

## 1. Version history for V4 embossers

The version history for the firmware in the V4 embossers is from version 1.3.3.

## 2. Firmware upgrade

If your current version in the embosser is **1.1.x** you need to have two new SD cards from Index.

See: [Firmware upgrade via SD card](#)

The reason for this is that we have change the internal file system on the SD cards in version 1.2.1 and higher.

If your firmware is **1.2.x** or higher you should follow the instruction on page:

[Firmware upgrade](#)

## 3. What's new in firmware

### 3.1 *Whats new in 1.5.5*

#### 3.1.1 *Changed line spacing for Japanese braille.*

- Firmware 1.5.5 upgrades V4 embossers with changes to the line spacing for Japanese braille. The line spacing has been changed for single sided printing accordingly: +1 mm for single space. The result is max 24 lines on a 8x10 inch paper. And -1 mm for double space resulting in a maximum of 18 lines on 8x10 inch paper.
- Also the ssh daemon in has been upgraded in Firmware 1.5.5 to remove all known vulnerabilities and exploits.

#### 3.1.2 *Important bug fixes in 1.5.5*

1. Update to ssh daemon to remove all known vulnerabilities and exploits.

## 3.2 **Whats new in 1.5.4**

### 3.2.1 **Support for graphics in BrailleBox V4**

Firmware 1.5.4 upgrades BrailleBox V4 with support for graphics. All paper formats can be used to print full page graphics. Graphics can also be printed in booklet/saddlestitch mode. All graphic modes are supported: *six dot graphics*, *general graphics*, *four dot graphics*, *image graphics* and *floating page graphics*. (see Index Printer Interface Protocol V4 for a full description of each graphics mode).

### 3.2.2 **Important bug fixes in 1.5.4**

2. Fixed issue where multiple documents (separated by SUB-character) sent to a network connected embosser would result in only the first document being printed.
3. Fixed issue where running a paper calibration on BrailleBox V4, would result in the maximum number of *characters per line* to be reduced by one.
4. Fixed issue that restricted the maximum number of *lines per page* that some V4 embossers could handle. Affected embossers would print one line less per page than the correct maximum.
5. Fixed issue where remote support could fail due to loss of “reconnect file”.

## 3.3 **Whats new in 1.5.3**

### 3.3.1 **Support for Index direct Braille (Windows, Mac OS X and Linux)**

**Mac OS X and Linux:** Firmware 1.5.3 now supports direct printing from applications for Mac OS X and Linux. Simply open your document in your preferred application and use the application’s normal printer dialogue. Tested with *Adobe Reader*, *Preview* and *Pages*.

**Windows:** Firmware 1.5.3 contains support for direct printing of word (.doc), PDF-files, BRF-files and TXT-files. If Index direct Braille is installed on your computer, you can: right-click on a doc-file or a pdf-file and choose the “Index direct Braille” option. The embosser will then print the selected document. It is also possible to double-click on firmware files (.ibe) to update the firmware of the embosser.

There are currently 141 different combinations of languages and different grade type that can be selected in the embosser. The different languages and grade types can be accessed from the embosser menu under:

**\*Braille Settings:**

**\*Lib Louis settings:**

**\*Lib Louis table:**

**\*<Language select>:**

**\*<Grade select>:**

### **3.3.2 Support for temporary paper and label definitions**

Firmware 1.5.3 contains support for defining temporary paper and label layouts using two new ESC-D sequences: “*define paper*” and “*define label*”. The temporary paper and/or label creates a new paper and/or label format that applies to the document that is being printed. The new definition format is both flexible and powerful allowing for almost any type of paper or label-paper to be handled by the V4 embosser, as long as it physically fits into the particular embosser. The document: “Index Embosser Interface Protocol – Creating Temporary Paper and Label Definitions”, defines in detail how to create the new type of definitions.

### **3.3.3 Graphics demo pages can now be printed without computer**

Firmware 1.5.3 includes a number of graphics demo pages that can be printed without a computer. The demo pages available for several paper formats, ensuring that each demo page is printed correctly for the currently selected paper. The demo pages can be accessed from the embosser menu under:

**\*Option:**

**\*Emboss without computer:**

**\*Demo files:**

**\*<Select paper type>:**

**\*<Select demo page>:**

### **3.3.4 Failsafe to ensure increased robustness of electronic components.**

Firmware 1.5.3 now contains improved fail-safe’s to protect hammers and their respective driving stages. The new fail-safes reduces the risk of burnt out hammers and driving stages.

### **3.3.5 Shortened fan noise at start-up.**

The duration the fan is run at start-up has been shortened to 15 seconds with firmware 1.5.3.

## **3.4 What's new in 1.5.2**

### **3.4.1 Improved flashing procedure**

Significantly improved stability of image flashing procedure. Flashing of image is now verified and reattempted (up to 10 times) in the case of failure(s). This will avoid most problems that have been experienced with regards to failed image flashings.

Progress reporting (via speech) during image flashing has been added. Embosser will now say how far flashing has proceeded. Speech feedback reporting progress, is provided for key presses and at regular intervals. The time interval between speech feedback can be set via the keyboard.

### **3.4.2 Improved USB connection**

Using the new Index Braille Windows driver 7, the USB connection now supports 2-way communication. It is now possible to query the printer via USB to find out current layout settings. E.g., Lines per page, characters per line, paper size, ... .

### **3.4.3 Deactivation of ink for Braille and Print**

It is now possible to deactivate Ink entirely and only print braille pages with the Braille and Print. This mode can be set from the MENU and by use of a “command”-file. The ink module will remain parked, while ink is deactivated.

### 3.4.4 *New keyboard adjustment functions*

New keyboard functions for adjustment of "paper feed step length" and "distance from wall" have been added. Also, we have added a new printout (accessible from the keyboard) to aid with debug of difficult alignment problems. If you are an authorized service technician you can contact Index Support at [support@indexbraille.com](mailto:support@indexbraille.com) for a description of how these keyboard functions work.

### 3.4.5 *Support for Millimeter A4 tractor paper for Basic-D*

Basic-D now supports A4 tractor with millimeter dimensions (~210mm x ~297mm). The paper format is identified by the embosser as "A4-tractor 35-3". The postfix "35-3" signifies that the hole pattern repeats itself every third page and that there are a total of 35 holes on these three pages. This convention allows for unambiguous handling of tractor millimeter paper, since it exactly determines the size of each paper.

### 3.4.6 *Miscellaneous updates*

- The Bottom offset for Braille Box is now by default set to 0.0.
- The Georgian braille table has been updated.

## 3.5 *What's new in 1.5*

### 3.5.1 *New linux image*

We have upgraded the linux kernel to version 3.2.43. This is to support 4 GB SD card. The start sequence for the new linux has been improved and we have added the possibility to activate a service mode before the SD card is mounted. During the startup of this new linux kernel we have added a tone signal to indicate a special position in the startup sequence.

### 3.5.2 *Service mode during startup of Linux*

We have added the possibility to activate a service mode before the SD card is mounted. This service mode is for service technicians that support the embosser. If you are an authorized service technician you can contact Index Support at [support@indexbraille.com](mailto:support@indexbraille.com) for a description of this new service mode.

### 3.5.3 *Synthetic speech interface in Linux kernel*

We have also added a synthetic speech interface to the Linux kernel and therefore the embosser can report error messages before the SD is mounted. This synthetic speech is in English and cannot be localized.

### 3.5.4 *Automatic restore of the SD card*

If the SD card is crashed and not possible to mount the embosser will start a sequence for restoring the SD card from Index web-site. It is also possible to startup the embosser without any SD card. In this case the embosser will wait until a SD card is mounted to the Embosser. The embosser will then start to restore the SD card from Index Braille website. IMPORTANT NOTICE is that a network connection with DHCP and internet connection is required for this function to work.

### 3.5.5

### 3.5.6 *What's new in 1.4*

### 3.5.7 *New user interface*

We have improved the user interface in version 1.4. We have added information about settings for line per page and characters per line when changing settings that affect this values, for example

### 3.5.8 *Braille page number / Volume handling*

We have added braille page number and volume handling

### 3.5.9 *Synthetic speech*

We have improved the user interface in version 1.4. We have added more information about settings for line per page

### 3.5.10 *New embossing principle*

One of the main changes in 1.4.1 is how the embosser internally handles the embossing of dots. We have change the principle for embossing of dots from row orientated to be page orientated.

This change in principle makes it possible to add new advanced embossing features. It also improves the embossing of different Braille cell sizes in the Braille box, for example it is now possible to emboss Jumbo Braille 3.2 mm in Braille box.

## **3.4 *What's new in 1.3***

### **3.4.1 New user interface**

We have improved the user interface in version 1.3. If you upgrade from 1.2.x you need to download and install a new speech interface for your locals. Follow the instructions: [Local speech upgrade](#)

### **3.4.2 Selecting braille layout**

The V4 embossers have five different braille layout settings that can be easily changed. From version 1.3.3 this selection is activated by pressing the UP or DOWN key. In previous versions the selection was made in the menu Braille settings

### **3.4.3 Echo lines per page and characters per line**

In version 1.3.6 we have added double key function for HELP + MENU. This key combination speech out lines per page and characters per line. These settings are of course for the selected layout. Which layout that is selected and the paper size in that layout is said if only the HELP key is pressed.

### **3.4.4 Searching the reference point for embosser head**

In version 1.3.7 we have added functionality to use a sensor when searching for the reference point for the embosser head. There needs to be a modification on the embosser head for the Everest-D and a new sensor needs to be installed in Basic-D.

In the Braille box a small board needs to be installed to support this new functionality.

### 3.4.5 Stand by position in Basic-D

From version 1.3.14 Basic-D have two stand by positions. Stand by position is where the embosser feeds the tear off paper edge after printing a document. The first stand-by position is out side the rollers on the back side. The second stand by position is used when the Basic-D is placed in the cabinet. The second stand by position is below the shelf inside the cabinet. Toggle between the two different stand by positions by pressing FEED+ON.

## 4. Corrected bugs / new functions

### 4.1 **Corrected bugs in 1.5.3 from 1.5.2** (as of 1.5.2 build numbers are no longer used)

| DESCRIPTION   |
|---|
| Stand by position is now calculated correctly when a printout is cancelled. |
| Fixed error in select layout  |
| Fixed error where led wasn't showing for 11.5"x11.0" paper.                 |

### 4.2 **Corrected bugs in 1.5.2 from 1.5.1** (as of 1.5.2 build numbers are no longer used)

| DESCRIPTION  |
|--|
| An initial fix for a problem that could cause embossers to halt and say "error 801" has been implemented.                                  |
| Fixed a problem that could cause "distance from wall"-settings to be lost.   |
| An initial fix for a problem that could cause very big print-outs to loose a Carriage return/line feed has been implemented.               |
| Fixed properties for paper size 11.5 x 11.0 for tray (Braille Box)   |
| Fixed the version used for the usb printer-driver (how it's parsed) and increased the length of the version field in the properties table. |

### 4.3 **Corrected bugs in 1.5.1 from 1.4.2**

| Build | DESCRIPTION   |
|-------|---|
| 66    | Added support for reset from distributors directory . |
| 66    | Added a moon font to the font directory.              |

|    |  |
|----|--|
| 66 | Added support to adjust the step distance for the embossing head.  |
| 65 | Changed load orientation from portrait to landscape for paper size 11.5x11 inches in Braille box.  |
| 64 | Fixed a problem in the menu for selection of paper size. If the current paper size didn't exist in the listing of available papers the embosser "crashed". |
| 63 | Added possibility to adjust the alignment for ewach individual embossing head in Braille box.  |
| 63 | Corrected a problems with the <i>Repeat and copy</i> function if it was used after a reboot of the embosser.   |

#### 4.4 **Corrected bugs in 1.4.2 from 1.4.1**

| Build   | DESCRIPTION  |
|---------|--|
| 57      | Added a new graphics interface that is more easy to use than the image graphic mode. The new graphic mode is a kind of bitmap graphics where every dot position is defined by x- and y-position inside a graphics area. We have attached a description and an example file for this new graphic mode.                                      |
| 57      | Added two new duplex format for Basic-D. Single sided sideway Z-folding and Double sided Z-folding.  |
| 57      | Fixed some issue with the image graphic and 2.0 mm graphics that was discovered for the software Tactile view graphics.  |
| 57      | For Basic-D the selection of tear of position is moved from key combination FEED+ON to the menu system. In the menu for System / Braille block position there is a new item for setting the tear off position. We have also added a new setting for turning off the feed to any position.  |
| 57      | Fixed a lot of issues for the Braille and print embosser for American Thermoform   |
| 57      | Improved the handling of ESC-D sequences   |
| 57      | Changed definition for paper size 11.5"x11"  |
| 57      | Fixed some issues for the internal production test on Index Braille  |
| 58 / 59 | Added ESC-C parameter CI ( Clean interval) and SI ( Service interval) for Braille and print  |
| 60      | Fix for missing step adjustment for BrailleBox. Was not moved when introducing floating page handling.<br><br>Added handling for "trailing lines" for BrailleBox. Print areas where not all printing heads need to be active for Braillebox are not printed either by master ( and possibly slave). Previously this was printed by slave2. |



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|----|---|
|    | Added ESC-C for pfStepAdjustment. Default value ~0.0005. Max = 0.005 (5000), Min = -0.005 (-5000).                                      |
| 61 | Removed Duplex in the menu for Braille and print<br><br>Removed landscape option for paper size A4, A3 and Letter for Braille and Print |

### 4.5 **Corrected bugs in 1.4.1**

| BUG | DESCRIPTION  |
|-----|--|
|     | <p>Release 1.4.1 is a new major release with a lot of improvements and added functionality.</p> <p>The main changes are how the embosser internally handles the embossing of pages. We have change the principle for embossing from row orientated to be page orientated.</p> <p>We recommend upgrading to this version.</p> |

### 4.6 **New function in 1.3.14**

| TYPE         | DESCRIPTION  |
|--------------|--|
| New function | Added support for two different stand by positions in Basic-D. |

### 4.7 **Corrected bugs / new functions in 1.3.13**

| TYPE    | DESCRIPTION   |
|---------|---|
| Bug-fix | In firmware version 1.3.12 we discovered a new problem with the alignment board and the firmware to the print processor. This problem was that the print processor never received correct signals from the alignment board when it was searching for the embosser head reference point. The search for the embosser head reference point never stopped because of a missing timeout. Fix for this problem is added and a new error can occur. Error number 401 – alignment board not working. |

### 4.8 **Corrected bugs / new functions in 1.3.12**

| TYPE    | DESCRIPTION   |
|---------|---|
| Bug-fix | In firmware version 1.3.11 a new bug was discovered and it was only implemented in this version. After some time or when sending a file to the embosser the embosser echo Error 200. We have made a fix for this problem. Firmware 1.3.11 was only installed in a few Braille box |
| Bug-fix | The embosser is restarting when receiving a document. This problem occurs if the document ends with double form feed characters (0x1C). We have made a fix for this problem that will handle the double form feeds in the end.  |

#### 4.9 **Corrected bugs / new functions in 1.3.11**

| TYPE         | DESCRIPTION   |
|--------------|---|
| Bug-fix      | It is still problem with alignment and to find the reference point for embossing heads in Braille box. The new sensor board is not working correct. In this version the software for listening on the sensor board is adjusted.   |
| New function | Added function for writing embosser information to the internal web site.   |
| New function | Added new handling of ESC sequences sent from applications. The function verify that the sequence include correct parameters. This new function also verify that dependencies between parameters are fulfilled. The dependency of ESC parameter in correct sequence is removed. Now the different parameters can be sent in random order. The function reads all parameters and then apply the settings in correct order. |

#### 4.10 **Corrected bugs / new functions in 1.3.10**

| TYPE    | DESCRIPTION  |
|---------|--|
| Bug-fix | Problem with printing position in Basic-D after pressing FEED when paper in standby position.  |
| Bug-fix | Problem with alignment in Braille box. Improved the calculation method for alignment in Braille box. The problem with alignment is depending on the print speed. We have added support for draft mode or high quality mode that will adjust the speed for embossing. |

#### 4.11 **Corrected bugs / new functions in 1.3.9**

| TYPE    | DESCRIPTION   |
|---------|---|
| Bug-fix | If error 202 occurred it was NOT possible to do anything but turn off the |

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|                  |  |
|------------------|--|
|                  | embosser. This is now fixed and the user can press OK to terminate the error condition and the embosser returns to idle state.   |
| Bug-fix          | If a file sent from an application to the embosser was divided into two or more files with an end of text character ( 26 / 0x1A ) the embosser didn't handled it. This is now fixed.   |
| Bug-fix          | Sending parameter GD ( Graphic Dot distance) in the first ESC-D sequence was NOT working. This is now fixed.   |
| Bug-fix          | When embossing a graphic image the setting for binding margin was ignored. This is now fixed.  |
| New function     | Pressing HELP in the production test routine of the embosser now echo the firmware version in the embosser and the IP address received by DHCP.  |
| New function     | Added parameter PJ to ESC-C for turning ON (1) or OFF (0) the sensor for checking paper jam in Basic-D.<br>IMPORTANT ! - The sensor should only be turned ON if the paper jam sensor is mounted in the embosser.   |
| Removed function | Removed function for parking embossing head when power off the embosser.   |
| Removed function | Removed the confirmation step when selecting layout with UP or DOWN keys. When the user press OK the new layout is selected.   |
| Bug-fix          | There was a problem to have different user defined paper sizes for different layouts. It's now possible to have different user defined paper sizes in each layout. The settings for the user defined paper size is remembered if change to a standard paper size and then back to the user defined paper size. |
| Bug-fix          | Problem with an extra 'D' character if an ESC-D sequence with the GD parameter was received in the formatting stream of a document. This extra D was embossed before the graphic image. This is now fixed.   |

### 4.12 **Correct bugs / new functions in 1.3.8**

| TYPE         | DESCRIPTION   |
|--------------|---|
| Bug-fix      | After a Out of paper error in Basic-D the printing is started without loading paper. This is fixed in this version. |
| Bug-fix      | Sometimes when pressing and holding OFF the embosser doesn't goes down. This should be fixed in this version.       |
| New function | Production test printing is restored to be character 'l' instead of 'p' for Basic-D and Everest-D.                  |

#### 4.13 **Corrected bugs / new functions in 1.3.7**

| TYPE         | DESCRIPTION   |
|--------------|---|
| Bug-fix      | Improved paper jam handling for the braille box. If the paper is jammed on the paper arms a paper release will be performed before paper jam error will be raised. Press 10 to release paper arms or remove paper by hand. Press OK to continue with next sheet of paper. |
| New function | Added support for parameter R1 for the ESCC sequence. Used to change the setting for the paper release level in the Braille box.  |
| New function | Added support for parameter DW – distance from wall. Possible to adjust the reference position for the embossing head with sending a file with parameter DW. Parameter DW supports multiple values for the braille box.   |

#### 4.14 **Corrected bugs in 1.3.6**

| TYPE         | DESCRIPTION  |
|--------------|--|
| New function | Improved paper jam handling for the braille box. If the paper is jammed on the paper arms a paper jam error will be raised. Press 10 to release paper arms or remove paper by hand. Press OK to continue with next sheet of paper.                               |
| New function | Added two new paper sizes for Russian market. The Russian speech interface is also updated with sentences for these new paper sizes.   |
| New function | Changed time for loading of paper in Braille box. The time it will try to get paper from the paper tray is now twice as long as for previous versions.   |
| Bug-fix      | Fixed the problem with changing value for 'Set distance between paper edge and first braille line' in the System / Braille block position menu. In previous version the value couldn't be increased since the check for the max limit was not working correctly. |
| Bug-fix      | There could be a problem with the Braille box waiting to start embossing after the formatting and search for reference position for the embossing head. This should have been fixed in release 1.3.6   |
| Bug-fix      | Fixed problem for key BACK in menu. Sometimes when pressing BACK in the menu the menu for Braille and print ( 'Clean ink head' ) was selected. This also fixes the problem with BACK key when selecting layout.  |

#### 4.15 **Corrected bugs in 1.3.5**

| TYPE         | DESCRIPTION   |
|--------------|---|
| New function | The led for paper size in Braille box in showing the setting in current selected layout instead of the position of the paper guide in the paper tray. |
| Bug-fix      | Fixed a bug for Braille box and double sided / single sided embossing. If the   |

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|         |  |
|---------|--|
|         | setting for character per line in the braille layout was less than the setting sent with the temporary document settings (ESC-D), the Braille box was shutting down  |
| Bug-fix | Literal with prefix. If a document with literal prefix was embossed the handling of character prefix was wrong. The first capital letter was replaced by the character prefix.   |
| Bug-fix | Braille box error – Braille tray open. If the braille tray was open when a new document should start to emboss the error “Braille tray open” was activated. When the braille tray was closed the Braille box didn't start to emboss. |
| Bug-fix | Network printing with Line printer daemon protocol. In previous version the embossing with the LPD protocol didn't work.   |

### 4.16 **Corrected bugs in 1.3.4**

| TYPE    | DESCRIPTION   |
|---------|---|
| Bug-fix | If another layout file is selected in the function with UP and/or DOWN keys the settings was NOT updated in the embosser. This problem is a problem that only exist in version 1.3.3.                       |
| Bug-fix | If a user send a file with IB-Print and the file didn't include a form feed to divide the file to pages all rows was placed on one single page. This problem is a problem that only exist in version 1.3.3. |

5.

## 6. Build history

| Build | Date       | Description   |
|-------|------------|---|
| 59    | 2013-03-12 | Release build of 58 without directory <code>./etc/sysconfig</code> for Basic-D and Everest and Braille Box. Mostly because of <code>firmware.tar.bz2</code> should be up to date. |
| 58    | 2013-03-07 | Special build for Braille and print including directory <code>./etc/sysconfig</code>  |
| 57    | 2013-03-05 | First release build for 1.4.2   |

## 7. Known issue

| ISSUE | WORKAROUNDS, CLARIFICATIONS, HINTS |
|-------|------------------------------------|
|       |                                    |
|       |                                    |
|       |                                    |
|       |                                    |
|       |                                    |

## 8. Speech interface

| Sentence | New value | Old value |
|----------|-----------|-----------|
|          |           |           |
|          |           |           |
|          |           |           |