Libcabinet manual

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About

Libcabinet is a self-contained, automatic library module for lending and returning books either inside a library, or outside, in a remote location. It has a simple user interface software for patrons to use. This manual contains information for the use of the software.

This document is updated on: **December 2nd 2015**
Libcabinet version: **2.0.5809**

Libcabinet

Important information

There are some important things to understand before using Libcabinet, to ensure it works as designed.

Do not overfill

The RFID reading shelves can read books from shelves only if placed correctly. If you fill the cabinet up all the way, patrons returning books may place them creatively, which can lead to items not being recognized.

Tag placement

As with any RFID tagged material, items in Libcabinet should have tags secured to books in different positions. If all tags are placed in exactly the same position in each book, they will interfere with each other, causing incorrect reading.

We recommend tags to be placed in at least three different positions on the inside of the back cover of each item.

Material considerations

Do not fill the cabinet with too many CD's or DVD's without testing the reading thoroughly. The CD and DVD disks contain metal in the material itself, which makes the RFID reading much more difficult than from books. Depending on the quality and positioning of tags in disks, the number of disks that the cabinet can read varies.

SIP connection

The cabinet needs a SIP connection to work. If you wish to place the device outside your library, you need to make sure your firewall allows the connection from the cabinet to your SIP server.

The cabinet does not work in offline mode. If a SIP connection is lost during a patron session, the patron is allowed to finish the session and items checked out / returned will be recorded locally. This local cache of items is the automatically updated to the library system once the connection is restored.

No new sessions are allowed when there is no SIP connection available, because patron identities cannot be verified.

Theft prevention

Because the content of the cabinet is only read when the patron closes the door, items taken out of the cabinet can no longer be written to. Thus, the security bit in the tags needs to be turned off before the cabinet is used. The cabinet will also disable security bits of returned items automatically. The cabinet is not intended to be fully theft-proof.

Getting started

To start using the system, you need to set up some basic settings and fill the cabinet with items. This chapter has a short introduction on getting started with Libcabinet.

Set up connection to SIP server

The device must be connected to your SIP server before it can be used. Patron cards are validated from the library system using a SIP connection, and item information is also retrieved using the SIP connection.

A network cable connector can be found from the bottom of the rear panel of the cabinet.

SIP connection settings can be found from Management Utility section SIP under device settings.

Start the software

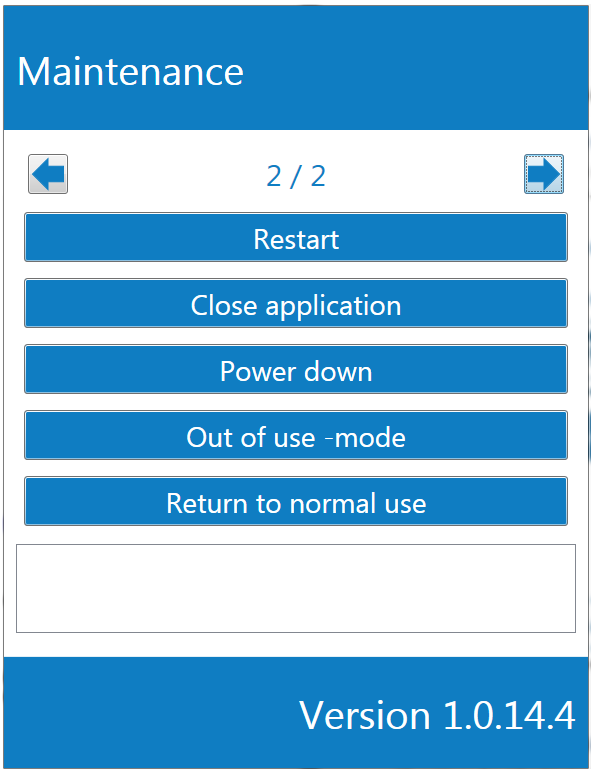
Start the Libcabinet software by double-clicking the icon on the screen. The software may also be configured to start automatically, in which case you do not need to start it up separately.

Enter maintenance mode

When the software is running in normal patron mode, you can enter the Maintenance mode by touching the four corners of the screen in configured order. The default configuration is 1234 which means a ”U” shape: start by touching the top left corner first, then bottom left, then bottom right and last the top right corner. This should now enable the maintenance mode; if it doesn’t, please wait a few seconds before attempting again, so that the device will clear it’s internal buffer from the previous attempt.

The screen should look like this:

Maintenance mode, page 1



Maintenance mode, page 2

More information about Maintenance mode is available in section Maintenance mode 15.

Open the door

In Maintenance mode, press the **Open door** button to open the cabinet door.

Fill the cabinet

Fill up the cabinet with whatever material you wish to have available for patrons. Do not fill the cabinet all the way! Remember that patrons may return items to the cabinet – it must have some space available.

Disable security

Select **Deactivate alarms** from the maintenance menu, to disable all alarms of all items. This may take some time to complete, depending on the number of items in the cabinet.

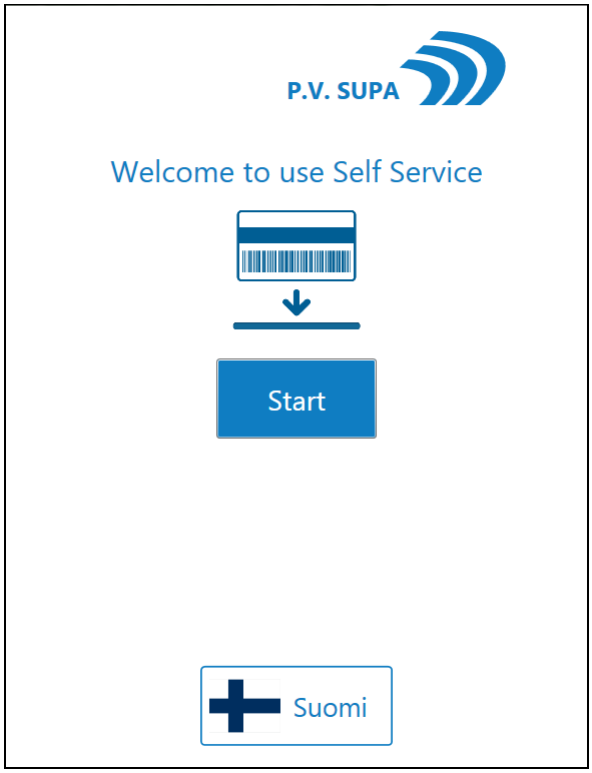
When you are removing items from the cabinet, you may also set the security of all items through the maintenance menu. Note, that this will set set security to all items, so you must run the Deactivate alarms function again if any items remain in the cabinet afterwards.

Close the door

When security has been disabled, close the door.

Return to normal mode

Press **Return to normal mode** to close the maintenance interface. The cabinet is now ready to use.



Main screen

Configuring settings

All settings for Libcabinet are configured using Management Utility, a software from P.V. Supa. Management Utility is delivered with Libcabinet and can be used directly on the Libcabinet computer, or from another computer connected to the same network.

There is a separate user manual available from Management Utility. This document explains what the Libcabinet settings do, not how to use Management Utility.

Maintenance mode

The device contains a specific Maintenance mode. It allows access to some information, such as inventory and statistics, but not to any settings.

Changing the on-screen and receipt texts and languages

All on-screen texts and receipt texts can be altered freely, and languages can be configured as needed. Texts are modified with a specific tool, **Language Editor**, which is supplied with the Libcabinet.

Language Editor is used to modify language files, which are stored in the database. Both Language Editor and Libcabinet software use Master Controller service to access these files. A single file of translations can be used by multiple cabinets.

Any changes made to the texts will only take effect after the next restart of the Libcabinet software.

A separate manual on how to use Language editor is available.

Shutting down

To shut down the cabinet, the software and the computer must be shut down first – never just unplug the device when the computer is running, as it may cause damage to the computer!

Shut down by entering the Maintenance mode first. Then, from the maintenance view, select Power down to shut the device down.

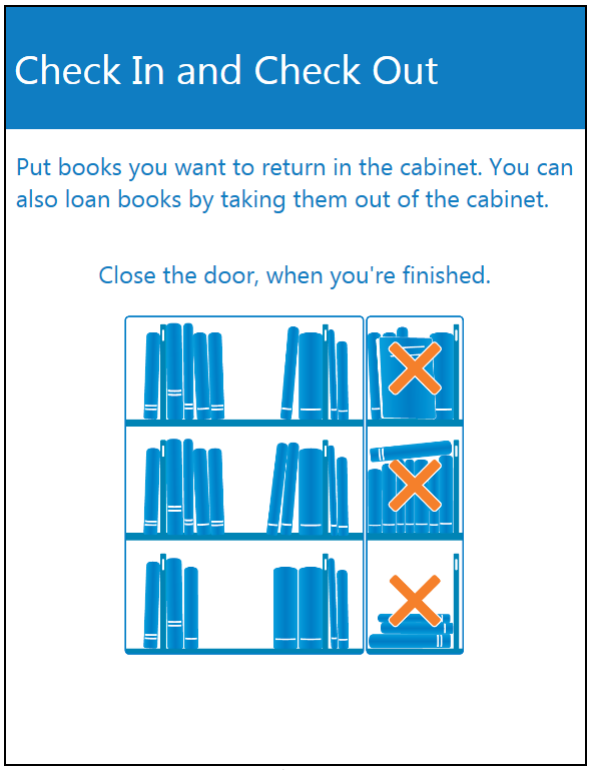
Alternatively you can use **Management Utility** from another computer to shut down the cabinet, and also start it up again. Starting the computer remotely requires that the network supports Wake On Lan packets.

Modes of operation

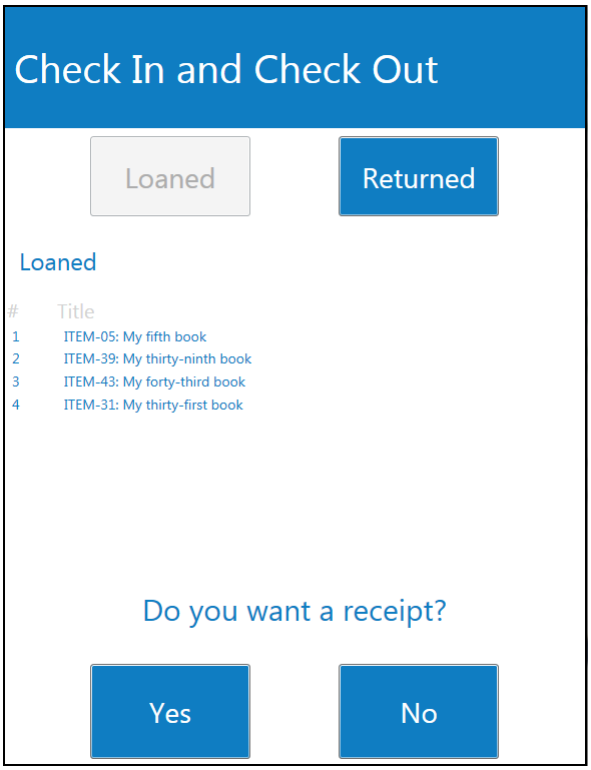
The software has two modes of operation: Patron mode and Maintenance mode. In normal use, the software remains always in Patron mode. Maintenance mode is used to carry out specific tasks, such as enabling or disabling the alarm on tags, or shutting down the software.

Patron mode

Patron mode is the default mode in which the device is normally used. In Patron mode, the device can be used to perform loans and returns by patrons. The cabinet door is shut, and can only be opened by inserting a valid patron card and pin code. Once the patron has completed his activity, he closes the door and is presented a receipt.



Main screen for patron mode

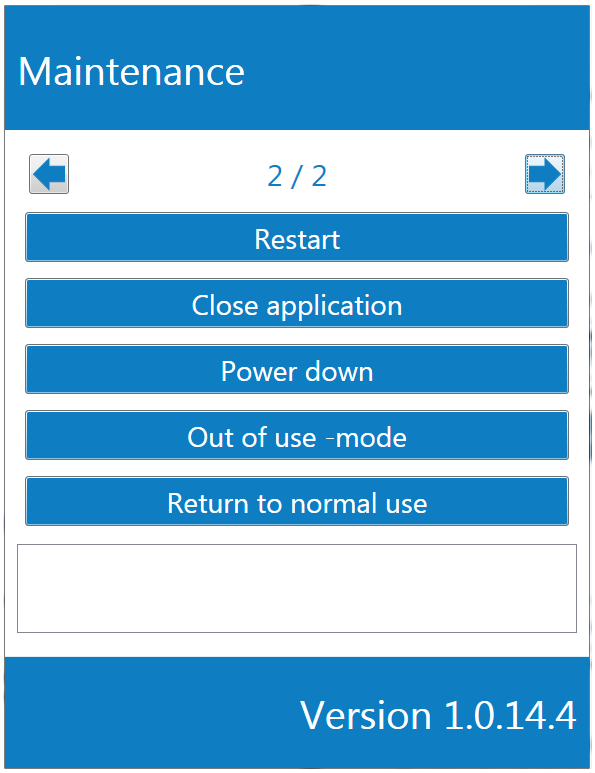


Patron mode in session

Maintenance mode

In Maintenance mode, librarians can control the cabinet and perform various options, such as opening the door, disabling the alarm on all tags and so on.

Maintenance mode, page 1



Maintenance mode, page 2

Entering maintenance mode

When the software is running in normal patron mode, you can enter the Maintenance mode by touching the four corners of the screen in configured order. The default configuration is 1234 which means a ”U” shape: start by touching the top left corner first, then bottom left, then bottom right and last the top right corner. This should now enable the maintenance mode; if it doesn’t, please wait a few seconds before attempting again, so that the device will clear its internal buffer from the previous attempt.

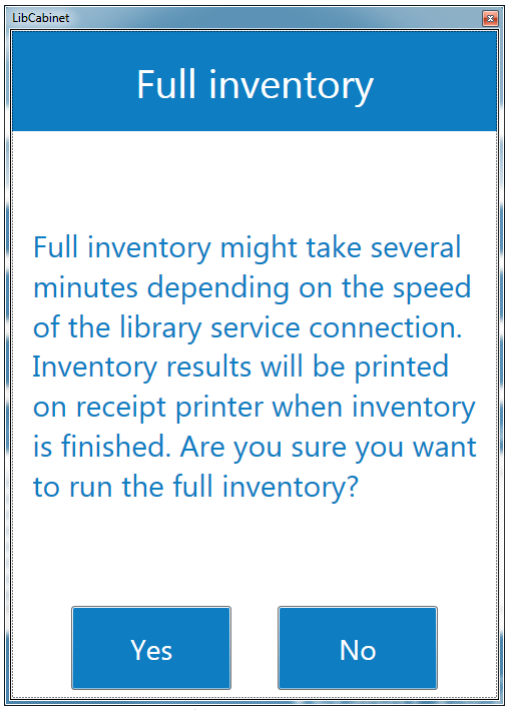
Disabling the alarms

All tags must have their alarms disabled, before the cabinet is used by patrons. The cabinet performs an inventory after the door has been closed, and any books the patron has loaned are now outside the cabinet, and thus the security bit can no longer be set. For that reason, the security bit must be disabled from all items inside the cabinet.

Inventory

You can run a full inventory on all items in the cabinet. This can be done for example before leaving the cabinet for patrons to use, or to verify that all items can be correctly recognised by the readers.

Note that the inventory takes some time to complete, as it requires that for each item, the SIP server is queried for the item information.



Running full inventory - prompt

Statistics

From the maintenance menu, a simple statistics report can be printed out. This report only has the number of items checked in and out per day, over a configured number of days.

More comprehensive reports can be created with the Supa Reporter tool.

Out of use mode

This option allows the device to be placed in ”Out of use” mode. It will display a message on screen, and not allow patrons to use it. This can be used for example if there is a problem with the SIP server connection, or the printer has run out of paper.

Out of use mode enabled

Settings reference

This section contains information about all settings related to Libcabinet software, as found through Management Utility.

Global settings

These settings apply to all Libcabinets connected to the same Master Controller, in the same settings group.

Admin

Settings related to administration tasks on the cabinet.

Admin cards

Admin cards are used to enter Maintenance mode 15 in the software. These can be any patron cards or special cards with any ID. Store the ID in this setting - when the device reads a card with this ID, the software goes to Maintenance mode.
Multiple cards can be used, separate the values with comma (,) character, for example

12345,23456,34567

Shutdown cards

Shutdown cards are used to shut down the cabinet. These can be any patron cards or special cards with any ID. Store the ID in this setting - when the device reads a card with this ID, the shuts down.
Multiple cards can be used, separate the values with comma (,) character, for example

12345,23456,34567

Authentication

These settings are related to how patrons are authenticated when using Libcabinet.

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 19 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.

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.

PIN code 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 PIN code 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.

Data models

RFID tag data model settings. These settings replace all earlier INI-file based settings; those are no longer used by Libcabinet.

AFI activate value

Value used in RFID tags to indicate AFI activated (alarm enabled).

AFI deactivate value

Value used in RFID tags to indicate AFI deactivated (alarm disabled).

Danish: Check CRC

If this setting is enabled, CRC (error checking) is enabled for Danish data model.

Ducth: Use barcode as primary item id source

If this setting is enabled, barcode value is used as item identifier instead of "object identifier". Dutch data model only.

Empty block byte

Value indicating an empty block. Typically this would be zero (0). This value is used to determine empty tags when EmptyTagMask is not defined.

Empty block count

Number of data blocks from start of data (i.e. block offset) where all data bytes equal that set in Empty block byte setting. This is used if Empty tag mask setting has not been set.

Empty tag mask

This mask is used to determine empty tags, for example tags that are not actually empty but contain some test data from manufacturing. The mask should contain the values, and uses a question mark (?) to denote a character that is ignored. For example, a typical value would be

0000000000000000????????00000000

This would check if there is 16 zero characters, followed by 8 characters having any value, and finally 8 more zero characters - this would then be considered an empty tag.

ISO 28560-2: Maximum item id length

Maximum item identifier length, when ISO 28560-2 data model is used.

ISO 28560-2: Minimum item id length

Minimum item identifier length, when ISO 28560-2 data model is used.

Models to use

Select data models to use from the drop down list. Do NOT select data models that are not used, as that can lead to incorrect data parsing. The data is not always marked as being some specific data model, and the system must then attempt to parse the data and use whatever value comes out, which may not always be correct, actual item identifiers.

Device: Shelf

These settings relate to the actual RFID reader in the unit.

Block count

Number of blocks to read from the RFID tags.

Email connection info

Libcabinet can send email receipts and other messages as emails. These settings control the technical aspects of sending email from the cabinet.

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

Thse settings control how the device behaves.

Remind patron to take patron card

If enabled, patrons are reminded to remove their patron card from the reader to end the session.

Remind patron to take the receipt

If enabled, there will be a reminder screen shown when a receipt is printed.

Show farewell at end of session

If enabled, a page is shown at the end of session with a message and optionally a picture.

Languages

User interface language 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 chapter Language codes.

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 for patrons to choose from, 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.

Note: These settings apply only to the versions starting with 1.0; from 2.0 onwards, logging is handled through Master Controller and is controlled separately.

Server name for logging

This setting is deprecated, please do not use.

Offline

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

Allow checkin/checkout when offline

If enabled, check in and check out are allowed even when connection to library server is lost. During an offline situtation, the system will record all checked out and checked in items in the local computer, and when a connection is restored this data will be uploaded to the library server.

Due date for check out

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

QR Code

These settings are related to logging in to the system 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

Port number of the mobile login service.

Mobile login web site address

Address of the mobile login web site.

Receipt

These settings control how the patron receipts are printed.

Can use reading room due date

If this setting is enabled, Libcabinet allows loaned items to have a due date that is the current date, only time part being different - for example, the due time could be in two hours from the check out time. This is typically used in academic libraries for study material that is not supposed to leave the library.

Check in print mode

Select how the check in receipt is generated.

Normal: The software generates the receipt itself, from data available from SIP messages.

ACS: Receipt is printed as it comes from the library system; all AG fields from the SIP check in response message.

Check out print mode

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

Normal: The 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 the cabinet software will append a constructed receipt information as in the Normal option.

Due date style

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

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.

Hold slip print data

Select what data should be printed on hold slips; receipts that are automatically printed when a reserved item is returned to the shelf.

ItemId: If selected, item identifier is printed. Item name is always printed.
PatronId: If selected, patron identifier is printed.
PatronName: If selected, patron name is printed.

Print data

This dropdown allows selecting what data is to be printed on receipts. Note that this only applies to receipts when generated by the cabinet 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.
ItemId: Item identifier is printed in addition to item name

Text print font

Plain text font selection.

Text print font size

Plain text font size.

Use email receipt

If enabled, email receipt will be offered to patrons as an option. This function requires SIP message pair 63-64 to be used, and that there is an email address returned from the library system in the 64 response message.

Use single receipt for checkin+checkout

If enabled, a single receipt will be printed when items are checked in and out in the same session. If disabled, separate receipts will be printed.

Scripting

Libcabinet allows scripting, to manage data that has to be modified before sending it to library system, or displaying it to user.
There are two script files, **ItemScript.cs** and **CardScript.cs**. ItemScript works on item identifiers, while CardScript works on patron identifiers.
All scripts are in .NET (C#) language. Any editor can be used to edit them. The script files are loaded and compiled at application start, and any errors in them are logged.
Default script files will be placed under the program folder and copied to **<Program Data>\PV-Supa\Libcabinet** folder, if they are not already there. Existing scripts will not be overwritten in program data folder. The originals can be used to start anew, in case a script is accidentaly removed or just does not work.

Send reader id to patron script

If this setting is selected AND Use script for patron code 27 setting is selected, then script will be sent reader identifier. This makes it possible in the script to determine if the patron identifier comes from barcode reader or RFID reader, and thus allows handling those separately.

Use script for item identifiers

If this setting is enabled, the item id script is executed before sending the item identifier to library system, thus allowing it to be modified. Typical use would be stripping out leading or trailing blank or zero characters, or removing a check digit.

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 for example modifying check digits or removing leading or trailing extra characters from the identifier.

SIP

SIP behaviour related settings.

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.

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+)
```

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 service supports item information (17)

If this setting is enabled, item information (titles) is retrieved from the library system by sendint SIP 17 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.

Protocol version

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

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.

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 the cabinet software 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 NoBlock in Checkout

If enabled, the No Block flag will be set in SIP message 11 to prevent the library system from declining a loan. This should be enabled in most cases, as when the messages are sent the patron has already closed the cabinet door and it will be difficult to get the book back.

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 check-in return date

If enabled, check in messages will contain time part in addition to date; if disabled, zeroes will be used in time part. Most library systems do not care for the time part, but if reading room loans are used, the time may be important.

Statistics

These settings control the built-in statistics functionality of the Libcabinet system. For more detailed statistics, use the **Supa Reporter** software.

Interval (in days) for the statistics report

Number of days to include in the statistics report when printed from the device, counting backwards from the current day.

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.

AC refresh time in minutes

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

Door alert timeout (minutes)

After how many minutes an alert is sent to message board, if the cabinet door has not been closed.

Door reminder timeout (seconds)

During a session when the door is open, after how many seconds is there a text displayed on screen to remind the user to close the door.

Error show time in seconds

How many seconds will an error message be displayed on screen.

Idle timeout for check inventory (min)

How many minutes to wait for the device to be idle on the start screen, before an inventory is executed. Default value is 3; this does not have to be very small value, because when this executes the door should have been closed and the inventory should not have changed - the main idea is only to double-check again, that all items have been found.

Idle timeout for offline sync (sec)

How many seconds should the device wait in idle state, on the start screen, before starting to synchronize items from the offline queue.

Idle timeout in seconds

If the device is idle in the login screen, i.e. a patron has pressed the Start button or inserted his library card but then does not enter the pin code, the session will be automatically ended and the device returns to the start screen.

Info show time in seconds

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

Receipt prompt show time in seconds

How many seconds will a receipt prompt be displayed, if receipt printing is set to optional.

Receipt reminder show time in seconds

How many seconds will the user be shown a reminder to take receipt.

Session end info show time in seconds

After a session ends, how many seconds to show the session end screen.

Sip received timeout in seconds

How long will the system 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.

User interface

Settings related to user interface of the cabinet software.

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 by Libcabinet software.
AFInternal: Combination of the two; shows text from SIP message and the text as defined in Libcabinet software.

Default currency

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

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.

Maximum number of maintenance messages

How many messages will be displayed on screen, in maintenance mode.

Show door reminder

If enabled, a message will be displayed on the screen of the device, if the door has been open for long time. The time period is configured with the ”Door alert timeout” timer setting.

Local settings

These settings apply to a single Libcabinet at a time and thus can be different for each device.

Admin

Maintenance mode settings.

Admin password

This setting configures how the Maintenance mode is activated. Use numbers 1 – 4, to indicate corners of the screen to touch as follows:

1: Top left corner

2: Bottom left corner

3: Bottom right corner

4: Top right corner

Any sequence can be combined, for example setting this value to just ”1” means that when the screen is touched in the top left corner, the Maintenance mode is activated. Entering ”1234” means that all four corners must be touched in the order of top left, bottom left, bottom right, top right, to enter the Maintenance mode.

Note that the numbers must be entered as one string, no separator characters. The sequence can be of any length, starting from just one character, and may repeat the same corners multiple times. The following examples are all valid:

”1”: A single touch of top left corner.

”111”: Three consecutive touches of top left corner.

”112211”: Two touches of top left corner, then two on bottom left, then again two top left.

”12341234”: Two full rounds of all corners, starting from top left, counter-clockwise.

Admin password timeout

Number of seconds to "remember" admin password corner touches. If this amount of seconds is passed between touches, the password attempt is reset.

Device: Shelf

These settings control how the integrated RFID-reader works.

Antennas to use

Select which of the 5 antennas are in use. Normally these should all be enabled.

Auto reconnect

If this setting is enabled, the device will attempt to automatically connect the RFID reader is the connection is lost for some reason.

COM port

COM port to which the RFID reader has been connected.

Reader IP address

IP address of the RFID reader, if connected via network.

Reader IP port

Port number of the RFID reader, if connected via network.

Shelf reader type

Select the type of reader that is used; this will not change after initial setup, unless the whole device is changed.

Use reader over network

If this setting is enabled, the RFID reader connection is formed through network. This is not used normally, instead a serial port (COM) connection is in use.

Inventory

Settings related to how the cabinet handles inventories of its content.

Item checkout limit

If the reader reports a checkout that has more books than is set in this setting, the inventory is considered to have failed and is restarted. This would typically be a failure of the reader.

Item title query check interval (seconds)

Number of seconds to wait before checking if it is ok to query item titles from SIP server, while running a full inventory of the cabinet.

Log added and removed items

If enabled, the cabinet will make log entries of all items that are returned or checked out. This should only be used for trouble-shooting.

Number of inventory attempts before failing

How many times an inventory is attempted, before reporting it as failed. Value 1 means the inventory is exectued only once, no retries. Value of 2 (default) means one retry and so on.

Reader busy wait interval (milliseconds)

How many milliseconds to wait between checking if the RFID reader is busy.

Show checked out by default

If this setting is enabled, checked out items will be shown by default on screen. If not enabled, checked in items will be shown.

Timeout for inventory reload (seconds)

If enabled, inventory results (item counts) will be shown during a session. This setting should not be enabled in normal use, only for testing or diagnostic purposes.

Timeout for session inventory (seconds)

Number of seconds to wait for a full inventory to finish, before reporting it as failure. Default value is 60 seconds.

Language files

Translation related settings.

Language texts

Select from the drop down list the translation texts file to use in the device. The file contains all languages and user interface as well as receipt texts. What languages are used is defined by setting Language list 23 in global settings.

Lock

Settings related to the electronic lock mechanism.

Device number for lock IO card

IO card's device number for the lock. Check that the value matches that set in the IO card configuration software.

IO card command for lock open

Value to write to the IO card port, to open the lock latch.

IO card port for lock sensor

IO card port for lock sensor.

IO card retries on read/write failure

How many times to retry failed read/write operations.

IO card status code for door closed

IO card bit (as integer) for when the door is closed. Valid values are 1, 2, 4, 8, 16, 32, 64 or 128.

IO card status code for lock closed

IO card bit (as integer) for when the lock is closed. Valid values are 1, 2, 4, 8, 16, 32, 64 or 128.

IO card status code for lock open

IO card bit (as integer) for when the lock is open. Valid values are 1, 2, 4, 8, 16, 32, 64 or 128.

Lock closed recheck interval (milliseconds)

Number of milliseconds after which to check that both the door and the lock are still closed, after the patron has closed the door. Default value is 500 (ms).

Lock IO card status check interval (milliseconds)

Number of milliseconds to wait between lock status checks.

Lock IO card write wait interval (milliseconds)

Number of milliseconds to wait after IO card port reset, before writing actual command.

Lock open status check interval (milliseconds)

Number of milliseconds to wait after opening the lock, before checking the status of the lock and the door.

Lock reopen retry interval (milliseconds)

Number of milliseconds to wait between lock reopen retries when lock has been closed without closing the door.

Monitor lock status, ignore door status

If this setting is enabled, the door open/closed status is not monitored.
Note: this settings is meant only for testing purposes. The lock mechanism is exposed when the door is open, and can be manually operated.

Notification interval for lock errors (seconds)

Number of seconds to wait between IO card errors before reporting them. 0 (zero) means report all errors, which can fill up a log fairly quickly.

Use legacy driver for IO card

If this setting is enabled, an older version of Advantech driver is used. This driver must also be installed on the device.
If disabled, BioDaq drivers are used.

What to do if IO card freezes

This setting defines what action the device should take in case the IO card stops responding. Possible values are:

Show error screen: The software goes into error state, displaying an error message to user and preventing any further use until the error has been resolved.

Restart application: The application itself will automatically restart, thus attempting to re-initialise the IO card connection. This may or may not help; if the problem is within the IO card itself, then restarting the software does not affect the problem.

Restart computer: The computer is restarted. This is a rather drastic action and should not be used in mose cases, if the device is in a location where it can not be supervised.

Log

These settings control how logging is done.

Hide sensitive info

If enabled, sensitive information such as patron card numbers and PIN codes will be replaced with an asterisk (*) character in log.

Number of hours to run debug logging

If debug logging is enabled, this setting controls how many hours it is kept enabled; after this number of hours have elapsed after application start, the debug logging is disabled automatically to prevent excessive logging from filling up the log database.

Note: if the device or software is restarted, this time interval starts from zero always. If the device is restarted ever day, for example because it is turned off for nights, and this interval is set to 24 hours it will never trigger and debug logging will be enabled always.

Save log

Select what type of information should be stored in the log.

Notifications

Libcabinet can send email notifications to administrators (staff) of various events.

High inventory level threshold for email alert

If set to more than zero, the cabinet will send an email alert if the inventory contains more than this number of items. This setting can be used to get alerts when the cabinet is too full; note, though, that the number of items that the cabinet can hold depends on the material and is not absolute.

Low inventory level threshold for email alert

If set to more than zero, the cabinet will send an email alert if there are less items than this number, in the inventory.

Recipients of email notifications

To whom the emails are sent; multiple email addresses are allowed, separated by commas, for example:

administrator@pv-supa.com,support@pv-supa.com

Send email notifications about

A dropdown list to select for which events email notifications are sent. Possible values are:

Critical errors: These include situations when the library system connection (SIP) is lost, session inventory fails after the door has been closed or a shelf reader connection is lost.

Door has been left open: When the cabinet door has been opened without logging in as patron. This would indicate either a break in by forcing the foor open, or opening the door via the admin interface in which case it may a normal situation.

Empty tags: This message can be sent when the reader encounters an empty tag. An empty tag is one where the data matches with the empty tag mask set in the RFID reader settings.

Failed check-ins: A message is sent whenever the library system rejects a check in. This is important, because there is no way to physically make sure that the next patron to use the cabinet does not walk away with the book, and possibly the check in has not been registered to the library system, the book may still be checked out to the patron who returned it.

Failed checkouts: A message is sent when a checkout fails. Most likely the patron already has this item in hand and is walking away; there is no way to make sure that the patron would actually return the item in the cabinet, or to staff, so this event should always be verified.

Hold items: This message is sent when an item is returned in the cabinet that has a hold (reservation) on it. Staff should collect the item, because the next patron may pick it up without knowing it is reserved to someone else.

Incomplete sets: This message is generated from both check in and check out of set items that are incomplete.

Large checkouts: Generated when a suspiciously large check out is detected. The limit can be set in setting Item checkout limit 32. This indicates that either someone really took a large number of items, or possibly a failure in the RFID reader which causes items to not be recognized correctly. The device should be investigated.

Printer errors: Sent when printer is in error state or printer paper is out.

Tag read errors: This message is sent when there is an error in reading item data from RFID tags.

It could be corrupt tags, badly placed tags that are right on the edge of the antenna, incorrect data model on tags or any such situation when the data cannot be read. First thing to do would be to go to the device and see that all books are properly placed between the reader antennas.

Transfer items: When an item that has a transfer rule on it is checked in.

Sender address for email notifications

Email address of sender of messages. This does not have to be a real email address, typically it would be something identifying the cabinet, for example "cabinet.downstairs@library.com".

Pictures

Pictures shown in the user interface of the device. These must be uploaded to the database using Management Utility, and then selected from the drop down lists in these settings. A software restart is required for the settings to take effect.

Card image in authentication page

Card image shown when authentication mode is set to "Card".

Card image in start page

Card image shown on the start page.

Company logo

Company logo on the start page. If something is selected here, it will replace the default P.V. Supa logo.

Email receipt image

Image shown as email receipt selection button, when email receipts are selected and the user is prompted for receipt.

Farewell image

Image shown on the "farewell" page, when a session has ended.

Library logo

Library logo shown on the top left corner of the start page.

Receipt image

Image shown for paper receipt.

Remove card image

Image shown when patron is reminded to take their patron card, at the end of a session.

QR Code

Settings related to the mobile login functionality.

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.

Use QR code

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

Receipt

Receipt printing settings.

Hold slip printer name

Printer name as it is in Windows, for the hold slip printer. This would typically be a printer on a staff station.
Write ”test” here to direct the receipt printing to a file, as XPS documents.

Print hold slips for hold items

If enabled, items with a reservation (hold items) will cause a separate receipt to be printed on the hold slip printer.

Print transfer slips for transfer items

If enabled, items indicated to belong to another location (transfer items) will cause a separate receipt to be printed on the transfer slip printer.

Receipt printer 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.

Receipt printer name

Patron receipt printer name, as it is in Windows. Write ”test” here to direct the receipt printing to a file, as XPS documents.

Transfer slip printer name

Printer name as it is in Windows, for the transfer slip printer. This would typically be a printer on a staff station.
Write ”test” here to direct the receipt printing to a file, as XPS documents.

SIP

SIP connection settings.

Login location code

If the SIP server requires a location code for login messages, enter the location code here.

Login user id

If login is used for SIP connection, this is the username to use in login messages.

Login user password

If login is used for SIP connection, this is the password to use in login messages.

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.

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.

Sorting rules

Sorting rules are used in Libcabinet to determine when items are transfer items, or when they have reservations (holds) for them. Rules are created using **Sorting editor** software, and uploaded to database using Management Utility.

Rule

Select the sorting rule set from the drop down list.

User interface

User interface settings for a single machine.

Mouse cursor visible

If enabled, mouse cursor will be visible on screen during operation. Disabled by default, and should be disabled in normal use.

Start-button visible

If this setting is enabled, there will be a **Start** button on the main screen. If disabled, there is no button - session can then only be started by inserting a library card in the reader.

Troubleshooting

This section lists some common problems the library may encounter when using the device.

Tag read errors in Messageboard

The device may sometimes seem to be sending a lot of Tag read error messages to Messageboard. This is not automatically a sign of an abnormal situation, it may be just because the RFID tags used in the library are of varying quality, and/or placed badly in books. It can also happen if patrons place the items on the shelfs carelessly so that the tags are hanging outside of the antennas.

To resolve this issue, a staff member should visit the cabinet and check the placement of the books. It is often enough to just tidy the rows of books, perhaps move some books to distribute them more evenly among the shelves, and push them back towards the back of the shelf.

Very large books, typically comic books or other childrens books, may have tags placed so that if the book is put on its side, the tag remains outside the antennas and may not be readable. In this case the book should be moved to an upright position so that the tag is within the antenna field.

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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