

A white paper for BOCR / IBS / ELP on Ricoh printer AP410N and 610

The content:

1.	What you need.....	1
2.	The intension of this document	1
3.	The installation.....	1
4.	Test the installation	3
5.	About ELP – Storing and using forms on SD cards like on harddisk.....	4
6.	About ELP – Search / Replace / Insert / Erase / Add etc.....	5
7.	The real power of ELP	5

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1. What you need

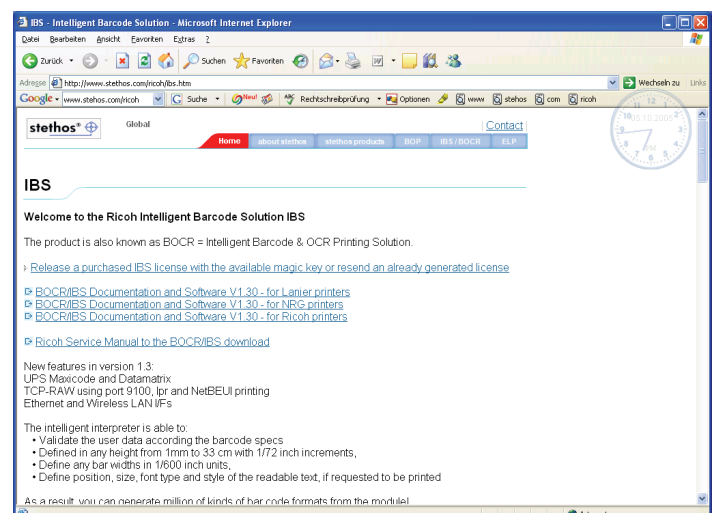
- An AP410N or 610 network printer, printer requirements are displayed at <http://www.stethos.com/ricoh/ibs.htm>.
- A regular SD Card (stethos did simply purchase the cheapest module available around the corner, in my case a 128 MB module) if you have an SD Card in your digital camera, use this one (after you saved the pictures ;-))
- A PC / Notebook with the Microsoft Internet Explorer
- **5 minutes time:** After the software is downloaded from our WEB to install IBS and perform a nice looking barcode test print.
- Optional: If you like to test the ELP functionality your PC needs an SD Card drive
- Additional 5 more minutes for some ELP functionality demonstrations

2. The intension of this document

- A cook book for the technical consultant or the end customer how fast IBS / ELP Version 1.3 can be installed of on the supported Ricoh printer hardware.
- Perform a quick barcode test
- Demonstrate how ELP can be used to overlay stored macros from the SD card. A functionality missing in the standard printer
- Demonstrate the power of ELP, within less then 10 minutes

3. The installation

- If you have also a Harddisk plugged into the printer, then IBS needs to go onto the Harddisk!
- If the SD card is not blank, insert it into your PC SD Card slot and format it
- Power the printer off and insert the SD Card into the UPPER(!) slot



- Power the printer on
- Start your Microsoft Internet Explorer(IE) and select this address:
www.stethos.com/ricoh and follow the BOCR / IBS link
- Download the BOCR/IBS Software for your printer brand and uncompress the file to your harddisk.

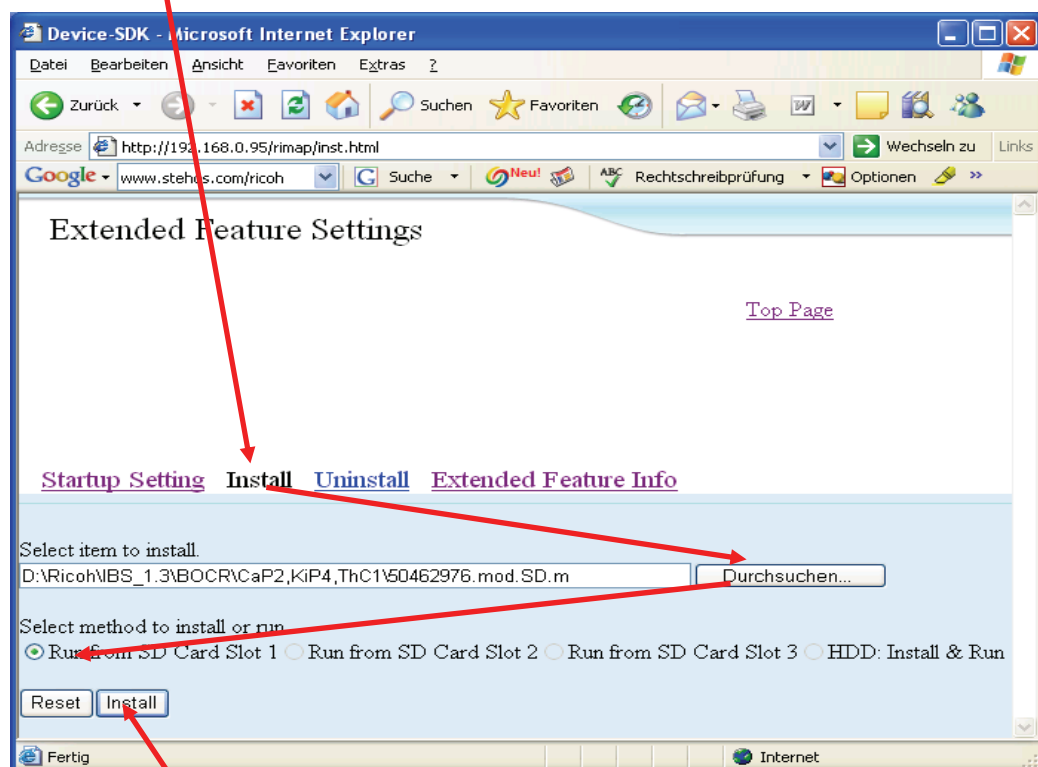
- Redirect the IE to the following address. (Mozilla does NOT work!)
<http://###.###.###.###/rimap> ###.###.###.### is the IP adresse of your printer

user name: admin
Password: ricoh



Now the Extended Features Settings are opened

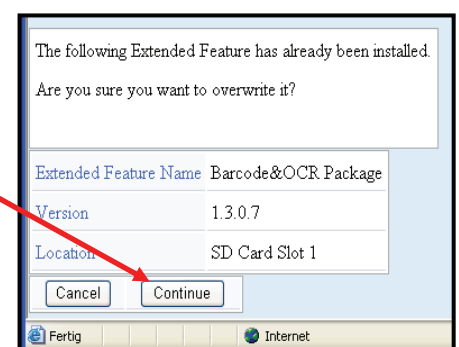
- Select Install headline link and on the next page:
- and select the file 50462976.mod.SD.m located in the BOCR\CapP2,KiP4,ThC subdirectory of the downloaded and extracted BOCR / IBS software
- Select "Run from SD Card Slot 1"



- Click on the Install button
- After some seconds the following sub-screen is displayed. Press Continue.

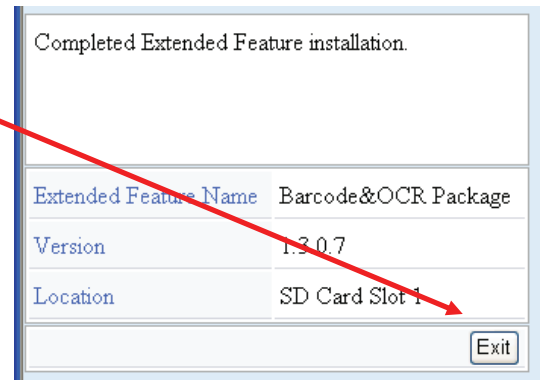
The printer does not show any reactions while the download is in progress.

- NOTE: If any error is displayed by the printers web interface you need to reboot the printer and the IE!



- Finally press Exit
Close the IE (This is very important)
Reboot the printer

- The installation is done.

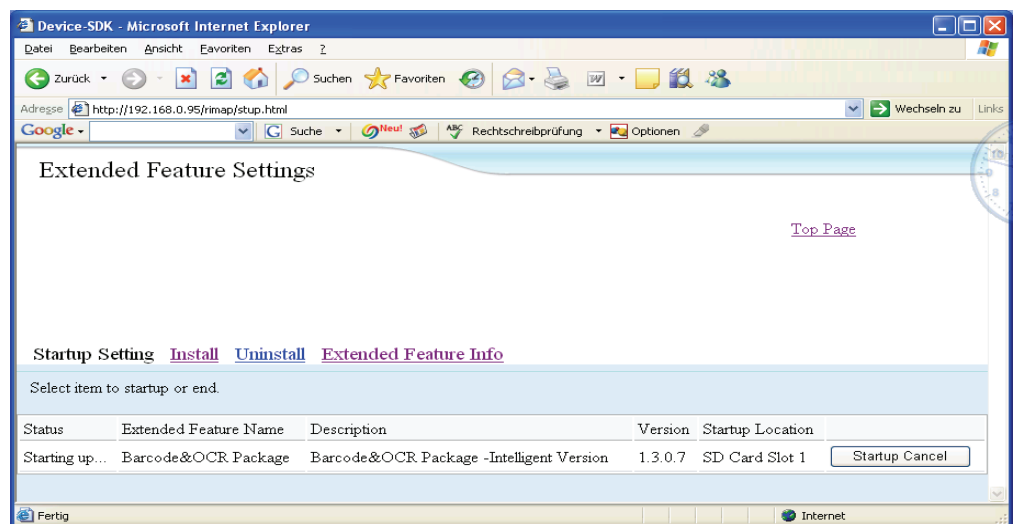


4. Test the installation

After the printer is rebooted, BOCR / IBS / ELP is ready to be used. However, if you want to be 100% sure, you have two options:

1. Open again the IE
open again the
Extended Feature
Settings via
<http://###.###.###.###/rimap>, after he log
on, open the Startup
Setting.

If the status is
Starting up the
software is running.



2. Send the supplied demo files to the printer. They are located in the directory testfiles of the downloaded software.

testbocr.prn
ocra.prn and ocrb.prn

generates a nice barcode print
yes IBS is including those fonts for the german bank
system or for address labelling

Open your DOS BOX and change into the testfiles directory and the following command sends the named file direct to the printer.

lpr -S ###.###.###.### -P 9100 testbocr.prn

5. About ELP – Storing and using forms on SD cards like on harddisk.

BOCR / IBS is officially supported by Ricoh as an OCR and intelligent Barcode software. But IBS is much more ELP: Enhanced Laser printing.

Especially the actual version of the AP410M and 610 printers can use SD cards, but only for adding firmware extensions to the printer and not for storing forms. Logos etc.

The ELP part of BORC / IBS does add this functionality to the printer. It is as easy as described here:

1. The first step is to generate a own form or the so called printer macro. This can be done with any application, then print the document using an PCL 5 driver to a file, install the software version of ELP (no license is needed) from www.stethos.com/e_welp.htm (German speaking: www.stethos.com/d_welp.htm) and convert the print file into a macro, which is stored at the welp\forms directory, named #####.mac where ##### is the macro number.

First timers: Please skip that procedure, as the IBS_wp.zip file contains some demo macros

2. Copy the macro files into a new directory, but name them #####.mac.#####
Example for the form: 500.mac is copied to 500.mac.500

First timers: Please skip that procedure, as the IBS_wp.zip file contains some demo macros

3. Power off the printer, take the SD Card out and plug it into your PC card reader.
4. Copy the files you made, or better the 3 files stethos provided with that document into the root directory of your SD Card.

300.mac.300	a form printing the watermark copy
500.mac.500	a letter head
501.mac.501	terms and conditions
502.mac.502	only the logo

NotesS Please use the windows file explorer. We had problems with the card in the printer, after we used the DOS box xcopy or copy /b commands.

The text ###.mac.### must be either in lower or uppercase. Mixed-case is invalid!

5. Plug the card back into the printers upper card slot and power on.
6. Now you can test the forms: (all files are pure ASCII files and must be downloaded using the described above lpr MS-DOS command. They can be best viewed with the MS-DOS edit command, but also with noepad):

SoftFlash.prn	This file prints in total 3 pages, and puts on each page on of the provided forms. The forms are called using standard PCL macro calls Esc&f####y3X
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6. About ELP – Search / Replace / Insert / Erase / Add etc..

Another basic functionality of the ELP implementation is the possibility to search for anything in the data stream and if the item is found, use it as a function trigger for any ELP command or simply replace it or add some other functions like macro / form calls.

This is real rule based printing!

Our provided example will search for the ASCII text: **BOCR/IBS** and if found in the data stream, the letter head overlay is printed on the actual and all following pages.

The rules are defined in a configuration file called convert.ini. Please store the provided file also in the root directory of the SD card, like explained in the last chapter. You may open the file with notepad and see the content.

Note: The file convert.ini must be stored in lower case on the SD cards root directory!

After the printer is back to READY, send the file search.txt to the printer, and watch the printed result.

For the functionalities explained in chapter 5 and 6, stethos offers a special low priced license for BOCR/IBS.

An other basic functionality is for example Tray Mapping.

7. The real power of ELP

To explain the mighty of ELP will definitively take too long here. We recommend to install the full software product to find out. Anyway it is recommended to test first the full functionality using the pure software based version, and finally store the macros and ini-files to the SD Card.

Right here just a small demo about the reprinting functionalities. ELP is able to take the PCL 5 / ASCII formatted print job and can handle for example all this:

- Put any watermark on any page
- Draw and page from any paper tray
- If out-trays are available, select them
- Reprint the job X times with the same variable page handling
- Select Simplex and Duplex
- Insert additional pages like terms and conditions.

All this functionality can be defined as rules in the convert.ini or to make it easier for the demos, the provided ones have coded the rule direct in the data stream.

The test files:

2_copies.txt	Prints 2 copies, using an ELP Command
2_copies_duplex.txt	The same as above, but first page is printed in duplex with inserted terms and conditions