



System Librarian's Guide - Items

Version 24

CONFIDENTIAL INFORMATION

The information herein is the property of Ex Libris Ltd. or its affiliates and any misuse or abuse will result in economic loss. DO NOT COPY UNLESS YOU HAVE BEEN GIVEN SPECIFIC WRITTEN AUTHORIZATION FROM EX LIBRIS LTD.

This document is provided for limited and restricted purposes in accordance with a binding contract with Ex Libris Ltd. or an affiliate. The information herein includes trade secrets and is confidential.

DISCLAIMER

The information in this document will be subject to periodic change and updating. Please confirm that you have the most current documentation. There are no warranties of any kind, express or implied, provided in this documentation, other than those expressly agreed upon in the applicable Ex Libris contract. This information is provided AS IS. Unless otherwise agreed, Ex Libris shall not be liable for any damages for use of this document, including, without limitation, consequential, punitive, indirect or direct damages.

Any references in this document to third-party material (including third-party Web sites) are provided for convenience only and do not in any manner serve as an endorsement of that third-party material or those Web sites. The third-party materials are not part of the materials for this Ex Libris product and Ex Libris has no liability for such materials.

TRADEMARKS

"Ex Libris," the Ex Libris bridge, Primo, Aleph, Alephino, Voyager, SFX, MetaLib, Verde, DigiTool, Preservation, URM, Voyager, ENCompass, Endeavor eZConnect, WebVoyage, Citation Server, LinkFinder and LinkFinder Plus, and other marks are trademarks or registered trademarks of Ex Libris Ltd. or its affiliates.

The absence of a name or logo in this list does not constitute a waiver of any and all intellectual property rights that Ex Libris Ltd. or its affiliates have established in any of its products, features, or service names or logos.

Trademarks of various third-party products, which may include the following, are referenced in this documentation. Ex Libris does not claim any rights in these trademarks. Use of these marks does not imply endorsement by Ex Libris of these third-party products, or endorsement by these third parties of Ex Libris products.

Oracle is a registered trademark of Oracle Corporation.

UNIX is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Ltd.

Microsoft, the Microsoft logo, MS, MS-DOS, Microsoft PowerPoint, Visual Basic, Visual C++, Win32,

Microsoft Windows, the Windows logo, Microsoft Notepad, Microsoft Windows Explorer, Microsoft Internet Explorer, and Windows NT are registered trademarks and ActiveX is a trademark of the Microsoft Corporation in the United States and/or other countries.

Unicode and the Unicode logo are registered trademarks of Unicode, Inc.

Google is a registered trademark of Google, Inc.

Copyright Ex Libris Limited, 2022. All rights reserved.

Document released: July 3, 2022

Web address: <http://www.exlibrisgroup.com>

Table of Contents

1	LIBRARIES	5
2	COLLECTIONS.....	5
3	COLUMN HEADINGS.....	5
4	DROP-DOWN MENUS	6
5	HOLDINGS RECORD	8
6	CALL NUMBER FIELD	8
6.1	Copying the Call Number from the BIB Record to the Item Record	12
6.2	Automatic Assignment of the Call Number Type Field	13
7	ITEM HISTORY RECORD	13
7.1	Setting up Item History Record	13
7.2	Viewing Item History in GUI	14
8	SORT ORDER FOR LIST OF ITEMS.....	15
9	CLIENT SETUP (CATALOG.INI)	16
9.1	Print.ini.....	17
10	ITEMS TABLES	17
11	ITEMS-RELATED ENTRIES IN TAB100	20
12	ITEM STATISTIC OPTIONS	24
13	PRINT TEMPLATES	25
13.1	Available Templates	25
14	ITEMS VALUES OF PC_SERVER_DEFAULTS.....	26
15	CHECKSUM OF ITEM BARCODE	27
16	COMPLETE VOLUME REPORT.....	28

17	ITEMS VALUES OF ALEPH_START	28
18	ITEM CALL NUMBER – AUTHOR NUMBER AND CHRONOLOGY NUMBER.....	29
18.1	The Special "852 Form" (Call Number Form - Type 6)	30
	The Special "852 Form" (Call Number Form - Type 7).....	30
18.2	tab_author_num.conf	33
18.3	Author Number and Chronology Number: Methods and Algorithms	36
18.3.1	Author Number by Cutter Three Figure Method	36
18.3.2	Author Number by Cutter Three Figure Without Caret Mark Method	36
18.3.3	Author Number by Cutter Sanborn Method	37
18.3.4	Author Number by Lee Jai Chul Method	37
18.3.5	Author Number by Elrod	37
18.3.6	Author Number by Jang Il Sei.....	39
18.3.7	Chronology Number Algorithm	40
18.4	Other Related Tables.....	42
19	BARCODE CHECKSUM ROUTINES FOR KEIO.....	43
19.1	Item Barcode Algorithm - checksum_valid_item_bar_keio.....	43
19.2	Patron Barcode Algorithm - checksum_valid_bor_id_keio	48
20	ITEM CHANGES ALERT	50
21	MULTIPLE ITEM ADDITION ALERT	51

1 Libraries

To define the administrative libraries to which the user may connect in the Items function, follow these steps:

1. Define the ADM libraries related to the BIB library in the `library_relation` table of the `$alephe_root/tab` directory.
2. Go to the CATALOG/TAB directory of the client and open the `catalog.ini` file. In the [ADM Library] section define the default ADM library.
3. From the ALEPH menu, select the appropriate ADM library from the "Select ADM Library" submenu.

2 Collections

In order to define Collections, edit `tab40` using UTIL G/4/40 in an ADM library. Following is a sample from the table:

```
! 1      2      3      4
!!!!-!!!!-!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!>
```

```
REF    UEDUC L Reference
SHL    ##### L Short Loan
WIDEN  ##### L Widener Collection
GEN    ##### L General Collection
```

Column 1 is the code identifying the collection. Enter up to five characters.

Column 2 is the sublibrary to which the collection belongs. You may use the # character as a wildcard. In the above example, ##### means that the collection is common to all sublibraries.

Column 3 is the code for the character set of the menu choice. Insert L for Latin.

Column 4 is the name of the collection as it will appear in the menu in the GUI.

3 Column Headings

`pc_tab_col.lng` defines the columns of information that are displayed in list windows in the GUI clients.

In order to define column headings, edit the bibliographic library (USM01) table `pc_tab_col.lng` using UTIL I/9 or the ALEPHADM module.

The following is a list of the Items panes which use `pc_tab_col.lng` for formatting data and their identifiers (Column 1 in `pc_tab_col.lng`).

Identifier	ITEMS GUI PANES
PC_ITEM_ITEM_LIST	Items List Pane
PC_COM_HOLD_H_LIST	All Items History/Hold Requests
PC_COM_HOLD_H_LIST	Item History/Hold Request

Identifier	ITEMS GUI PANES
PC_COM_HOLD_H_LIST_1	Item Circulation History - Hold Request List in ACQ and CAT if ITEM-BOR-INFO-CIRC-ONLY=Y
PC_COM_LOAN_H_LIST	All Items History/Loans
PC_COM_LOAN_H_LIST	Item History/Loans
PC_COM_LOAN_H_LIST_1	Item History - List of Loans in ACQ and CAT if ITEM-BOR-INFO-CIRC-ONLY=Y
PC_ALL_ITEM_HISTORY	All Items History/Item Changes
PC_ITEM_HISTORY	Item History/Changes
PC_ITEM_BIND	Items List for Binding
PC_ITEM_HOL_LIST	Item Information/Hol Links

4 Drop-down Menus

You may add or delete choices for some of the menus of the Item Form by editing the following ADM library tables:

1. `pc_tab_exp_field_extended.lng` using UTIL L/1.
2. `pc_tab_exp_field.lng` using UTIL L/2.
3. ALEPH ADM tables:
 - o `tab40.lng`
 - o `tab25.lng`
 - o `tab15.lng`

pc_tab_exp_field_extended.lng

The drop-down menus defined here are for Item Inventory Counter, Item Call No, Item 2nd Call No., Item Call No.'s prefix and suffix.

The following list shows the `pc_tab_exp_field_extended.lng` entries for drop-down menus which appear in various forms in the Items function.

In contrast to `pc_tab_exp_field.lng`, all menus that are defined in `pc_tab_exp_field_extended.lng` are sublibrary sensitive (Column 2).

pc_tab_exp_field_extended.lng entries	GUI Fields
INVENTORY-NUMBER	Inventory Number
ITEM-LOCATION	Call Number
ITEM-LOCATION-2	2nd Call Number

pc_tab_exp_field_extended.lng entries	GUI Fields
LOCATION-GR	Call Number/2nd Call Number
LOCATION-PREFIX	Call Number/2nd Call Number
LOCATION-SUFFIX	Call Number/2nd Call Number
LOCATION-SOURCE	Call Number/2nd Call Number
LOCATION-USIG	2nd Call Number/2nd Call Number
ITEM-PART-1	Call Number/2 nd Call Number – Author Number (special 852 Form - types 6 and 7)

pc_tab_exp_field.lng

The drop-down menus defined here are for Item Call No. Type, Item Process Status, Item List Sort Type, Item Gap Indicator, and Item Statistic, etc.

pc_tab_exp_field.lng entries	GUI Fields
ITEM-LOCATION-TYPE	Call Number Type
ITEM-PROCESS-STATUS	Item Process Status
ITEM-SORT-TYPE	Items List/Sort Options
ITEM-GAP-INDICATOR	GAP Indicator
ITEM-STATISTIC	Statistic
ITEM-STATISTIC-1	Statistic
ITEM-STATISTIC-2	Statistic
ITEM-STATISTIC-3	Statistic
ITEM-STATISTIC-4	Statistic
ITEM-DEPOSITORY-ID	Remote Storage ID
ITEM-PART-2	Call Number/2 nd Call Number – Chronology Number (special 852 Form -type 6)
ITEM-PART-1-TAG	Call Number/2 nd Call Number – Author Number field-Alternative BIB tags (special 852 Form - types 6 and 7)

ALEPHADM Tables

tab40.lng - used to define the drop-down menu of Item Collection.

tab25.lng - used to define the drop-down menu of Material Type.

tab15.lng - used to define the drop-down menu of Item Status.

5 Holdings Record

You can determine whether or not a Holdings Record controls the location field of the item record. To do so, follow these steps:

1. Edit tab100 in your Administrative library. In that table, the relevant line is:

```
X852-ITEM-OVERRIDE=Y
```

If you want the Holdings Record to control the location information, enter *Y* in column 2 as shown above. If you do not want the Holdings Record control, enter *N*, instead.

2. Edit `library_relation`. Make sure that a line similar to the following line appears in that table:

```
HOL USM50 USM60
```

You should replace "USM50" with the name of your ADMinstrative library. and "USM60" with the name of your HOLdings library.

6 Call Number Field

This discussion refers to the "Call No." and "Second Call No." fields of the Item Form (and the Subscription Form in the Serials module). The following explanations are relevant if you have decided NOT to use the holdings record for control of the call number. It is up to you, the System Librarian, to determine how these fields "behave." You can enable your staff to assign a call number in each field by typing in text, choosing from a drop-down menu, filling in a form, or activating a counter by typing ? and the code of the counter.

To define which method will be used by your staff, go to the ALEPHCOM/TAB directory and open the ALEPHCOM.INI file. Go to the section labeled [ExpandField]. An example of this section is shown below:

```
[ExpandField]
ItemLocation1Field=4
ItemLocation2Field=3
SerialLocation1Field=4
SerialLocation2Field=3
```

Use "ItemLocation..." for the Items function and "SerialLocation..." for the Serials function. You may enter 1, 2, 3, 4, 5, 6 or 7 to the right side of the equal (=) sign. The meaning of each value is listed below:

- **1** - a drop-down menu will be available whose choices you must define in `pc_tab_exp_field_extended.lng` (UTIL L/1 in an Administrative library) under the IDs ITEM-LOCATION and ITEM-LOCATION-2. The choices may include counters that have been defined using UTIL G/2.
- **2** - the user must type a call number in the field, or activate a counter by typing ? and the code of the counter that is defined in UTIL G/2.

- **3** - for use with closed stacks (where the library "counts" rather than "classifies" items in order to assign the item's call number). The user must fill in the Build Call No. Field form to "build" the call number from three components known (in German nomenclature) as NR (number), USIG (prefix/suffix) and GR (format or size). The choices available for the GR and USIG fields in the Build Call Number Field form are defined in `pc_tab_exp_field_extended.lng`. You must define the rules for combining the three components in `tab_acc_location` (in the tab directory of an Administrative library). In addition, this option activates a counter that you must define using UTIL G/2.
- **4** - by clicking the right-arrow in the Call Number field, the user accesses a browse list of call numbers. He can select a call number from the list. The selected call number may then be modified. To support this option, there is no need to set up an Index of call numbers; the system automatically does this, if the ADM library includes Z311 in its `file_list`.

This option 4 and the Z311 record have additional functionality for automatic assignment of sequential call numbers. This is dependent on assigning call number type "i" when creating an item record. The Z311 is used to register the last sequence number assigned for a sublibrary+prefix, so that the next highest number can automatically be assigned when an item record is created. Prefixes do not have to be set up beforehand; when a new sublibrary+prefix combination i is detected, a new Oracle record is created.

So, if the call number type is set to "i" and if the user enters a prefix code followed by "?" (for example, ABD ?) in the call number field, the system assigns the next number in sequence. The sequence is set according to sublibrary+prefix. (NOTE: a suffix may be added, but it is not taken into account when assigning a sequence number).

- If the user enters a prefix code followed by a sequence number, and the sequence number is higher than the Oracle sequence number, this higher number is assigned to the Oracle record, and sequence numbers proceed from there.
- If the user enters a prefix code followed by a sequence number, and the sequence number is lower than the Oracle sequence number, the Oracle record is not updated.

This functionality is supported by `tab_z311` of the ADM library and `tab100` flag: INVENTORY-NUMBER=Z311. `tab_z311` is used to define the z311 programs used by the system for the creation of the Z311 counters for the z30-call-no, z30-call-no-2 and z30-inventory-number fields.

The following is a sample of the table:

1	2	3
z30-call-no	0	create_z30_location_i
z30-call-no-2	0	create_z30_location_i
z30-inventory-number	1	create_z30_inv_number

Key to the tab_z311 table:

- **Column 1 - Item field name**
Available for: z30-call-no, z30-call-2-no, z30-inventory-number.
 - **Column 2 - Z311 Record type;**
 - 0 - location
 - 1 - inventory-number
 - **Column 3: Program name**
- **5** - the user may define the call number by filling in a form that has standard 852 subfields. The form also includes a Browse button to select a call number from a Browse List of Call Numbers. The user can copy a line from the Browse list and the information will be copied into the form, in the proper subfields.
 - **6** - the user may define the call number by filling in a special 852 form. This form includes the option to calculate Author number and Chronology Number based on various methods. For example, for Latin material, Cutter Sanborn and Cutter Three Figure methods and for Korean material (Hangul and Hanja), Lee Jai Chul, Jang Il Sei, and Elrod methods. The form also includes a **Browse** button to select a call number from the **Browse List of Call Numbers**. The user can copy a line from the Browse list and the information is copied into the form in the proper subfields. For more details, see the Item Call Number-Author Number and Chronology Number section of the *Aleph 20.01 System librarian's Guide – Items*.
 - **7** - the user may define the call number by filling in a special 852 form. This form includes the option to calculate Author number based on various methods. For example, for Latin material, Cutter Sanborn and Cutter Three Figure methods and for Korean material (Hangul and Hanja), Lee Jai Chul, Elrod, and Jang Il Sei methods. The form also includes a **Browse** button to select a call number from the Browse List of Call Numbers. The user can copy a line from the Browse list and the information is copied into the form in the proper subfields. For more details, see the **Item Call Number- Author Number and Chronology Number** section of the *Aleph 20 System Librarian's Guide – Items*.

Defining Counters With UTIL G/2

Counters may be defined for options 1 and 2 above using any string of characters. However, the counters that may be defined for option 3 (NR/USIG/GR) follow very specific guidelines.

Three types of counters may be defined for option 3 and you may have an unlimited number of each type:

- Sublibrary plus GR (format) (examples of counter IDs are "USM1-2", "USM1-4")
- Sublibrary only (for example, "USM1")
- GR (format) only (e.g., "2")

When the librarian uses the Build Call No. Field form to enter the GR (format) and the USIG (prefix/suffix), the system checks the counters in UTIL G/2 to determine which counter should be used for assigning the NR (number). The system first searches for a counter that is Sublibrary+GR. If one is not available, the system will then search for a counter that is defined for the Sublibrary. If that is not found, the system will search for a counter defined for the GR (format) only.

The rules for combining the three components (NR/USIG/GR) for display in the location field are defined in `tab_acc_location` (in the `tab` directory of an Administrative library). This table also defines the delimiters that should be used when displaying the three components. However, in case the librarian does not provide information about the GR (format) or USIG (prefix/suffix), the system will not display irrelevant delimiters. Unnecessary delimiters that may not be displayed are:

- hyphen -
- slash /
- bracket ()
- period .

6.1 Copying the Call Number from the BIB Record to the Item Record

It is possible to copy the call number from the 090\$a subfield of the BIB record to the call number type field of the Item record. This is done by setting the value "i" in the call number type field.

In order to activate this functionality, set tab_Z311 with the create_z30_call_no_i_bib_090 routine and tab100 flag:: INVENTORY-NUMBER=Z311.

The following is an example setup in `./usm50/tab/tab_z311`:

!	1		2	3
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	-!	-!	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
z30-call-no			0 create z30 call no i bib 090	

In the following cases, the call number is not copied from BIB 090\$a to the Item record:

- BIB 905\$\$a does not exist.
- The linked BIB record contains a 940 field.
- The Item record is linked to a HOL record.
- The item is already populated with a call number.

The call number type field with value “i” is relevant for item creation and update workflows, such as: Cataloging, Acquisitions, Serials, and services.

6.2 Automatic Assignment of the Call Number Type Field

You can set the Item and Subscription forms to be populated automatically with the “i” value in the call number type field. Configure the following in `./alephcom/tab/alephcom.ini`:

```
[ItemForm]
CallNoType1=i
```

After setting this configuration, the call number type field is automatically populated with the value “i” in the Item and Subscription forms of the Aleph interface. This causes the call number to be copied from the BIB record to the item record when you click the Add or Update button. If the values of the Item and Subscription forms are saved as the default using the Save Defaults or Subs Default buttons and CallNoType is set with value “i” in `./alephcom/tab/alephcom.ini`, the default value does not override the call number type field setting and it remains set to “i”.

7 Item History Record

A log file of all changes made to an item record can be created and viewed in the GUI-Item List-History window.

7.1 Setting up Item History Record

If your library is interested in having a log file of changes made to an item record, set the value to "Y" in the CREATE-Z30H flag of `./xxx50/tab/tab100` and define the fields that when updated will trigger the creation of an Item History record in `./xxx50/tab/tab_item_history.lng`.

`tab_item_history.lng` list the actions and items fields that create an Item History log record. The following is a list of possible values that can be set in column 1 of `tab_item_history.lng`:

- ITEM-LOCATION
- ITEM-CALL-NO-2
- ITEM-COLLECTION
- ITEM-SUB-LIBRARY
- ITEM-PROCESS-STATUS
- ITEM-BARCODE
- CREATE
- BIND

- DELETE
- ITEM-STATUS
- SHELF-REPORT-NUMBER
- ITEM-MATERIAL
- ITEM-DESCRIPTION
- ITEM-CIRC-NOTE
- ITEM-INT-NOTE
- ITEM-OPAC-NOTE
- ITEM-LOCATION-TYPE
- ITEM-CALL-NO-2-TYPE
- ITEM-COPY
- ITEM-ENUM-A
- ITEM-ENUM-B
- ALL-NON-CIRC
- ALL-FIELDS

Use "ALL-FIELDS" in order to register a change in any other field. When using ALL-FIELDS, list it last in tab_item_history.lng.

If ALL-FIELDS is listed before the specific field, changing a listed field will register both "ALL-FIELD" and the specific field.

Use "ALL-NON-CIRC" in order to register all changes except item (Z30) changes caused as a result of the following item circulation activities:

z30-date-last-return
 z30-hour-last-return
 z30-ip-last-return,
 z30-no-loans
 z30-maintenance-count

When using ALL-NON-CIRC, list it last in tab_item_history.lng.

Make sure to NOT set both "ALL-FIELDS" and "ALL-NON-CIRC" in the table.

If ALL-NON-CIRC is listed before the specific field, changing a listed field will register both "ALL-NON-CIRC" and the specific field.

7.2 Viewing Item History in GUI

Item history actions can be viewed in GUI-Item list-History-Item Information (available in the following modules: Cataloging, Circulation, and Acquisitions/Serials).

Item Information

Item Bib Info **Change Info**

Change date 18/08/2009 12:14

Reason All fields

Cataloger MASTER

Change Details:

Field:	Before Change:	After Change:
Item Sublibrary	Medicine Library	Law Library
Item Collection	Aesc.	Atlas

Close

The item information history fields are set in HTML display which is defined in the server file: `./xxx50/pc_display_lng/item-history-expand`.

The Change Info tab can include item information "before and after" the change (to do this; refer to the sample demo file `./usm50/pc_display_lng/item-history-expand`).

NOTES:

1) The "Change Details" section includes ALL changed field. This means that each updated field will be reported, regardless of whether it triggers an item history record or not.

2) If you set ALL-NON-CIRC in `./xxx50/tab/tab_item_history.lng` and you are not interested in viewing the item's circulation related changes, edit `item-history-expand` to NOT include a call to the following fields:

z30h-date-last-return
 z30h-hour-last-return
 z30h-ip-last-return,
 z30h-no-loans
 z30h-maintenance-count

8 Sort Order for List of Items

The BIB library's `tab_z30_sort` table sets the sort order for a list of items in Web OPAC and GUI Search. The ADMinistrative library's `tab_z30_sort` table sets the order for a list of items in ADM functions. The order is set separately for the various

modules and functions. The table sets both the sort order and whether the order is ascending or descending, separately for "ISSUE" items and other items. Note: If the sort routine uses chronological or enumeration fields and these fields are empty, the item's description field (z30-description) will be used instead. See tab_z30_sort header for information about the various sorting types that can be set in columns 3 and 5.

The sort order options available to the librarian are displayed in a drop-down list in the panes displaying: Item List, Check-In List and Group List. The text in the drop-down list and the link to the relevant sort option in tab_z30_sort is defined in the following menus of the pc_tab_exp_field.lng table of the Administrative library:

ITEM-SORT-TYPE

For the Item List displayed by selecting the Item List root, or the List of Items root in the Cataloging, Acquisitions/Serials and Circulation modules.

SERIAL-CHK-SORT-TYPE

For items displayed in the Check-In List in the Acquisitions/Serials module.

SERIAL-GRP-SORT-TYPE

For items displayed in the Group List in the Acquisitions/Serials module.

SERIAL-SORT-TYPE

For the Items List of a particular subscription displayed by selecting the Items node under the Subscription root in the Acquisitions/Serials module.

The last sort option selected by the user is saved, and serves as the default the next time the list is displayed.

UTIL F/2/23 (of the ADM library) can be used to check item sort. This utility enables you to view the Z30 text according to which the item is sorted.

Enter the sort type as defined in tab_z30_sort - 00,01,02,03,...

Enter item key (doc number + sequence).

The result is the type of item (issue/non-issue) and the sort text of this item.

For example: to view sorting routine 07 of ADM record 55675 sequence 30:

```
Enter values as defined in Col. 3 or 5 of tab_z30_sort: 07
Enter z30 key (number+seq) (Q to quit) : 000055675000030
IN   -000055675000030-
<<<connect directly no listener
TYPE -ISSUE-
OUT  -3 UEDUC GEN 000000001 0000011 2005-
```

9 Client Setup (catalog.ini)

The catalog.ini file includes settings for the Items function.

[ADM Library]

This section determines the default ADM library of the connected library.

For example:
usm01=usm50

[CatalogItemBar]

FgColorDescript

This setting determines the color of the text displayed in the item bar.

[ItemTree]

BKColor

This setting determines the color of the Item Tab.

Note: Additional entries in the *ItemTree* must not be modified.

9.1 Print.ini

The `print.ini` file of the Catalog/Tab directory is used to determine which form is used for printing labels. The forms are determined in the `ItemLabel` and `ItemLabelPrint` lines as follows:

```
ItemLabel      00 N P label.prn
ItemLabelPrint 00 N P itemlbl.prn
```

10 Items Tables

LIBRARY TABLES

1. pc_tab_exp_field_extended.lng

`pc_tab_exp_field_extended.lng` defines the Item form drop-down menus (in Items, Acquisitions/Serials and Cataloging). This table is similar to `pc_tab_exp_field.lng` except that it has a column for a sublibrary (you may use #) which allows for sensitivity to sublibraries.

2. tab_export_03

This table is used in the ADMinistrative library to set the data of the item records for the barcode labels' output file. When constructing the `tab_export_03` table, you may combine fields. For example, in the table below, the sublibrary, a comma, and the collection together will take up only 11 spaces in the export file and will be cut off if too long so that the title/author will always start at position 34 of the output file.

```
!1          2          3          4
5
!!-!!!!!!!!!!!!!!!!!!!!-!!!!!!!!!!!!-!!!!!!!!!!!!!!!!!!!!-!!!!!!!!!!!!
20 Z30-BARCODE
01 " "
00 Z30-SUB-LIBRARY
00 ", "
11 Z30-COLLECTION
01 " "
00 245##          a          2####          a
00 "/"
```

```

40 1####          a          245##          b
01 " "
00 PST##          bchij

```

The above table construction will produce an output file (in table format) like this:

```

1579-10 UEDUC,GEN Computers and literacy/

XEDUC GEN LC149.5 C65 1985

2385-10 UEDUC,GEN Human sexuality. --/McCary, James Leslie.

XEDUC GEN ZQ 21 M123 1967

2592-10 ULINC,GEN Natur und Sittlichkeit bei Fichte //Boehm, Max
Hildebert,

XLINC GEN B2849 E7 B6 1981

```

3. **tab100**

`tab100` is the central configuration table for system-level, server-level and library-level variables. See Items-related Entries in `tab100` on page 20 and the `tab100` table header.

4. **tab15.lng**

Defines the item statuses and various parameters connected to these statuses.

5. **tab25.lng**

This table defines the list of possible values for Z30-MATERIAL (item material type). The list must also be defined in UTIL L/2, so that it will be available as a pull-down menu option for the registering item data.

6. **tab40.lng**

`tab40.lng` defines collection codes and names. This table defines the expansion of the collection code as entered in the Z-30-COLLECTION FIELD in items, to the expanded form to be displayed in the OPAC.

7. **tab_filing_call_no**

This table is used for defining filing procedures that can be used when building the filing key for item records, which is stored in Z30-CALL-NO-KEY and Z30-CALL-NO-2-KEY.

8. **tab_item_history.lng**

`tab_item_history.lng` defines in which cases a field change or an action will cause an item history record to be written. In addition, the table defines

the fields displayed in the Item History screen and their description. This information is accessible via the "History" button in the Items module.

9. tab_label.lng

`tab_label.lng` defines the prefixes that will be printed on the spine label. This table can contain up to 2000 lines.

10. tab_label_parse

`tab_label_parse` specifies the routines used to parse (split apart) the call number and item description when generating item labels. The definitions in this table are used to create the raw XML data. The relevant template should be checked to make sure it includes elements for printing this data.

11. tab_z30_sort

`tab_z30_sort` defines sort options for items. Different sort routines can be used in different parts of the system.

12. tab42

`tab42` controls automatic updating of the processing status field in the item record. Automatic updating is triggered by various actions or changes in the Acquisitions, Serials and Items modules. List of the various triggers (processing actions) that can affect the item process status can be found in the `tab42` header.

13. tab_checksum

`tab_checksum` is used for defining the checksum programs. The programs can be used for creation, validation and correction of item barcode, patron barcode, budget code prefix, vendor/supplier code prefix, and vendor/supplier additional code. The relevant programs for checksum of item barcode are:

1. `codabar`
2. `patron/item barcode - site-specific UEA`
3. `patron/item barcode - site-specific Newcastle`
4. `patron/item barcode validation - site-specific Keio`

14. tab_events.lng

1. `tab_events.lng` defines which transactions will write a record to the Z35 or Z69 Oracle tables.

While `tab_event.lng` in the administrative library defines which transactions write a record to the Z35 Oracle table, the `tab_event.lng` table in the bibliographic library defines which transactions write a record to the Z35 Oracle table (types 10,11,12) or Z69 oracle table (types 20-35). While the

transactions in the Administrative library relate to Circulation, the transactions in the bibliographic library relate to Web OPAC and to Z39_server.

If the `tab_event.lng` table in the bibliographic library does not exist in the database then the events will not be created. This is not a problem.

15. form_print_method

This table defines the print methods for XML-based printouts. The default method is XML_XSL.

16. tab_z311

This table is used in the ADM library to define the Z311 programs used by the system for the creation of the Z311 counters for the z30-call-no, z30-call-no-2 and z30-inventory-number fields.

ALEPHE TABLES

1. library_relation

`library_relation` defines the relation between libraries by library type.

2. tab_sublibrary

`tab_sublibrary` is used to define the drop-down menu of the sublibrary field on the Item Information form.

11 Items-related Entries in tab100

This section details all the variables which are relevant to Items and set in tab100 of the Administrative library. Most of this information also appears elsewhere in this System Librarian chapter.

BIND-USE-DESCRIPTION

This variable is used to define what information ALEPH will return to external binding preparation software packages.

Possible values are: Y or N.

Y - Return Z30-DESCRIPTION in case Z30-CALL-NO is empty.

N - Always return the Z30-CALL-NO.

CHANGE-ITM-STS-LOAN

This variable enables the blocking of item status changes if the item is on loan. It is relevant for both online and offline item updates.

CHECK-DUP-CALL-NO

This variable enables a check on an item's call number to see if it is already in use.

Possible values are: Y or N.

N = Default. No Item Call Number duplication check is performed.

Y = Item Call Number duplication check is performed. When an item is created or updated with a call number (Z30-CALL-NO-TYPE and Z30-CALL-NO) that is already set for an item of a different ADM record, an error message is displayed and the item is blocked from being saved.

If the call number is already set for an item of the same ADM record, a warning message is displayed, but the action is not blocked.

ITEM-BARCODE-OR-CALL-NO

Disables or enables item retrieval by call number when using the Item Bar (Circulation and Cataloging GUIs).

Possible values are: Y or N.

Y - Item retrieval by call number is enabled (in the Item Bar in Circulation or Cataloging GUI).

N - Item retrieval by call number is disabled (i.e. there is an attempt to retrieve the item by barcode; if it fails, no further attempt is made to retrieve by call number).

The default value is Y.

ITEM-BOR-INFO-CIRC-ONLY

Determines whether or not patron information will be hidden when item information is displayed in the Catalog and Acquisitions modules.

Possible values are Y and N.

Y = Patron Information (such as Patron Name, ID) is only shown in the Circulation module, and not in the Acquisitions and Cataloging modules.

N = Patron Information (such as Patron Name, ID) is shown in all modules.

The default value is N.

ITEM-DATE-FROM-ORDER

Controls the automatic update of the arrival date of monograph orders.

The new flag has the following possible values: 0/1:

0 - Default. The arrival date is not recorded (old functionality).

1 - The arrival date is recorded in the item record (new functionality). This occurs only if the item's arrival date is not populated (Z30-ARRIVAL-DATE=00000000). If the item's arrival date is already populated, the item arrival date is not updated.

Notes:

- This functionality updates all order's related items regardless of the number of units ordered or the number of units arrived and is not related to the **Order completely arrived** checkbox in the Arrival Form or Order Form.
- If an Order arrival record is deleted, the item arrival date is not removed from the item record.

ITEM-FORM-STATISTIC

Determines whether or not the Statistic field is mandatory in the Item form used in the Catalog and ACQ/Serials modules.

Possible values are: Y or N.

N – Default. The item's statistic field (Z30-ITEM-STATISTIC) is not mandatory. An item record can be saved with null in the Statistic field.

Y – The item's Statistic field is mandatory. If the Statistic field is left blank when an item record is saved; a message is displayed requiring the user to populate the Statistic field.

INVENTORY-NUMBER - Z52 Z311 Z313

This variable defines how the item's inventory number is handled.

The default value is Z52.

Z52 - The inventory number is not mandatory and can be left blank. However, if it is used it can be assigned from a system counter. If ? followed by a Z52-sequence is entered (for example ?inventory-number or ?inventory-number-2), an inventory number is allocated by using the relevant Z52-sequence (for example, inventory-number inventory-number-2). If text is entered into this field, the text will be used as the inventory number.

Clicking the **Refresh** button in the Item Form (Cataloging / Items tab / Items List root / lower pane) can be used to allocate a new inventory number.

Z311 - The inventory number is not mandatory and can be left blank. If it is used then it is based on Z311 and on the table tab_z311.

Clicking the **Refresh** button in the Item Form can be used to allocate a new inventory number.

Z313 - The inventory number is not mandatory and can be left blank. If it is used then it is based on Z313 in the following manner :

If a mere question mark (?) is entered in the Inventory Number field, a Z313 record with Z313-USED = N, a blank Z313-SUB-LIBRARY and a blank Z313-SERIES is searched for. Once found, only the field Z313-INVENTORY-NUMBER is copied to Z30-INVENTORY-NUMBER.

If a question mark (?) followed by a series name is entered in the field Inventory Number, a Z313 record with Z313-USED = N, Z313-SUB-LIBRARY = Z30-SUB-LIBRARY and Z313-SERIES = <Series> is searched for. Once found, the combination Z313-SUB-LIBRARY + Z313-SERIES + Z313-INVENTORY-NUMBER is assigned to Z30-INVENTORY-NUMBER.

For example, if ?SER1 is entered in the field Inventory Number for an item of sublibrary UEDUC, and a Z313 record with Z313-USED = N, Z313-SUB-LIBRARY = UEDUC, Z313-SERIES = SER1 and Z313-INVENTORY-NUMBER = 000000095 is found, Z30-INVENTORY-NUMBER will receive the value "UEDUCSER1 000000095".

When clicking on the **Refresh** button in the Item Form (Cataloging / Items tab / Items List root / lower pane), an inventory number is not assigned, in order not to use a Z313 record in vain (for example if **Cancel** is used later on).

It is important to note that once an inventory number has been assigned to an item it can not be changed or reverted.

When an item that has a Z313 based inventory number is deleted, the behavior of the Z313 record depends on the contents of the item's internal note.

If one of the values "recover", "RECOVER" or "Recover" is found there, the Z313 record will be freed. This means that the Z313-USED field will revert to N and the item related fields will be cleared, making this Z313 record re-assignable to any other item.

If none of these values are found in the internal note field, the Z313 record will remain "in use", and only the withdrawal date that will be added to the record will mark that the record's item no longer exists. The Z313 will not be assignable to another item.

Note that in order to allow the correlation of the item record and its related Z313 inventory record, one of the following pairs of triggers should be defined in the ADM library file_list:

- Z313_TRIGGER_1 and Z313_TRIGGER

OR

- Z313_TRIGGER_1 and Z313_TRIGGER_2.

Make sure the triggers are enabled and created (using UTIL A/17/6/2 and UTIL A/17/6/1).

Z313_TRIGGER – Enables the updating of the inventory record each time item data is updated.

Z313_TRIGGER_2 - Directs the system to 'lock' inventory records whoser assign date is up to the defined 'lock' date (inclusive). The 'lock' date parameter (YYYYMMDD) is defined in column 3 of the ADM's library file_list (in the same row that Z313_TRIGGER_2 is set). Note that a library should decide which trigger to enable: Z313_TRIGGER or Z313_TRIGGER_2.

Z313_TRIGGER_1 – Handles the inventory record when the item is deleted. This action depends on the content of the item's internal note field. It supports the option to recover an inventory number of a deleted item or to record the deletion of the item within the inventory record by populating the inventory data, withdrawal date and withdrawal. Z313_TRIGGER_1 can be set with either one of the above triggers, Z313_TRIGGER or Z313_TRIGGER_2.

UPDATE-BARCODE

This variable is used to define whether the item barcode can be updated by the user in the GUI.

Y = Default. Enable barcode data update in GUI.

N = Disable barcode data update in GUI.

UPDATE-Z30-COPY

Determines how the system behaves when an item record is opened from a serials schedule record.

Possible values are: Y or N.

Y = Z16-COPY-SEQUENCE is copied to Z30-COPY-ID when an item record (Z30) is opened for the subscription.

N = Z16-COPY-ID is copied to Z30-COPY-ID when an item record (Z30) is opened for the subscription.

The default value is Y.

X852-ITEM-OVERRIDE

Determines whether or not to update the item location subfields from the 852 field of the linked HOL record.

Possible values are: Y or N.

Y = item location subfields (sublibrary, collection, call no.) are updated from the 852 field of the linked HOL record. The line setenv correct_852_subfields in aleph_start controls which 852 subfields update the Z30 (item) location fields. "Y" must be set in both the xxx50 and xxx60 libraries.

The default value is Y.

Z30-PRICE-FROM-ORDER

Determines how the estimated and invoiced acquisition price is updated from the item price field.

Possible values are: Y or N.

Y = the item price field is controlled by and automatically updated from the acquisition price (estimated and invoiced).

The default value is N.

12 Item Statistic Options

The Item Statistics information field is included in the General Information (2) tab of the Item Expand pane.

There are three options for entering data in the Item Statistic fields, depending on the client setup:

1. Simple Edit (default) - No arrow on field.
2. Regular - Opens `pc_tab_expand_field` menu.
3. Special Form - Opens a special four-part form, each part of which can have a `pc_tab_expand_field` menu (ITEM-STATISTIC-1 to ITEM-STATISTIC-4). The parts are separated by the delimiter defined in `ItemStatisticDelimiter`.

The available option is determined in your client's `alephcom/tab/alephcom.ini` file:

```
ItemStatisticField=3  
SerialItemStatisticField=3  
ItemStatisticDelimiter=/  
ItemStatisticField refers to the Statistic field in the Item Form.
```

`SerialItemStatisticField` refers to the Item Statistic field in the Subscription Information Form.

The digit to the right of each line refers to the three options listed above.

The ItemStatisticDelimiter determines the delimiter that separates the parts of the special form (option 3).

There is an option to set the Item Statistic field (Z30-ITEM-STATISTIC) to be mandatory in the Item form used in the Catalog and ACQ/Serials modules.

To support this, set the following in ./<adm_library>/tab/ tab100:

ITEM-FORM-STATISTIC=Y

This flag determine whether or not item statistic is a mandatory field.

Possible values: Y/N

N – Default. The item’s statistic field is not mandatory. An item record can be saved with null in the Statistic field.

Y – The item’s Statistic field is mandatory. If the Statistic field is left blank when an item record is saved; a message is displayed requiring the user to populate the Statistic field.

13 Print Templates

13.1 Available Templates

The names of the Items template files are listed below (where nn is a number identifying the version).

Note: When nn is in the range 00 - 19, inside labels will be produced. When nn is in the range 20 - 99, spine labels will be produced.

Items Templates

Template	Purpose	print.ini function name
Copy Label item-copy- label-nn	Generated from the Cataloging GUI: Items tab/Items List pane, Label button or from the service b-item-03	ItemLabel
Copy Label item-copy- label-nn	Generated from the Cataloging GUI: Items Menu: Print Item Labels	ItemLabelPrint
Issue Label item-issue- label-nn	Generated from the Cataloging GUI/Items tab:Items List pane, Label button or from the service b-item-03	ItemLabel
Issue Label item-issue- label-nn	Generated from the Cataloging GUI: Items Menu: Print Item Labels	ItemLabelPrint

Template	Purpose	print.ini function name
Completed Volumes item- completed- volumes-nn	Completed volumes - ready for Binding	CompletedVolumsPrint

Note that libraries can share the same forms by adding a definition to the `path_convert` table under the library's tab directory. Your ADM library is probably linked to your BIB library:

```
$usm50_dev/usm50/form_eng          $usm01_dev/usm01/form_eng
```

Services Templates

Items Services

Service	Form
Report of Missing Items (ret-item-02)	missing-items-report.xsl
Shelf Reading Report (item-04)	shelf-reading-report.xsl
Shelf List (item-05)	shelf-list.xsl

14 Items Values of `pc_server_defaults`

`pc_server_defaults` is an ALEPH configuration table located under `$alephe_root`. It defines the default value for the pc server. Following are the relevant entries for GUI-Items:

default_lock_period

Locked item records are automatically unlocked after a period defined in this entry. The variable is defined in seconds.

Note: The value entered in `setenv default_lock_period` is shared also by Acquisitions, Circulation and ILL records.

item_label_restore

This entry works together with the GUI-Circulation utility Change Item Information. Possible values:

Y - When the user changes item information (using the Change Item Information utility in GUI-Circulation) and the Permanent Change field is not checked, as soon as the item label is printed, the original item information will be restored and it will replace the non-permanent information. The item label will also include the original item information.

N - The original item information will not be restored when the item label is printed.

serial_bind_period

The maximum number of days for serial issues to arrive after the Expected Arrival Date, after which a volume containing them will be considered complete to appear in the Completed Volume Report.

15 Checksum of Item Barcode

The ADM table, `tab_checksum`, is used for defining the checksum programs. The programs can be used for the creation, validation and correction of item barcodes, patron barcodes, budget code prefixes, vendor/supplier code prefixes and vendor/supplier additional-codes.

The relevant programs for checksum of item barcode are:

- `checksum_create_z30_by_seq` - for creating item barcode, using UTIL G/2 last-barcode-number
- `checksum_create_z30_by_doc_no` - for creating item barcode using Z30-REC-KEY
ADM record number + item sequence number
- `checksum_create_codabar` - for creating codabar compatible item barcode
- `checksum_create_z30_icl` - site-specific procedure for the Danish libraries, which uses barcode sequence counter in UTIL G/2 barcode-sequence counter in UTIL/G/2)
- `checksum_valid_item_bar_uea` and `checksum_valid_bor_id_uea` - site-specific procedures for an application in the UK, for validation of item and patron barcodes
- `checksum_valid_bar_newcast` and `checksum_valid_bar_newcast` - site-specific procedures for an application in the UK, for validation of item and patron barcodes
- `checksum_valid_z30_bar_nlc` - site-specific procedure for an application in China, for validation of item barcodes
- `checksum_valid_item_bar_keio` and `checksum_valid_bor_id_keio` - site-specific procedures for an application in Keio-Japan, for validation of item and patron barcodes
- `checksum_valid_z30_bar_nlc` - site-specific procedure for an application in China, for validation of item barcodes

- `checksum_correct_z30_bar_seri` - site-specific procedure for an application in Korea, for validation of item barcodes. The following manipulation is done when barcodes are inserted:

If the barcode is 12 characters length or more, no manipulation is performed.

If it is less than 12 characters, it is processed according to the following algorithm before actual retrieval:

(a) If the barcode starts with a digit, it is left-padded with zeros, e.g.
"1234" --> "000000001234".

(b) If the barcode starts with "C", "M" or "S" (see (c) below for "S" with specific prefixes) followed by digits, zeros are added between the alpha prefix and the digits, e.g. "M4567" --> "M00000004567".

(c) If the barcode starts with one of the following prefixes - "S96", "S97", "S98" or "S99", zeros are added between the prefix and the remaining digits, e.g. "S981123" --> "S98000001123".

(d) Otherwise, no manipulation is performed.

The following example shows how to perform the UEA Item Barcode (valid) Checksum:

```

1                               2
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!-
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!>
CSV-LOAN-ITEM-BARCODE          chksm_valid_item_barcode_uea

```

16 Complete Volume Report

A parameter defines a maximum number of days for issues to arrive after their Expected Date of Arrival (EDA), after which the volume containing them is considered complete despite their unavailability in the library, and appears in the report.

That parameter is in **alephe/pc_server_defaults**:

```
setenv serial_bind_period
```

The default is set at 50 days.

17 Items Values of `aleph_start`

aleph_start is an ALEPH configuration file located under `$alephe_root`. This configuration file defines default values when starting the system. Following is the relevant entry for the Items module:

hvd_call_no_type (site-specific)

This entry determines whether or not there will be a correction of the item's call number type "7" when the call number contains subfield 2 with special characters. This correction is not valid for the database but only for the call number filing procedure (in order to take the correct line from `tab_filing_call_no` and build `z30_call_number_key`). When `hvd_call_no_type` is set to Y: If the call number type is "7" and the call number field contains subfield 2 (selected uppercase) then the call number type will be overridden to "a" for filing purposes only. When `hvd_call_no_type` is set to N: the call number type will remain "7" in any case.

Note: The `hvd_call_no_type` parameter is a site-specific feature and is usually set to "N".

18 Item Call Number – Author Number and Chronology Number

This chapter refers to the **Call No.** and **Second Call No.** fields of the GUI-Cataloging-Item Form and their relevant setup and functionality for special "852 Form" (type 6).

The **Call No.** and **Second Call No.** fields can be opened in various modes/forms as explained in the Call Number Field section of *Aleph 20.01 System Librarian's Guide – Items*. To activate the special 852 Form that includes Author Number and Chronology Number, set the value 6 in ItemLocation1Field and or ItemLocation2Field parameters of the PC file 'alephcom.ini'

```
[ExpandField]
ItemLocation1Field=6
ItemLocation2Field=6
```

852 Form of type 6 allows the assigning of "Author Number" and "Chronology Number" for Item Call Number. This is in addition to the other Call number fields: Prefix, Call, Number, Suffix, and Source.

To activate the special 852 Form that includes Author Number (and not Chronology Number), set the value to 7 in the ItemLocation1Field and or the ItemLocation2Field parameters of the PC file 'alephcom.ini'

```
[ExpandField]
ItemLocation1Field=7
ItemLocation2Field=7
```

852 Form of type 7 allows the assigning of "Author Number" for Item Call Number. This is in addition to the other Call number fields: Prefix, Call, Number, Suffix, and Source.

- **Author Number Field** – Offers a list of methods according to which the Call Number's Author Number value (852\$\$i) can be calculated. The methods that are avail for Korean titles (Hangul and Hanja) are Lee Jai-Chul (various types), Elrod, and Jang Il Sei. The methods that are avail for non- Korean titles (e.g. Latin material) are Cutter Sanborn, Cutter Three-Figure, and Cutter Three Figure without Caret Mark.

- **Chronology Number** – Allows the option to calculate the Call Number's Chronology Number (\$\$i) that contains the year Number part and a sequence.

18.1 The Special "852 Form" (Call Number Form - Type 6)

At GUI-Cataloging-Item Form; clicking the button next to the Item Call Number field displays the following form:

The 852 Form is one of the options for recording location (call number) information in the Item record. The six fields which make up this form are based on the MARC21 Standard for Holdings Records as follows (in brackets: tag subfield name in MARC21): Prefix, Call Number, Author Number, Chronology Number, Suffix, and Source.

The Special "852 Form" (Call Number Form - Type 7)

From GUI-Cataloging-Item Form, click the button next to the Item Call Number field to display the following form:

Note that this form is the same as form type 6, except of the Chronology Number field which is disabled.

The following is a description of each field of the 852 form:

Prefix

Call number prefix (\$\$k) can be manually assigned by the staff user. Users may select the relevant value from a drop-down list which is set in the LOCATION-PREFIX menu of ./xxx50/tab/pc_tab_exp_field_extended.lng.

Call Number

Item classification number (\$\$h). The Item Call Number can be automatically assigned by the system based on BIB information or manually assigned by the staff user. For more details, see `tab_author_num.conf`.

Author Number

The Call Number's Author Number part (\$\$i). This field is a combo-box containing the Author Number calculation methods. The content of the combo-box list is driven from ITEM-PART-1 menu of `./xxx50/tab/pc_tab_exp_field_extended.lng`.

When the 852 Special Form is opened, the **Author Number** field can be automatically generated by the system or manually assigned by the staff user. This behavior is depended on `./xxx01/tab/tab_author_num.conf` (see details in "tab_author_num.conf" section).

If the Author number value is already filled-in, the user may re-select one of the methods. The recently calculated value overrides the current value.

Note that user may activate the button which is located to the right of the **Author Number** field and override the default system behavior which is defined in `tab_author_num.conf`. Clicking this button displays a list of BIB tags for calculating Author Number and can be used if the operator decides to use an alternative tag for calculation the **Author Number** field (not the tags defined in `tab_author_num.conf`).

The **Author Number** field may also be left blank. The following are the available Author Number Methods:

- **Lee Jai-Chul** – Lee Jai Chul method that can be applied for Korean material (Hangul and Hanja). The algorithm that is used to calculate the Lee Jai Chul author number consults the setup table: in `./xxx01/tab/tab_lee_jai_chul`. The Lee Jai Chul method can have multiple entries in the Author Number combo-box (as defined in ITEM-PART-1 menu of `./xxx50/tab/pc_tab_exp_field_extended.lng`).
- **Elrod** – Elrod method that can be applied for Korean material. For more details, see the Author Number by Elrod section.
- **Jang Il Sei** – Jang Il Sei method that can be applied for Korean material. For more details, see **Author Number** by Jang Il Sei on page 39.
- **Cutter Sanborn** – Cutter Sanborn method that can be applied for Latin and non-Korean material. The algorithm that is used to calculate the Cutter Sanborn author number consults the setup table: in `./xxx01/tab/tab_cutter`.
- **Cutter Three-Figure** – Cutter Three Figure method that can be applied for Latin and non-Hangul/Hanja material. The algorithm that is used to calculate Cutter Three Figure author number consults the setup table in `./xxx01/tab/tab_cutter_three`. Note that if the cutter-three-figure is calculated by the system (either by automatically assignment or by selecting the routine from the drop-down list) and the chronology number is automatically assigned by the system the system adds a ^ sign to the end of the cutter-three-figure value. This is done for display purposes so that a space is displayed between the two \$\$i fields (Author Number by cutter-three-figure and Chronology Number).
- **Cutter Three-Figure without Caret Mark** – the same as a regular cutter three figure, without a caret mark at the end of the field.

Chronology Number

The Call Number's Chronology Number part (\$\$i). This field is a combo-box containing one option, Chronology Number. The content of the combo-box list is driven from ITEM-PART-2 menu of ./xxx50/tab/pc_tab_exp_field.lng. When the '852 Special Form' is opened, the 'Chronology Number' field can be automatically generated by the system or manually assigned by the staff user. This behavior is depended on ./xxx01/tab/tab_author_num.conf (see details in "tab_author_num.conf" section). If the Chronology Number value is already filled-in, the user may select the Chronology Number from the list; the value just calculated overrides the current value. The Chronology Number field may also be left blank. The **Chronology Number** field is cleared if one or more of the following 852 Form fields are changed, Prefix, Call Number, and Author Number. For technical reasons related to the Call Number sorting routine, the original year (the year value before calculating the chronology number) are recorded in \$\$9 of Z30-CALL-NO/ Z30-CALL-NO-2. If both fields **Author Number** and **Chronology Number** are filled-in, two \$\$i entries are created in the Z30-CALL-NO/ Z30-CALL-NO-2. For more details, see the section, Chronology Number Algorithm.

Suffix

Call number suffix (\$\$m). Can be manually assigned by the staff user. Users may select the relevant value from a drop-down list which is set in LOCATION-SUFFIX menu of ./xxx50/tab/pc_tab_exp_field_extended.lng.

Source

Call number source (\$\$2). Can be manually assigned by the staff user. Users may select the relevant value from a drop-down list which is set in LOCATION-SOURCE menu of ./xxx50/tab/pc_tab_exp_field_extended.lng.

NOTES:

Note 1:

When the 852 Form is opened for an item which has no value in the Call Number field (Z30-CALL-NO or Z30-CALL-NO-2 is empty), the system fills in values as defined in the relevant configuration settings (see [tab_author_num.conf](#) for configuration information).

When a filled 852 **Form** is opened, the system displays the current values without automatic recalculating the empty fields. If you want to update or re-calculate the values, type or select a relevant scheme. If the prefix, call number, or author number is changed, the chronology number is cleared.

Note 2:

To support the GUI drop-down list for the **Author Number** field, set the following in ITEM-PART-1 menu of ./xxx50/tab/ pc_tab_exp_field_extended.lng: ITEM-PART-1:

ITEM-PART-1	##### L Lee Jai Chul 1	LEE-JAI-CHUL-1
ITEM-PART-1	##### L Lee Jai Chul 2	LEE-JAI-CHUL-2
ITEM-PART-1	##### L Lee Jai Chul 3	LEE-JAI-CHUL-3
ITEM-PART-1	##### L Lee Jai Chul 4	LEE-JAI-CHUL-4

ITEM-PART-1	##### L Lee Jai Chul 5	LEE-JAI-CHUL-5
ITEM-PART-1	##### L Lee Jai Chul 6	LEE-JAI-CHUL-6
ITEM-PART-1	##### L Lee Jai Chul 7	LEE-JAI-CHUL-7
ITEM-PART-1	##### L Lee Jai Chul 8	LEE-JAI-CHUL-8
ITEM-PART-1	##### L Elrod	ELROD
ITEM-PART-1	##### L Jang Il Sei	JANG-IL-SEI
ITEM-PART-1	##### L Cutter Sanborn	CUT-SANBORN
ITEM-PART-1	##### L Cutter Three Figure	CUT-THREE
ITEM-PART-1	##### L Cutter Three without ^	CUT-THREE-CM

ITEM-PART-1 menu for: LEE-JAI-CHUL-<N> can have few entries depending on the procedure type that the library uses: LEE-JAI-CHUL 1 thru LEE-JAI-CHUL-8. Those types must be defined in ./xxx01/tab/tab_lee_jai_chul table.

Note 3:

To support the GUI drop-down list for 'Chronology Number' field, set the following in ITEM-PART-2 menu of ./xx50/tab/pc_tab_exp_field.lng

ITEM-PART-2	L Chronology Number	CHRON
-------------	---------------------	-------

Note 4:

To support the GUI drop-down list of BIB tags which are used as an alternative tags for Author Number calculation, set ITEM-PART-1-TAG menu of ./xx50/tab/pc_tab_exp_field.eng. For example:

ITEM-PART-1-TAG	L 600	600
ITEM-PART-1-TAG	L 610	610
ITEM-PART-1-TAG	L 111	111

18.2 tab_author_num.conf

The bib library tab_author_num.conf (./xxx01/tab/tab_author_num.conf) defines the library's policy for assigning the following Item Call Number fields of the special 852 Form: Item Cal Number, Author Number and Chronology Number.

Different policies can be set per sublibrary. This can be achieved by setting the sublibrary code as the extension of the table file name. For example, to define policy for sublibrary code "law", the following file name should be set: tab_author_num.conf.law.

The relevant table is called by the system according to the item's sublibrary code. If there is no table with the relevant sublibrary code OR the item is not assigned yet with sublibrary, the default table, tab_author_num.conf, is used.

Sample of tab_author_num.conf

```

[CALL-NO]
LAW = 090##,a,1,056##,a,1,082##,a,2
WID = 050##,a,2,052#1,a,1,090##,a,3
##### = 050##,a,2,052#1,a,1,090##,a,9

[AUTHOR-NAME]
fields = 100,110,111,245

[LATIN-TYPE]
type = 1

[HANGUL-TYPE]
type = 8

[COMMON-KOREAN]
common_words = ae40,c774,bc15,cd5c,c815,c870,ac15,c7a5,d55c,c724

[SPECIAL-LETTER-VALUE]
special_letter = 3131

[CHRON-TYPE]
type = 1
sequence = korean

```

[CALL-NO] section

Define the BIB fields that are applied in order to build the Call Number (\$\$i of Z30-CALL-NO / Z30-CALL-NO-2) and Call Number type (Z30-CALL-NO-TYPE/ Z30-CALL-NO-TYPE-2). For example:

```
WID = 050##,a,2,052#1,a,1,090##,a,9
```

“WID” is the item sublibrary code, BIB tag 050##\$\$a is a first candidate tag to populate \$\$i of the item call number. If 050##\$\$a is used for populating the call number, then the value "2" is set in the Call Number type. If the BIB record has no 050##\$\$a, the system will keep checking the next option: 052#1,a,1 and so on.

Note that in case you define of tab_author_num per sublibrary (e.g : tab_author_num.wid) or in case where all sublibrary use the same algorithm; you may set "match all" line. For example:

```
##### = 050##,a,2,052#1,a,1,090##,a,9
```

[AUTHOR-NAME] section

Define the BIB fields that are applied in order to determine whether the BIB record is Korean (Hangul or Hanja) or Else. For example:

```
AUTHOR-NAME = 100,110,111,700,710,711
```

The system first looks for 100, then for 110, and then 111, and so on, until it finds a matching field.

Note that user may override the BIB value defined in AUTHOR-NAME of tab_author_num.conf by activating the button which is located at the most right side of the Author Number field (at the "852 Form"). This button offers list of alternative BIB tags for calculating the Author Number.

[LATIN-TYPE] section

Use for generating Author Number field for non-Korean material (e.g.: Latin). For example:

type = 1

Values can be:

0 = Author Number of Item Part fields is displayed null (it is not automatically generated by the system). User may select the relevant Author Number method from the Author Number drop-down list or manually type in a value.

1= upon opening the "852 Form" the Author Number field is populated with Cutter Sanborn method. User may override the automatically filled value.

2= upon opening the "852 Form" the Author Number field is populated with Cutter three-figure method. User may override the automatically filled value.

3= upon opening the "852 Form" the Author Number field is populated with Cutter three-figure without caret mark method. You can override the automatically filled value.

[HANGUL-TYPE] section

Use for generating Author Number field for Korean (Hangul and Hanja) material. For example:

type = 4

Values can be:

0 = Author Number of Item Part fields is displayed null (it is not automatically generated by the system). User may select the relevant Author Number method from the Author Number drop-down list or manually type in a value.

1 thru 8 = upon opening the 852 Form, the **Author Number** field is populated according to the Lee Jai-Chul method according to the routine type as defined in ./xxx01/tab/tab_lee_jai_chul. User may override the automatically filled value by selecting other method from the combo-box list or by manually type in a value.

9 = upon opening the 852 Form, the Author Number field is populated with Elrod method. User may override the automatically filled value.

a= upon opening the 852 Form, the Author Number field is populated with Jang Il Sei method. User may override the automatically filled value.

[COMMON-KOREAN] section

Used by the system in case where the Author Number is assigned using one of the Lee Jai Chul types.

It is used to define the commonly used Korean names. For example:

common_words = ae40,c774,bc15,cd5c,c815,c870,ac15,c7a5,d55c,c724

[SPECIAL-LETTER-VALUE] section

Used by the system in case where the Author Number is assigned using Lee Jai Chul types 5 or 6 or 8. It is used to define the exception letter that should be handled differently. For example:
special_letter = 3131

[CHRON-TYPE] section

Used by the system to to define policy for assigning the Chronology Number. This section has two parameters: "sequence" and "type". For example:

```
type = 1
sequence = korean
```

The parameter **type** defines whether the library wishes the **Chronology** field to be automatically populated when the 852 Form is opened.

Types values can be "0" or "1".

0 – Chronology Number is displayed null (it is not automatically generated by the system). User may manually select the "Chronology Number" option from the drop-down list or type it in.

1 – Upon opening the 852 Form, the Chronology Number field is automatically populated based on the Chronology Number algorithm. User may override the automatically filled value.

The sequence parameter defines according to which sequence list the chronology number sequence part is set: Korean sequence list or Latin sequence list.

Values can be "korean" or "latin".

18.3 Author Number and Chronology Number: Methods and Algorithms

18.3.1 Author Number by Cutter Three Figure Method

The cutter three figures method is applied for non-Korean titles using the table: ./xxx01/tab/tab_cutter_three table.

To set the automatic assignment of cutter three figures to non-Korean titles, set the following in table ./xxx01/tab/ tab_author_num.conf:

```
[LATIN-TYPE]
type = 2
```

18.3.2 Author Number by Cutter Three Figure Without Caret Mark Method

The cutter three figures without caret mark method is applied for non-Korean titles using the table: ./xxx01/tab/tab_cutter_three table.

To set the automatic assignment of cutter three figure without caret mark to non-Korean titles, set the following in table ./xxx01/tab/ tab_author_num.conf:

```
[LATIN-TYPE]
type = 3
```

18.3.3 Author Number by Cutter Sanborn Method

The cutter sunburn method is applied for non-Korean titles using the table: `./xxx01/tab/tab_cutter`.

To set the automatic assignment of cutter sanborn to non-Korean titles, set the following in table `./xxx01/tab/ tab_author_num.conf`:

```
[LATIN-TYPE]
type = 1
```

18.3.4 Author Number by Lee Jai Chul Method

The Lee Jai Chul method is applied for Korean titles using the table: `./xxx01/tab/tab_lee_jai_chul`.

Each library can define according to which of the eight existing mapping tables the Lee Jai Chul number will be automatically calculated. The definition is specified in HANGUL-TYPE section of the table `./xxx01/tab/ tab_author_num.conf`. For example:

```
[HANGUL-TYPE]
type = 5
type 1 thru 8 are dedicated to Lee Jai Chul various types.
```

18.3.5 Author Number by Elrod

The Elrod method is applied to Korean titles, regardless of MARC formats KORMARC or MARC21 and material types Book, Serials, etc.

To set the automatic assignment of the Elrod method for Korean titles, set the following in table `./xxx01/tab/tab_author_num.conf`:

```
[HANGUL-TYPE]
type = 9
```

Elrod author number consists of two parts delimited by a single space: the Author Number part and the Title Number part. For example, if Author number part is XXX and Title number part is Y, the author number by Elrod is 'XXX Y'.

Author Number part of Elrod

Author Number part is up to three Korean syllables which are extracted from the \$\$a of the following author heading fields in the BIB record. If an author name is less than 3 syllables, the system extracts it as it is. If an author name consists of 2 Korean syllables only in length, just the 2 syllables should be extracted.

The BIB record is checked for Author heading fields as defined in AUTHOR-NAME section of `tab_author_num.conf`.

For example:

AUTHOR-NAME = 100,110,111,700,710,711

The system first looks for 100 and then for 110 and then 111, and so on, until it finds a matching field.

Example (the Capital letters represent Korean syllables):

When 100 and 700 fields exist
100 1^ \$\$aABCD → “ABC”
700 1^ \$\$aEFG

When an author name is less than 3 characters
100 1^ \$\$aAB → “AB”

When no IXX fields exist
710 1^ \$\$aABCD → “ABC”

(An example of the real Korean letters)
100 1^ \$\$a모현주 → “모현주”

If the relevant author name in the BIB record is in Chinese letters, the systems extracts three letters as an Author Number part from the AUTHOR-NAME field and then transliterate it to Korean letters. The transliteration from Chinese to Korean, uses the fix_doc program named “fix_doc_transliteration” with the program argument “HANJA_TO_HANGUL”.

If the Chinese author name is XXX and its translation into Korean is YYY; the result is YYY.

100 1^ \$\$a三浦綾子 → “삼포능”, instead of “三浦綾”

Title Number part of Elrod

Title number part is one Korean letter which is extracted from the 245 \$\$a in the BIB record.

Examples (the capital letters represent Korean syllables):

100 1^ \$\$aABCD
245 1^ \$\$aEFG /\$\$c by ABCD → “E”

An example of the Korean letters:

100 1^ \$\$a모현주
245 1^ \$\$a한국경제 /\$\$d 모현주 저 → “한”

If 245 \$\$a main title starts with a pre-title put in parentheses, the system ignores the pre-title with parentheses and then take the very next letter.

245 1^ \$\$a(ABC)DEFG → “D”

If 245 \$\$a main title is in Chinese letters, the system transliterates it to Korean letters.

If the Chinese main title starts with X and its translation into Korean is Y, the result is Y.

245 1^ \$\$a韓國經濟 → “한”, instead of “韓”

245 1^ \$\$a(韓國)經濟 → “경”, instead of “經”

If 245 \$\$a main title starts with in Roman or Numeric characters, the system takes it as it is. Staff users change it to the correct number.

Note:

Elrod algorithm uses a special entry in column 1 of tab_character_conversion_line: CALL_NO_ELROD. The library may define in column 5 of tab_character_conversion_line any character conversion table that should be used for CALL_NO_ELROD.

For example: It is possible to set a special character conversion table for CALL_NO_ELROD including the values from hanja_to_hangul and values from kana2hangul.

The following is an example of ./alephe/unicode/tab_character_conversion_line that defines cjk_to_hangul table for CALL_NO_ELROD:

```
CALL_NO_ELROD          ##### # line_utf2line_utf          cjk_to_hangul
```

The ./alephe/unicode/cjk_to_hangul table must be set to define the Unicode values to be used by CALL_NO_ELROD routine.

18.3.6 Author Number by Jang Il Sei

The Jang Il Sei method is applied to Korean titles, regardless of MARC formats KORMARC or MARC21 and material types Book, Serials, etc.

To set the automatic assignment of the Jang Il Sei method for Korean titles, set the following in table ./xxx01/tab/tab_author_num.conf:

```
[HANGUL-TYPE]
type = a
```

Jang Il Sei Author Number consists of two sequential parts: the Author Number part and the Title Number part. For example, if the Author Number part is XXX and Title Number part is Y, the Author Number by Jang Il Sei is 'XXXY'.

Author Number Part of Jang Il Sei

The Author Number part consists of the first Jamo (consonant) of the first syllable of the Author (defined in AUTHOR-NUMBER of xxx01/tab/tab_author_num.conf) and the corresponding numbers of the author. The system consults only the xxx01/tab/ tab_jang_il_sei table in order to calculate the two parts.

Title Number Part of Jang Il Sei

The Title Number part is taken from the first Jamo (consonant) of the first character (syllable) of the Title field(245\$\$a). The system consults ./alephe/unocode tab_hangul_syllable_to_letters in order to break the Hangul syllable into two or three "atom" letters.

Note:

The Jang Il Sei algorithm uses a special entry in column 1 of tab_character_conversion_line: CALL_NO_JANGILSEI. The library may define in column 5 of tab_character_conversion_line any character conversion table that should be used for CALL_NO_JANGILSEI.

For example: It is possible to set a special character conversion table for **CALL_NO_JANGILSEI** including the values from `hanja_to_hangul` and values from `kana2hangul`.

The following is an example of `./alephe/unicode/tab_character_conversion_line` that defines `cjk_to_hangul` table for **CALL_NO_JANGILSEI**:

```
CALL_NO_JANGILSEI      ##### # line_utf2line_utf  
cjk_to_hangul
```

The `./alephe/unicode/cjk_to_hangul` table must be set to define the Unicode values to be used by **CALL_NO_JANGILSEI** routine.

18.3.7 Chronology Number Algorithm

Chronology number consists of two parts: the Year Number part and the Sequence Number part. There is no space between the two parts.

Year Number Part of Chronology

Based on the publication year in the BIB record tag 008 positions 07-10 (or tag 100 positions 09-12 in UNIMARC), the system assigns the Year Number as follows.

- If the publication year is 1900 or before 1900, “00” are assigned.
1900 → 00
1854 → 00
- If the publication year is between 1901 and 1999, the last two numbers of the year are assigned.
1901 → 01
1902 → 02
1970 → 70
1999 → 99
- If the publication year is 2000 or after 2000, the last three numbers of the year are assigned.
2000 → 000
2001 → 001
2007 → 007

Sequence Number Part of Chronology

The numbering for the sequence part of the Chronology Number can be differentiated depending on the library preferred sequence language counter, Latin or Korean. In order to determine to which sequence list to apply, the system consults the parameter “sequence” of the CHRON-TYPE section in `tab_author_num.conf`.

The parameter “sequence” can be “korean” (system applies to the Korean sequence list) or “latin” (system applies to the Latin sequence list).

In case where:

sequence = latin

The sequence number should be assigned in alphabetical order basically. The first turn is from a to z, the second turn is from za to zz, the third turn is from zza to zzz, and then the following turn is in the same way.

In case where:

sequence = korean

The sequence number is not based on the serial number. It is assigned according to the predefined order of Hangul syllables which consist of the Hangul consonant and the Hangul vowel only.

Examples of the predefined order of Hangul syllables:

가 [U+AC00]

가 [U+AC38]

거 [U+AC70}

겨 [U+ACA8]

“omitted”

히 [U+D788]

Note that there are total of 140 Hangul syllables which are set in ./alephe/unicode/tab_hangul_syllable_seq

The first tune is based on the order of the above Hangul syllables. If the order is reached the last Hangul syllable, that is “히”, the following sequence numbers are expanded merely based on the serial numeric number that should be attached to the last Hangul syllable “히”, like “히1”, “히2”, “히3” ... “히n”.

Base of counting (How to check the last number)

In order to assign new Sequence Number, the system checks the last number of it. The base of the counting of Sequence Number is not simply the Year Number. It should be:

“Prefix (if exists) + Classification number + other item number (if exists) + Year Number”

Example 1:

Marc format: MARC21 (Latin)

Published year in 008/07-10: 2007

Prefix: Ref

Classification number: 330

Year Number will be generated by Chronology method: 007

Sequence Number will be generated by Chronology method:

- The base of the counting of Sequence Number is “Ref 330 007” [Prefix + Classification number + Year Number]
- In order to see the last number of Sequence Number, the system should check the call number indexes starting with the above base “Ref 330 007”.
- If the last call number which has the base of “Ref 330 007” is “Ref 330 007c”, the last Sequence Number is “c”.

The following is a sample of a call number browsing list around “Ref 330 007”:

Ref 330 006히

Ref 330 006히1

Ref 330 007가

Ref 330 007가

Ref 330 007a

Ref 330 007b
Ref 330 007c
Ref 330 008a
Ref 330 008b

Therefore, new Sequence Number is “d”, based on the MARC21 way.
Eventually, the whole Chronology number will be “007d”.

Example 2:

Marc format: KORMARC (Korean)

Published year in 008/07-10: 2007

Prefix: Ref

Classification number: 330

Year Number is generated by Chronology method: 007

Sequence Number is generated by Chronology method:

- The base of the counting of Sequence Number will be “Ref 330 007” [Prefix + Classification number + Year Number]
- In order to see the last number of Sequence Number, the system should check the call number indexes starting with the above base “Ref 330 007”.
- If the last call number which has the base of “Ref 330 007” is “Ref 330 007가”, the last Sequence Number is “가”.

Followings are Call number browsing list around “Ref 330 007”:

Ref 330 006ㅎ
Ref 330 006ㅎ 1
Ref 330 007가
Ref 330 007가
Ref 330 007a
Ref 330 007b
Ref 330 007c
Ref 330 008a
Ref 330 008b

Therefore, new Sequence Number is “거”, based on the KORMARC way. Eventually, the whole Chronology number will be “007거”.

18.4 Other Related Tables

The following is a list of Unicode tables that are consulted by the system when applying Author Number and Chronology sequence:

- ./alephe/unicode/hanja_to_hangul_dictionary_utf8.txt
- ./alephe/unicode/hangul_to_hanja_dictionary_utf8.txt
- ./alephe/unicode/tab_hangul_syllable_to_letters
- ./alephe/unicode/tab_hangul_syllable_seq

19 Barcode Checksum Routines for Keio

Special for Keio (Japan) - checksum algorithms can be applied for patron and item barcode validation.

The checksums can be implemented using `./xxx50/tab/tab_checksum`.

The Keio checksum routines to be set in the 2nd column of `tab_checksum` are:

- `checksum_valid_item_bar_keio` - Item validation algorithm
- `checksum_valid_bor_id_keio` - Patron validation algorithm

Note: When setting up the table with above algorithms, make sure there are no item barcode creation routines defined in col.1 (routines that starts with CSCR-), such routines lead to a conflict with the new Keio-item validation check.

Setting up `tab_checksum` with the Keio checksum algorithms:

COL 1. - Routine name;

COL 2. - Program name (algorithm) ;

!	1	2
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!>		
CSV-Z30-BARCODE		<code>checksum_valid_item_bar_keio</code>
CSV-LOAN-ITEM-BARCODE		<code>checksum_valid_item_bar_keio</code>
CSV-LOAN-BOR-ID		<code>checksum_valid_bor_id_keio</code>

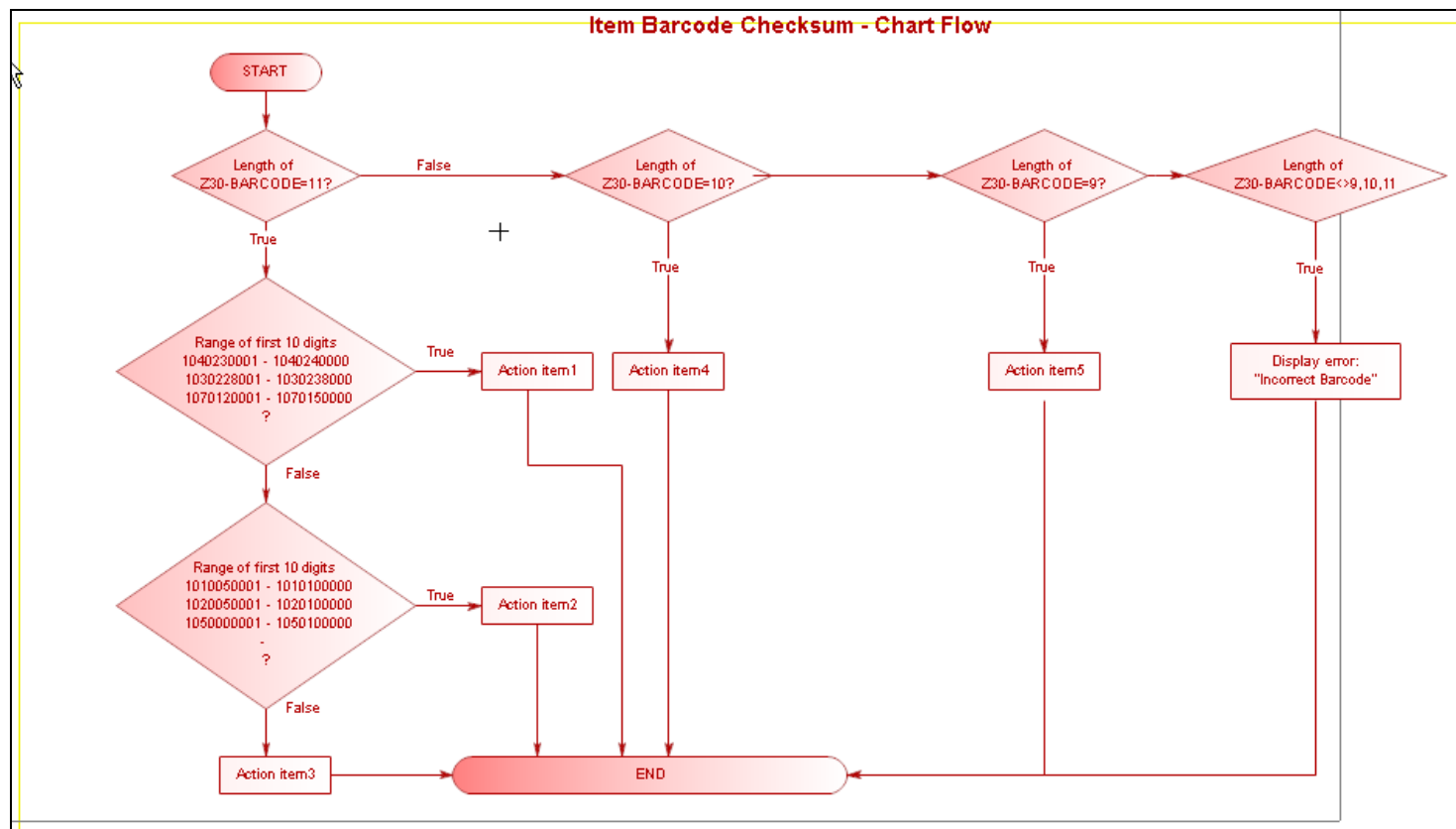
19.1 Item Barcode Algorithm - `checksum_valid_item_bar_keio`

The following chart describes the algorithm for checking item barcode:

`checksum_valid_item_bar_keio`.

Note that the item barcode is expected to contain a sequence of digits. Only if the barcode length is 10 can the last digit (checksum digit) be X. Otherwise, characters that are not digits produce the error message "Invalid Barcode".

Item Barcode Checksum - Chart Flow



The following is a description of each action shown in the chart above:

Action item 1

1. Multiply each digit starting from the left by 10-9-8-7-6-5-4-3-2-1, and add all the sums.
2. Divide the sum from step 1 by 11 and calculate the remainder.
3. Subtract the remainder from step 2 from 10. This sum is the check digit.
(However, if the sum is 10, check digit is be 0.)

For example:

For 1040230001

1 x 10 = 10
 0 x 9 = 0
 4 x 8 = 32
 0 x 7 = 0
 2 x 6 = 12
 3 x 5 = 15
 0 x 4 = 0
 0 x 3 = 0
 0 x 2 = 0
 1 x 1 = 1

Sum 70

70 / 11 = 6 remainder 4

10 - 4 = 6 (10 is 0)

Check Digit = 6 (10402300016)

If the barcode does not match the result of checksum algorithm, the following error message is displayed: “incorrect barcode”.

Action item 2

1. Multiply each digit starting from the left by 1-2-1-2-1-2-1-2-1-2.
When the sum is a 2-digit number, divide it into each digit, and add all the sums.
2. Divide the sum from step 1 by 10 and calculate the remainder.
3. Subtract the remainder from step 2 from 10. This sum is the check digit.
(However, if the sum is 10, check digit is 0.)

For example:

For 1010050001

1 x 1 =	1 ->	1
0 x 2 =	0 ->	0
1 x 1 =	1 ->	1
0 x 2 =	0 ->	0
0 x 1 =	0 ->	0
5 x 2 =	10 ->	1 + 0 = 1
0 x 1 =	0 ->	0
0 x 2 =	0 ->	0
0 x 1 =	0 ->	0
1 x 2 =	2 ->	2

Sum		5
5 / 10 = 0 remainder 5		
10 - 5 = 5 (10 is 0)		
Check Digit = 5 (10100500015)		

If the barcode does not match the result of the checksum algorithm, the following error message is displayed: “incorrect barcode”.

Action item 3

1. Multiply each digit starting from the left by 11-10-9-8-7-6-5-4-3-2, and add all the sums.
2. Divide the sum from step 1 by 11 and calculate the remainder.
3. Subtract the remainder from step 2 from 11. This sum is the check digit.
(However, if the sum is 10 or 11, check digit is 0.)

For example:

For 8010000007

8 x 11 =	88
0 x 10 =	0
1 x 9 =	9
0 x 8 =	0
0 x 7 =	0
0 x 6 =	0
0 x 5 =	0
0 x 4 =	0

```

0 x 3 = 0
7 x 2 = 14
-----
Sum    111
111 / 11 = 10 remainder 1
11 - 1 = 10 ( 10 or 11 is 0 )
Check Digit = 0 (80100000070)

```

If the barcode does not match the result of the checksum algorithm, the following error message is displayed: “incorrect barcode”.

Action item 4

The barcode should match one of the following four conditions:

1. Multiply each digit starting from the left by 10-9-8-7-6-5-4-3-2, and add all the sums.
2. Divide the sum from step 1 by 11 and calculate the remainder.
3. Subtract the remainder from step 2 from 11. This sum is the check digit.
(However, if the sum is 11, the check digit is 0, and if the sum is 10, check digit is "X").

For example:

```

123456789
  1 x 10 = 10
  2 x 9 = 18
  3 x 8 = 24
  4 x 7 = 28
  5 x 6 = 30
  6 x 5 = 30
  7 x 4 = 28
  8 x 3 = 24
  9 x 2 = 18
-----
Sum    210
210 / 11 = 19 remainder 1
11 - 1 = 10 (10 is X)
Check Digit = X (123456789X)

```

If the barcode does not match the result, perform the **next check**:

1. Multiply each digit starting from the left by 9-8-7-6-5-4-3-2-1, and add all the sums.
2. Divide the sum from step 1 by 11 and calculate the remainder.
3. Subtract the remainder from step 2 from 11. This sum is the check digit.
(However, if the sum is 11 or 10 or 0, check digit is 0.)

For example:

For 123456789

$$\begin{array}{r}
 1 \times 9 = 9 \\
 2 \times 8 = 16 \\
 3 \times 7 = 21 \\
 4 \times 6 = 24 \\
 5 \times 5 = 25 \\
 6 \times 4 = 24 \\
 7 \times 3 = 21 \\
 8 \times 2 = 26 \\
 9 \times 1 = 9 \\
 \hline
 \text{Sum} \quad 165 \\
 165 / 11 = 15 \text{ remainder } 0 \\
 11 - 0 = 11 \text{ (11 is 0)} \\
 \text{Check Digit} = 0 \text{ (1234567890)}
 \end{array}$$

If the barcode does not match the result, perform the **next check**:

1. Multiply each digit starting from the left by 10-9-8-7-6-5-4-3-2, and add all the sums.
2. Divide the sum from step 1 by 11 and calculate the remainder.
3. Subtract the remainder from step 2 from 11. This sum is the check digit.
(However, if the sum is 11 or 10 or 0, check digit is 0.)

For example:

For 123456789

$$\begin{array}{r}
 1 \times 10 = 10 \\
 2 \times 9 = 18 \\
 3 \times 8 = 24 \\
 4 \times 7 = 28 \\
 5 \times 6 = 30 \\
 6 \times 5 = 30 \\
 7 \times 4 = 28 \\
 8 \times 3 = 24 \\
 9 \times 2 = 18 \\
 \hline
 \text{Sum} \quad 210 \\
 210 / 11 = 19 \text{ remainder } 1 \\
 11 - 1 = 10 \text{ (10 is 0)} \\
 \text{Check Digit} = 0 \text{ (1234567890)}
 \end{array}$$

If the barcode does not match the result, perform the **next check**:

1. Multiply each digit starting from the left by 9-8-7-6-5-4-3-2-1, and add all the sums.
2. Divide the sum from step 1 by 11 and calculate the remainder.
3. Subtract the remainder from step 2 from 11. This sum is the check digit.
(However, if the sum is 11 or 10 or 1 or 0, check digit is 0.)

For example:

For 123456789

```

1 x 9 = 9
2 x 8 = 16
3 x 7 = 21
4 x 6 = 24
5 x 5 = 25
6 x 4 = 24
7 x 3 = 21
8 x 2 = 26
9 x 1 = 9
-----
Sum      165
165/ 11 = 15 remainder 0
11 - 0 = 11 (11 is 0)
Check Digit = 0 (1234567890)

```

If the barcode does not match the result of the checksum algorithm, the following error message is displayed: “incorrect barcode”.

Action item 5

1. Divide the 8-digit number into each digit and add them all to get the sum.
2. Divide the sum from step 1 by 10 and calculate the remainder.
3. Subtract the remainder from step 2 from 10. This sum is the check digit.
(However, if the sum is 10, check digit is 0.).

For example:

```

For 12345678
      1
      2
      3
      4
      5
      6
      7
      8
-----
Sum      36
36/ 10 = 3 remainder 6
10 - 6 = 4
Check Digit = 4 (123456784)

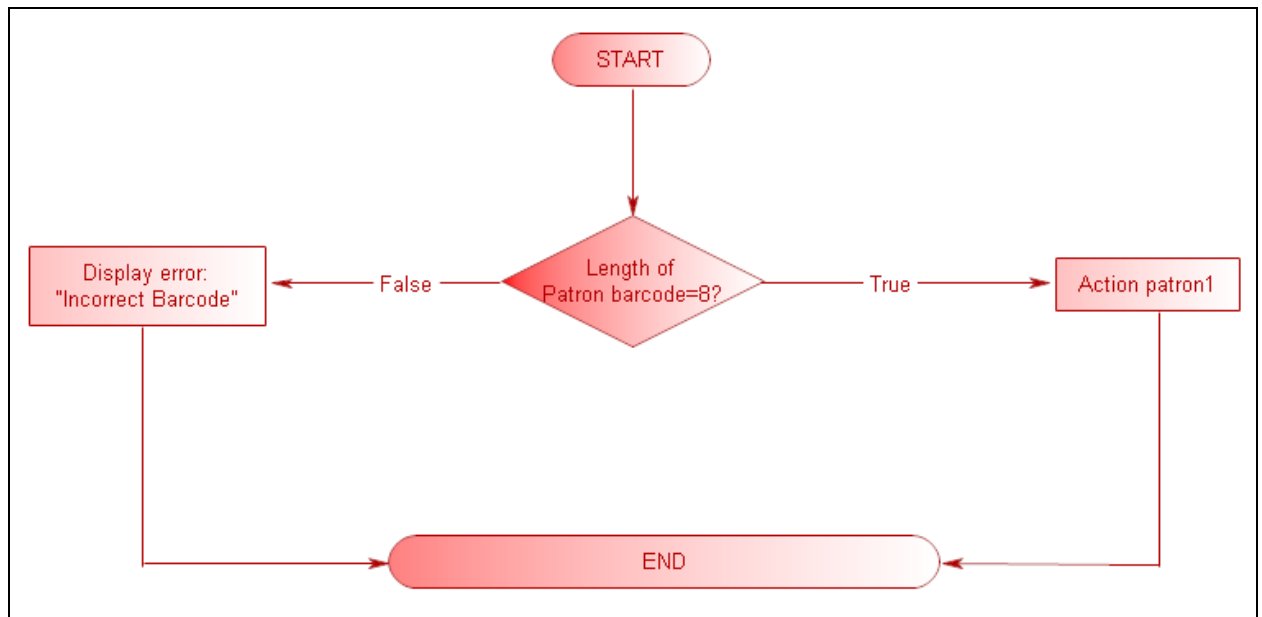
```

If the barcode does not match the result of the checksum algorithm, the following error message is displayed: “incorrect barcode”.

19.2 Patron Barcode Algorithm - checksum_valid_bor_id_keio

The following chart describes the algorithm, checksum_valid_bor_id_keio, used for checking patron system numbers.

As in all other patron barcode check routines, the patron checksum is applied to all patron keys (Z308-KEY-TYPE) **except** of the patron ID (Z308-KEY-TYPE=00).



The following is a description of the action shown in the chart above:

Action patron 1

The barcode should pass one of the following checks:

1. Multiply each digit starting from the left by 9-8-7-6-5-4-3, and add all the sums.
2. Divide the sum of step 1 by 11 and calculate the remainder.
This remainder is the check digit.
(However, if the remainder is 10, the check digit is 0.)

For example:

For 1234567

$$1 \times 9 = 9$$

$$2 \times 8 = 16$$

$$3 \times 7 = 21$$

$$4 \times 6 = 24$$

$$5 \times 5 = 25$$

$$6 \times 4 = 24$$

$$7 \times 3 = 21$$

$$\text{Sum} \quad 140$$

$$140 / 11 = 12 \text{ remainder } 8$$

$$\text{Check Digit} = 8 \text{ (12345678)}$$

If the barcode does not match the result, perform the following check:

1. Multiply each digit starting from the left by 9-8-7-6-5-4-3, and add together all the results.
2. Divide the result of step 1 by 11 and calculate the remainder.
3. Subtract the remainder derived in step 2 from 11. The result is the check digit.
(However, if the result is 11, the check digit is 0. If the result is 10, the check digit is "X".)

For example:

For 1234567

$$1 \times 9 = 9$$

$$2 \times 8 = 16$$

$$3 \times 7 = 21$$

$$4 \times 6 = 24$$

$$5 \times 5 = 25$$

$$6 \times 4 = 24$$

$$7 \times 3 = 21$$

$$\text{Sum} = 140$$

$$140 / 11 = 12 \text{ remainder } 8$$

$$11 - 8 = 3$$

$$\text{Check Digit} = 3 \text{ (12345673)}$$

If the barcode does not match the result, perform the following check:

1. Add the digits of the 7-digit number together.
2. Take the ones place digit from the result of step 1 and subtract it from 10. The result is the check digit.

For example:

For 1234567

1

2

3

4

5

6

7

$$\text{Sum} = 28$$

$$\text{ones place digit} = 8$$

$$10 - 8 = 2$$

$$\text{Check Digit} = 2 \text{ (12345672)}$$

If the barcode does not match the result of the checksum algorithm, the following error message is displayed: “incorrect barcode”.

20 Item Changes Alert

You can configure Aleph to display the following message if a user updates an item and then moves to another item without saving the changes:

Item has been changed locally, but the changes have not been saved on the server. Continue anyway? Yes/No

This functionality is flag dependent.

- 1) In order to have this item change alert, set the following in alephcom.ini:

```
[ItemList]
```

```
NotifyItemChanged=Y
```

2) If localization is required, add the following line to

alepcom/tab/lng/message.dat:

```
ItemChange                                ALEPH GUI                                YN  2 Q Item
%d-%d has been changed locally, but the changes have not been saved
on the server. Continue anyway?
```

Note: This message appears only when moving between items within the items list pane. When moving to the left pane or any other area that is not the items list, the message does not appear.

21 Multiple Item Addition Alert

You can configure Aleph to display a message after the addition of multiple items, indicating the number of added items. For example: "32 item/s (out of 32) created".

This functionality is flag dependent.

In order to have this item change alert, set the following in alephcom.ini:

```
[ItemList]
```

```
ConfirmMultiItem =Y
```

Possible values: Y or N

Y - (Default) After adding multiple items a pop- up message indicates the number of created items.

N – After adding multiple items, a pop-up message is not displayed.

2) If localization is required, add the following line to

alepcom/tab/lng/message.dat:

```
MultiItemsCreation                        ALEPH GUI                                O      E %d items
(out of %d) created
```