



Analyze professionally production and development bills of material.

Page 3 Page 2

11

11

12 12

13

13

13

13

13

13

13

13

14

14

14 15

1.	Introduction	3	3.5.1	Procedure "Marker"
1.1	How it works?	3	3.5.2	Marker
2.	Operation	4	3.5.3	"Counting" sequence
2.1	Screen "Home"	4	4.	Icon Assembly or Component
2.1.1	BOM analysis	4	5.	Setup
2.1.2	Select BOM files	4	5.1	General
2.1.3	Assign columns	5	5.2	Column width
2.1.4	BOM Parameter	5	5.3	Installation key
2.1.5	Home screen footer	5	6.	DEMO / License activation
2.1.6	Program menu	5	7.	Specification
3.	Parts list comparison	6	7.1	General
3.1	Screen "Where used"	6	7.2	BOM file
3.1.1	Procedure	6	7.2.1	XLS / XLSX
3.1.2	Colour marking	6	7.2.2	CSV
3.1.3	Group view	6	7.2.3	SAP BOM Export
3.1.4	Statistics	6	8.	PALIX Update
3.1.5	Find	6	9.	Troubleshooting
3.1.6	Sorting by the item ID	7		
3.1.7	Copy article ID to clipboard	7		
3.1.8	Export	7		
3.2	Screen "Where used Rev"	7		
3.2.1	Procedure	7		
3.2.2	Colour marking	7		
3.2.3	Statistics	7		
3.2.4 clipboai	Grouping, search, export and article ID to rd	8		
3.3	Screen "Where used Qty"	8		
3.3.1	Procedure	8		
3.3.2	Colour marking	8		
3.3.3	Statistics	8		
3.3.4 Grouping, search, export and article ID to clipboard		8		
3.4	Screen Compare (Multi Level)	9		
3.4.1	Procedure	9		
3.4.2	Colour marking	9		
3.4.3	Screen Difference	10		
3.4.4	Statistics	10		
3.4.5	Article Cross-Link	10		
3.4.6	Option "TOP Level article ID different"	10		
3.4.7	Find	10		
3.4.8	Copy article ID to clipboard	10		
3.4.9	Group view	10		
3.4.10	Export	10		
3.5	Screen "Marker / Count"	10		

1. Introduction

Save time and analyse complex bills of materials (BOM) of any kind professionally and efficiently with PALIX: production or design BOM of assemblies or complete devices including their variants. Here are first insights:

- Article where used across multiple BOM, e.g. device variants or BOM versions.
- Calculate sums for identical parts in a BOM: number of pieces or lengths for identical part no.
- Shows revision comparison per article over several BOM
- Outputs differences in statistics, e.g. x% identical to BOM 2....
- Compares multi-level BOM, level wise
- Tags items via icon for assembly or component (Multi Level BOM)
- Creates colour markings as well as grouping for BOM / article deviations
- Tags in BOM articles via self-defined "markers
- Allows searches by part name and part ID and sorts by different columns
- Import Bom files via XLS, XLSX and CSV file formats
- Exports the grouped comparisons with statistics

Check the performance: A free demo version with all comparison functions is available in our download area.

1.1 How it works?

- Export the bill(s) of material from your CAD, PDM, PLM or ERP / SAP system.
 - Formats CSV, XLS or XLSX
- Select the bill of materials (BOM) files in PALIX
- Assign the columns of the BOM files to the PALIX defaults
 - If necessary, deactivate columns that are not present in the BOM file.
- · Start desired analysis





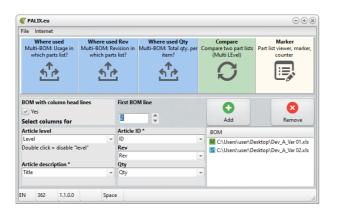
PALIX PALIX Page 4 Page 5

2. Operation

2.1 Screen "Home"

The "Home" screen is the control center:

- Select parts lists files (BOM)
- Start BOM analysis
- · Assign BOM file columns
- · Open program setup
- · View help file



2.1.1 BOM analysis

Via the 5 big buttons in the upper half of the program you start a BOM analysis:

Function "Where used": Groups identical articles to one position and shows in which BOM the article is used in a matrix.

The function "Where Used" compares all BOM listed under BOM list. As result differences are highlighted in colour and grouped if desired. At least 2 BOM are required. Types of function "Where used"

• Where used : An "X" indicates the usage

Where used Rev : The item "Revision" indicates the usage

 Where used Qty : The article qty. sum (screw, resistor,...) or length (cable, hose,...) is determined and displayed for each item. The sum shows the BOM usage.

| Company | Comp

Function "Compare": Comparison of two multi level parts lists, line by line.



Function "Marker": Quickly identify and sort specific components or item types with markers you create.



Tip: The "Where Used", "Comparison" and "Marker" screen can be opened and worked with in parallel.

Take note: Function "Where used" and "Compare" requires at minimum 2 BOM files, otherwise the buttons are not visible.

PALIX

2.1.2 Select BOM files

Add BOM files to the list via the "Add" button. Depending on the selected analysis method, one or more BOMs will be used. Allowed formats are CSV, XLS and XLSX, select one in the file dialogue screen.



To remove a BOM from the list, select the file by mouse click and choose the "Remove" button. By double-clicking in the field of BOM files you delete the complete file selection.

Notes

- PALIX saves the last 5 files for a quick re-evaluation.
- The BOM from the first file is called BOM1, the one from the second BOM2 and so on. You can use Drag&Drop to reorder the list.
- After loading the BOM file, assign the columns to the defaults, like the article ID to the corresponding column of the BOM file. See next chapter.

2.1.3 Assign columns

For the correct function, the correct assignment of the columns is important. The following applies:

- Article level: column with the level of the item/assembly. Level 0 is the TOP level (column optional).
 - Double-click on selection box deactivates use if BOM without article "Levels".
- Article ID : Column with unique article number (mandatory field).
- Article description: column with title of the article (mandatory field)
- Rev. : column with revision to article (optional).
 - Double click deactivates usage => function "Usage Rev" deactivated
- Qty : column with quantity / length specification for the article (optional)
 - Double click deactivates the usage => "Usage Qty" deactivated

Note: PALIX saves the assignment so that evaluation can be started immediately if the BOM format remains the same.

2.1.4 BOM Parameter

- First BOM line: Line number where the BOM file names the first item in the BOM, usually the device/module (TOP level).
- **BOM** with column head lines: Enable the option, if the BOM file contains headings to the columns. The headings are located in the line "First BOM line" -1.

PAI IX

2.1.5 Home screen footer

The footer displays:

- the set / recognised language for user interface (DE, EN)
- · The remaining time in days of the program subscription
- The version of the software

2.1.6 Program menu

Via the menu in the header the following functions are available:

- File
 - Setup: Display program setup
 - Close: Quit the program
- Internet
 - Help: View PDF from web (PDF viewer required)
 - Homepage: View the PALIX homepage in your default browser

Page 7 Page 6

3. Parts list comparison

Screen "Where used"

The matrix shows article usage across all BOMs:

- Compares any number of parts lists
- Y-axis names articles
- X-axis names the parts lists (BOM files)
- Matrix combines multiple used articles in one position
- Matrix shows the usage in the parts lists via an "X
- Statistics shows coverage
- Colour markers identify deviations
- "Grouping" summaries all deviations as a block
- Search result, e.g. all screws, summarised as an article group
- Export of the result (XLSX, CSV)
- Search by article ID or description
- Column sorting by article ID or line number

3.1.1 Procedure

- Select BOM files and assign the columns
- Select the "Where Use" button
- The matrix is displayed
- Press the "Group view" button to group the deviations together

Colour marking

The comparison marks the article line as follows:

- Green: Articles are included in all parts lists (BOM files)
- White: Articles are only included in the first part list BOM 1 *)
- Magenta: Articles are not included in the first part list BOM 1 *)

*) Use Drag&Drop to change the order of the parts lists on the "Home" screen.

Using the "Group view" function, the articles are grouped according to the colour code and shown at the top of the BOM display.

3.1.3 Group view

The "Group view" function groups the colour-coded articles together as blocks. To group, press the button of the same name. Press it again to return to the list view.

3.1.4 Statistics

The statistics on the right side shows in % the match between the BOMs as well as the number of items per BOM.

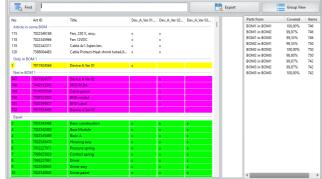
3.1.5 Find

Search via article ID and article title:

- Enter the search term in the text field. Then press the "Find" button
- The "Search result" frame, between matrix and statistics, shows the line numbers of the articles for the search results
 - Click on a number to jump to the article

Tip: "Group view" also displays the search results as a block of articles at the end of the list. For example,

3.1.6 Sorting by the item ID



Click on the "Art ID" column in the header to sort the view alternately in ascending and descending order. Click on the "No" column to return to the usual sorting by line number.

3.1.7 Copy article ID to clipboard

Double-click on the line number "No" to copy the article ID to the clipboard.

enter screw and all articles with the designation will be grouped as a block.

3.1.8 Export

Use the "Export" button to save the grouped result to an XLSX or CSV file. Each group starts with its heading.

3.2 Screen "Where used Rev"

The matrix shows article usage with revision to article across all BOM files:

- · Compares any number of parts lists
- Y-axis names articles
- X-axis names the parts lists (BOM files)
- Matrix summaries multiple used articles in one position
- Matrix shows the usage in the BOM via the "revision" of the article
- Statistics shows coverage
- Colour markers identify discrepancies
- Grouping" summaries all deviations as a block
- Export of the result (XLSX, CSV)
- Search by article ID or description
- Column sorting by article ID or line number

3.2.1 Procedure

- Select BOM files and assign the columns
- Select the "Where Use Rev" button
- The matrix is displayed
- Press the "Group view" button to group the deviations together

3.2.2 Colour marking

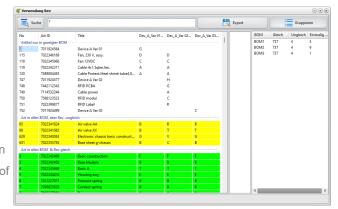
The comparison marks the article line as follows:

- Green: Article present in all parts lists with identical revision
- Yellow: Article present in all parts lists, but with different revision
- Magenta: article present in all parts lists, but revision is missed!
- White: Article only present in the BOM whose line shows a revision.

Using the "Group View" function, the articles are grouped according to the colour code and shown at the top of the BOM display.

3.2.3 Statistics

The statistics on the right show how many parts are identical (green marker), have an unequal revision (yellow marker) as well as only occur in a certain BOM (white marker).



Page 8 Page 9

3.2.4 Grouping, search, export and article ID to clipboard

Corresponds to the description as under "Where Used".

3.3 Screen "Where used Qty"

The matrix shows the usage per article in the BOM via the number of pieces or length:

- · Compares any number of parts lists
- · Y-axis names articles
- X-axis names the parts lists (BOM files)
- Matrix summaries multiple used articles in one position
- Matrix shows the sum of the summarised articles as "number" or "length", like for screw or cables
- Statistics shows coverage
- Colour markers identify deviations
- · "Grouping" summaries all deviations as a block
- Export of the result (XLSX, CSV)
- Search by article ID or description
- · Column sorting by article ID or line number

3.3.1 Procedure

- Select BOM files and assign the columns
- Select the "Where Used Qty" button
- The matrix is displayed
- Press the "Group view" button to group the deviations together

3.3.2 Colour marking

The comparison marks the article line as follows:

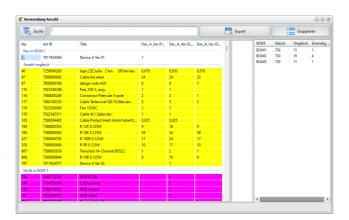
- Green: Article present in all parts lists with identical number of pieces / length.
- Yellow: article present in all parts lists, but with different quantity / length
- Magenta: Article NOT found in the first parts list BOM1 *)
- White: Article only found in the first part list BOM1 *)
- *) Use Drag&Drop to change the order of the parts lists on the "Home" screen.

3.3.3 Statistics

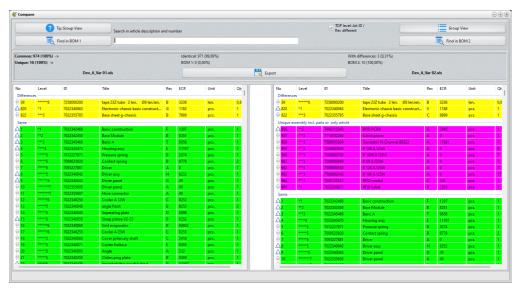
The statistics on the right side show how many parts are identical (green mark), have an unequal revision (yellow mark) as well as only occur in a certain BOM (white mark)

3.3.4 Grouping, search, export and article ID to clipboard

Corresponds to the description as under "Where Used".



3.4 Screen Compare (Multi Level)



This method shows differences in two BOM files. If available, the level structure is observed as it is common in the design BOM (Level device-assembly-article):

- Comparison of two multi-level BOM with respect to the level structure
- Compares all columns of the BOM
- · Icon shows whether the item is an assembly or a part
- Detail view shows deviations to the article in the BOM columns
- Column sorting by article ID, article title, article revision, article number, ECR no. or line number
- · Statistics shows coverage
- · Colour markers identify deviations
- · Grouping" summaries all deviations as a block
- Export of the result (XLS, CSV)
- Search by article ID or description

3.4.1 Procedure

- · Select BOM files and assign the columns
- Select the "Compare" button. Note: Only the first 2 BOM files are compared. Use BOM Drag&Drop to change the sequence
- The two parts lists are displayed: On the left the first parts list BOM 1 and on the right the second one BOM2
- The function "Grouping" is active and summaries the deviations in colour

3.4.2 Colour marking

The comparison marks the article line as follows:

- · Green: article in the parts lists identical
- Yellow: Article in the parts lists different, such as title, rev, or number,...
 - Open the detailed display for the deviation by clicking on the line number (see below).
- Magenta: Part / assembly is missing in the other part list
- White: Part only present in the first parts list BOM1

Using the "Group view" function, the articles are grouped together according to the colour code and shown at the top of the BOM display.

Page 10 Page 11

3.4.3 Screen Difference

Details for the same article with different characteristics (yellow marking) in BOM 1 and 2 are shown in a separate window, when you click on the line number (column No) in BOM view.

•

3.4.4 Statistics

The statistics in the header area shows how many parts are identical and different as well as included only in the left or right BOM.

Rev 8 8 8 ECR 3236 2326 Unit Ien. Ien. Gby 0.022 0.8

3.4.5 Article Cross-Link

By clicking on the line number (column NO) in the left or right BOM view, PALIX searches for the item in the same level (assembly) in the respective other BOM. The found line is marked in white.

3.4.6 Option "TOP Level article ID different"

If different TOP level parts compared (different art ID and/ or revision), the option "TOP Level article ID different" must be activated in the header for **correct analysis!**

3.4.7 Find

Use the search field to enter the text you want to find in the left or right BOM. To search in the left one, press "Search in BOM 1" and in the right one "Search in BOM 2".

The rectangle between the tables shows the line number(s) where the search term was found in the respective selected BOM. If several line numbers are shown, the search term was used several times. Clicking on a line number jumps to the position in the BOM.

3.4.8 Copy article ID to clipboard

Double-click on the line number (column No) to copy the article ID to the clipboard.

3.4.9 Group view

The "Group view" function groups the colour-coded articles together as blocks. To group, press the button of the same name. Press it again to return to the list view. Grouping affects both parts lists.

3.4.10 Export

Use the "Export" button to save the grouped result to an XLSX or CSV file. Each group starts with its heading. Assemblies are also marked in the "Level" column with the abbreviation AS for Assembly.

Different items are marked in the export as follows (Yellow coded in matrix): Identical level with the bracket (1) and (2) indicate that the item properties are different.

285 702254569 **385 702254569 *485 702254569 ***5 702255479 ***5 702225971 ***5 709823280 ***6 (2) 7258000200 ***6 (2) 7258000200 ***6 (2) 7258000200 ***3 (1) 7022355785 ***3 (2) 7022355785

Clear marke

3.5 Screen "Marker / Count"

Marker

The "Marker" function is ideal for quickly finding specific items in the part list. You define the search criterion, such as "Text contains" or "Number range" and name the column in which the search is to be carried out. Afterwords you save these "markers" permanently so that they can be quickly reused for further parts lists. Tip: Several markers can be combined:

- Quickly find and mark specific items in the parts list
- The grouped view summaries "marked" items
- Multiple filters: text identical or contains, single number or numbers from..to (Range), number > or < or "Assembly"
- Column sorting by article ID, article title, article revision, article number, ECR no. or line number
- Export of the results

Counting

- Application sample MCAD/ECAD: Determine number of identical components
- Application sample: ECAD: Which component uses which package, etc.
- Column assignment freely select able (Count / Name)
- Each occurrence of an item counts as 1. A BOM column "Qty' is not considered, unlike "Where Used Qty".

3.5.1 Procedure "Marker"

- Select BOM files and assign the columns
- Click with the mouse on the BOM file to be displayed. Otherwise the first entry will be opened
- Select the "Marker" button from "HOME" screen
- Select the desired "Marker" = Enable the checkbox
 - Note: Several marker can be selected in parallel
- Press the "GO Execute" button
- · The matching article lines are coloured in the colour from the marker
- Press the "Group view" button for a block view of the marked articles.

Via the "Group view" function, the articles are grouped according to the "Marking". The groups are showed at the end of the BOM display. The "Delete marker" button in the header deletes the markers in the BOM view.

3.5.2 Marker

3.5.2.1 Define

A marker is created as follows. Input:

- - "Name": Enter the name of the marker (can be renamed later)
- "Type": Select filter criterion:
 - Exact: "Value1" must exactly match the one from the BOM (text or numeric)
 - Contain: "Value1" must be contained in the BOM (text or numeric)
- >: Numeric value in the BOM must be greater than / equal to value1
- <: Numeric value in the BOM must be less than / equal to value1
- Range: Numeric value in the range from value1 to value2
- Assembly: Mark all assemblies
- Value1: Input value1, see "Type".
- Value2: Input value2, only type "Range"

Then press the "Save" key. The "Marker" appears in the selection.

3.5.2.2 Modify

Click on the marker with the mouse. Now change the parameters as described above. Finally, press the "Save" button.

3.5.2.3 Delete

Select the marker with the mouse and press the "Delete" button.

3.5.2.4 Marking articles in the BOM

Each "Marker" has a small check box above its name. Activate one or more "Markers" via the check box and press the

Page 12

"GO Execute" button. The relevant lines in the part list will be coloured in the colour of the marker. For a better view you can display all marked items in groups to the marker. To do this, press the "Group View" button. Pressing it again cancels the grouping.

3.5.2.5 Remove article marking in the BOM

Press the "Clear marker" button.

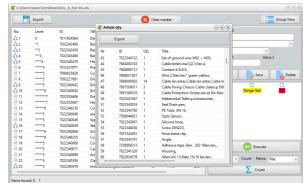
3.5.2.6 Export

Use the "Export" button to save the grouped result to an XLSX or CSV file. Each group starts with its heading. Assemblies are also marked in the "Level" column with the abbreviation *AS* for assembly. Finally, the statistics are inserted at the end of the export.

Level ID Group: Ok *1AS 7022342468 **2AS 7022342450 **3AS 7022345469 ***4AS 702234570 ***5 7012227971 ****5 7098625820

3.5.3 "Counting" sequence

- In the "Home" window, click with the mouse on the BOM file that you want to display. Otherwise the first entry will be opened
- Select the "Marker" button in the HOME screen to view the marker screen
- Assign the columns for "Count" and "Name" above the "Count" button
- Press the "Count" key
- · Another window shows the result
- Press the Export button to output the result.



3.5.3.1 How to count?

You determine what is counted via the two columns mentioned below:

- · "Count" column: each occurrence of an identical entry in the column is counted.
 - Ex: Select the column with the component values, e.g. "0µ1" => counts all capacitors with this value
- · "Name" column: the name is recorded for each occurrence, so that all names are finally shown
 - Ex: Select column with component names, e.g. " => "C1, C3, C7..."

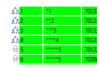
3.5.3.2 Export

Via the "Export" button you export the shown view

4. Icon Assembly or Component

An icon in front of each line indicates whether the item is a component or an assembly :

- P Component
- ♠ Assembly



The icon is shown in screen "Compare" and "Marker". Note: Column "Level" required.

5. Setup

Note: To save the changes, the "Save" button must be pressed when the input is finished.

5.1 General

- CSV delimiter: Set the column delimiter char for the CSV file format. The current separator is shown in the HOME screen in the footer. Often used: ';', 'Tab' or "Space"
- Level char: Enter here the letter preceding the numeric level from BOM file! For SAP BOM exports it is e.g. a dot '.'. e.g. "..2" for level 2.

Page 13

- Style: program interface in light or dark color
- Language: Sets the language of the program interface
 - Auto : The language is recognised by the country settings of MS-Windows.
 - EN : Sets the language to English

 DE : Sets the language to German

5.2 Column width

Sets the width for the named columns in pixels for the "Where Used", "Compare" and "Marker" views.

Level : Article level
 Art ID : Article number
 Art Text : Article title / name
 Rev : Article revision

Qty : Article quantity / length

5.3 Installation key

The key is needed to activate the software on your computer. Double-click the key to copy it to the clipboard for sharing (license request).

6. DEMO / License activation

After download and installation you can test PALIX as DEMO version for free. In the test version all functions are available. Only the BOM columns are limited.

To be able to use the software without restrictions, you have to take out a subscription for the duration of 365 days. On our homepage you will find the corresponding offers.

7. Specification

7.1 General

- MS-Windows 10/11 (32bit or 64bit)
- PC with internet connection to activate your license or open the PDF from web
- XLS / XLSX file handling: MS-Excel installed at your PC. Alternative use the CSV file format

7.2 BOM file

If you load multiple BOM files, their formatting must be identical. This means for each file:

- The same number, sequence and meaning of the columns
- Y Position of the "Header" with designation of the columns is at the identical position
- Y Position "First line of BOM" is the same for all files
- X Position of the first column is fixed at the first column or "A" at MS-Excel
- Usage Level (optional): The article level is numeric

Page 14 Page 15

- Characters may be prefixed to visualise the level. The character must match the one from the program setup.
- Example: Dots "..2" for a level 2, like a SAP export

Note: Decimal separators are MS-Windows language dependent. If necessary, change the language in PALIX Setup to change between ',' and '.'

7.2.1 XLS / XLSX

- BOM starts from line x
- Between the line x and the end of the BOM file there is no empty line
- XLS / XLSX: The parts list is located on the first spreadsheet (Sheet).
- Optional: The line x-1 contains column headers

7.2.2 CSV

- BOM starts from line x
- Blank lines are allowed between the start of the BOM and the end
- Optional: The line x-1 contains column headings. An empty line is allowed between the headings and the beginning of the BOM

Sample CSV file, Palix HOME screen: "BOM starts at "8" and headings are enabled

Cample GOV file, I ally Holvie Scient. "Bolvi Starts at "O and headings are chabled							
Partlist	<=Row 1						
Exported from LP15A.sch at xx.xx.xxxx 10:44:06							
EAGLE Version x.xx Copyright (c)							
Part Value Device Package Library Sheet							
•	<= allowed						
BAT1 LI-BAT3V LI-BAT3V ER1/2AA UTIL 1							
C1 0µ1 CAPO2 02P200QA DISCRETE 1							
	<= allowed						
C2 0µ2 CAP02 02P200QA DISCRETE 1							
C3 0µ1 CAPO2 02P200QA DISCRETE 1							
C4 0µ1 CAPO2 02P200QA DISCRETE 1							
C5 0µ1 CAPO2 02P200QA DISCRETE 1							
C6 0µ1 CAPO2 02P200QA DISCRETE 1							
C7 0µ1 CAPO2 02P200QA DISCRETE 1							
C8 0µ1 CAPO2 02P200QA DISCRETE 1							
C9 10p CAP01 02P200QA DISCRETE 1							
C10 10p CAP01 02P200QA DISCRETE 1							
C11 0µ1 CAP02 02P200QA DISCRETE 1							
C12 0µ1 CAP02 02P200QA DISCRETE 1							
C13 CTRIM_RM5 CTRIM_RM5 RM5 UTIL	1						
C14 0µ1 CAP02 02P200QA DISCRETE 1							

7.2.3 SAP BOM Export

Use the export via T-Code CS12 Multi-Level BOM. If required, add missing columns to the SAP view and thus also to the export, such as the "Rev Level" column.

8. PALIX Update



Update to the latest version for free via the app "PALIX" Update" function. You can find it via "MS-Windows" button from the task bar, then "All Apps / PALIX" or via MS-Windows App Search via "PALIX".

Specification Specification

9. Troubleshooting

Issue	Measure
Error: Level not numeric	Check the column assignment to the "Level" on the HOME screen. If necessary, deactivate via double click.
	Check value "first BOM line from" and change if necessary.
	First BOM line contains column header AND first BOM line is set to "1" with "BOM line with header" set to OFF
"Select Columns for" list empty on HOME screen	Check setting "First BOM line" and "BOM with column head" on HOME screen

©2023-24 Stute Eng., Web: https://palix-en.ibstute.de