Please note: v1 format always uses absolute positioning!

`-y`	`--ypos=`*POSITION*	`y`*POSITION*	Sets the (absolute or relative) y-position of the barcode.
			The unit of measurement is millimeters.
			The positioning mode (absolute or relative) can be set with `--pos`.
			Examples:
			`--pos=abs --ypos=100`
			`--pos=rel --ypos=-10.5`
			Please note: v1 format always uses absolute positioning!

	`--origin=`*ORIGIN*	`ot` `ob`	Sets the origin of the barcode. Possible values are: ▪ top ▪ bottom

			When set to `top` the current cursor position (respectively the coordinate specified via the optional parameters `--xpos` and `--ypos`) is treated as top left corner of the barcode. When set to `bottom` the current cursor position is treated as the bottom left corner of the barcode. Example: `--origin=TOP` Please note: In PostScript the default origin is `top`, in PCL the default origin is `bottom`.
`-m`	`--modulewidth=`*WIDTH*	`m`*WIDTH*	Sets the module width. The unit of measurement is millimeters. Example: `--modulewidth=0.254`
`-O`	`--optimalwidth`	`O`	Optimizes the module width for the given output resolution. This option eliminates aliasing effects. When enabled, the module width will become exactly a multiple of a single printer dot (or pixel). Module widths with fractional parts are avoided. This option is a must for low output resolutions. Please note: Always use this parameter in combination with the parameter `--dpi`. Example: `--dpi=300 --optimalwidth`

`-r`	`--rot=`*ROTATION*	`r`*ROTATION*	Sets the rotation of the barcode.
			The unit of measurement is degrees (counterclockwise, only 90° angles are supported).
			Possible values are:
			▪ 0 (default)
			▪ 90
			▪ 180
			▪ 270
			Examples:
			`-r90`
			`--rot=180`

Table 4: Barcode Parameters: Size and Position

7.6 Barcode Appearance (Quiet Zone, Print Ratio, …)

Short	Long	Equivalent in v1 Format	Description
	`--bearertype=`*TYPE*		Sets the type of the bearer bar. Possible values are: ▪ `none` default ▪ `topandbottom` Bar above and below the barcode. ▪ `rectangle` Rectangle around the barcode. ▪ `top` Horizontal bar above the barcode. ▪ `bottom` Horizontal bar below the barcode. The former value `horizontal` is deprecated and has been replaced by `topandbottom`. Example: `--bearertype=TOPANDBOTTOM`
	`--bearerwidth=`*WIDTH*	`g`*WIDTH*	Sets the width of a bearer bar. The unit of measurement is millimeters. Example: `--bearerwidth=1.5`

	`--notchheight=`*HEIGHT*	`N`*HEIGHT*	Sets the notch height. The unit of measurement is millimeters. Example: `--notchheight=2.0`
	`--printratio=`*RATIO*	`R`*RATIO*	Sets the print ratio (ratio of narrow to wide bars and spaces). For information on the print ratio, please refer to the Barcode Reference (see also section 3.2). Example: `--printratio="1:2:1:3"`
	`--quietzoneh=`*WIDTH*	`Qh`*WIDTH*	Sets the width of the horizontal quiet zone. The horizontal quiet zone is the empty space at the left and at the right of the barcode. The unit of measurement is given via `--quietzoneunit`. (In v1 format: always millimeters.) `Example: --quietzoneh=10`
	`--quietzonev=`*HEIGHT*	`Qv`*HEIGHT*	Sets the height of the vertical quiet zone. The vertical quiet zone is the empty space at the top and at the bottom of the barcode. The unit of measurement is given via `--quietzoneunit`. (In v1 format: always millimeters.) `Example: --quietzonev=10`
	`--quietzoneunit=`*UNIT*		Sets the unit in which the quiet zones are given (see `--quietzoneh` and `--quietzonev`). Possible values are: ▪ `none` no quiet zone (default). ▪ `mod` module widths. ▪ `mm` millimeters. ▪ `mils` mils (1 mil = 1/1000 inch). ▪ `inch` inches. ▪ `px` pixels. `Example: --quietzoneunit=mod`

Table 5: Barcode Parameters: Appearance (Quiet Zone, Print Ratio, …)

7.7 Text Settings

Short	Long	Equivalent in v1 Format	Description

`-t`	`--text=`*POSITION*		Sets the position of the human readable text or hides it.
			Possible values are:
			▪ `below` Draws the text below the bars.
			▪ `above` Draws the text above the bars.
			▪ `h | hide` Hides the text (draws only the bars).
			Examples:
			`-th`
			`--text=HIDE`

		`a`	Same as `--text=above` in the default format.
		`n` `Toff`	Same as `--text=hide` in the default format.
	`--font=`*NAME*	`f`*NAME*	Sets the font that is used for drawing the human readable text. Within PostScript documents the font must be specified via its name, within PCL documents via the PCL font number. Example (Postscript): `--font=Helvetica`

			Example (PCL): `--font=4099`
	`--fontsize=`*SIZE*	`f`*SIZE*	Sets the size of the human readable text. The unit of measurement is points.
	`--textdist=`*DISTANCE*	`i`*DISTANCE*	Sets the distance between the bars and the text. The unit of measurement is millimeters.

Table 6: Barcode Parameters: Text Settings

7.8 Specific PCL/PS Settings

Short	Long	Equivalent in v1 Format	Description
	`--initgraphics`	`I`	Calls the *initgraphics* command in a PostScript document. This may improve the positioning of the barcode if relative positioning is used.
	`--movecursor`	`e`	Moves the cursor in PCL to end of the barcode.

Table 7: Barcode Parameters: Specific PCL/PS Settings

7.9 More Settings

In addition to the parameters described above, there are numerous other parameters which allow more detailed adjustments of the barcodes respectively offer additional barcode specific settings.

There is a number of specific settings related to 2D barcode symbologies like:

- PDF417, MicroPDF417, MacroPDF417
- Data Matrix
- MaxiCode
- QR-Code, Micro QR-Code
- Codablock-F
- Aztec Code
- GS1 DataBar Expanded Stacked (RSS)
- Composite Barcodes
- Barcodes Sequences (Multiple Barcodes)

► All these additional parameters are available in the default parameter format only (not in v1 format)!

► For more information, please check out the **TBarCode for Linux** user manual http://www.tec-it.com/download/PDF/TBarCodeX9_Manual_EN.pdf.

8 Barcode Symbologies

TBarCode/Embedded supports the following barcode symbologies. To specify the desired symbology use the parameter `-b`*NUMBER* with one of the numbers listed below (e.g., use –b20 for Code 128).

For detailed information on the single barcode symbologies, please refer to the TEC-IT Barcode Reference http://www.tec-it.com/download/PDF/Barcode_Reference_EN.pdf.

Number	Barcode Symbology
0	Not a valid symbology
1	Code 11
2	Code 2OF5 Standard
3	Code 2OF5 Interleaved
4	Code 2OF5 IATA
5	Code 2OF5 Matrix (alias 2 of 5 Standard)
6	Code 2OF5 Data Logic
7	Code 2OF5 Industrial
8	Code 3 of 9 (Code 39)
9	Code 3 of 9 (Code 39) Extended
10	EAN-8
11	EAN-8 with 2 Digit Add-On
12	EAN-8 with 5 Digit Add-On
13	EAN-13
14	EAN-13 with 2 Digit Add-On
15	EAN-13 with 5 Digit Add-On
16	EAN-128 (supports AIS)
17	UPC 12 Digits
18	CodaBar 2 Widths
19	RESERVED FOR FUTURE USE
20	Code 128
21	Deutsche Post Leitcode
22	Deutsche Post Identcode
23	RESERVED FOR FUTURE USE
24	RESERVED FOR FUTURE USE
25	Code 93
26	RESERVED FOR FUTURE USE
27	RESERVED FOR FUTURE USE
28	Flattermarken
29	GS1 DataBar (RSS-14)
30	GS1 DataBar Limited (RSS)
31	GS1 DataBar Expanded (RSS)
32	Telepen Alpha
33	UCC / EAN-128

34	UPC-A
35	UPC-A with 2 Digit Add-On
36	UPC-A with 5 Digit Add-On
37	UPC-E
38	UPC-E with 2 Digit Add-On
39	UPC-E with 5 Digit Add-On
40	USPS PostNet5 (ZIP)
41	USPS PostNet6 (ZIP+CD)
42	USPS PostNet9 (ZIP+4)
43	USPS PostNet10 (ZIP+4+CD)
44	USPS PostNet11 (ZIP+4+2) Delivery Point Barcode
45	USPS PostNet12 (ZIP+4+2+CD) Delivery Point Barcode
46	Plessey Code
47	MSI Code
48	SSCC-18
49	RESERVED FOR FUTURE USE
50	LOGMARS
51	Pharmacode One-Track
52	Pharma Zentralnummer (PZN)
53	Pharmacode Two-Track
54	RESERVED FOR FUTURE USE
55	PDF417
56	PDF417 Truncated
57	MaxiCode
58	QR-Code
59	Code 128 (Subset A)
60	Code 128 (Subset B)
61	Code 128 (Subset C)
62	Code 93 Extended
63	Australian Post Customer (Standard)
64	Australian Post Customer 2
65	Australian Post Customer 3
66	Australian Post Reply Paid
67	Australian Post Routing
68	Australian Post Redirection
69	ISBN Code (= EAN13P5)
70	Royal Mail 4 State (RM4SCC)
71	Data Matrix
72	EAN-14
73	RESERVED FOR FUTURE USE
74	Codablock-F
75	NVE-18
76	Japanese Postal

77	Korean Postal Authority
78	GS1 DataBar Truncated (RSS)
79	GS1 DataBar Stacked (RSS)
80	GS1 DataBar Stacked Omnidirectional (RSS)
81	GS1 DataBar Expanded Stacked (RSS)
82	Planet 12
83	Planet 14
84	MicroPDF417
85	USPS OneCode (4-State Customer Barcode)
86	Plessey Bidirectional
87	Telepen
88	GS1-128
89	ITF-14
90	KIX
91	RESERVED FOR FUTURE USE
92	Aztec Code
93	DAFT Code
94	Italian Postal 2 of 5
95	RESERVED FOR FUTURE USE
96	DPD Code
97	Micro QR-Code
98	HIBC LIC 128
99	HIBC LIC 39
100	HIBC PAS 128
101	HIBC PAS 39
102	HIBC LIC Data Matrix
103	HIBC PAS Data Matrix
104	HIBC LIC QR-Code
105	HIBC PAS QR-Code
106	HIBC LIC PDF417
107	HIBC PAS PDF417
108	HIBC LIC MicroPDF417
109	HIBC PAS MicroPDF417
110	HIBC LIC CODABLOCK-F
111	HIBC PAS CODABLOCK-F

Table 8: Supported Barcode Symbologies

9 Licensing

9.1 General Information

TBarCode/Embedded can be used immediately after installation. As long as you have not licensed the product an additional horizontal bar will be printed over the barcodes. Usually this horizontal bar does not affect the readability of the barcode for evaluation purposes.

The purchase of a license (and applying the license file) removes this restriction.

9.2 Temporary License for Testing

► If you want to test the barcode generation without the demo bars on the output, please contact office@tec-it.com. We can send you a temporary license file.

9.3 License Types

There are three possible license modes to choose from:

- Single-Server or Multi-Server
- Site
- World / Multi-Site

9.4 Purchasing

For purchasing a license please contact office@tec-it.com.

Your order should contain the following information:

- Host name of the ISD400 / ISD410 (can be found on the display) – for Single-Server licenses only.
- License Type
- Licensee (e.g. the name of your company)
- Number of Licenses
- 1D or 2D barcodes

► You can find the host name of the ISD400 / ISD410 on the front display of the spooling device or on the ISD administration page.

9.5 Installing the License File

After sending your order to TEC-IT you will receive a file with your license data. This file is named *"tbarcode-license-XXX.bin"*. It must be installed via the ISD400 / ISD410 administration page (see section 4.4) in addition(!) to the filter package.

10 Contact and Support Information

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Fax: +43 / (0)7252 / 72 72 0 – 77
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Appendix A: The CUPS Log

The CUPS log shows all errors which occurred during printing. **TBarCode/Embedded** filter errors are prefixed with the string “tbarcode:”.

In order to open the error log proceed as follows:

1. Open the ISD400 / ISD410 info page (http://isd400host/info/).
2. Select *Event Log* ❶.
3. Select *Printing Services* ❷.

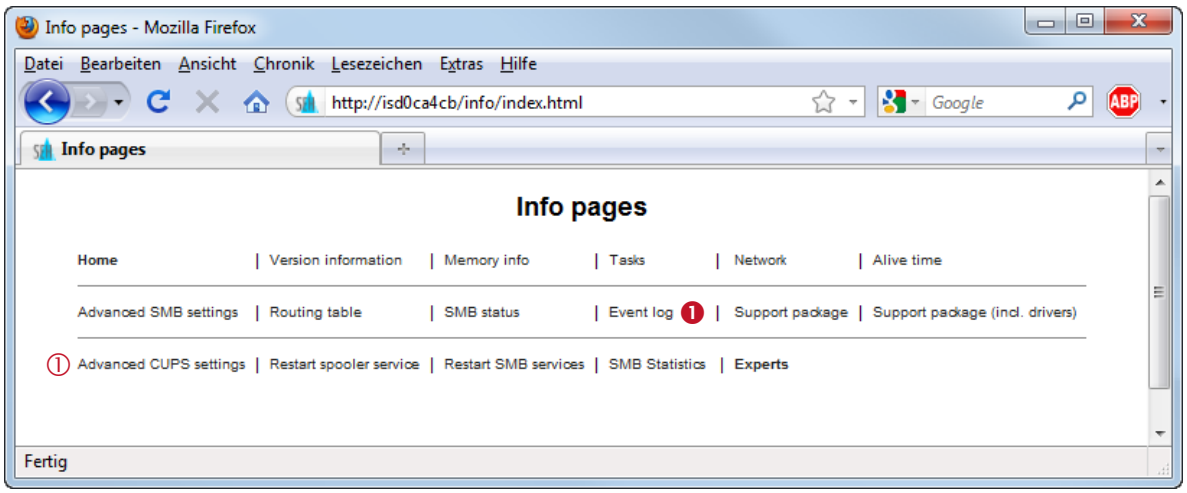

Figure 8: CUPS Log – Step 1

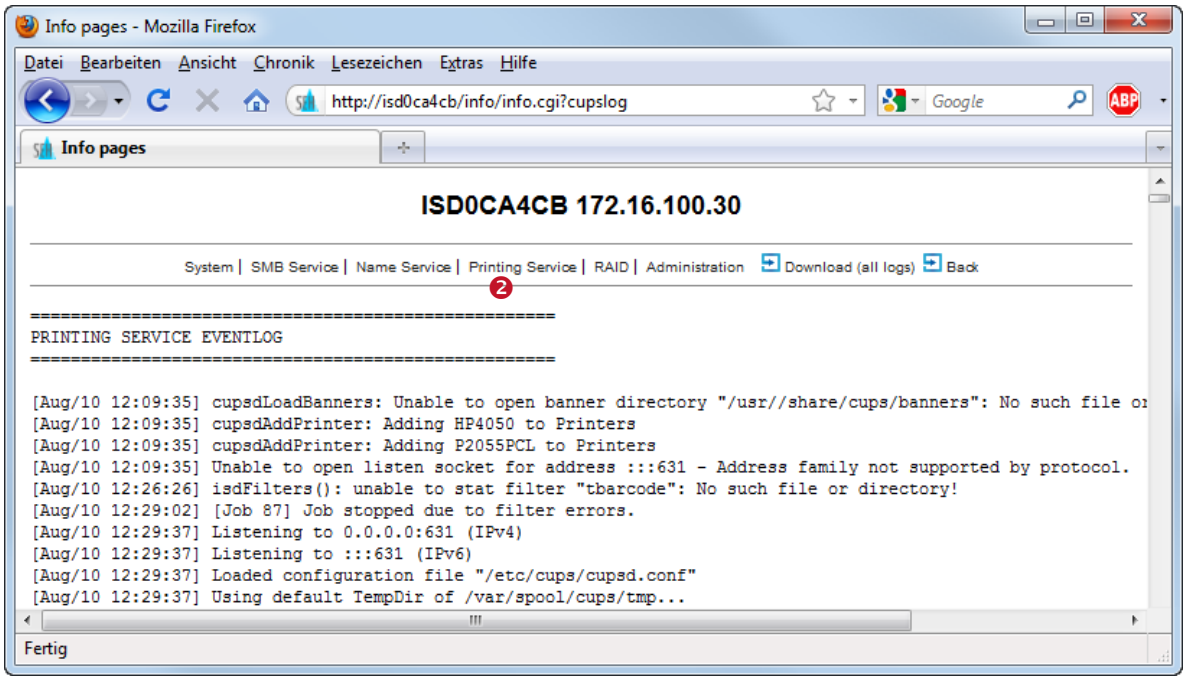

Figure 9: CUPS Log – Step 2

Please note:

► The CUPS log level (error, debug, …) can be selected under *Advanced CUPS settings* ①.

Appendix B: TBarCode Debug Information

For retrieving detailed information on **TBarCode** related errors you can create an event log.

Therefore proceed as follows:

1. Install the debugging software package “tbarcode-enable-debug.bin” (respectively “tbarcode-enable-debug-v1format.bin”) – see also sections 4.3 and 4.4.
2. Print the document where the error occurred.
3. Open the trace file on the ISD400 / ISD410 (http://isd400host/download/tbtrace.txt).
4. Remove the debugging package, when no longer needed.

The debug information gives detailed information on all processed control sequences, on all adjusted parameters, etc. Errors are marked with the keyword “error”.

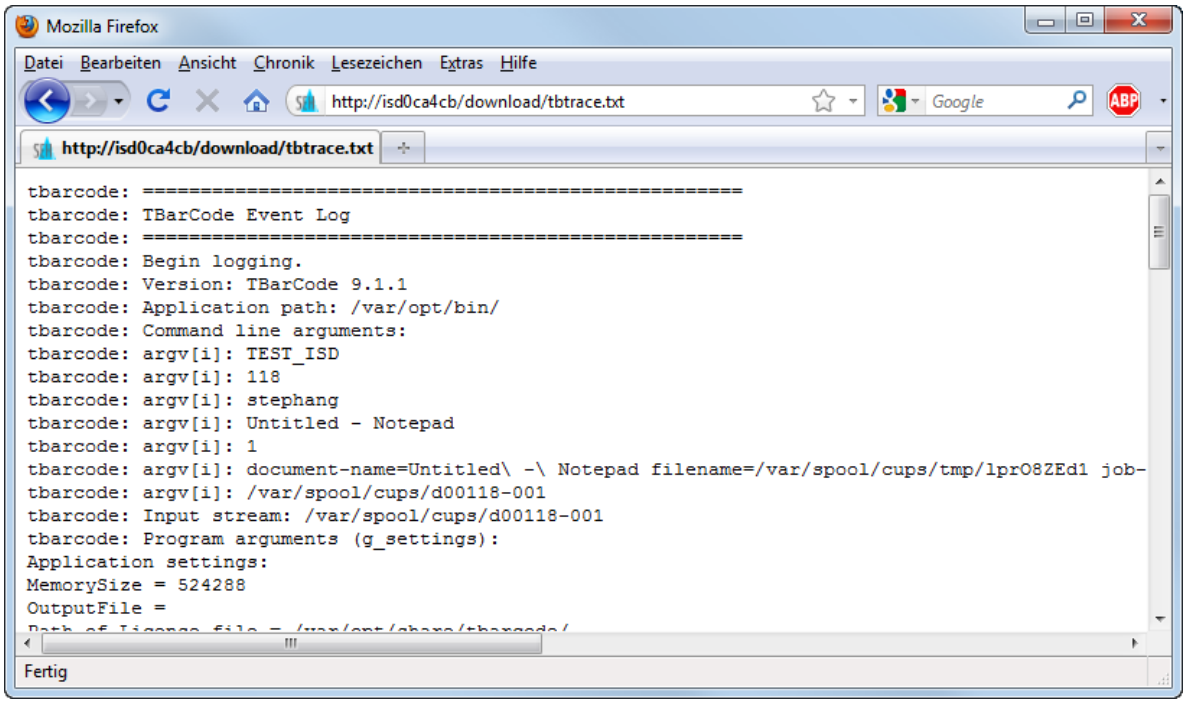

Figure 10: TBarCode Debug Information

As long as the debugging software package (see 1.) is installed, **TBarCode/Embedded** will write extensive trace output for each printed document respectively for each printed barcode:

> ► If you do not need the debug information any longer, please make sure to remove the **TBarCode/Embedded** debugging software package! Otherwise a huge amount of tracing information will be created, which a) may slow down printing and b) will continuously fill the hard disk on the ISD.

If you have SSH access to the ISD you can delete the trace file as follows:

```
rm /var/ftp/tbtrace.txt
```