# Librid 3 manual

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# About this manual

This manual covers the software part of Librid 3 self-service unit. It also has some information about the hardware, but is not a complete guide to all hardware aspects of the unit.

This manual is up to date for Librid 3 versions **4.1.5962** and **5.0.5962**.

# About Librid 3

Librid 3 is the software running on Libmaster, Librid and Pillar self-service stations. The hardware comes in many shapes and sizes, with different configurations, but the software is always the same.

Librid 3 software can be configured to work with various hardware options such as RFID readers, Barcode readers and EM demagnetizers. It can also be connected to any library management system via SIP 2 protocol, to work seamlessly with existing library infrastructure.

# Version numbering

Librid version numbers are in the form of **5.0.5953.7621**. From this the two first numbers (5 and 0) are the actual version and sub-version numbers. The third number (5953) is an automatic number indicating the build date of the software. The last number (7621) is an automatic build identifier and does not contain information relevant to the use of the software.

When contacting support, you should always report the version number using the three first numbers, for example **5.0.5953** .

# Getting started

This chapter covers the most basic operations and settings of the software without going into too much detail. The rest of the manual has more specific information about all aspects of Librid 3, including a full settings reference.

## Starting Librid 3

The self-service unit should be pre-configured to start Librid automatically when it is turned on. If Librid does not start automatically, or you have to turn it off and on again, you can start it by double-clicking on the program icon on the desktop:



**Librid 3 desktop icon**

## Closing Librid 3

To close Librid 3, type the word **exit** on the keyboard and press <enter>. You can also use a specific exit-card in the card reader, if one has been configured. See section *Creating an Exit-card* for details.

## Starting the computer

To turn on the computer in the self-service unit, turn on the main power switch. This will also by default start Librid 3, once the computer has finished the start-up sequence.

There may be specific cases when the device should be turned on by different means. In such case please follow the instructions given for that procedure.

## Shutting down the computer

Before shutting down the computer, always close Librid first: type **exit** on the keyboard, or use a specific Exit-card to shut down.

After Librid has been closed, you can turn off the computer normally. Choose **Shut down** or **Turn off** from the Windows menu, and wait for the computer to shut down; the screen will be completely black. It is now safe to turn off the main power switch.

## Statistics report

Librid 3 comes with a separate program, **Supa Reporter**, which is used to access statistics. If your environment is configured as centralized system, you will be able to access the statistics from any workstation in the library. For standalone installations, reports must be executed on each self-service unit separately.

See chapter *Statistics* later in this guide for introduction to Supa Reporter. There is also a separate manual available for more details on the reporter tool.

## Controlling the sounds

Librid 3 can be configured to play sounds on various events. Sounds have to be in WAV format files and they need to be uploaded to the database using **Management Utility**.

In Management Utility, go to "Audio files" tab and click on the "Upload" button:
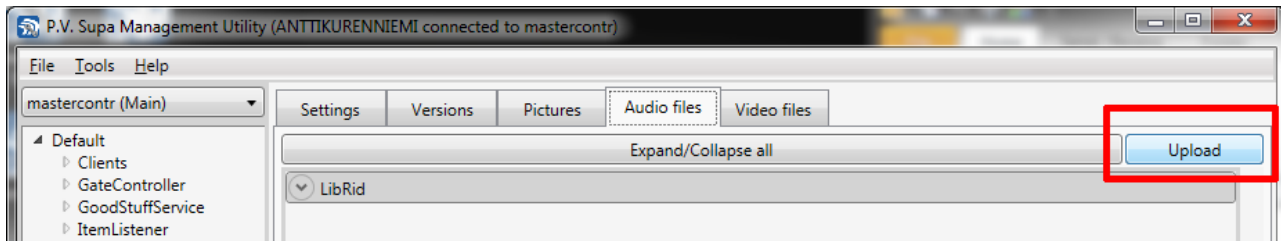


**Management utility, working with audio files**

In the Upload dialog, select "Librid3" as the application, and browse the file you wish to use:
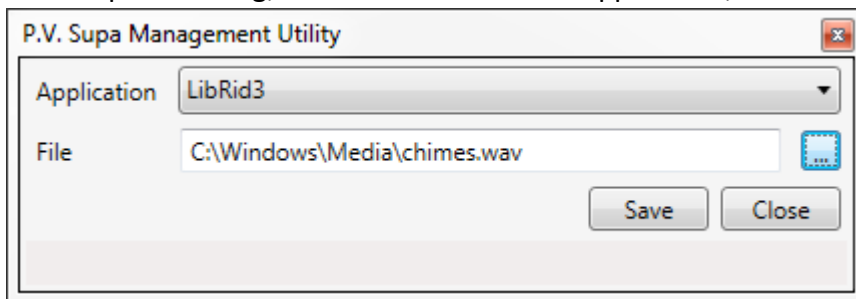


**Uploading audio files**

Then click on **Save** button. Note that you need to restart Management Utility or click on the **Refresh** button in Management Utility, before the uploaded files are available for selection.

To configure the files for each device:

1. Close Librid by typing **exit** on the keyboard or using a specific Exit-card.
2. Start Management Utility
3. Select section **Audio files** from under each device in the treeview, on the left
4. Select from the drop-down lists the sound(s) you wish to use for each action.
5. Finally, click on the **Save** button at the bottom left of the window to save changes.
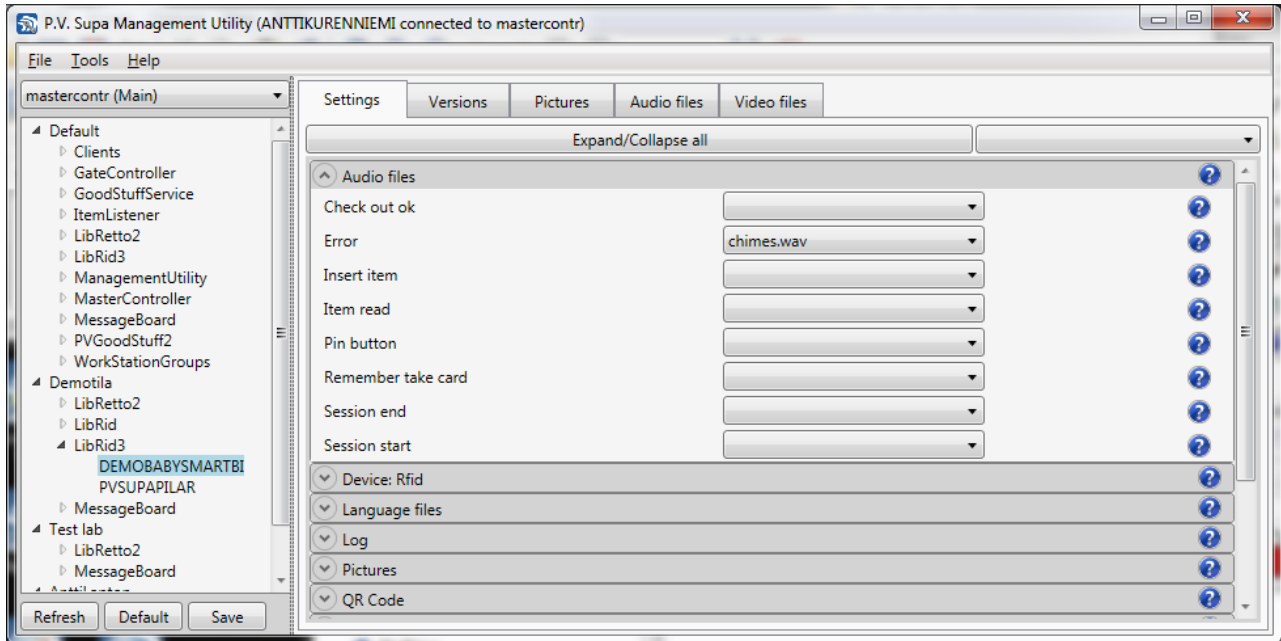
**Audio files in Management Utility**

The different sounds are:

**Check out OK**: Sound plays when library system has accepted the check-out.

**Error**: Sound plays when there is an error situation in the self-check.

**Insert item**: Sound plays when the self-check is ready to process next item

**Item read**: Sound plays when the self-check has identified an item

**Pin button**: Sound plays when PIN-code has been given

**Remember take card**: Sound plays when the Librid program reminds the patron to take his patron card from the card reader

**Session end**: Sound plays when the check-out/in session is closed

**Session start**: Sound plays when the check-out/in session is started

## Changing receipt font sizes

Receipt font sizes are controlled via the **Management Utility**. To change the font sizes, first close Librid and then open Management Utility. In Management Utility, find section **Receipt** under the **Librid3** branch:
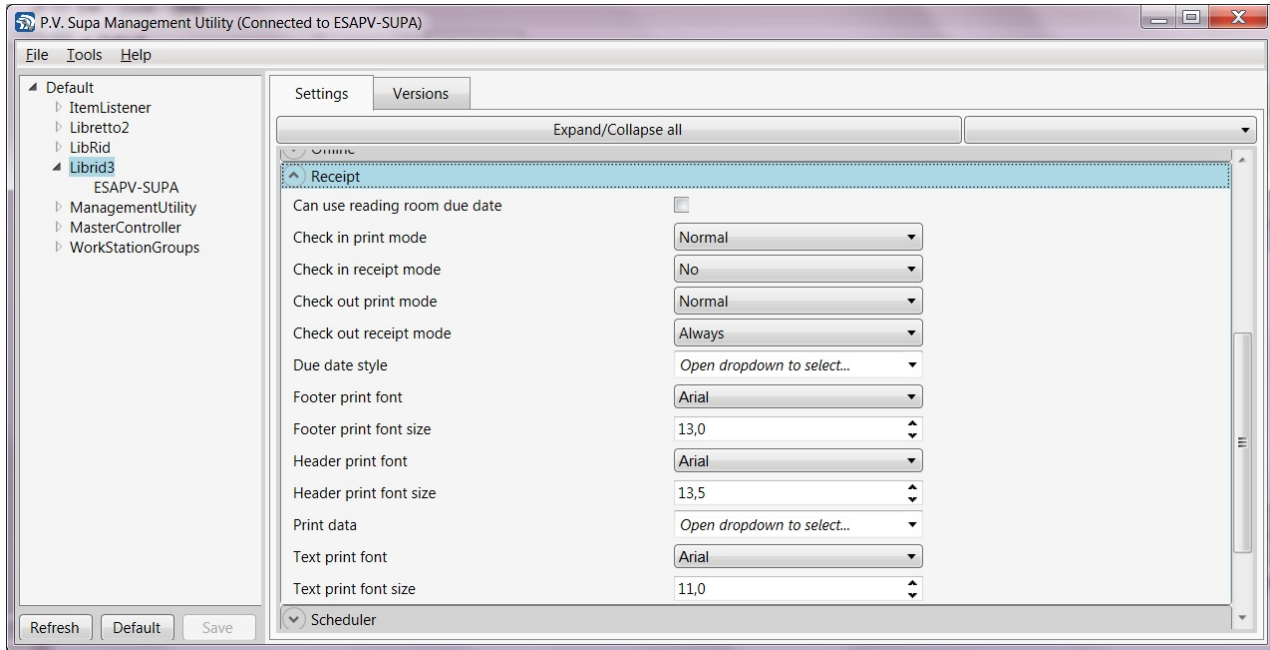
**Management Utility - receipt settings**

**Footer print font size** is the size of the footer font, at the end of the receipt.

**Header print font size** is the size of the header font, at the top of the receipt.

**Text print font size** is the size of the main text of the receipt.

Change these to what you want them to be, and then click on the **Save** button at the bottom left. The changes will take effect when Librid 3 is next started.

## Information printed on receipts

You can choose what information you wish to print on the receipts. To do this, first close Librid 3 and open Management Utility. In Management Utility, find section **Receipt** under the **Librid3** branch.

Open the drop-down list **Print data** and mark all data you want to appear in the receipts. Then click on the **Save** button to save the changes.

Note, that not all library systems support all possible combinations and all information, so it may not be possible to print everything as desired.

For more detailed information about the possible values of Print data, please see the section *Print data* in the settings reference.

## Changing receipt texts

Text labels on receipts can be modified to include for example the Library name and address. Editing is done by **Language Editor**, a separate software tool from P.V. Supa, included in each system. For information about how to do this, see section *Language editor* later in this document.

## Changing the timers

Various aspects of how the device works can be controlled by timers. These typically control for how long a message is displayed on screen, or how long the patron has to respond to a question, and so on.

**Note**: do not change the values beyond recommended values, for it may make the device function incorrectly.

Timers are located in Management Utility under **Librid3** branch, section **Timers**. To see details about what each timer does, please see the settings reference in this document, section *Timers.*

## Connection to library system, SIP server

Librid 3 uses the SIP2 protocol to communicate with the library system. Settings to control how the connection is formed can be found in Management Utility, under **Librid3** branch, then the machine name, in section **SIP.** Please see *Settings reference* for details of each of these settings.

**Note**: If the system is working normally, do not change these settings. Incorrect settings will prevent the device from working correctly.

# Software overview

Librid 3 comes pre-installed on the self-service station. It is a normal Windows application, and should it ever need to be updated or uninstalled, normal Windows software installation procedure should be used: use Control Panel to uninstall, and an MSI installer package to install the software.

## Configuring the software

Librid 3 is configured with a separate software tool, **Management Utility**. Management Utility is used to configure all P.V. Supa software. Typically it contains groups of settings that are shared for each Librid 3 system running on the same location, and other groups of settings that are separate for each individual system.

Depending on the setup, there may be workstation groups assigned, in which case groups of stations can be configured separately.

When any changes are made, Librid 3 software needs to be restarted for the changes to take effect.

A settings reference can be found later in this manual. For details on how to work with Management Utility, see a separate Management Utility manual.

# Delayed startup

It is possible to start Librid in a delay mode. This means that Librid starts up and then waits for a given period of time, before attempting to form connections to library systems and other devices. It can be useful for example if Librid is running on a very slow computer and is set to automatically start at computer startup, where not all services may be up and running by the time Librid is attempting to start.

To control the delayed startup, use a command line parameter **-delay:xx**, where xx is the delay time in seconds. You can assign this parameter in the startup shortcut properties in Windows. Note that in Windows 7 computers you have to create a new shortcut, because the one created by the installer can not be modified.

# Language editor

Language editor is a tool for working with screen texts - texts visible on-screen in Supa software such as Librid or Libretto - and in some cases receipt texts. Receipt texts can be modified with Language editor in Librid 2 and Librid 3; in Libretto 2, receipt texts are modified using a separate tool, Receipt editor.

This chapter describes the use of Language editor briefly. There is a separate complete manual available for Language editor with more details.

## Working with language files

Language editor main screen initially looks like this:
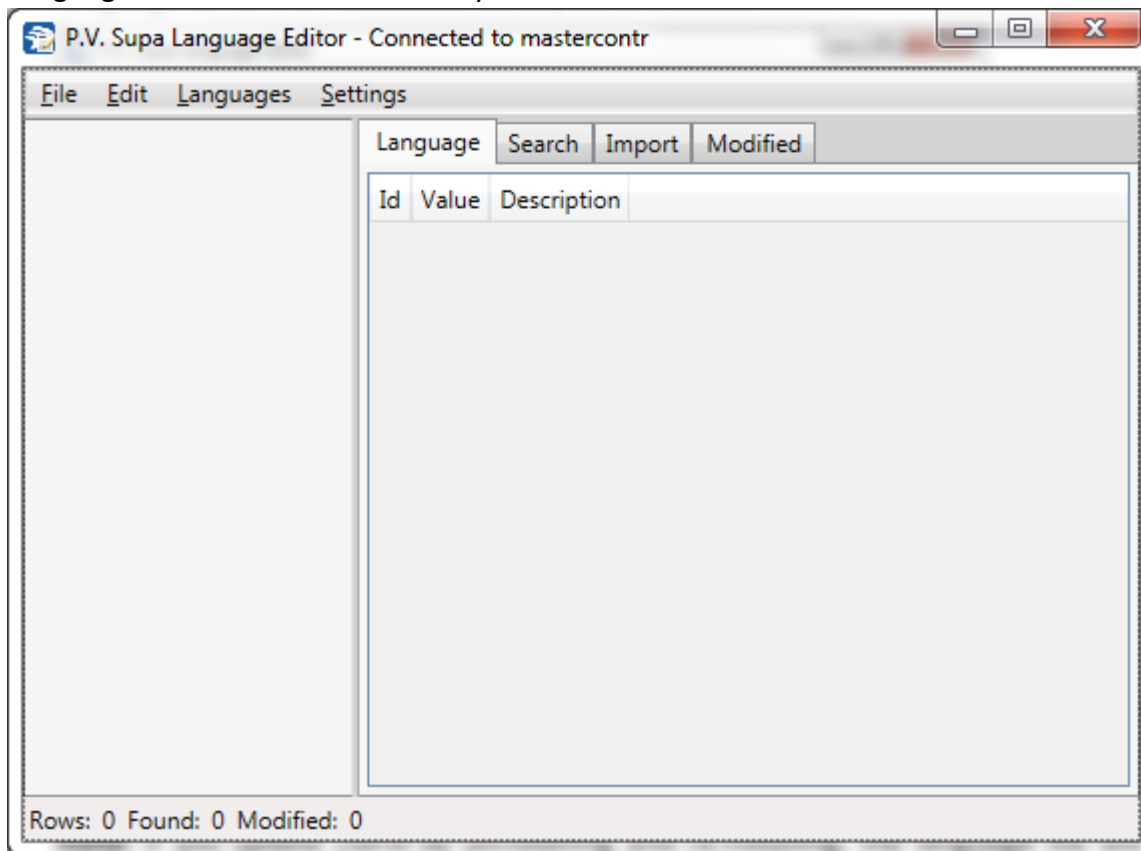


**Main window of Language editor**

By default, all language files should be saved to the database. For a new setup this may not be the case - default language files are delivered with installation packages as XML files, located under the program folder. If that is the case, please refer to the Language editor full user manual - this introduction assumes that the language file has already been stored in the database.

To open the language file, select **File** menu, then **Database Open** sub-menu entry. This will open a sub-menu listing all software that has language files stored in the database. Select the correct software, for example **Libretto2** or **Librid3**, depending on which software you are working with. Then, yet another sub-menu will appear with all available translation files for it. There may be more than one file for each software, allowing different devices in the library to have different

texts - for example a self-check unit at a children's department might have different translations than one used by adults.
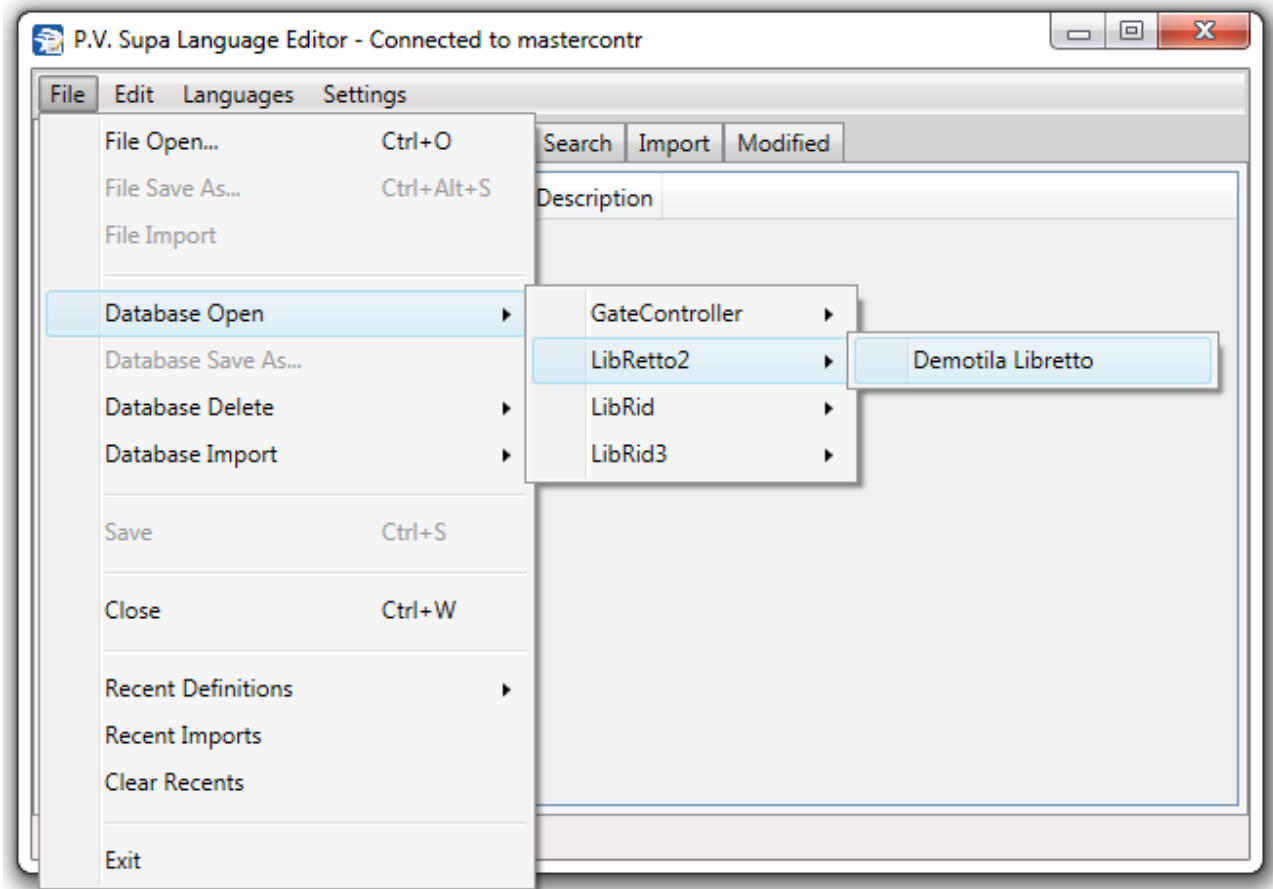


**Opening a language file from database**

After a language file is opened, a list of languages can be seen on the left hand side of the main window:
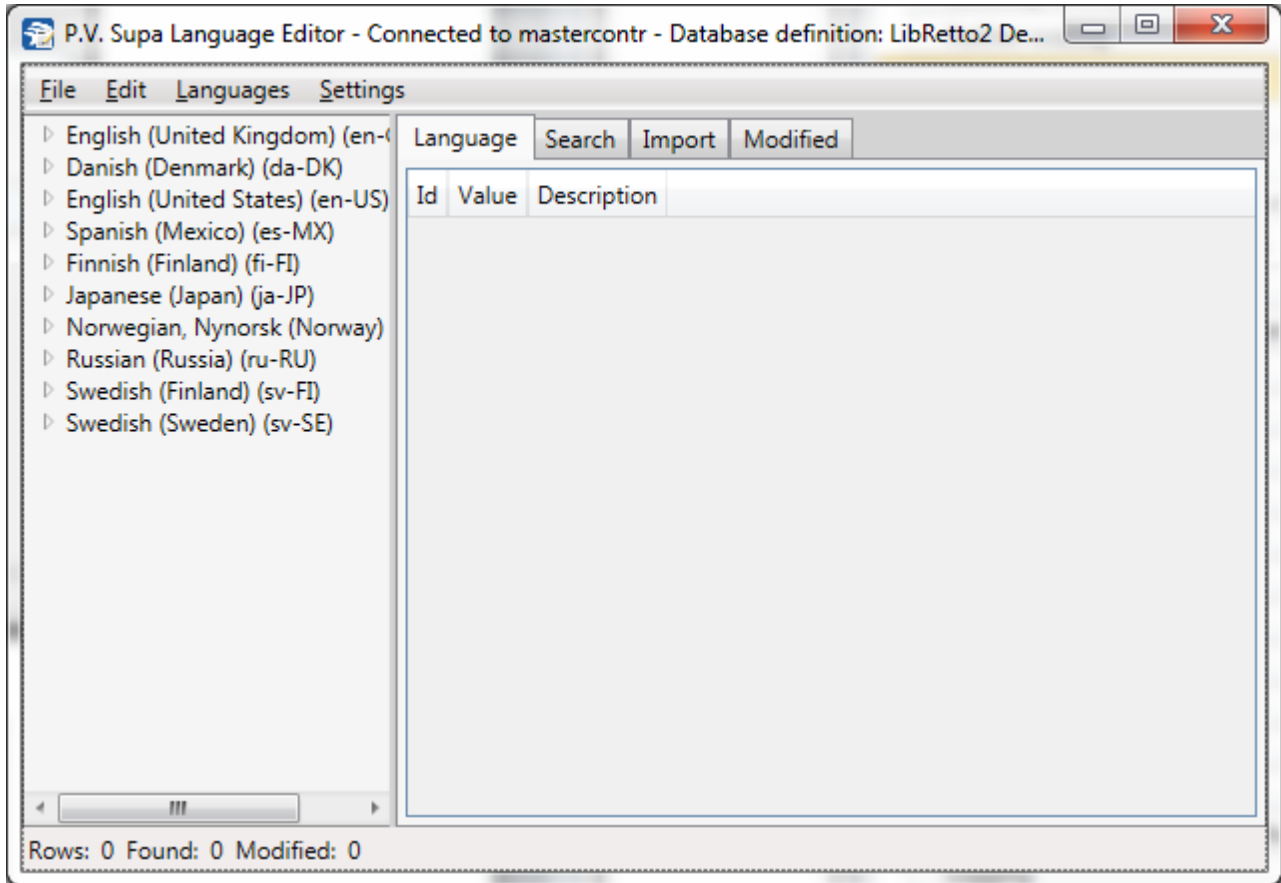
**List of languages from a language file**

Selecting a language from the list will show translations of that language:
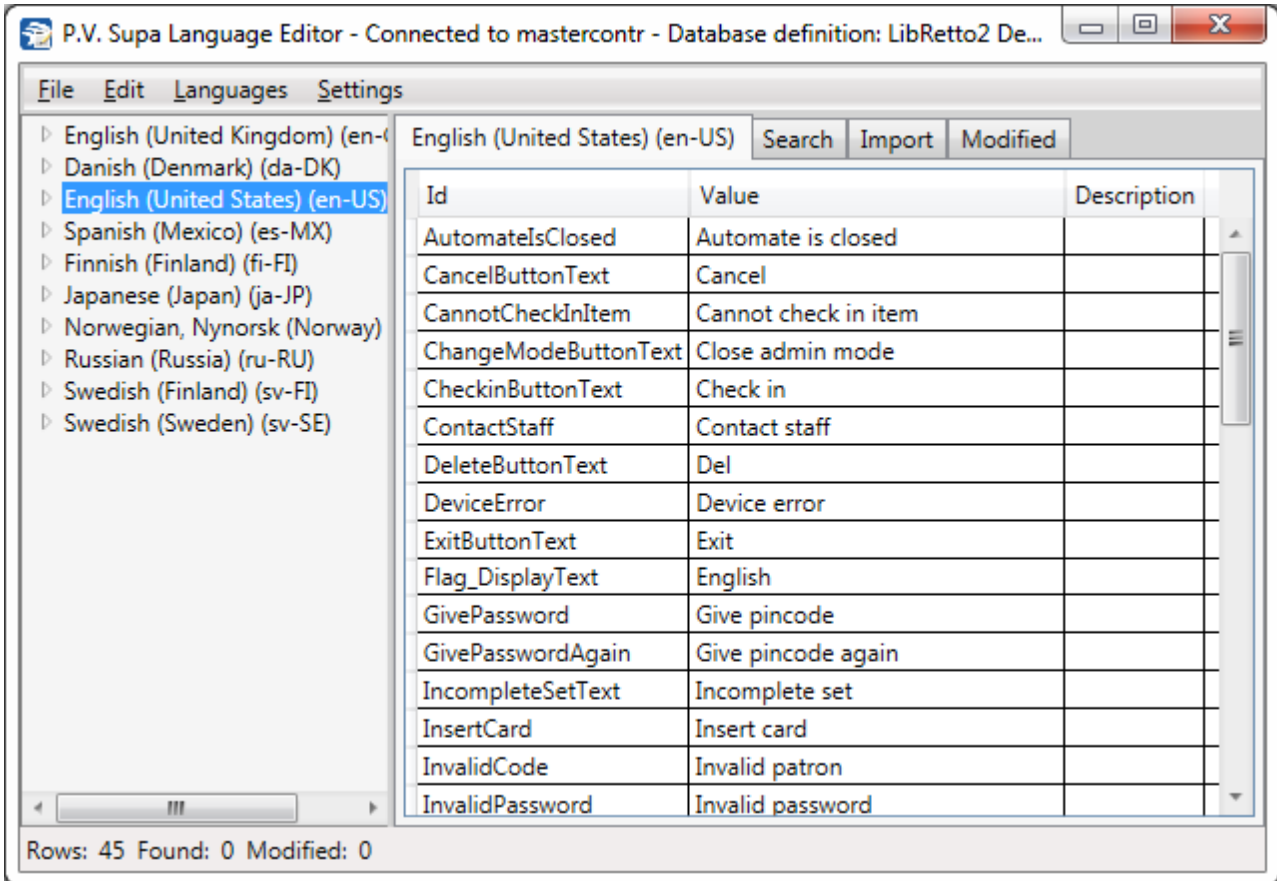
**Main working view**

This is the main working view of Language Editor. In this mode you can edit the strings that are used in the system.

The first column (Id) indicates the context of a string, i.e. where it belongs to. You cannot change these.

The next column (Value) is where you can modify the texts. Click on any string you wish to edit and write a new string or modify the existing one. When you are done, click on anywhere else in the application to end editing mode. Modified texts are displayed with yellow background color:
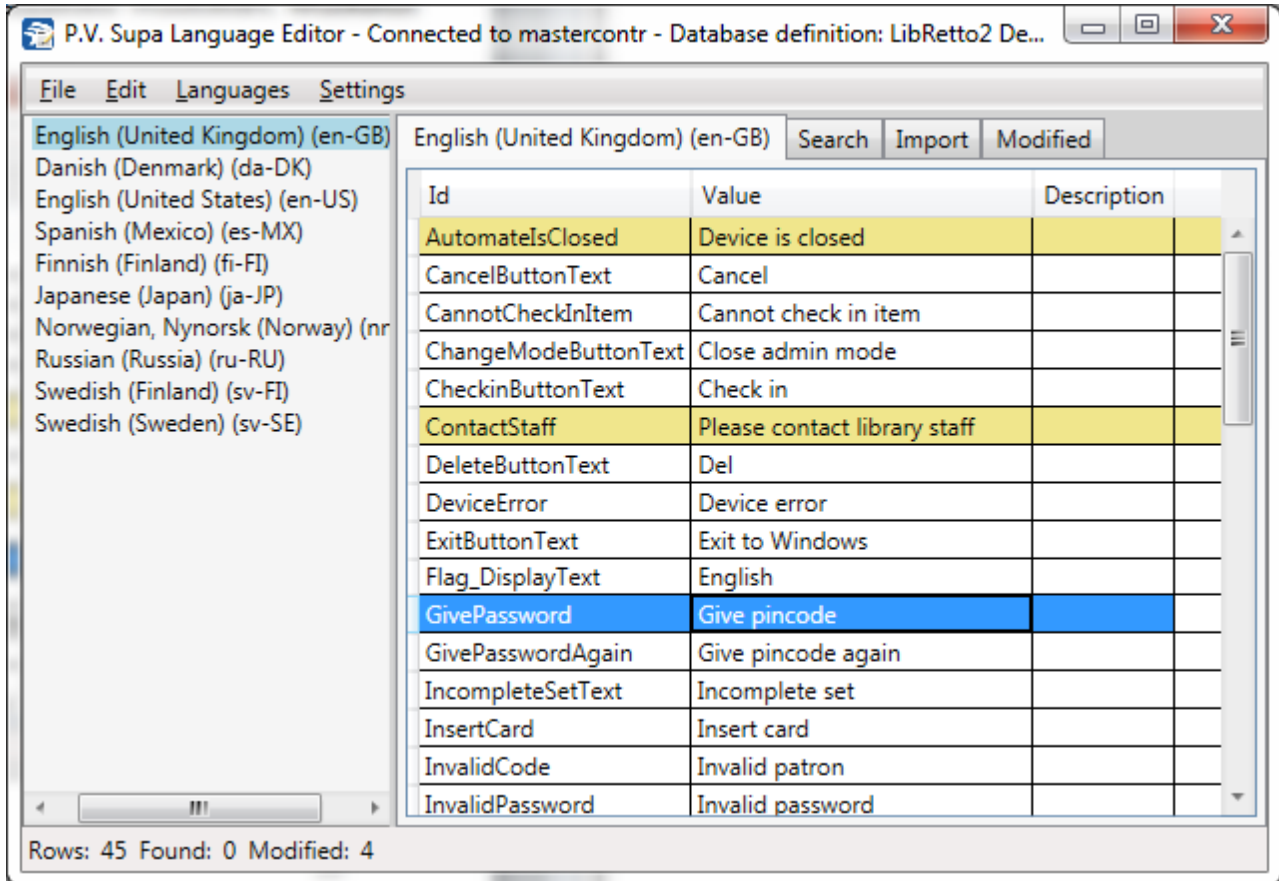
**Some translations have been modified**

When you are done, save changes by selecting **File** -> **Save** from the main menu.

## Adding new languages

You can add a new language to the languages file in Language Editor by selecting **Languages** -> **Add language** from the main menu. This will display a list of all languages known to Libretto 2; you can choose any of these.

Make note of the abbreviation of the languages, in parenthesis (for example **en-US** for US English). You need these to enable the languages in Management Utility (see below).

The newly added language will get values from default (English) texts; you need to provide correct translations for all texts.

After you have translated the new language, save changes by selecting **File** -> **Save** from the main menu.

## Using texts in Supa software

After you have changed any texts and saved the language file, you must restart the Supa application (Librid, Libretto) for the changes to take effect.

If you have added new languages, you need to select the languages using the Management Utility application. Select the Supa software section from the treeview on the left, and then expand the Languages section. You will see a window like this (Libretto2 selected here - choose the correct software for your need):
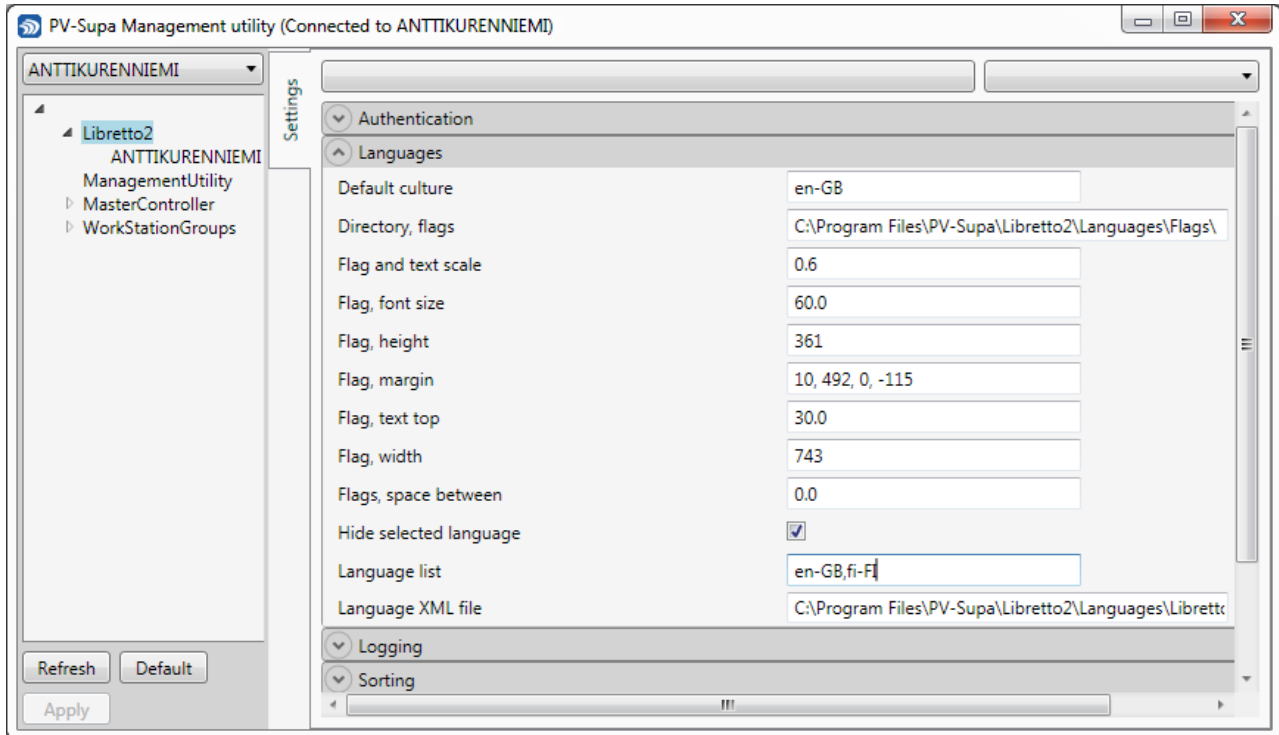
**Selecting the languages to use**

In this window, the languages available to users are defined in the **Language list** field, near the bottom. Enter the language short codes here, separated by commas (,). For example in the screen shot above, British English (**en-GB**) and Finnish (**fi-FI**) are available. These will be shown as available choices to users of the device.

# Receipt editor

All texts on receipts are stored in database as receipt definitions. Editing receipts is done with a separate tool, **Receipt Editor**.

This chapter gives brief introduction to working with Receipt editor, and the actual layout of the receipt definition file.

## Using receipt editor

Receipt Editor is a separate software used for visually editing receipts. It can be used to edit existing receipts, add new receipts and add new languages. Start the editor and select **File -> Open From Database** from the main menu. In the dialog that opens, select the application you wish to edit receipts for, for example **Libretto 2** - and then the receipt definition file you wish to edit:
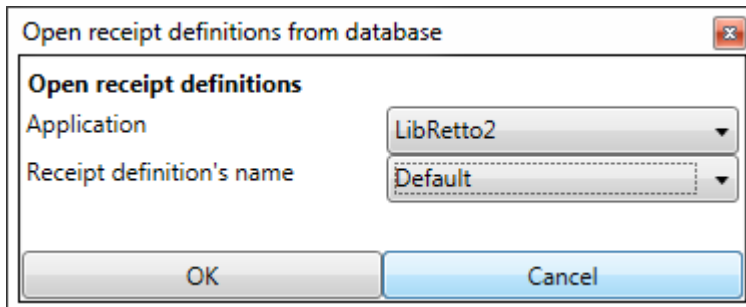
**Opening receipt definition file - Libretto 2**

The main window of the receipt editor looks like this:
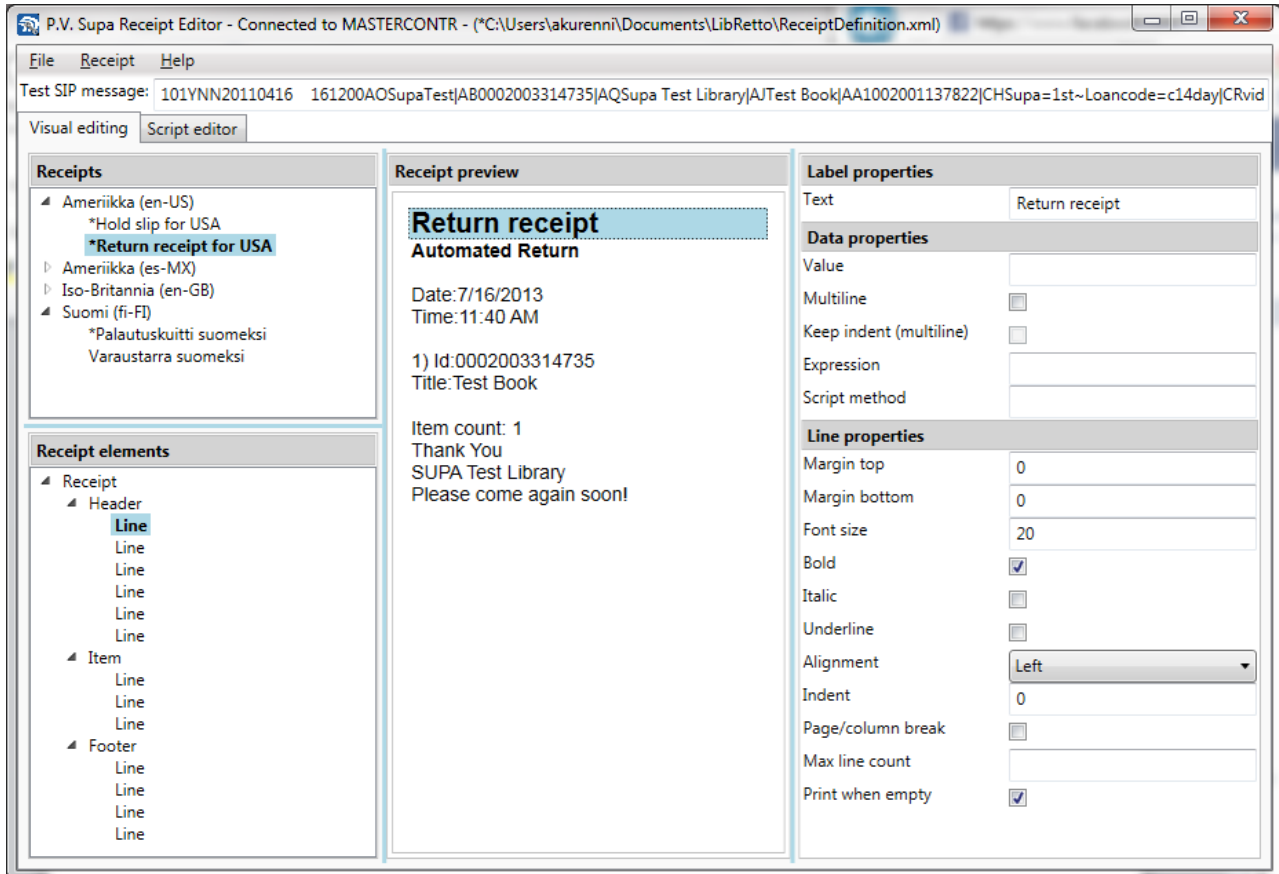
Receipt editor main window

On the left hand side, top, is the **Receipts** section. It lists all receipts available, in all languages, within the current file. In the picture above, a **Return receipt** in **US English** has been selected.

Selecting a receipt brings it to the preview window and fills the bottom left part of the window with available **Receipt elements**. These are all the sections (header, item, footer) of the receipt, as well as all lines within the sections. You can select elements from the **Receipt elements** or from the preview in the middle of the main window. Only lines can be selected from the preview, though. To select sections or the full receipt, you have to use the Receipt elements window.

After selecting an element or a line, it will be highlighted in the preview and all settings related to the selection are shown at the right side of the main window. In the picture above, a **Line** has been selected, and on the right side you can see the settings related to the line; **Label properties, Data properties** and **Line properties**. Modifying these settings updates the preview, for example to change the static "Return receipt" text on the receipt, type a new value in the **Text** field of the **Label properties**.

Once you have made all the modifications, save the receipt definition file by selecting **File** -> **Save to Database**. This function saves the receipt definition to database. Any front ends using the receipts definition will need to be restarted for the changes to take effect.

## Receipt definition file format

The file contains definitions of all receipts in all languages. There are 3 types of receipts: Return receipt, Hold slip and Transfer slip. Each of these can be modified and the texts can be changed. To locate the different types of receipts, look for lines beginning with **printout** element:

```
<printout
        type="returnReceipt"
        ...
```

This element begins a new printout, which in this case is a return receipt. It should also contain language code, for example for US English, there would be an attribute like this:

```
languageCode="en-US"
```

You will find a returnReceipt for each language used in the device.
Within each **printout** there are several sections. These are header, item and footer. They begin on lines like this:

```
<section
        type="header">
```

The above would begin a header section in a receipt. Header and footer are simply the header and footer parts of a receipt, and the **item** section is a repeating part for each item. For example in a patron receipt, the **item** section will be printed once for each item the patron has checked in.
Each section can contain more than one line of text. A line of text is always inside a **line** element, starting and ending tags. For example the following segment would print a **line** with the text "Return receipt":

```
<line>
        <label text="Return receipt" />
</line>
```

Note that XML requires all elements to have a defined beginning and ending. In this example, the <line> element begins a new line, and it ends in </line> - the forward slash being the only indicator that the latter tag is an ending tag. A tag can also consist of only a single like, as the <label... /> tag shows, by ending in a forward slash / before a closing angle bracket.
Each line can have either no text at all (in which case it is an empty line used to space out other lines), a simple static label of text, dynamic data (usually information from a SIP message) or both data and dynamic content. The example above contains only a static label. Following is a line with a label and a dynamic part; the name of an item:

```
<line>
        <label text="Item name:" />
        <data value="{ITEM:NAME}" />
</line>
```

This would print the label "Item name:" on a line of text, followed by the name of a returned item, for example:

```
Item name: Great Expectations
```

## Changing text

To modify a text in a receipt, locate the text you wish to change and edit it to your liking. For example you could change the "Item name:" to "Book name:" by modifying the lines to look like this:

```
<line>
        <label text="Book name:" />
        <data value="{ITEM:NAME}" />
</line>
```

To make the new receipt text appear, you have to close down and restart the Libretto 2 software. Note: all text must be enclosed in double quotes "like this".

## Adding languages

To add a new language you need to copy the receipt XML and change the languageCode attribute. For example to add Finnish language, you would copy from <printout... starting tag to </printout> ending tag. Then change the languageCode to "fi-FI" to mark the receipts as Finnish language receipts:

```
<printout
        type="returnReceipt"
        languageCode="fi-FI"
        ...
...
...
</printout>
```

Then translate all strings within that receipt definition to the new language.

Only the return receipt uses the language of the user interface; all other receipts use the default language, so there is no need to copy all receipts. If you wish to change the default language of the system, then you need to make sure that you have the hold slip and transfer slip receipts in that language, too.

## Special characters

There are characters which are not allowed in XML documents, as text. These are for example the double-quote ", because it means the start and end of a string. If you want to use such characters in your text, you need to use special markup.

For example to print a double-quote character, you would use markup &quot; as follows:

```
<label text="Book &quot;actual&quot; name:" />
```

This would print out in a receipt as

```
Book "actual" name:
```

Other special characters and their markup are:

| Markup | Character | Name |
|--------|-----------|------|

| &lt; | < | Lesser than -sign |
|------|---|-------------------|
| &gt; | > | Greater than -sign |
| &amp; | & | Ampersand |
| &apos; | ' | Apostrophe, or single-quote |
| &quot; | " | Double quote |

## Checking for errors

XML document is a technical document and as such must conform to very specific rules. If there is anything wrong, the document cannot be parsed by Libretto 2 software and no receipt printouts can be produced.

There are two simple ways to check that a receipt definition file is valid and functioning. First, if Libretto 2 logging is enabled, there will be a line in the **libr2** log file that looks like this:

```
13:53:44.785 : PRT : 'ReceiptDefinition.xml' is ok
```

If there is an error in the receipt definition file, the error will be shown instead:

```
14:28:50.826 : PRT : Following errors found in 'ReceiptDefinition.xml'
14:28:50.827 : PRT : Name cannot begin with the '1' character, hexadecimal value 0x31. Line 287,
```

The error tells you where the problem is - this particular one means a missing ending quote just before the place where the problem is.

A second possibility is to open the receipt definition XML document in Internet Explorer. Internet Explorer has built-in support for validating the document, and will also show the error very clearly.

## More information

A separate manual for Receipt editor is available with more detailed information on how to use it, including advanced topics such as scripting.

# Receipt testing

It is possible to print receipts to files on local machine. This allows testing printer settings and receipt text changes remotely, without access to the physical printer. To do this, simply enter "**test**" as the receipt printer name:

| Receipt | |
|---|---|
| Mode | Optional ▾ |
| Printer name | test |

**Test printer in settings**

After restarting Librid, all receipts are printed to the "Program Data\PV-supa\Librid3\Receipts" folder in the local computer. The receipts are printed as XPS documents, and can be viewed using the built-in Windows XPS viewer.

# Statistics

Statistics from every Supa software can be generated with a separate tool, **Supa Reporter**. This tool allows you to create graphical reports, either from a single device or many devices if a centralized system is being used. It is also possible to generate the reports from a separate computer, for example a staff station, rather than directly from a device itself.

The reports can be exported into various different formats, such as MS Excel files or PDF documents.

## *Supa reporter*

The main screen of Supa Reporter looks like this:
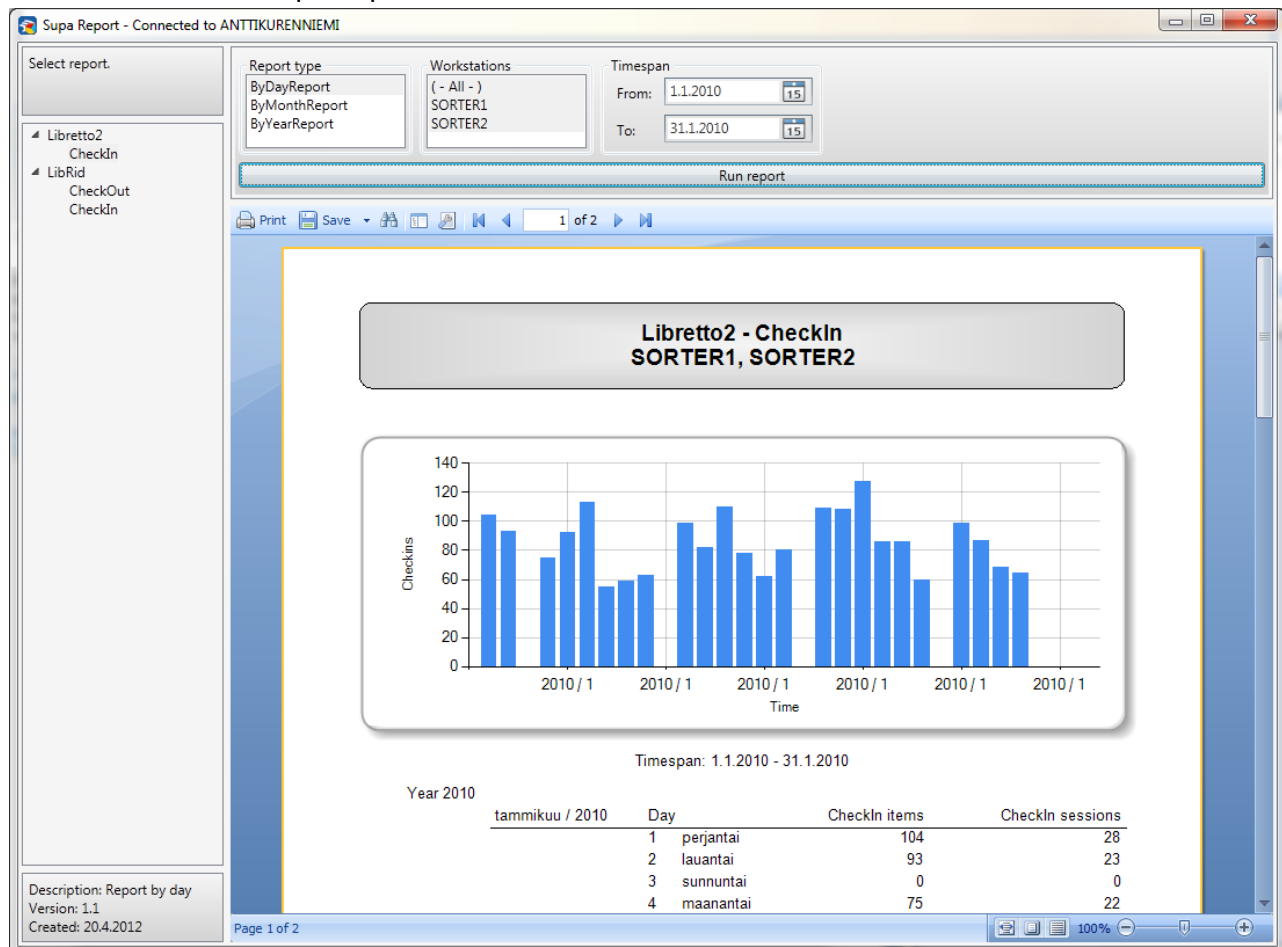


**Supa reporter main screen**

On the left is a report selection panel. The contents of this panel depend on installed Supa software (other Supa devices store report data in the same database, making it possible to create statistic reports from all of the using one tool). In this example, there are **Libretto2** -> **CheckIn** reports and **Librid** -> **CheckIn** and **CheckOut** reports available.

To begin, select the report from the left side panel (click on the line with the desired report on it). Then select the desired report type from the **Report type** list. The contents of this list also vary, depending on what device type and report is selected. For example for **Libretto 2**, there are separate reports for daily, monthly and yearly reports, as well as many others.

The next list box to the right contains a list of all available computers from which data is available. If you have a centralized system, all your devices will be listed here, otherwise just the device you are currently on will be shown. Note that for sorters, there are separate entries for each inlet as each inlet has its own computer.

You can select multiple devices by keeping the **control** button on your keyboard pressed while clicking on the computer names. If you select more than one computer, the numbers of these will be added up and the report will thus show total numbers of all selected computers.

Finally you need to select the timespan. You can choose freely, for example everything from the beginning of the current year up until the present day, or just some months, or the previous year.

Once you have made your selections, click on the **Run report** button. This will start the report generating process. If you have a very long time period, it may take a while until the report appears.

The report itself will be shown below the selections. You can scroll the report display to see more of it.

To export the report, select the **Save** button just above the report display. This will open a menu with various export formats to select from:
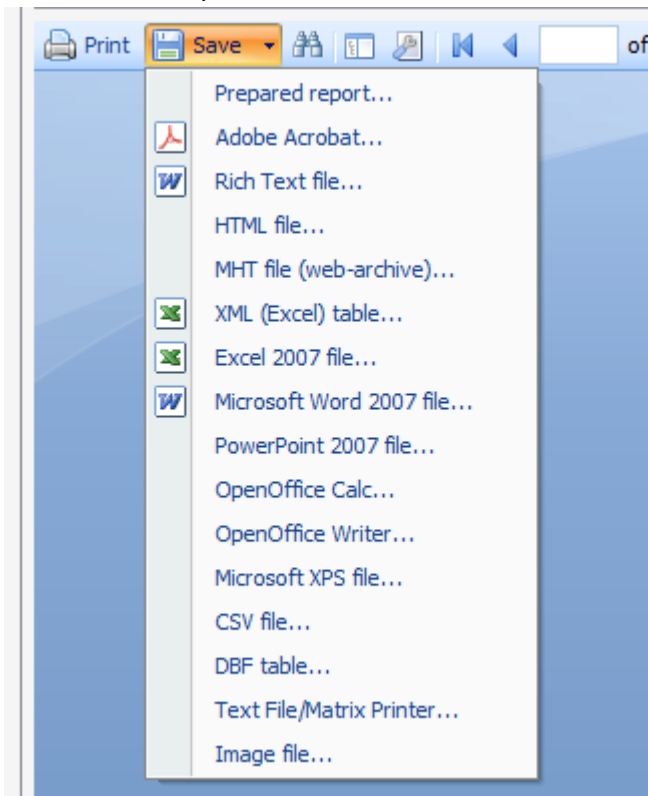


**Various formats in which a report can be saved**

## More information

There is a separate manual available for **Supa reporter** with more detailed information about using it.

# Creating an Exit card

An Exit-card is a special library card (patron card) which when placed in the reader of the self-service unit, will close the program. This makes it more convenient to do maintenance tasks or shut down the device.

To configure a card to function as an Exit card in Librid 3, find the **Librid3** branch in Management Utility, then section **Admin**. There you will find a setting **Admin cards** - enter the ID that is stored on the card here, save the settings and restart Librid for the settings to take effect. Now, whenever this card is read by Librid, the application will close.

# SIP messaging

Librid 3 uses SIP2 protocol to communicate with a library system. Communication is done over TCP socket connections, where IP address and port number can be configured freely.

Following is a list of messages required for operating Librid 3.

## 93 - 94 Login

Librid can use message 93 to log in to the library system, if such option is selected. The library system must respond with 94 message.

If the SIP login option is selected, this will be the first message Librid sends.

```
9300CNuserid|COloginpassword|CPlocationcode|
941
```

## 98 - 99 SC status

This message is used to check the status of the connection. Librid sends message 99 and expects a response by message 98.

If SIP login (93 - 94) is NOT selected, this will be the first message Librid sends.

```
9900522.00
98YYYYNY50000320101102    1312162.00AO10016|AMLibrary|BXYYYNYYYNYYYNNNYY|
```

## 23 - 24 Patron status

Patron status is used to identify a patron using the Librid system. Librid sends message 23 with patron ID (from a patron card or entered via on-screen keyboard) and patron pin code. Expected response is message 24.

Alternatively, messages 63 - 64 can be used for Patron info.

```
2300020101102    130800AO10016|AA4321|AC|AD1234|
24              00620101102    131224AO10016|AA4321|AE198567|BLY|CQY|BHSEK|BV0.0|
```

## 63 - 64 Patron information

Patron information can optionally be used instead of Patron status (23 - 24). Patron information has more information available than patron status, if the library system supports it. Librid sends messag 63 and expects a response in message 64.

```
6300020121120    102419  Y       AO|AA1234|AC|AD|BP1|BQ9000|AY5AZF029
64          Y  00020121120    10242000000000000001000000000000AO|AA1234|AESupaUser|BLY|CQY|BHEUR|
```

## 17 - 18 Item information

This message pair is used to retrieve item information. Librid sends message 17 and expects a response in message 18.

## 09 - 10 Check in

Check In of a single item. Librid sends message 09 and expects a response in message 10.

```
09N20120908    11095320120908    000000AP|AOSupa|AB1234567|AC|CH|BIN
101YNN20120908    110958AOSupa|AB1234|AQLocation|AJBookTitle|AA1234|
```

## 11 - 12 Check out

Check Out of a single item. Librid sends message 11 and expects a response in message 12.

```
11YN20120908    11110020120922    111100AOSupa|AA1234|AB12345678|AD1234|BON|BIN|
121NNY20120908    111105AOSupa|AA1234|AB12345678|AJBookTitle|AH20121009|
```

## 29 - 30 Renew

This message is used to renew an item loan. Message should identify the item. Librid sends message 29, and expects a response in message 30. Response can either confirm or deny the renewal.

```
29NN20120908    11532020120922    000000AOSupa|AA1234|AD1234|AB1234567|AJ|AC|CH|BON|
301YNY20120908    115320AOSupa|AA1234|AB1234567|AJBookTitle|AH20121009|
```

## 65 - 66 Renew all

This message is used to renew all loans of a patron. Librid sends message 65 and expects a response in message 66. The response can either confirm or deny the operation.

```
6520120908    124905AOSupa|AA1234|AD1234|AC|BON|
661   1   020120908    124905AOKSupa|BMRenewedBookTitle|
```

# Scripting

Librid 3 allows scripting to modify some information for installation specific purposes. Scripting is done in .NET C# language. All .NET functionality can be used in the script, such as logging to external files.

Script files are compiled at Librid startup, so any changes to the scripts require restarting Librid. Compile errors are written to Librid log – any errors prevent the scripts from being used, so be sure to check the logs after modifying the scripts.

All script files are found from the <program data> directory, for example

C:\Program Data\PV-Supa\Librid3\

Original script files are stored in Librid 3 program files directory. They should not be modified; they are there as originals, in case the modified ones are somehow lost or become unusable.

## *Patron script*

Librid 3 supports modifying patron code in a script, before sending it to the library system. This allows for example removing pre- and suffix characters from patron codes, and excluding unwanted codes.

Patron code script is in a file named **CardScript.cs**. It is a C# script for .NET framework 4.0 .

To enable Patron script, turn on setting **Use script for patron code** in Management Utility.

The Namespace must be **CardScript** , the class name must be **ScriptCardConverter** and the method that is called by Librid is **Convert** . The method has two overloaded versions:

public string Convert(string text)
public string Convert(string text, int info)

The latter one has an extra parameter **info** and is only called if the parameter Use parameter for patron card script 43 is selected. In such case, the **info** parameter has a flag to indicate where the patron identifier is from:

info == 0: patron identifier comes from the barcode or RFID reader
info == 1: patron identifier comes from the on-screen keyboard

Thus, the whole script file could look as follows to add a "S" in front of a patron identifier when it comes from the screen keyboard, and "R" when it comes from the barcode or RFID reader:

```
using System;

namespace CardScript
{
    public class ScriptCardConverter
    {
        public string Convert(string text)
        {
```

```
            return Convert(text, 0);
        }

        public string Convert(string text, int info)
        {
            if (info == 0)
                return "R" + text;
            else if (info == 1)
                return "S" + text;
            else
                return "Error - this should be impossible";
        }
    }
}
```

The first Convert method simply calls the second one with parameter **info** set to "0", because it doesn't know what else to do.


## Item script

Librid 3 supports modifying item ID's before they are sent to the library system via SIP messages. The script file is named **ItemScript.cs.**

The script does not require any settings to be turned on, it will always be used if it exists.


## Screen message script

Screen message script allows modifying and translating screen messages in Librid, before displaying them on screen. This can be used for example to translate screen messages to user language in a case where the library system only sends screen messages in one language.

Screen message script is in a file named **AfTextTranslatorScript.cs.**

This script does not require any settings to be turned on, it will always be used if it exists.

# How to

This section contains information about how to do some common tasks and configurations.

## *Add or remove characters from library card number*

Sometimes the library system stores library card characters (patron identifiers) in a different way than what is stored on the library cards. Typically, some characters need to be added or removed. This can be done via scripting: there is a script for modifying the patron identifier before it is sent to the library system.

The script is .NET script, so possibilities for modifying it are practically endless.

Read more about Scripting ⌐37⌐ .

# Settings reference

Following is a complete list of Librid 3 related settings in Management Utility. Note, that depending on the Librid version used, some settings may not exist or may have slightly different options available.

## Global settigs

These settings affect all Librid 3 stations within the workstation group.

### Admin

Librid 3 administrator settings.

#### Admin page cards

Card identifier (barcode or RFID) that will activate Admin page mode in Librid.

#### Disable default exit code

Selecting this option disables the "exit" default exit code. It will only be accepted if another exit code has been given in *Admin cards* setting.

#### Exit cards

Barcodes / identifiers of exit cards. These can be used to exit Librid 3 software, instead of typing "exit" on the screen. To enter multiple identifiers, separate them with a comma (,) character, for example:

    12345,23456,34567

Note: this setting was formerly named **Admin cards**.

#### Shutdown cards

Identifiers of cards to use to shut down the software and computer. To enter multiple identifiers, separate them with a comma (,) character, for example:

    12345,23456,34567

### Authentication

Patron authentication related settings.

### Auto ok on max digits

If enabled, the pin code screen (or physical pin pad) will automatically press enter when a maximum length of pin code is entered. If disabled, the user must press enter or OK to accept the pin code.

Maximum length of pin code is set in *Authentication -> Max pin code length* setting.

### Barcode end key

End key (character) from barcode reader, to indicate Librid that the barcode has been read completely. This is configured in the barcode reader's configuration, and the setting here must match that value.

Allowed values are \r, \n, #0d and #0a .

### Barcode filter

Allows filtering characters from barcodes. Enter a regular expression in this field, for what characters or character sequences are to be filtered out.

### Barcode removed text

This is the string that the barcode sends when a patron card is removed from the reader. Default value is "FREECODE" - do not change without reason. If this is set to an incorrect value, the device will not function properly.

### Max fail count before exit

Maximum number of times a patron can attempt to enter his/her pin code, before the system requires that the patron card is removed and either the patron tries again, or is blocked if the Block user on fail setting is enabled.

### Max patron code length

Maximum number of characters in a patron ID.

### Max pin code length

Maximum number of characters in a patron Pin code.

### Min patron code length

Minimum number of characters in a patron ID.

### Min pin code length

Minimum number of characters in a PIN code.

### Patron card reader type

Select which reader type you have, for patron cards. Available options are:

**Keyboard**: Patron card ID is expected to come through keyboard input buffer. This is the case with most USB connected readers.

**Comport**: This option is for units with patron card reader connected to a serial port (COM), such as a Quantum reader. If this option is selected, the Patron comport reader parameters setting must also be correctly filled.

**Rfid**: Use this option if you use the RFID reader in the unit to read RFID tagged patron cards.

**Rfid and keyboard**: Select this option if you have a mix of barcode reader connected to a USB port (keyboard input), and also want to use the RFID reader to read RFID tagged patron cards.

**Rfid and comport**: Select this option if you have a mix of barcode reader connected to a serial port (COM), and also want to use the RFID reader to read RFID tagged patron cards.

### Patron comport reader parameters

Set of parameters to use to establish communications with the patron card barcode reader, when it is connected to serial port (COM). These settings should usually not be changed. At most, change the COM port to point to correct serial port where the barcode reader is connected.

### Patron dialog type

Patron card dialog type, on the touch-screen. Available values are:

**Numeric**: Allows only numbers.

**Alphanumeric**: Allows a mix of letters and numbers.

**Card**: No buttons are displayed on-screen, only instruction and picture to insert patron card into reader slot.

**Upper alphanumeric**: Letters and numbers, where letters are all uppercase.

### Pincode authentication type

**None**: Pin code is not checked and not even prompted from the patron.

**Mandatory**: Pin code is required and prompted from the patron.

**Optional**: Some library systems may allow login without pin code. This option makes Librid first attempt to login with just the patron ID. If the library system responds with an OK, then the patron can carry on checking out books. If the library system denies login, Librid will then proceed to prompt for a pin code.

### Pin code type

On-screen pin code dialog type. Available values are:

**Numeric**: Allows only numbers.

**Alphanumeric**: Allows a mix of letters and numbers.

**Upper alphanumeric**: Letters and numbers, where letters are all uppercase.

### Show buttons in patron card dialog

If this setting is enabled, an on-screen keypad will be displayed for patrons to enter their patron card number, when *Patron dialog type* is anything else than *Card*. If disabled, patron card is only read using reader.

### Show buttons in pincode dialog

If enabled, a PIN keypad will be shown on-screen for patrons to type in their pin code. If disabled, there is no on-screen pinpad. This is usually the case when a separate physical pinpad is installed on the device.

Note that both a physical and on-screen pinpad may exist and be used at the same time.

### Show library card characters

If this setting is enabled, the PIN code that a patron enters is shown as actual numbers and characters. If disabled, dots will be shown instead to prevent other people from seeing the pin code.

### Use parameter for patron card script

When a script is used for Patron Code (see *Use script for patron code*), it is possible to send an additional parameter indicating whether the patron card was read from an RFID or Barcode reader. This may be necessary information for handling the patron card, if the patron identifiers are stored differently in barcodes and rfid tags.

For more information about scripting, see section <u>Scripting</u> 37 .

### Use script for patron code

If enabled, a script is executed on patron identifier after it has been read, **before** sending it to library system. This allows removing or adding characters in patron identifiers, such as check digits for example.

CardScript will always be under the Librid program folder, and named **CardScript.cs** . It is C# .NET code, and can use all available features such as variables, methods and classes, freely. This script is compiled at Librid startup, and any errors are only caught at that point.

For more information about scripting, see section <u>Scripting</u> 37 .

## Check in

Settings related to checking in items.

### Notify holds

If this setting is enabled, and a checked in item has a reservation to it, the user will be instructed to place it in specified container and to confirm by pressing a button on screen.

### One item mode

If enabled, only a single item can be checked in at a time. If disabled, devices with RFID reader can be used to check in more than one item at a time, stacking them up on top of the reading area.

## Check out

Settings related to checking out items.

### Highlight mode

Defines how items can be highlighted in check out page. Possible values are:

**No**: No highlighting is done, all items are listed as-is.

**Show AF**: Displays the AF text of items on top of each item

**Highlight all AF items**: Will highlight ANY item in the list that has ANY text in the AF-field, in SIP check in response message (12).

**Highlight latest AF item**: Will highlight LAST item that has ANY text in AF-field, in SIP check in response.

**Highlight only if AF item is last**: Will highlight the item if it is last in the list, and has text in AF-field in SIP check in response message.

This can be used together with scripting, to identify specific texts to highlight. Using **AfTextTranslatorScript.cs** script file, the text can be parsed and cleared for items for which highlighting is not wanted, thus highlighting only specific items. For example the following script would find the text "special_item" from the AF field, and if it is found change it to something more user-friendly; otherwise clear out everything from the AF field, thus only highlighting items with "special_item" in the AF field:

```
namespace Translator
{
    public class AfTextTranslatorScript
    {
        public string Translate(string languageCode, string text)
        {
            if (text.Contains("special_item"))
                return "There is a newer edition of this book available - please check with staff!";
            else
                return "";
        }
    }
}
```

### Item mode

**One item**: Only a single item is allowed on reader at a time. Typically the case for units with a barcode reader, but can also be enabled for RFID reader units.

**Many item**: Allows multiple books on RFID reader at one time ("stack reading").

### Show patron fee amount

If enabled, patron fee amount will be shown on screen during check out operation.

### Show patron name

If enabled, patron name will be shown on screen during check out operation.

## Demagnetize

EM-alarm demagnetizing settings. What method is used is based on media type (CK field) information received from SIP response.

### Demagnetize type 1 / 2 / 3

These settings control how the demagnetizing unit operates. These settings should not be changed unless the demagnetizer is replaced.

### Method for audio tape / book / ...

These values can be used to select which of the above demagnetizing methods are used for which types of items. 0 (zero) means no demagnetizing, 1 (one) means use Type 1 demagnetizing, and so on.

Note, that for magnetic media such as audio tapes and video tapes, demagnetizing should not be used at all.

### Use demagnetize

If selected, the demagnetizer will be used.

## Device: IO

IO related settings.

### Comport

Serial port to which the IO-controller is connected. Typically "COM3".

### IO card type

Type of the IO-card connected to the unit. Do not change this setting if the device is working; incorrect selection will prevent the device from working correctly.

### Port types

Configure ports that are used by the IO card. These settings **must** match those in the *Advantech.ini* file.

### Sensor input channel

Port number to be used to control the sensor. For Windows XP (Advantech) this is usually 16, for Windows 7 (BioDaq) this is usually 20.

### Sensor input high means open

This setting controls which signal means that the sensor is in open state. You can change this if LibRid goes into orange screen when inserting a patron card; that indicates that the sensor state setting is incorrect.

### Sensor logic type

Select how the sensor is installed, in relation to the reader.

**NoSensor** when there is no sensor at all.

**SensorBeforeBarcode** when the sensor is installed before barcode reader. In this configuration, an item is expected to cover the sensor before the barcode reader is turned on.

**SensorAfterBarcode** when the sensor is installed after the barcode reader. In this configuration, the barcode reader is on before the sensor is covered.

### Smart Bin / Drop box: Sensor Channel

IO controller channel for the sensor in a Smart Bin or Drop box.

### Smart Bin: Always open

If this setting is enabled, the Smart Bin lock will open always when an item is meant to be dropped in it, without identifying the item with the Smart Bin RFID reader. This makes it possible to use Smart Bin also with devices with barcode reader.

### Smart Bin: Delay for lock in 0.0 - 10.0 seconds

This setting controls the delay between when a book has been dropped and when the lock is engaged. This setting can be used to give the "door" more time to settle, before attempting to lock it.

### Smart Bin: Green Light Channel

IO controller channel for the Green light, used in a Smart Bin.

### Smart bin: Light mode

Controls how the lights operate in connected Smart Bin:

**Light is on when an item is on smartbin reader**: The light - red or green - is only shown when an item is on the Smartbin reader field. If an item is taken outside the reader field, all lights are off.

**Normal**: The light is turned on when an item is brought to the reader, either green or red, and the light stays on even when the item is removed from the field, until the correct item has been processed.

**Red is on at default**: Red light is always on by default, even when there is no item on the reader field. Green light will be turned on when the correct item has been identified.

Note: This setting replaces previous setting: **Smart bin: Red light is on at default**.

### Smart Bin: Magnet Lock Channel

IO controller channel for the magnetic latch lock in a Smart Bin.

### Smart Bin: Red Light Channel

IO controller channel for the Red light, used in a Smart Bin.

### Smart Bin: Red light is on at default

Deprecated, see setting Smart bin: Light mode 46

### Smart Bin: Use solenoid lock

Use this setting when the Smart Bin is equipped with a solenoid lock, as opposed to a regular type lock mechanism.

### Smart bin: Wait until dropped

If this setting is selected, the device will wait for the item to be dropped in to a smart bin until proceeding. There will be no session timeout during this wait. If the setting is not selected, session timeout can interrupt the wait.

### Use new advantech driver

This is an experimental setting to use an alternative method of initialising an Advantech IO card. Do not change this setting!

## Device: Item barcode reader

Settings related to item barcode reader.

### Barcode reader type

Type of item barcode reader. Available values are:

**None**: There is no barcode reader for items. This is the case with RFID only devices.

**Comport**: This option is for units with item barcode reader connected to a serial port (COM), such as a Quantum reader. If this option is selected, the Parameters setting must also be correctly filled.

**Keyboard**: Item ID is expected to come through keyboard input buffer. This is the case with most USB connected readers.

### Parameters

Set of parameters to use to establish communications with the item barcode reader. These settings should usually not be changed. At most, change the COM port to point to correct serial port where the barcode reader is connected.

### Reading side

Select whether the barcode reader is reading from below or from atop.

### Stop reader when item read

If selected, the barcode reader will be stopped after an item ID has been read. This is normally not needed as barcode readers usually send an item ID only once. Some readers may work differently, and this setting can be used with those.

## Email connection info

These settings control the functionality to send email messages from the device. Email can only be sent if the library system supports it and sends patron's email addresses in SIP messages, and if the email addresses are stored in the library system.

Email functionality also requires access to an SMTP server.

### From

Name of the sender of emails, that will be used in messages. This should be something related to the library.

### Port

Port number to use to connect to the email server. Default SMTP server port is 25, or 587 for SSL secured connections.

### Server

Email server name or IP address.

### SMTP password

Password used to send email through the server.

### SMTP user

User name used to send email through the server.

### Use authentication

Enable this setting if authentication needs to be used in the email server. If the server allows sending email without authenticating the sender, this can be disabled.

### Use SSL

Enable this setting if the email server requires a secured SSL connection.

## Functions

This section contains settings for the overall functionality of the device.

### Account info functionality

A drop-down list to select what functions can be accessed from the Account Info page. Values are:

**Can check out**: There is a button to check out page, on the account info page.

**Can renew**: There is a button to renew page, on the account info page.

**Can print receipt**: If selected, account info page has printing option to allow patrons to print out the account information.

**No receipt in detailed page**: Selecting this setting disables the possibility to print a receipt from the detailed account info page.

### Button type: Account info

Select if and how to enable account info.

**No**: there is no method in the device to show patron account information.

**Print**: It is possible to print a receipt with account information.

**Page**: There will be a separate page in the user interface, where patrons can see their account information.

If No is selected, there will not be a button on the main screen to access account information. With either of the other choices, an Account Info button is shown.

### Button type: Hold

Select if and how reservations are visible.

**No**: Reservations can not be seen from the device.

**Print**: It is possible to print a receipt with reservations listed, but they are not shown on screen.

**Page**: Reservations are shown as a separate screen in the system.

Note that this functionality is dependent on the library system sending information in a standard way that Librid can parse, in SIP communications.

### Button type: Renew

Select if and how Renew functionality is available.

**No**: There is no renew functionality available in the device.

**Page**: There is a separate screen on the user interface, where the patron can see a list of items he has checked out. Patron can then select the items he wishes to renew, and the device will attempt to renew them using SIP messages.

**Print**: There will only be a single button to renew checked out items. When pressed, Librid will send a Renew All SIP message to the library system, and print a receipt if it succeeds.

### Do not show account info after checkout

**Renamed setting!** This setting was *Quitting automatically* before; renamed now to a more accurate form.

If this setting is enabled, the system will go back to the start screen after a check out or check in session, ending the patron session. If disabled, the system will go back to functions page where the patron can continue on to other operations.

Removing a patron card always ends session and reverts the system back to the start screen.

### Must remove patron card to end session

If this setting is enabled, the patron must remove his patron card from the reader slot in order to end the session.

### Payment machine type

If there is a payment machine connected to the self service unit, this setting is used to control what type of payment machine it is. Currently the only supported type is **iTeam**.

### Prompt for in-house loans

If this setting is enabled , Librid will prompt the user to select if the loan is an in-house (reading room) loan or a regular, to-home loan. This changes the check out messages sent:

For in-house loans, SIP field VT gets value 1 (VT1)

For regular loans, SIP field VT gets value 0 (VT0)

This can be used only if the library system supports it.

### Quit button type in checkout

**No** or **Always**. This setting controls whether or not there will be a specific Quit button in the check out page. If No is selected, then the check out session can only be ended by removing the patron card from the reader slot.

### Quitting automatically

Obsolete. See Do not show account info after checkout 49 for current setting.

### Renew functionality

Select what type of renew functionality is enabled in renew page:

**Renew single**: Single items can be selected to be renewed

**Renew all**: Only renew all button is available

Use this setting to disable either of these if needed, for example if the library system does not support one of the renew types.

### Session starting type

Select how a session is started. Available values are:

**Default**: Session is started by inserting a patron card to the card reader. There is no Start button on screen.

**Start from button**: There are buttons on screen to start a session. When session is started by pressing a button, patron card is requested for check out sessions.

**Start from button and insert code**: This is mainly for barcode/RFID hybrid Baby units. The system will not read patron identifier until a button has been pressed on screen.

### Use check out button

If enabled, there will be a Check out button on screen, in the start screen.

## Languages

User interface languages related settings.

### Default culture

Default culture for the system. Use fully qualified culture codes, such as fi-FI or sv-FI for example. See available codes in section Language codes later in this document.

### Language list

Add all available languages in this drop down list. Write a new language in the edit area and press Enter key to add a new language. These languages will be available in the start screen of Librid, and must also exist in the LanguageTexts.xml file.

To delete a language, select it and press the Delete key on your keyboard. Note that deleting a language will not delete translations from the LanguageTexts.xml document, so you can re-add a deleted language simply by adding it to this list again.

## Log

Controls global logging options. For device specific selections on what to log, see Log option in local settings.

### Server name for logging

*This setting is obsolete in Librid starting from version 5.0.xxxx*
Server name or IP address, where the logs are to be stored. This is usually the same server where the main database is stored in.

## Magnetize

EM-alarm magnetizing settings. What method is used is based on media type (CK field) information received from SIP response.

### Magnetize type 1 / 2 / 3

These settings control how the magnetizing unit operates. These settings should not be changed unless the magnetizer is replaced.

## Method for audio tape / book / ...

These values can be used to select which of the above magnetizing methods are used for which types of items. 0 (zero) means no magnetizing, 1 (one) means use Type 1 magnetizing, and so on. Note, that for magnetic media such as audio tapes and video tapes, magnetizing should not be used at all.

## Use magnetize

Enable this setting to use the magnetizing unit.

# MessageBoard

These settings allow you to display check in and check out item names in MessageBoard. This functionality is mostly intended to be used for testing and demo purposes, not production use.

## Messages

This dropdown list allows selecting what messages are sent to Messageboard software.

**Authentication error**: Patron authentication failed; possibly an invalid patron identifier or incorrect PIN code.

**Block reasons**: Send the reason why a patron login was not accepted.

**Card forgotten**: A patron card was left in the reader slot after a session has ended.

**Checkin item added**: Mainly for testing purposes, will send a message every time an item is checked out.

**Checout item added**: Mainly for testing purposes, will send a message every time an item is checked in.

**Invalid printer**: During startup, if a printer is not found as specified in settings.

**Invalid reader**: During startup, if an RFID or barcode reader is not found as specified in settings.

**Library connection ok**: When a library system connection (SIP server) is formed. This happens at application startup, and can also happen after a broken connection is re-established.

**Library in offline**: When SIP connection is lost, but offline functionality is allowed, this message will be sent.

**Librid closed**: When Librid is closed down.

**Librid started**: At Librid startup.

**No library connection**: When SIP connection is lost and offline functionality is NOT allowed, this message is sent.

**Printer error**: Printer is in error state, for example out of paper, or disconnected.

**Printer ok**: When printer returns from error state, this message is sent. It can indicate for example that a paper had run out and is now replaced with a new roll.

**Printer paper near end**: If POS printer drivers are used, the printer can report that it is low on paper, before actually running out.

**Unknown patron**: When an unknown patron attempts to log in.

### Show check in items

Obsolete; see Messages ⬜52 drop-down list.

### Show check out items

Obsolete; see Messages ⬜52 drop-down list.

## Modern Receipt

These settings control the new receipt system, which is designed using Receipt editor software.

### Account info parts

Select the parts that should be printed on the account info receipt from this drop-down:

**Books on loan**: Print out books on loan section

**Holds**: Print out patron's reserved items list

**Unavailable hold**: Print out reserved items that are not currently available to be picked up

**Overdue**: Print a list of items that are overdue

**Recall**: Print recalled items list

**Fee**: Print a list of items with fees on them

### Checkout info parts

Select the parts that should be printed on the checkout receipt from this drop-down:

**Books on loan**: Print out books on loan section

**Holds**: Print out patron's reserved items list

**Unavailable hold**: Print out reserved items that are not currently available to be picked up

**Overdue**: Print a list of items that are overdue

**Recall**: Print recalled items list

**Fee**: Print a list of items with fees on them

### Renew info parts

Select the parts that should be printed on the renew receipt from this drop-down:

**Books on loan**: Print out books on loan section

**Failed to renew**: List of items that were not successfully renewed

### Use modern receipt

If this setting is enabled, a new modern receipt system is used. Modern receipts are designed using Receipt editor software, and must have been saved in the database for Librid to be able to use them.

## Offline

These settings control how the system should react when SIP (TCP socket) connection is lost.

### Due date for check out

Number of days to add to current day, to get a due date for checked out items.

### Offline mode

Is offline mode allowed, and if so, what functionality is available during it. Librid will attempt to reconnect at regular intervals, so that when the connection is again available the device would automatically resume regular operation.

**Not used**: If SIP connection is lost, the device will show an error message on screen and cannot be used before the connection is restored.

**Check in only**: Only check in operations are allowed during an offline situation. This is usually safe, as the worst that can happen is that items that don't belong to a particular library are checked in.

**Check in and check out**: Both check in and check out operations are available. It should be noted that for check out operations, there is no way to validate a patron without SIP connection. Basically anyone can insert a library card and any pin code, and the system will accept it.

If offline functionality is enabled, Librid will store item ID's to a local text file when there is no SIP connection. After the SIP connection is restored, Librid will send the items to the library system. There is a separate text file that is written, with results in it; it is possible that items checked out during offline situation are rejected by the library server, so these results should be processed manually.

Both files are stored in the Librid program folder.

## QR Code

These settings are related to logging in to a self-service station by using a QR code and a mobile phone.

### Mobile login service address

IP address or name of the server hosting the mobile login service.

### Mobile login service port number

Port number of the mobile login service.

### Mobile login web site address

Address of the mobile login web site.

## Receipt

Settings related to patron receipts. Librid has several receipts available: Check In receipt, Check Out receipt, Account Info receipt and Renew receipt.

### Can use reading room due date

If enabled, Librid will allow for due dates that are only hours from current time. This is sometimes used for example in university libraries, where some books may only be loaned for a few hours at a time.

Normally due dates are only printed and displayed as date values, but this setting makes them appear with date and time parts.

### Check in print mode

Select how the check in receipt is generated.

**Normal**: Librid generates the receipt itself, from data available from SIP messages.

**ACS**: Librid prints the receipt as it comes from the library system; all AG fields from the SIP check in response message.

### Check in receipt mode

Should the receipt printed always, or does the patron have a choice. Available values:

**No**: There is never a check in receipt printed.

**Ask**: The patron will be asked if he wants a receipt, when a check in session ends.

**Always**: A receipt will automatically be printed when a check in session ends by patron's request.

**Always with timeout**: A receipt will automatically be printed when a check in session ends in time-out.

### Check out print mode

Controls how the check out receipt is generated. Available values are:

**Normal**: Librid software constructs the receipt completely in the application.

**ACS**: The receipt is printed as it is received from the library system, all AG fields as rows.

**Normal + ACS**: All AG fields will be printed, and Librid will append a constructed receipt information as in the Normal option.

### Check out receipt mode

Controls how the check out receipt is printed at the end of a session:

**Ask**: Patron will be presented a prompt (Yes / No) asking if he wants a receipt.

**Always**: Receipt will be automatically printed at the end of a check out session, if any items were checked out.

**Always with timeout**: A receipt will automatically be printed when a check out session ends in time-out.

### Due date style

This setting controls the font style of the due date, when it is printed as generated from Librid. Note that this has no effect on receipts generated completely from library system (ACS).

## Email receipt mode for checkout

Controls if and how an email receipt should be sent to patrons. Note that sending an email receipt requires that the patron's email address is available in SIP messages.

Possible values are:

**No**: There will be no email receipts sent.

**Ask**: The patron will have a choice on screen to either send an email receipt or not. This will appear as a button at the bottom of the screen, similar to receipt printing button.

**Always**: An email receipt will always be sent if patron email address is available.

Note that for the email receipt to function properly, settings in *Email connection info* section have to be properly set.

## Footer print font

Select the font to use to print the footer of receipts.

## Footer print font size

Select the font size to use to print the footer of receipts.

## Header print font

Select the font to use to print the header of receipts.

## Header print font size

Select the font size to use to print the header of receipts.

## Print data

This dropdown allows selecting what data is to be printed on receipts. Note that this only applies to receipts when generated by Librid software.

**Date**: Prints the current date on the receipt.

**Time**: Prints the time on the receipt.

**PatronId**: Prints the patron identifier.

**PatronName**: Prints the name of the patron.

**Phone**: Patron's phone number, if available.

**Email**: Patron's email address, if available.

**Address**: Patron's address, if available.

**ItemCount**: Prints the total number of items on the receipt.

**FineInCheckout**: If checked, any fines (total fine amount) the patron may have will be printed on the check out receipt.

**AlwaysFineInAccountInfo**: If checked, the account information receipt will also contain any fines (total fine amount) the patron may have.

**SummaryInAccountInfo**: This selection will print a summary of items - number of items on hold, number of items on loan and so on - in the account information receipt.

**RenewFailedItems**: Will print a list of items that were attempted to renew, but renewal failed, in the renew check out receipt.

**RenewBeforeItems**: Will print a list of items that are on loan but were not attempted to renew, on the renew checkout receipt.

**AlreadyCheckoutItems**: Previously checked out, "books at home".

**HoldItemsInCheckout**: Check out receipt will contain a list of reserved items.

**UnavailableHoldItemsInCheck**: Check out receipt will contain a list of reserved items that are not yet available for pickup.

**OverdueItemsInCheckout**: Check out receipt will contain a list of overdue items.

**RecallItemsInCheckout**: Check out receipt will contain a list of recalled items.

### Text print font

Plain text font selection.

### Text print font size

Plain text font size.

## Reservations notification

It is possible to notify the patron when there are available reservations at the library. This notification is based on SIP 64 response message; if there are items listed in the AS fields, it will trigger this functionality.

### Mode

This setting controls if and how the notification is shown. Available values are:

**None**: No notification is shown.

**Banner**: A banner at the top right corner of the screen is shown. This will not list items or require the user to do anything, it will just show a text saying you have reserved items available to pick up.

**Window**: A popup window will be presented, requiring the user to press a button to dismiss the window. It is also possible to show a list of available items in this window, and/or a button to open the reservations list page.

### Show button to open reservations page

If this settin is enabled and Mode ⌐57⌐ is set to Window, there will be a button in the popup window to open a reservations page from which it is possible to see a list of available reservations and optionally print a receipt.

### Show item details

If this setting is selected and Mode ⌐57⌐ parameter is set to Window, available reservation item information will be shown on the popup window itself.

## Scheduler

The Scheduler controls when the device or devices are available for patrons. If scheduler is active, the device can only be used during given Open times.

Note that the scheduler does not shut down or start up the actual machines. It will only show a message on screen, indicating when the device is not available.

### Active

Select this setting to activate the scheduler.

### Open times

A text string with time slots when the device is available. The string is in format

```
<day of week>:<start time>-<end time>[|<start time>-<end time>], <day of week>...
```

**Day of week** needs to be English short day name (Mon, Tue, Wed, Thu, Fri, Sat, Sun)
**Time** needs to be in format xx.xx (separated by dot, not colon), 24-hour clock, for example 15.00
**Start time** and **End time** are separated by a hyphen (minus sign)
Several **Time**s can be given for a single day, separated by a bar character (|)
Days are separated by a comma (,)
For example the following string would indicate that the device is available on weekdays (Mon - Fri) from 8 in the morning until 4 in the afternoon:

```
Mon:08.00-16.00, Tue:08.00-16.00, Wed:08.00-16.00, Thu:08.00-16.00, Fri:08.00-16.00
```

The following would indicate an opening on Tuesdays, for two hours in the morning and then two more hours in the evening:

```
Tue:08.00-10.00|18.00-20.00
```

It is usually easiest to construct the string in a text editor, such as Notepad for example, and then copy-paste the string into Management Utility as a whole.

## SIP

These settings control the SIP communications between Librid software and the library system.

### Ask fee items in message 63

Some SIP servers do not allow 7th field in summary for patron information request (SIP message 63); this setting enables or disables using that field. Leave selected if there is no real reason to turn it off.

### Can use sip message 17

If this setting is enabled, Librid will use a separate SIP 17 (Item info) message when needed; for example, if SIP 24 or 64 messages return only item identifiers and not names, Librid will get the item names using SIP 17 messages as needed.

Note that this may cause a lot of extra network traffic. This setting should only be turned of if needed, not always.

### Code page for receiving

Select Windows code page to use for decoding received SIP messages.

### Code page for sending

Select Windows code page to use for encoding SIP messages that are sent to the library system.

### Deny checkout for block reasons

Some library systems do not send deny privileges information for patrons even when they have outstanding fees or something else; this setting makes it possible to define in Librid, when the patron should not be allowed to check out items. These refer to the *Patron status* field in SIP message 24 or 62. Possible values are:

Charge privileges denied
Renewal privileges denied
Recall privileges denied
Hold privileges denied
Card reported lost
Too many items charged
Too many items overdue
Too many renewals
Too many claims of items returned
Too many items lost
Excessive outstanding fines
Excessive outstanding fees
Recall overdue
Too many items billed

If any of these flags is selected and the corresponding flag in *Patron status* is true (Y), then Librid will not allow the patron to check out any items. Returning items is allowed, as well as viewing Account info page.

### Due date culture

What culture style is used in Due Dates. This determines how due dates are parsed when received from the library system.

Use a culture code as specified in Appendix A.

You can also use a Regular Expression in this field, to further format date values as needed. To use a Regular Expression, prefix the information with "format:", for example:

```
format:(?<day>\d+)(?:.)(?<month>\d+)(?:.)(?<year>\d+)
```

This would parse a due date in format <day> (separator) <month> (separator) <year>, for example 25.03.2015. The separator could be some other character as well, for example 25-03-2015 would be parsed as well.

```
format:(?<year>\d{4})(?<month>\d{2})(?<day>\d{2})
```

This on the other hand would parse a string having <year using 4 digits><month using 2 digits><day using 2 digits> format, for example 20150325.

Note, that all values parsed out of the string must be placed in variables **<day>**, **<month>** and **<year>**, from which Librid will then know to read them.

### Ignore supported messages

This dropdown list allows ignoring when library system reports certain SIP messages as not supported. Sometimes the information is not entirely true, and messages can be used even when the library system reports them as not available.

Mark any / all messages in the list with a checkbox, if you want to ignore how the library system reports the availability of those messages.

### Library type

Select what type of library system is used. Please make sure to select the correct one if available. This determines many things in the SIP communications, as different library systems use slightly different dialects of SIP messaging.

### Max print line width

Sent to the SIP server; the library system will then adjust all print-line messages accordingly.

### No block is true for Renew

If this setting is selected, the library system can not deny a renew even if there is for example a reservation for the book for another user. Typically this should be off, only for some specific cases it should be turned on.

### Protocol version

SIP protocol version to use in communications with the library system.

## Renew mode

There are two options to use Renewal function:

**Default**: This option uses normal Renew SIP messages (29-30 and 65-66 message pairs). Always use this if the library system supports these messages.

**Use check out**: This option creates separate Check in messages and Check out messages for all renewed items. It can be used if the library system does not support the standard renew messages. Note: this may not work as expected, as the check in and check out messages arrive in very quick succession, and not all systems allow that.

## Starting sequence number

SIP messages starting sequence number; some library systems may require SIP messages to have a certain sequence numbering, and this setting can be used to control where the numbering starts from.

## Use BL and CQ fields for patron authentication

This is an alternative method to use, for authenticating patron ID and PIN-code. Use this if the library system requires.

Note, that CQ field (valid patron password) is only effective when PIN-code authentication is used; setting Pincode authentication type 42 .

## Use error handling

Select this setting to enable error handling in SIP communications. Do not use this if the library system does not implement error checking (CRC).

## Use Fee Acknowledge in Checkout

Enabling this setting causes Librid to send a fee acknowledge flag in check out SIP message 11. Value Y in BO field ("BOY"). Use this if the library system requires so.

## Use sip message 63

Alternative message pair 63-64 will be used to retrieve patron information, if this setting is enabled. Enable this if the library system returns patron information in 64 message, otherwise leave disabled.

## Use time in checkin return date

If this setting is enabled, a check in request (SIP 09) will contain a time part in addition to normal date part. Usually the time is not important as it is determined on the server end, but in some cases this may be important - for example reading room loans - and can then be turned on. Remember to make sure that the date and time are correct on the device if this setting is used!

## SMS

It is possible to send SMS messages from Librid. This requires a separate GSM modem to be installed and connected with a Master controller. Multiple Librid devices can be connected to the same Master controller and thus use a single GSM modem, and only one SIM card and subscription.

The library may use their own cellular subscription. Regular SMS fees apply just as with any mobile phone.

## Messages

This dropdown list allows selecting what messages are sent as SMS messages.

**Authentication error**: Patron authentication failed; possibly an invalid patron identifier or incorrect PIN code.

**Block reasons**: Send the reason why a patron login was not accepted.

**Card forgotten**: A patron card was left in the reader slot after a session has ended.

**Checkin item added**: Mainly for testing purposes, will send a message every time an item is checked out.

**Checout item added**: Mainly for testing purposes, will send a message every time an item is checked in.

**Invalid printer**: During startup, if a printer is not found as specified in settings.

**Invalid reader**: During startup, if an RFID or barcode reader is not found as specified in settings.

**Library connection ok**: When a library system connection (SIP server) is formed. This happens at application startup, and can also happen after a broken connection is re-established.

**Library in offline**: When SIP connection is lost, but offline functionality is allowed, this message will be sent.

**Librid closed**: When Librid is closed down.

**Librid started**: At Librid startup.

**No library connection**: When SIP connection is lost and offline functionality is NOT allowed, this message is sent.

**Printer error**: Printer is in error state, for example out of paper, or disconnected.

**Printer ok**: When printer returns from error state, this message is sent. It can indicate for example that a paper had run out and is now replaced with a new roll.

**Printer paper near end**: If POS printer drivers are used, the printer can report that it is low on paper, before actually running out.

**Unknown patron**: When an unknown patron attempts to log in.

## Phone numbers

Phone numbers to which messages are sent. Multiple numbers can be given, separated by commas, for example:

555-12345,555-43321,555-98765

## Timers

These timer settings control how long various states in the device last. It is possible to change the behavior somewhat, but caution should be taken to not decrease or increase the timers too much, as that may cause impossible scenarios where the device will cease to function correctly.

### ACS refresh time in minutes

The interval at which Librid checks the SIP connection. Default value is 5 minutes.

### Barcode delay for hybrid(ms)

How many milliseconds to wait for identifiers to appear from RFID reader, if an item ID has been received from barcode reader first. Default value is 250 ms.

### Card remove timeout in seconds

How many seconds will the "Please remember to take your card" reminder be shown, after a session has ended. If the value is set to 0 (zero), the message will be shown until the library card is removed from the reader. For other values the message is removed after the given time period, even if there is still a library card in the reader.

### Delay time before show wait in checkout and checkin (ms)

Number of millisecondsto wait for SIP message, before a "please wait" message is shown.

### Error delay time in seconds

In case an error is repeated, it won't be shown until this number of seconds has passed. The reason is to reduce "flickering" error messages for example when an item is right on the edge of the RFID reading area.

### Error show time in seconds

General time for how long will an error message be displayed on screen.

### Idle timeout in seconds

If the device is idle - that is, the patron does nothing during a session - for this period of time, the session will be automatically ended.

### Incomplete set info in seconds (multi check out/in)

For how long will Librid attempt to read set information when RFID reader is used. Items will not show up on screen during this time. Warning: do not set this timer too long, otherwise the device will function very slowly.

### Info show time in seconds

How long will the info screen be shown, at the start of a session.

### Login refresh in seconds

If the SIP connection is using a login and the connection is lost, this timer controls at what interval will the login be attempted. Login message will be sent before ACS message.

### Sip received timeout in seconds

How long will Librid wait for SIP server to respond to a message.

Value 0: information received from SIP server, in 98 message.

Greater than 0: use this value, instead of what the SIP server indicates.

### Sorting arrow show time in seconds (single checkin)

How many seconds will the sorting arrow be displayed on top of the item list. This only applies to single item check in.

### Timer for smart bin expected message

How long will the item be ignored on the primary reader (device) while waiting for it to appear in the secondary reader (smart bin). During this time, the message "Put item to smart bin" is not shown on screen.

## User interface

Settings related to some user interface elements and behaviour.

### AF message type in UI

How the error page content is formed.

**AF**: Show text received in SIP message as-is.

**Internal**: Show error message as defined in Librid.

**AFInternal**: Combination of the two; shows text from SIP message and the text as defined in Librid.

### Default currency

Currency code (text), used where ever currency is displayed, such as fines on receipts and on screen.

By default the amounts are shown before the currency code, such as "15 EUR". It is also possible to show the currency code before the amount by using an underscore character to indicate where the amount should be placed, for example if this setting is defined to be "USD _", the resulting output will be "USD 15".

### Fields to show in account info page

List of possible fields and other information that can be showin in Account Info page. Note, that not all library systems support every combination of information in this selection.

### Hide flag in language selection

If selected, there will not be any flags displayed in language selection, in the UI, only names of languages. If not selected, flags will be displayed.

### Mark special items in check in page

If selected, items that belong to special sorting will be highlighted on screen.

### Max count to show block reason for patron

If the user is blocked by library system, there may be several reason codes returned by library system. This setting controls how many of those will be shown on screen.

### Show account info when check out

If selected, an account info page will be shown on screen when a check out session is started. Note that the account info page can not be shown for check in sessions, because the patron can not be reliably identified.

### Show already error

If enabled, Librid will show an error when already identified items are scanned again. For example when checking out, if you place a book on the reader twice, there will be an error saying "This item is already loaned". If not enabled, there will be no such error message.

### Show detailed buttons

A dropdown list to select, what buttons will be shown in Account into page as buttons. These buttons can be used to access the main information, and there is also some information included in the buttons themselves - for example "Holds" button will show number of hold items available in the button, and pressing that button will then display a page with the actual hold items listed.

### Show due date for unavailable hold

If enabled, there will be a column displaying a due date for unavailable hold items when viewing them in Account info. This can be disabled because not all library systems provide this date, or it may even be a meaningless date.

### Show only special items in sorting page

If selected, only items belonging to special bin as per sorting rules will be shown on screen. The screen will not be split in two, instead the whole page width will be used for item names.

## Local settings

These settings only affect the workstation under which they are in the Management Utility tree, i.e. a single Librid 3 machine.

## Application

Application specific misc settings.

### Fee limit for patron

If a fee limit is set to more than 0 (zero), any patron with fees due more than this will not be allowed to check out more items. This corresponds to BV field value in SIP 64 message.

### Serial number

Device serial number. This is used for information only, in support cases, no other need.

## Audio files

It is possible to assign sounds to different events of the device. These sounds should be in a normal .wav (wave) file format. System sounds provided with Windows can also be used.
Each file needs to be uploaded to the database using Management Utility, and can then be selected from the drop-down lists in this section. Same sound can be selected to multiple devices.

### Check out ok

Sound to play when swiping an item to check out.

### Error

Sound to play when an error occurs.

### Hold item

Sound to play when an item is returned, and the item has a hold on it in the library system.

### Insert item

Sound to play when Librid is ready to accept the next item.

### Item read

Sound to play when an item barcode or RFID tag has been read.

### Pin button

Sound to play when a pin button is pressed in the on-screen pinpad.

### Remember take card

Sound to play when displaying a message on screen, reminding the patron to take his card from the reader.

### Session end

Sound to play when a patron session ends.

### Session start

Sound to play when a patron session starts.

## Device: Rfid

RFID reader settings. Only applies to devices that have an RFID reader installed; if the device only has a barcode reader, these settings are not relevant.

### Allow invalid tags when using also barcode

If this setting is enabled, the device will accept items with invalid RFID tags when there is also barcode present and recognized. This is especially useful during a conversion to RFID, when not all tags are programmed (i.e. some tags are blank).
During normal operation this setting should be disabled, as it can slow down the device.

### Id for Scanner

Id number of the item RFID reader, given in the ini file. The ini file is stored in "Program Files \Common\PV-Supa" folder. Depending on what reader is installed, different ini files are used; for example for Nedap readers, "NedapS.ini" should be used.

In the ini file there is a section [Reader], with the ID like follows:

```
[READER]
; Port
ComPort = COM1
; Reader identification, used to identify reader when more than one reader is used
ReaderID = 1
```

This ID is used to differentiate readers when more than one is installed in one computer.

### Id for Smart Bin

Id number of the RFID reader in the SmartBin, given in the ini file. See previous section Id for Scanner for more information about the ini file; there should be a second section for the second reader, with a different ID and COM port.

### Ignore security error

If this setting is enabled, Librid will ignore error when attempting to set or remove RFID security bit (AFI). If disabled, there will be an error message shown to the patron.

### Reader

Select type of RFID reader that is used in the device.

### Use Rfid reader

Enable this setting if there is an RFID reader in the device. Disable if the device is only using a barcode reader.

## Language files

Settings for language texts, stored in the database.

### Language texts

This drop down lists all language texts uploaded to the database using Management Utility. Select the one to use for this unit. The same language text file can be selected for multiple devices; modifying texts in that file will then affect all devices to which it has been selected.

## Log

Software logging related settings.

Note that starting from Librid 3 version 5.0.xxxx, all log data is stored in the main database through Master controller. To read these logs, use the **Log browser** software. Earlier versions used a local database or Message queue based logging directly to database.

### Hide sensitive info

If enabled, Librid will mask sensitive information such as patron card numbers and PIN codes in log, by replacing them with asterisks (*).

### Save log

Select what types of information you wish to have logged. Possible values are:

**Application**: Application level events, such as application startup or shutdown.
**SIP**: SIP messages, sending and receiving.
**Device**: Device events, such as barcode reader events, or sensor state changes.
**Sorting**: Sorting related events, when returning items.
**Debug**: Technical details of various events. This can produce a lot of technical data which is not important for normal use, and should be disabled when the device is operating normally.

## Pictures

Images used in user interface. All images must first be uploaded to database using Management Utility and then selected using the drop down lists in each setting. Any image can be selected for multiple machines uploading it only once.

Note that the images are displayed on top of other content, so PNG images with transparent background should be used.

### Account info button image

Button for Account Info on the main screen.

### Account info button pressed image

Button for Account Info on the main screen, in pressed (down) state.

### Application logo file

Application logo appears in the top right corner of the Librid main screen. By default a P.V. Supa logo is displayed here. If anything is selected as the Application logo, it will replace the Supa logo.

### Book with arrow

A picture of book with an arrow showing the direction to slide it. Used when a device has barcode item reader and a sensor over which the book must be taken.

### Card image in authentication page

Library card picture in authentication screen.

### Card image in start page

Library card image in start screen.

### Checkin button image

Button for Check in (return) on front page.

### Checkin button pressed image

Button for Check in (return) on front page, pressed (down) state.

### Checkout button image

Button for Check out (loan) on front page.

### Checkout button pressed image

Button for Check out (loan) on front page, pressed (down) state.

### Email button image

Email button for receipt printing selection.

### Email button pressed image

Email button for receipt printing selection, pressed state.

### Hold button image

Button for Hold functionality on front page.

### Hold button pressed image

Button for Hold functionality on front page, pressed (down) state.

### Image bin 0

Direction arrow for sorting bin 0.

### Image bin 1

Direction arrow for sorting bin 1.

### Image bin 2

Direction arrow for sorting bin 2.

### Image bin 3

Direction arrow for sorting bin 3.

### Library logo file

Library logo picture. Shown in the upper left corner of start screen.

### Many book

Picture shown in "Place items on reader", when multiple items are allowed (RFID).

### No button image

"No" choice in receipt printing, button image.

### No button pressed image

"No" choice in receipt printing, button image in pressed (down) state.

### One book

Picture shown in "Place item on reader", when single item mode is selected.

### Receipt button image

Paper receipt choice button for receipt printing.

### Receipt button pressed image

Paper receipt choice button for receipt printing, pressed (down) state.

### Receipt image

Image to use for "Remember to take your receipt" display.

### Renew button image

Button for renew functionality on the front page.

### Renew button pressed image

Button for renew functionality on the front page, pressed (down) state.

### Wait image

Wait-overlay image for situations when the software asks the user to wait for something.

## QR Code

Mobile login related settings. Librid uses a QR code on the screen to enable using the system with a mobile device.

### Library name

Devices are identified by library name and MAC address; these must also be configured on the mobile login service web application. Once this value is set and configured, do not change it – it will make the QR login system not work.

### Start from account info

If selected, the software will open account info page immediately after mobile login.

### Use QR Code

If enabled (and other settings are correctly set), there will be a QR code displayed on the screen of the self-service unit, allowing patrons to login with their mobile devices.

## Receipt

Patron receipt related settings.

### Mode

How is the patron receipt printed. Possible values are
**No**:  There is no patron receipt printed.
**Optional**: Patrons can choose to have a receipt printed or not.
**Mandatory**: A receipt will always be printed automatically.

### Pos printer name

If specific Pos printer drivers are used, this is the name of the Pos printer as seen in Windows printers. Pos printer drivers typically allow "paper near end" sensor to be used, unlike standard Windows printer drivers.

### Printer name

Receipt printer name, from Windows installed printers on local machine.

### Use paper near end sensor

If this setting is selected AND if the printer supports it, the "paper near end" sensor status is checked during operation. This allows sending messages to Messageboard before the printer paper is completely out.

Typically requires Pos printer and drivers to work.

## Receipt definitions

Receipt definitions are created using **Receipt editor** software, and saved in the database for Librid to use them. These settings control those.

### Receipt definition

Select the receipt definitions to use with Librid from this dropdown list. The same receipt definition can be used in multiple units, making it possible to change receipt layouts or texts once, and having the effects show up in many machines.

## SIP

Device specific SIP server related settings.

### Login location code

If the SIP server requires a location code for login messages, enter the location code here. This will be used as CP field value in SIP 93 message.

### Server ip address

SIP server IP address, or server name.

### Server port

Port to use for connection. This must match what is set for SIP server.

### SIP server login name

If login is used for SIP connection, this is the username to use in login messages. This will be used as the CN field value in SIP 93 message.

### SIP Server login password

If login is used for SIP connection, this is the password to use in login messages. This will be used as the CO field value in SIP 93 message.

### Terminal password

This is the password for the SC unit.  If this feature is not used by the ACS in the library then the field should be zero length if it is required in the command, and can be omitted entirely if the field is optional in the command.

### Use ACS login

Select this checkbox if the SIP server requires ACS login messages.

### Web service credential name

Name to use with webservices, such as Cicero LMS.

### Web service credential password

Password to use with webservices, such as Cicero LMS.

## SIP over Telnet

These settings cover the use of Telnet connection to SIP server, instead of the more typical TCP/IP connection.

### Connection timeout in seconds

Timeout in seconds when connecting to SIP server using Telnet.

### Substitute CR with CR + LF

If enabled, all carriage return (CR) characters will be converted to carriage return + line feed (CR + LF) pairs.

### Telnet login password

Password for Telnet connection.

### Telnet login password prompt

Password prompt to wait for, when forming a Telnet connection.

### Telnet login prompt

Login prompt to wait for, when forming a Telnet connection.

### Telnet login script, prompt 1

First prompt text to wait for after Telnet login.

### Telnet login script, prompt 2

Second prompt text to wait for after Telnet login.

*Telnet login script, prompt 3*

Third prompt text to wait for after Telnet login.

*Telnet login script, prompt 4*

Fourth prompt text to wait for after Telnet login.

*Telnet login script, response 1*

Response to send to first prompt.

*Telnet login script, response 2*

Response to send to second prompt.

*Telnet login script, response 3*

Response to send to third prompt.

*Telnet login script, response 4*

Response to send to fourth prompt.

*Telnet login username*

Username for Telnet connection.

*Telnet terminal command prompt*

Prompt character to wait for, after a Telnet session has been initialized.

*Use binary transfer*

If enabled, binary 8-bit transfer mode is used. If disabled, the normal 7-bit transfer mode is used.

*Use SIP over Telnet*

If enabled, SIP connection is formed over Telnet.

## Sorting

If the device is used for check in, these settings can be used to control the sorting of returned items.

*Bin count*

Number of sorting bins available. 0 (zero) if there are no bins connected. Typical values range from 0 to 2.

### Bin number for special bin

If a smart bin is used, enter bin number of smart bin here.

### Default sort bin

Default bin number, where items are sorted when no other sorting information has been given.

### First bin index

Number of first bin. This value depends on SIP server, and is typically either 0 (zero) or 1 (one).

### Offline bin

To which direction is the offline bin. Offline bin is used to sort items when SIP connection can not be made, and offline functionality is enabled.

### Use special bin

Selection for does the device have a special bin or not. Available values are:

**No**: The device does not have a special bin.

**Smart bin**: The device has a smart bin with RFID reader connected to it.

## Sorting rules

Sorting rules stored in database. Librid 3 uses the same sorting rules system as Libretto 2. Sorting rules are created with the same Sorting Editor tool.

Reserved items (holds) are defined by the sorting rules file, by creating a rule that has the "Hold" flag set.

### Rule

Select the desired sorting rule from the drop-down list. These rules are saved to database using **Sorting Editor**.

## Type

This setting is used to select which type of device is in question.

### Machine type

What type of self-service unit is this particular machine. Available values are:

**Check out only**: Only check out functionality is available.

**Check in only**: Only check in functionality is available.

**Check out and check in**: Both check in and check out functionalities are available.

## User interface

User interface related settings.

### Display font: Default to large fonts

If selected, the device will default to using larger fonts. Note, that high-contrast display mode is also enabled if setting Display font: Use high contrast with large fonts 76 is enabled.

### Display font: Use font size button

If selected, there will be a button on the front page to increase font sizes throughout the user interface.

### Display font: Use high contrast with large fonts

If selected, the color scheme of the user interface will also be switched to higher contrast mode, when large fonts button is pressed.

### Mouse cursor visible

If selected, mouse cursor will be visible on screen during operation. This is typically only used when setting up the device, or during training, not in normal operating mode.

# Language codes

The following list contains all language codes and date formats that can be used with Supa software.

| Language code | Language name | Date format |
|---|---|---|
| af | Afrikaans | yyyy/MM/dd |
| af-ZA | Afrikaans (South Africa) | yyyy/MM/dd |
| am | Amharic | d/M/yyyy |
| am-ET | Amharic (Ethiopia) | d/M/yyyy |
| ar | Arabic | dd/MM/yy |
| ar-AE | Arabic (U.A.E.) | dd/MM/yyyy |
| ar-BH | Arabic (Bahrain) | dd/MM/yyyy |
| ar-DZ | Arabic (Algeria) | dd-MM-yyyy |
| ar-EG | Arabic (Egypt) | dd/MM/yyyy |
| ar-IQ | Arabic (Iraq) | dd/MM/yyyy |
| ar-JO | Arabic (Jordan) | dd/MM/yyyy |
| ar-KW | Arabic (Kuwait) | dd/MM/yyyy |
| ar-LB | Arabic (Lebanon) | dd/MM/yyyy |
| ar-LY | Arabic (Libya) | dd/MM/yyyy |
| ar-MA | Arabic (Morocco) | dd-MM-yyyy |
| arn | Mapudungun | dd-MM-yyyy |
| arn-CL | Mapudungun (Chile) | dd-MM-yyyy |
| ar-OM | Arabic (Oman) | dd/MM/yyyy |
| ar-QA | Arabic (Qatar) | dd/MM/yyyy |
| ar-SA | Arabic (Saudi Arabia) | dd/MM/yy |
| ar-SY | Arabic (Syria) | dd/MM/yyyy |
| ar-TN | Arabic (Tunisia) | dd-MM-yyyy |
| ar-YE | Arabic (Yemen) | dd/MM/yyyy |
| as | Assamese | dd-MM-yyyy |
| as-IN | Assamese (India) | dd-MM-yyyy |
| az | Azeri | dd.MM.yyyy |
| az-Cyrl | Azeri (Cyrillic) | dd.MM.yyyy |
| az-Cyrl-AZ | Azeri (Cyrillic, Azerbaijan) | dd.MM.yyyy |
| az-Latn | Azeri (Latin) | dd.MM.yyyy |
| az-Latn-AZ | Azeri (Latin, Azerbaijan) | dd.MM.yyyy |
| ba | Bashkir | dd.MM.yy |
| ba-RU | Bashkir (Russia) | dd.MM.yy |

| be | Belarusian | dd.MM.yyyy |
|---|---|---|
| be-BY | Belarusian (Belarus) | dd.MM.yyyy |
| bg | Bulgarian | d.M.yyyy 'r.' |
| bg-BG | Bulgarian (Bulgaria) | d.M.yyyy 'r.' |
| bn | Bengali | dd-MM-yy |
| bn-BD | Bengali (Bangladesh) | dd-MM-yy |
| bn-IN | Bengali (India) | dd-MM-yy |
| bo | Tibetan | yyyy/M/d |
| bo-CN | Tibetan (PRC) | yyyy/M/d |
| br | Breton | dd/MM/yyyy |
| br-FR | Breton (France) | dd/MM/yyyy |
| bs | Bosnian | d.M.yyyy |
| bs-Cyrl | Bosnian (Cyrillic) | d.M.yyyy |
| bs-Cyrl-BA | Bosnian (Cyrillic, Bosnia and Herzegovina) | d.M.yyyy |
| bs-Latn | Bosnian (Latin) | d.M.yyyy |
| bs-Latn-BA | Bosnian (Latin, Bosnia and Herzegovina) | d.M.yyyy |
| ca | Catalan | dd/MM/yyyy |
| ca-ES | Catalan (Catalan) | dd/MM/yyyy |
| co | Corsican | dd/MM/yyyy |
| co-FR | Corsican (France) | dd/MM/yyyy |
| cs | Czech | d.M.yyyy |
| cs-CZ | Czech (Czech Republic) | d.M.yyyy |
| cy | Welsh | dd/MM/yyyy |
| cy-GB | Welsh (United Kingdom) | dd/MM/yyyy |
| da | Danish | dd-MM-yyyy |
| da-DK | Danish (Denmark) | dd-MM-yyyy |
| de | German | dd.MM.yyyy |
| de-AT | German (Austria) | dd.MM.yyyy |
| de-CH | German (Switzerland) | dd.MM.yyyy |
| de-DE | German (Germany) | dd.MM.yyyy |
| de-LI | German (Liechtenstein) | dd.MM.yyyy |
| de-LU | German (Luxembourg) | dd.MM.yyyy |
| dsb | Lower Sorbian | d. M. yyyy |
| dsb-DE | Lower Sorbian (Germany) | d. M. yyyy |
| dv | Divehi | dd/MM/yy |
| dv-MV | Divehi (Maldives) | dd/MM/yy |
| el | Greek | d/M/yyyy |

| el-GR | Greek (Greece) | d/M/yyyy |
|-------|----------------|----------|
| en | English | M/d/yyyy |
| en-029 | English (Caribbean) | MM/dd/yyyy |
| en-AU | English (Australia) | d/MM/yyyy |
| en-BZ | English (Belize) | dd/MM/yyyy |
| en-CA | English (Canada) | dd/MM/yyyy |
| en-GB | English (United Kingdom) | dd/MM/yyyy |
| en-IE | English (Ireland) | dd/MM/yyyy |
| en-IN | English (India) | dd-MM-yyyy |
| en-JM | English (Jamaica) | dd/MM/yyyy |
| en-MY | English (Malaysia) | d/M/yyyy |
| en-NZ | English (New Zealand) | d/MM/yyyy |
| en-PH | English (Republic of the Philippines) | M/d/yyyy |
| en-SG | English (Singapore) | d/M/yyyy |
| en-TT | English (Trinidad and Tobago) | dd/MM/yyyy |
| en-US | English (United States) | M/d/yyyy |
| en-ZA | English (South Africa) | yyyy/MM/dd |
| en-ZW | English (Zimbabwe) | M/d/yyyy |
| es | Spanish | dd/MM/yyyy |
| es-AR | Spanish (Argentina) | dd/MM/yyyy |
| es-BO | Spanish (Bolivia) | dd/MM/yyyy |
| es-CL | Spanish (Chile) | dd-MM-yyyy |
| es-CO | Spanish (Colombia) | dd/MM/yyyy |
| es-CR | Spanish (Costa Rica) | dd/MM/yyyy |
| es-DO | Spanish (Dominican Republic) | dd/MM/yyyy |
| es-EC | Spanish (Ecuador) | dd/MM/yyyy |
| es-ES | Spanish (Spain, International Sort) | dd/MM/yyyy |
| es-GT | Spanish (Guatemala) | dd/MM/yyyy |
| es-HN | Spanish (Honduras) | dd/MM/yyyy |
| es-MX | Spanish (Mexico) | dd/MM/yyyy |
| es-NI | Spanish (Nicaragua) | dd/MM/yyyy |
| es-PA | Spanish (Panama) | MM/dd/yyyy |
| es-PE | Spanish (Peru) | dd/MM/yyyy |
| es-PR | Spanish (Puerto Rico) | dd/MM/yyyy |
| es-PY | Spanish (Paraguay) | dd/MM/yyyy |
| es-SV | Spanish (El Salvador) | dd/MM/yyyy |
| es-US | Spanish (United States) | M/d/yyyy |

| es-UY | Spanish (Uruguay) | dd/MM/yyyy |
|---|---|---|
| es-VE | Spanish (Bolivarian Republic of Venezuela) | dd/MM/yyyy |
| et | Estonian | d.MM.yyyy |
| et-EE | Estonian (Estonia) | d.MM.yyyy |
| eu | Basque | yyyy/MM/dd |
| eu-ES | Basque (Basque) | yyyy/MM/dd |
| fa | Persian | MM/dd/yyyy |
| fa-IR | Persian | MM/dd/yyyy |
| fi | Finnish | d.M.yyyy |
| fi-FI | Finnish (Finland) | d.M.yyyy |
| fil | Filipino | M/d/yyyy |
| fil-PH | Filipino (Philippines) | M/d/yyyy |
| fo | Faroese | dd-MM-yyyy |
| fo-FO | Faroese (Faroe Islands) | dd-MM-yyyy |
| fr | French | dd/MM/yyyy |
| fr-BE | French (Belgium) | d/MM/yyyy |
| fr-CA | French (Canada) | yyyy-MM-dd |
| fr-CH | French (Switzerland) | dd.MM.yyyy |
| fr-FR | French (France) | dd/MM/yyyy |
| fr-LU | French (Luxembourg) | dd/MM/yyyy |
| fr-MC | French (Monaco) | dd/MM/yyyy |
| fy | Frisian | d-M-yyyy |
| fy-NL | Frisian (Netherlands) | d-M-yyyy |
| ga | Irish | dd/MM/yyyy |
| ga-IE | Irish (Ireland) | dd/MM/yyyy |
| gd | Scottish Gaelic | dd/MM/yyyy |
| gd-GB | Scottish Gaelic (United Kingdom) | dd/MM/yyyy |
| gl | Galician | dd/MM/yyyy |
| gl-ES | Galician (Galician) | dd/MM/yyyy |
| gsw | Alsatian | dd/MM/yyyy |
| gsw-FR | Alsatian (France) | dd/MM/yyyy |
| gu | Gujarati | dd-MM-yy |
| gu-IN | Gujarati (India) | dd-MM-yy |
| ha | Hausa | d/M/yyyy |
| ha-Latn | Hausa (Latin) | d/M/yyyy |
| ha-Latn-NG | Hausa (Latin, Nigeria) | d/M/yyyy |
| he | Hebrew | dd/MM/yyyy |

| | | |
|---|---|---|
| he-IL | Hebrew (Israel) | dd/MM/yyyy |
| hi | Hindi | dd-MM-yyyy |
| hi-IN | Hindi (India) | dd-MM-yyyy |
| hr | Croatian | d.M.yyyy. |
| hr-BA | Croatian (Latin, Bosnia and Herzegovina) | d.M.yyyy. |
| hr-HR | Croatian (Croatia) | d.M.yyyy. |
| hsb | Upper Sorbian | d. M. yyyy |
| hsb-DE | Upper Sorbian (Germany) | d. M. yyyy |
| hu | Hungarian | yyyy.MM.dd. |
| hu-HU | Hungarian (Hungary) | yyyy.MM.dd. |
| hy | Armenian | dd.MM.yyyy |
| hy-AM | Armenian (Armenia) | dd.MM.yyyy |
| id | Indonesian | dd/MM/yyyy |
| id-ID | Indonesian (Indonesia) | dd/MM/yyyy |
| ig | Igbo | d/M/yyyy |
| ig-NG | Igbo (Nigeria) | d/M/yyyy |
| ii | Yi | yyyy/M/d |
| ii-CN | Yi (PRC) | yyyy/M/d |
| is | Icelandic | d.M.yyyy |
| is-IS | Icelandic (Iceland) | d.M.yyyy |
| it | Italian | dd/MM/yyyy |
| it-CH | Italian (Switzerland) | dd.MM.yyyy |
| it-IT | Italian (Italy) | dd/MM/yyyy |
| iu | Inuktitut | d/MM/yyyy |
| iu-Cans | Inuktitut (Syllabics) | d/M/yyyy |
| iu-Cans-CA | Inuktitut (Syllabics, Canada) | d/M/yyyy |
| iu-Latn | Inuktitut (Latin) | d/MM/yyyy |
| iu-Latn-CA | Inuktitut (Latin, Canada) | d/MM/yyyy |
| ja | Japanese | yyyy/MM/dd |
| ja-JP | Japanese (Japan) | yyyy/MM/dd |
| ka | Georgian | dd.MM.yyyy |
| ka-GE | Georgian (Georgia) | dd.MM.yyyy |
| kk | Kazakh | dd.MM.yyyy |
| kk-KZ | Kazakh (Kazakhstan) | dd.MM.yyyy |
| kl | Greenlandic | dd-MM-yyyy |
| kl-GL | Greenlandic (Greenland) | dd-MM-yyyy |
| km | Khmer | yyyy-MM-dd |

| | | |
|---|---|---|
| km-KH | Khmer (Cambodia) | yyyy-MM-dd |
| kn | Kannada | dd-MM-yy |
| kn-IN | Kannada (India) | dd-MM-yy |
| ko | Korean | yyyy-MM-dd |
| kok | Konkani | dd-MM-yyyy |
| kok-IN | Konkani (India) | dd-MM-yyyy |
| ko-KR | Korean (Korea) | yyyy-MM-dd |
| ky | Kyrgyz | dd.MM.yy |
| ky-KG | Kyrgyz (Kyrgyzstan) | dd.MM.yy |
| lb | Luxembourgish | dd/MM/yyyy |
| lb-LU | Luxembourgish (Luxembourg) | dd/MM/yyyy |
| lo | Lao | dd/MM/yyyy |
| lo-LA | Lao (Lao P.D.R.) | dd/MM/yyyy |
| lt | Lithuanian | yyyy.MM.dd |
| lt-LT | Lithuanian (Lithuania) | yyyy.MM.dd |
| lv | Latvian | yyyy.MM.dd. |
| lv-LV | Latvian (Latvia) | yyyy.MM.dd. |
| mi | Maori | dd/MM/yyyy |
| mi-NZ | Maori (New Zealand) | dd/MM/yyyy |
| mk | Macedonian (FYROM) | dd.MM.yyyy |
| mk-MK | Macedonian (Former Yugoslav Republic of Macedonia) | dd.MM.yyyy |
| ml | Malayalam | dd-MM-yy |
| ml-IN | Malayalam (India) | dd-MM-yy |
| mn | Mongolian | yy.MM.dd |
| mn-Cyrl | Mongolian (Cyrillic) | yy.MM.dd |
| mn-MN | Mongolian (Cyrillic, Mongolia) | yy.MM.dd |
| mn-Mong | Mongolian (Traditional Mongolian) | yyyy/M/d |
| mn-Mong-CN | Mongolian (Traditional Mongolian, PRC) | yyyy/M/d |
| moh | Mohawk | M/d/yyyy |
| moh-CA | Mohawk (Mohawk) | M/d/yyyy |
| mr | Marathi | dd-MM-yyyy |
| mr-IN | Marathi (India) | dd-MM-yyyy |
| ms | Malay | dd/MM/yyyy |
| ms-BN | Malay (Brunei Darussalam) | dd/MM/yyyy |
| ms-MY | Malay (Malaysia) | dd/MM/yyyy |
| mt | Maltese | dd/MM/yyyy |
| mt-MT | Maltese (Malta) | dd/MM/yyyy |

| nb | Norwegian (Bokmål) | dd.MM.yyyy |
|---|---|---|
| nb-NO | Norwegian, Bokmål (Norway) | dd.MM.yyyy |
| ne | Nepali | M/d/yyyy |
| ne-NP | Nepali (Nepal) | M/d/yyyy |
| nl | Dutch | d-M-yyyy |
| nl-BE | Dutch (Belgium) | d/MM/yyyy |
| nl-NL | Dutch (Netherlands) | d-M-yyyy |
| nn | Norwegian (Nynorsk) | dd.MM.yyyy |
| nn-NO | Norwegian, Nynorsk (Norway) | dd.MM.yyyy |
| no | Norwegian | dd.MM.yyyy |
| nso | Sesotho sa Leboa | yyyy/MM/dd |
| nso-ZA | Sesotho sa Leboa (South Africa) | yyyy/MM/dd |
| oc | Occitan | dd/MM/yyyy |
| oc-FR | Occitan (France) | dd/MM/yyyy |
| or | Oriya | dd-MM-yy |
| or-IN | Oriya (India) | dd-MM-yy |
| pa | Punjabi | dd-MM-yy |
| pa-IN | Punjabi (India) | dd-MM-yy |
| pl | Polish | yyyy-MM-dd |
| pl-PL | Polish (Poland) | yyyy-MM-dd |
| prs | Dari | dd/MM/yy |
| prs-AF | Dari (Afghanistan) | dd/MM/yy |
| ps | Pashto | dd/MM/yy |
| ps-AF | Pashto (Afghanistan) | dd/MM/yy |
| pt | Portuguese | dd/MM/yyyy |
| pt-BR | Portuguese (Brazil) | dd/MM/yyyy |
| pt-PT | Portuguese (Portugal) | dd-MM-yyyy |
| qut | K'iche | dd/MM/yyyy |
| qut-GT | K'iche (Guatemala) | dd/MM/yyyy |
| quz | Quechua | dd/MM/yyyy |
| quz-BO | Quechua (Bolivia) | dd/MM/yyyy |
| quz-EC | Quechua (Ecuador) | dd/MM/yyyy |
| quz-PE | Quechua (Peru) | dd/MM/yyyy |
| rm | Romansh | dd/MM/yyyy |
| rm-CH | Romansh (Switzerland) | dd/MM/yyyy |
| ro | Romanian | dd.MM.yyyy |
| ro-RO | Romanian (Romania) | dd.MM.yyyy |

| ru | Russian | dd.MM.yyyy |
|---|---|---|
| ru-RU | Russian (Russia) | dd.MM.yyyy |
| rw | Kinyarwanda | M/d/yyyy |
| rw-RW | Kinyarwanda (Rwanda) | M/d/yyyy |
| sa | Sanskrit | dd-MM-yyyy |
| sah | Yakut | MM.dd.yyyy |
| sah-RU | Yakut (Russia) | MM.dd.yyyy |
| sa-IN | Sanskrit (India) | dd-MM-yyyy |
| se | Sami (Northern) | dd.MM.yyyy |
| se-FI | Sami, Northern (Finland) | d.M.yyyy |
| se-NO | Sami, Northern (Norway) | dd.MM.yyyy |
| se-SE | Sami, Northern (Sweden) | yyyy-MM-dd |
| si | Sinhala | yyyy-MM-dd |
| si-LK | Sinhala (Sri Lanka) | yyyy-MM-dd |
| sk | Slovak | d. M. yyyy |
| sk-SK | Slovak (Slovakia) | d. M. yyyy |
| sl | Slovenian | d.M.yyyy |
| sl-SI | Slovenian (Slovenia) | d.M.yyyy |
| sma | Sami (Southern) | yyyy-MM-dd |
| sma-NO | Sami, Southern (Norway) | dd.MM.yyyy |
| sma-SE | Sami, Southern (Sweden) | yyyy-MM-dd |
| smj | Sami (Lule) | yyyy-MM-dd |
| smj-NO | Sami, Lule (Norway) | dd.MM.yyyy |
| smj-SE | Sami, Lule (Sweden) | yyyy-MM-dd |
| smn | Sami (Inari) | d.M.yyyy |
| smn-FI | Sami, Inari (Finland) | d.M.yyyy |
| sms | Sami (Skolt) | d.M.yyyy |
| sms-FI | Sami, Skolt (Finland) | d.M.yyyy |
| sq | Albanian | yyyy-MM-dd |
| sq-AL | Albanian (Albania) | yyyy-MM-dd |
| sr | Serbian | d.M.yyyy |
| sr-Cyrl | Serbian (Cyrillic) | d.M.yyyy |
| sr-Cyrl-BA | Serbian (Cyrillic, Bosnia and Herzegovina) | d.M.yyyy |
| sr-Cyrl-CS | Serbian (Cyrillic, Serbia and Montenegro (Former)) | d.M.yyyy |
| sr-Cyrl-ME | Serbian (Cyrillic, Montenegro) | d.M.yyyy |
| sr-Cyrl-RS | Serbian (Cyrillic, Serbia) | d.M.yyyy |
| sr-Latn | Serbian (Latin) | d.M.yyyy |

| sr-Latn-BA | Serbian (Latin, Bosnia and Herzegovina) | d.M.yyyy |
|---|---|---|
| sr-Latn-CS | Serbian (Latin, Serbia and Montenegro (Former)) | d.M.yyyy |
| sr-Latn-ME | Serbian (Latin, Montenegro) | d.M.yyyy |
| sr-Latn-RS | Serbian (Latin, Serbia) | d.M.yyyy |
| sv | Swedish | yyyy-MM-dd |
| sw | Kiswahili | M/d/yyyy |
| sv-FI | Swedish (Finland) | d.M.yyyy |
| sw-KE | Kiswahili (Kenya) | M/d/yyyy |
| sv-SE | Swedish (Sweden) | yyyy-MM-dd |
| syr | Syriac | dd/MM/yyyy |
| syr-SY | Syriac (Syria) | dd/MM/yyyy |
| ta | Tamil | dd-MM-yyyy |
| ta-IN | Tamil (India) | dd-MM-yyyy |
| te | Telugu | dd-MM-yy |
| te-IN | Telugu (India) | dd-MM-yy |
| tg | Tajik | dd.MM.yy |
| tg-Cyrl | Tajik (Cyrillic) | dd.MM.yy |
| tg-Cyrl-TJ | Tajik (Cyrillic, Tajikistan) | dd.MM.yy |
| th | Thai | d/M/yyyy |
| th-TH | Thai (Thailand) | d/M/yyyy |
| tk | Turkmen | dd.MM.yy |
| tk-TM | Turkmen (Turkmenistan) | dd.MM.yy |
| tn | Setswana | yyyy/MM/dd |
| tn-ZA | Setswana (South Africa) | yyyy/MM/dd |
| tr | Turkish | dd.MM.yyyy |
| tr-TR | Turkish (Turkey) | dd.MM.yyyy |
| tt | Tatar | dd.MM.yyyy |
| tt-RU | Tatar (Russia) | dd.MM.yyyy |
| tzm | Tamazight | dd-MM-yyyy |
| tzm-Latn | Tamazight (Latin) | dd-MM-yyyy |
| tzm-Latn-DZ | Tamazight (Latin, Algeria) | dd-MM-yyyy |
| ug | Uyghur | yyyy-M-d |
| ug-CN | Uyghur (PRC) | yyyy-M-d |
| uk | Ukrainian | dd.MM.yyyy |
| uk-UA | Ukrainian (Ukraine) | dd.MM.yyyy |
| ur | Urdu | dd/MM/yyyy |
| ur-PK | Urdu (Islamic Republic of Pakistan) | dd/MM/yyyy |

| uz | Uzbek | dd/MM yyyy |
|---|---|---|
| uz-Cyrl | Uzbek (Cyrillic) | dd.MM.yyyy |
| uz-Cyrl-UZ | Uzbek (Cyrillic, Uzbekistan) | dd.MM.yyyy |
| uz-Latn | Uzbek (Latin) | dd/MM yyyy |
| uz-Latn-UZ | Uzbek (Latin, Uzbekistan) | dd/MM yyyy |
| vi | Vietnamese | dd/MM/yyyy |
| vi-VN | Vietnamese (Vietnam) | dd/MM/yyyy |
| wo | Wolof | dd/MM/yyyy |
| wo-SN | Wolof (Senegal) | dd/MM/yyyy |
| xh | isiXhosa | yyyy/MM/dd |
| xh-ZA | isiXhosa (South Africa) | yyyy/MM/dd |
| yo | Yoruba | d/M/yyyy |
| yo-NG | Yoruba (Nigeria) | d/M/yyyy |
| zh | Chinese | yyyy/M/d |
| zh-CHS | Chinese (Simplified) Legacy | yyyy/M/d |
| zh-CHT | Chinese (Traditional) Legacy | d/M/yyyy |
| zh-CN | Chinese (Simplified, PRC) | yyyy/M/d |
| zh-Hans | Chinese (Simplified) | yyyy/M/d |
| zh-Hant | Chinese (Traditional) | d/M/yyyy |
| zh-HK | Chinese (Traditional, Hong Kong S.A.R.) | d/M/yyyy |
| zh-MO | Chinese (Traditional, Macao S.A.R.) | d/M/yyyy |
| zh-SG | Chinese (Simplified, Singapore) | d/M/yyyy |
| zh-TW | Chinese (Traditional, Taiwan) | yyyy/M/d |
| zu | isiZulu | yyyy/MM/dd |
| zu-ZA | isiZulu (South Africa) | yyyy/MM/dd |

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