



User Manual

Arabic Place Name Romanization System



MAPS Topo® Lite
(Romanizer)

Version 2.00

Table of Contents

Coverage of this document.....	4
Copyright information.....	4
Organization of this manual.....	5
Installation instructions.....	6
Registration.....	10
Updating the software.....	10
Uninstalling the software.....	11
System folder contents description	11
Quick start.....	12
System interfaces.....	13
System menus.....	15
Main function buttons.....	15
Control pane.....	15
System behavior.....	16
Input Interfaces.....	16
Input pane.....	16
Single name input.....	17
Loading files.....	18
Output Interface.....	18
Romanization system selector menu.....	21
Status report display area.....	22
Error messages and status hints	23
Settings interface	24
Layout direction and widgets placement.....	25
Romanization system selection pane	25
Output file format and encoding pane	26
Input file format and encoding pane.....	27
Vocalization mode and input features pane.....	28
System default settings.....	29
Saving user custom settings.....	30
Running the system.....	31
Setting the system for input	31
Preparing the names for input.....	32
Setting the maximum length of the name.....	32
Setting the names delimiter.....	33
Setting the ID prefix.....	33
Allowing the integration of digits and names.....	34
Allowing the insertion of special letters.....	34
Allowing extended Arabic letters.....	34
Modes of vocalization.....	35
Fuzzy vocalization.....	35
Partial vocalization.....	35
Manual vocalization.....	35
Custom settings for vocalization.....	37
Indirect vocalization.....	37
Vocalization using the built-in database	38

Error detection and indication strategy.....	38
Preparing for output.....	39
Printing.....	39
Saving files in different formats and encodings.....	40
Output sorting and filtering.....	40
Romanization scenarios.....	42
General directions.....	42
A. Romanizing names for an official foreign client.....	42
B. Romanizing names for a foreign client.....	43
C. Romanizing names for an official home client.....	44
Using the included sample files.....	44
Tips and tricks.....	45
Frequently asked questions.....	46
Input Interface issues.....	46
Setting issues.....	46
Display issues.....	47
Print issues.....	48
File saving issues.....	48
Filtering and sorting issues.....	49
Appendixes	50
Appendix A. Error messages and status hints.....	50
Appendix B. Romanization systems.....	51

Coverage of this document

This document is the full text user manual for MAPSTopo® Lite (Romanizer) version 2.00.

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Organization of this manual

This manual uses some conventional forms and symbols you need to be aware of; the following brief describes each convention in detail.

Examples:

Examples are inside a light grey shaded box, showing the Romanization result output by the system, unless otherwise expressly stated the Romanization system used through this manual is the United Nations Group of Experts on Geographical Names (UNGEGN).

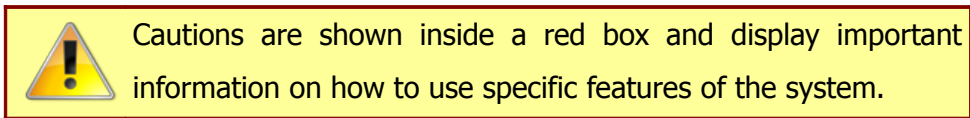
الجمهورية العراقية	al-Jamhūrīyah al-‘irāqīyah
--------------------	----------------------------

Interface elements:

Buttons are shown between parenthesis in thick green font like this: (Button)

Text related to menus, check boxes, and radio buttons are shown between brackets in green italicized font like this: [check text]

Cautions:



Keyboard shortcuts:

Shortcut	Details
Ctrl+A	Press both ctrl key and the letter A
F1	Press function key F1

References:

Local and external references are shown in blue, page number also shown inside parenthesis.

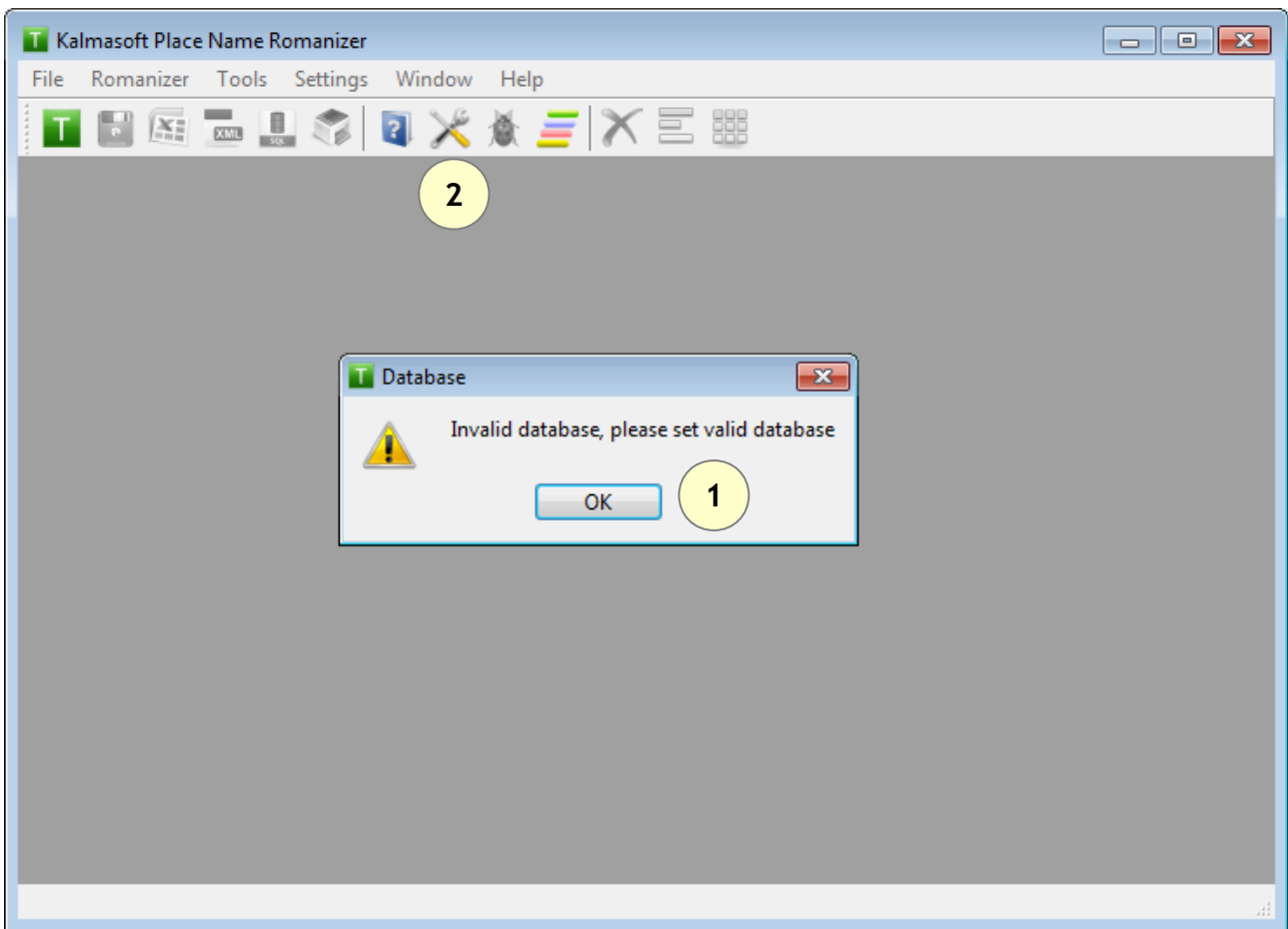
Installation instructions


MAPSTopo® Lite (Romanizer) comes packaged in an installable file, all that you need to do is double clicking the file icon (TopoRoman200.exe) and follow the instructions on the screen.

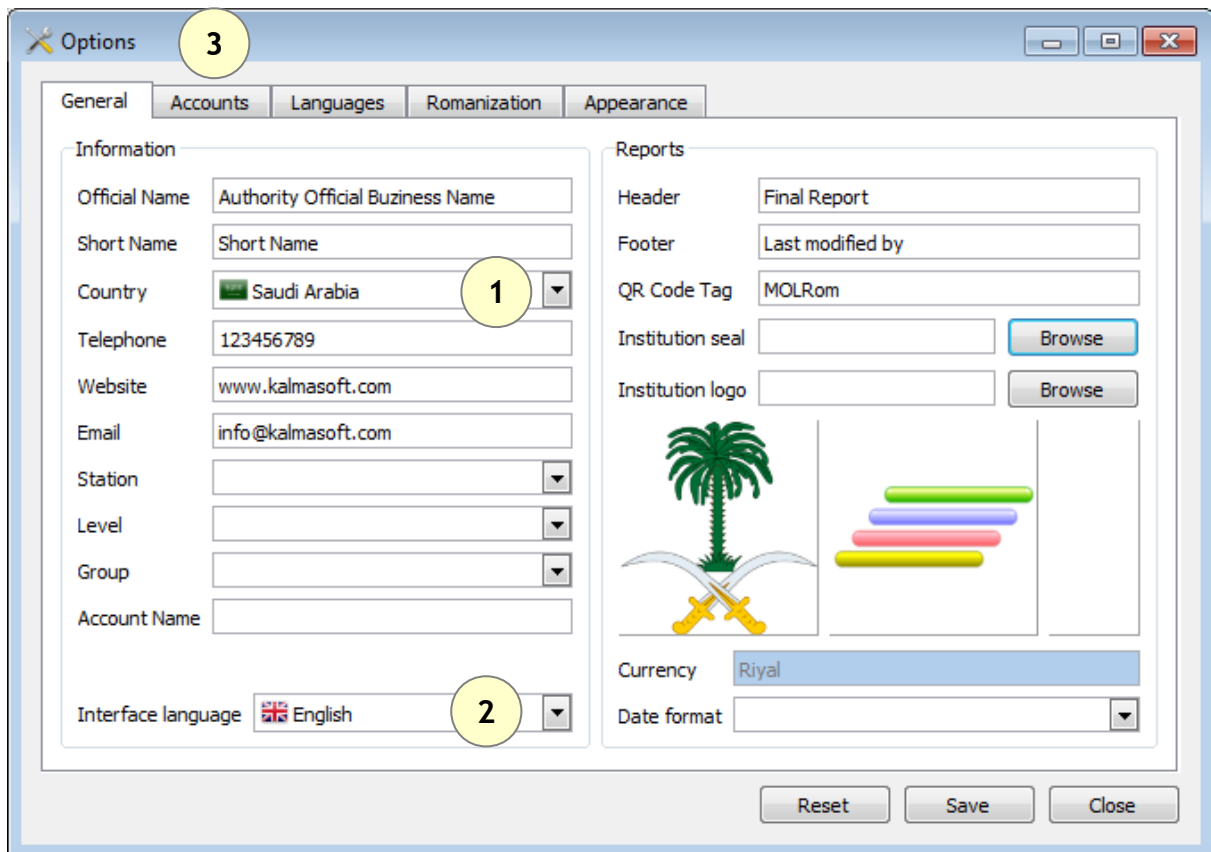
This software runs under most of Microsoft Windows operating systems, (Windows Me, Windows 98, Windows 95) were not tested.

The software will create the subfolder “KMAPS” in the folder “Program Files” and additional folders with names (Help, Output, Databases, Samples, Documents) as well as the basic system files and the system icon on the desktop.

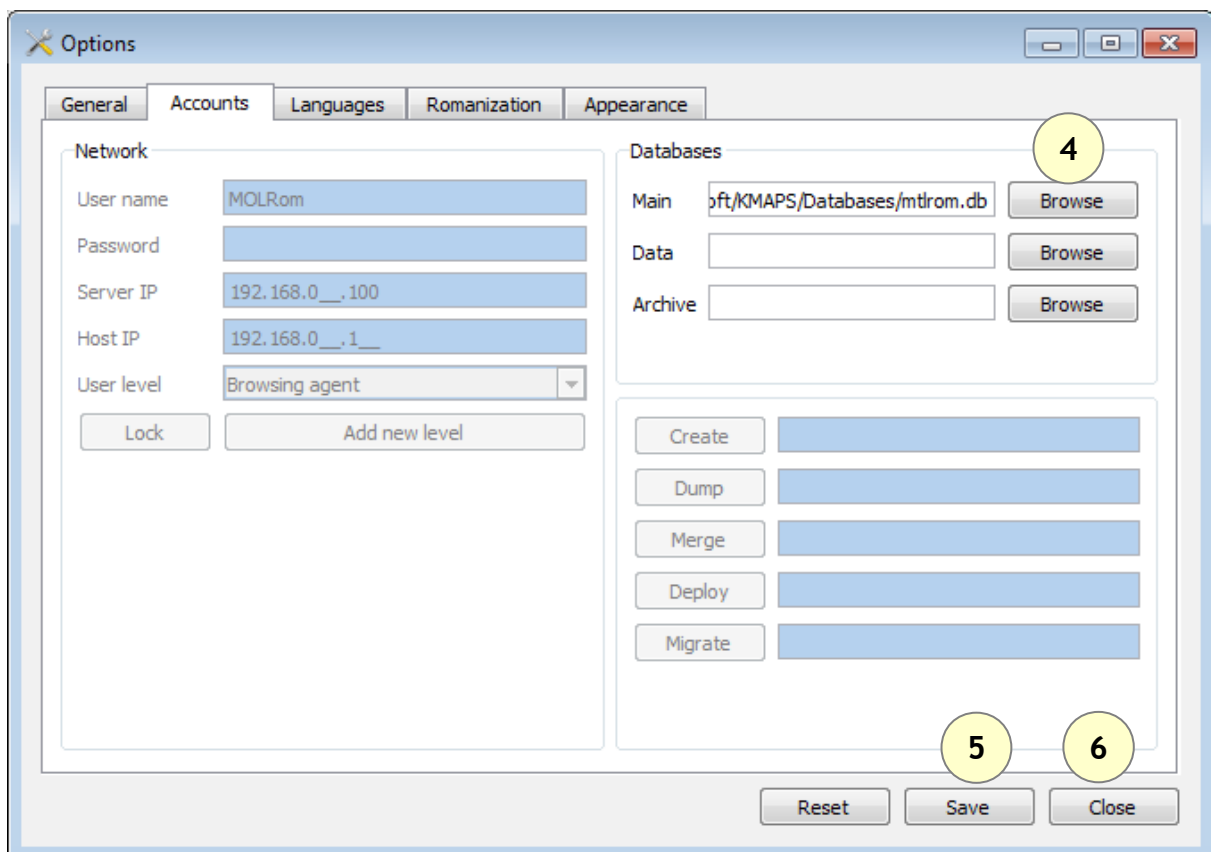
The software does not add any entries to the Start menu “Start” or entries to the system registry, so it can easily be removed by deleting its folder only, the software comes with an uninstaller tool for this purpose described in the section Uninstalling the software on page (11) how to remove the system from your system.



- After installation, click (OK), you do not set any databases yet.
- Click on the option button ()
- Set country and language according to your preferences.
- Open the Accounts tab (3).



- make necessary changes as shown above.



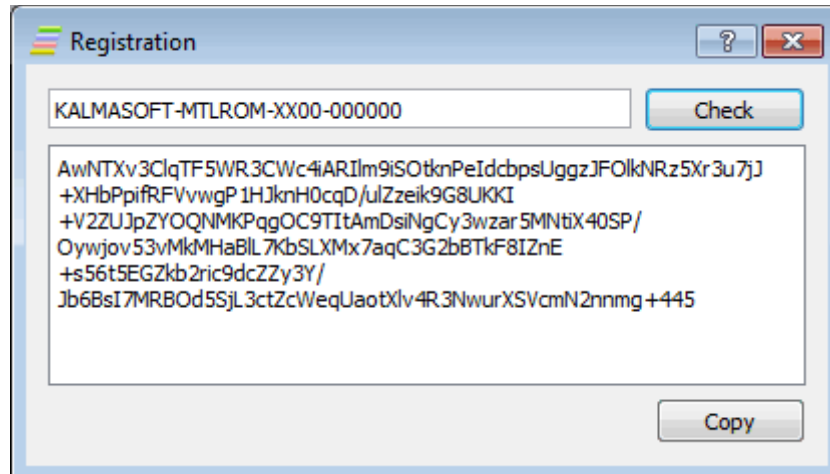
- Set database to **C:/Program Files/Kalmasoft/KMAPS/Databases/mtlrom.db**
Depending on your installation folder, the above path may differ slightly but the part (**Kalmasoft/KMAPS/Databases/mtlrom.db**) should always remain valid.
- click (Browse) to, set the database as highlighted above
- click (Save) (5)
- and click (Close) (6)

You must restart the system for the setting to be effective.

Registration

You need to register you copy before evaluation or starting using it.

- Open the (Help) menu
- Click (Registration)
- the following screen emerges



- Enter the main key (KALMASOFT-MTLRON-XX00-000000)
- Click (Check) to generate you local key
- Click copy and send the genrated code to Kalmasoft by email to get your registered copy

Updating the software

- Open the (Help) menu
- Click (System updates)
- follow the on screen instruction

Uninstalling the software

To remove the system, go to the system folder and run the uninstalling utility (Uninstall.exe) by double-clicking, you can do so through the following steps:

- Right click on the system icon on the desktop to display the properties popup menu and choose (Properties) at the bottom of the list.
- Click on the button (Find Target ...) to go to the system folder, the contents of the folder may be similar to what is shown in
- Run the uninstaller system by double-clicking on the icon (Uninstall.exe).

You will need to manually remove the system's icon on the desktop and folder "KMAPS".

System folder contents description

- "Databases": all users saved geographical names will be saved to the database in this folder.
- "Output": contains Romanized names output files, this folder will be targeted by the system for output, unless you specify another location for output files, the system will use this folder for output by default.
- "Samples": sample input files can be found here containing some Arabic geographical names for the purpose of testing the system.
- "Documents": contains system documentation, you'll find all the important documents in this folder, including the license agreement and history log.


The rest of the files include the executable file of the system, uninstaller tool in addition to other files necessary to run the system.

When you run the MAPSTopo® Lite (Romanizer) for the first time the Input Interface -a screen from which you can input geographical names will appear, enter few names then click on the (**T**) button at the bottom of the interface this will start the Romanization process then the system will automatically switch to the Output Interface to show the results.

The names will be viewed according to the Romanization system together with some other important information including identification number, the status of each name, a message manifesting errors if any, and a hint to give an idea about the type of errors and how to deal with them.

Quick start

The following steps summarize how to run the system, we recommend you start from here, then read about the details of system interfaces in the following pages, and then move to the explanation starting from the paragraph Running the system on page (31).

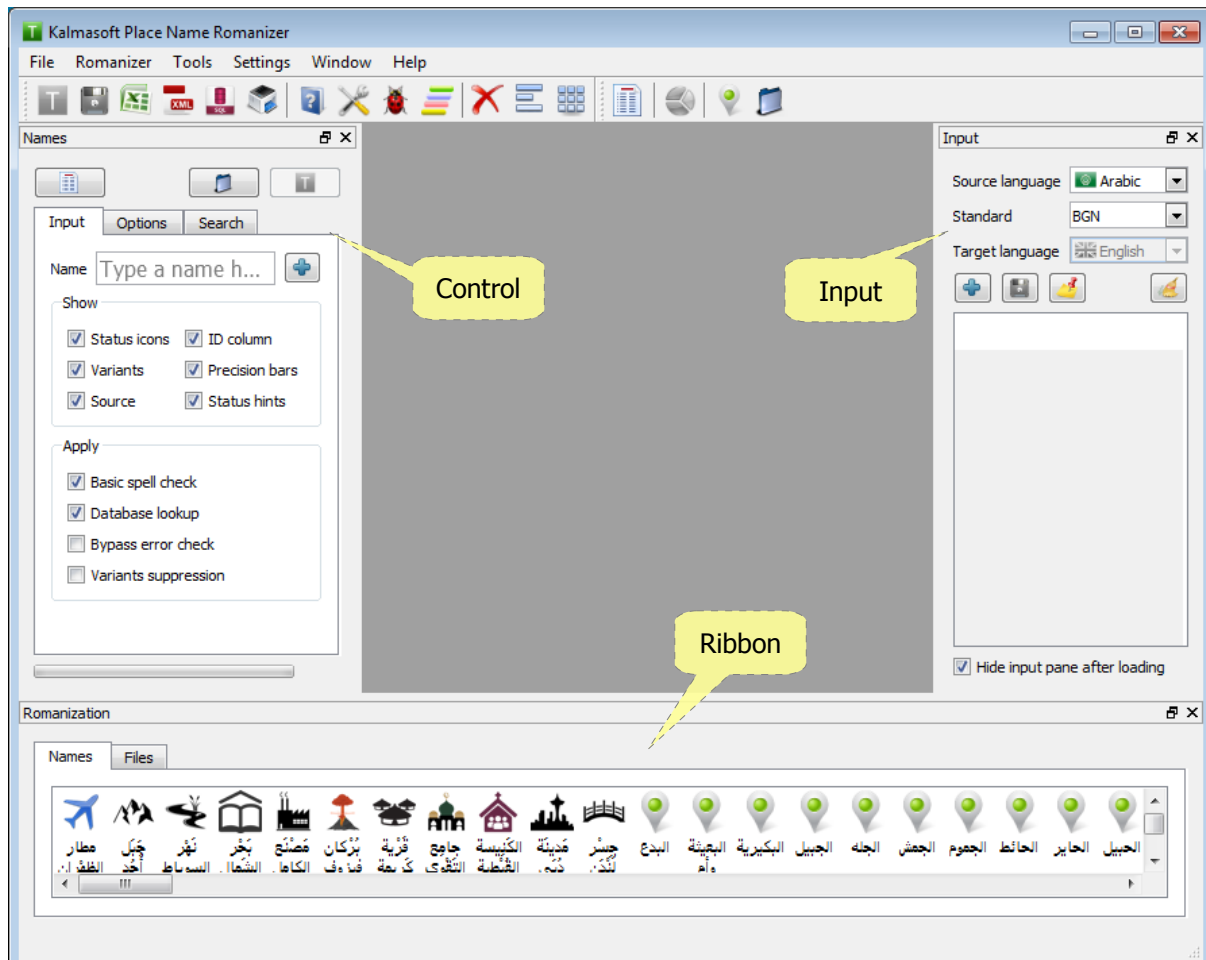
- Enter a list of geographical names in the input pane, make sure that you press (Enter) at the end of each name, the input pane is positioned at the far right side on the Input Interface.
- Click on the () button when you done, the system will take you to the Output Interface automatically and you will see the results of the Romanization on the result display area.
- You can return to the input pane again to make any necessary changes or add some new geographical names.
- The software comes preset with some default values you can change them as necessary as soon as you are fully aware of the nature and functionality of the system.
- Select another Romanization system from the master system selector menu, the system will again process the names and display the results according to the new system you have selected.
- In the first column you'll see icons indicating the status of each name, hover over the icons to see a tip of what each icon stands for, the hint in the last column will tell the reason for the existence of the icon. If the Romanization process is successfully done for a name, the first column will show a green filled bullet icon otherwise you will see different icons and you'll find a corresponding clarification about the status of the name or the type of the error message you may get.

You can then output the results to either the printer or save it to a file for later use, these two processes (printing and saving) are so conventional and there is no further explanation for them in this manual.

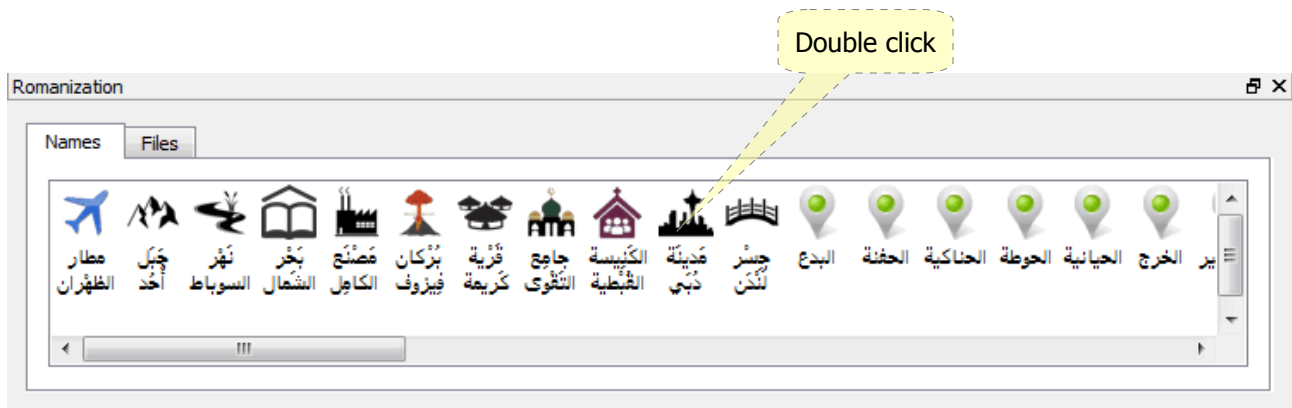
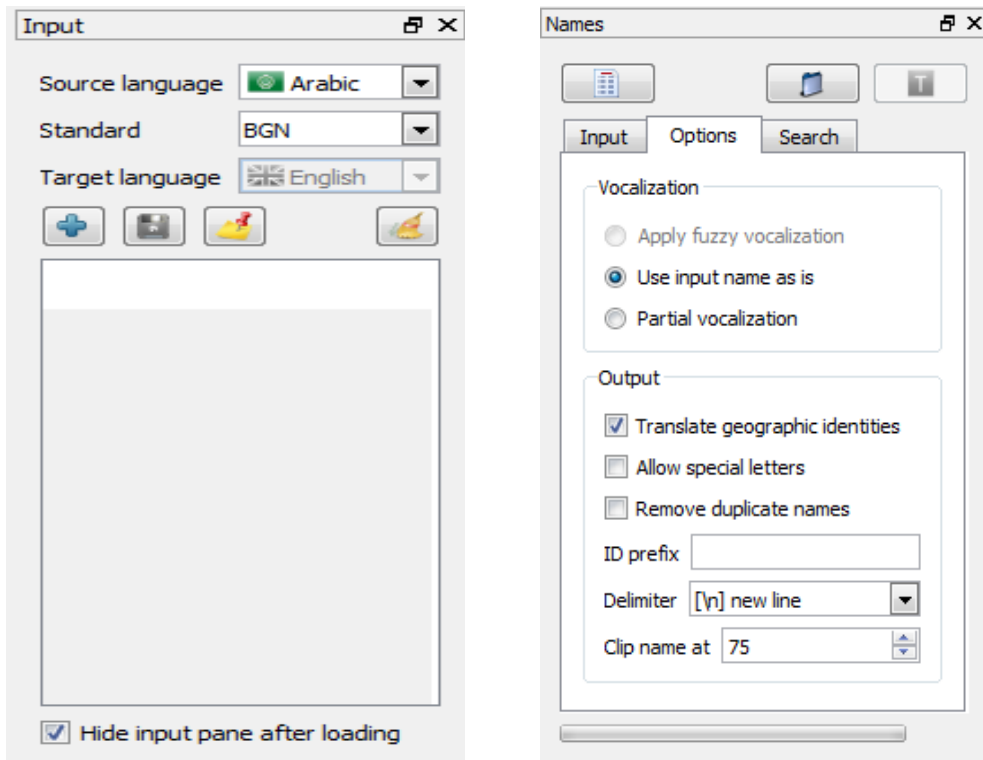
The following pages will explain all the above steps in detail starting from the definition of the interfaces of the system.

System interfaces

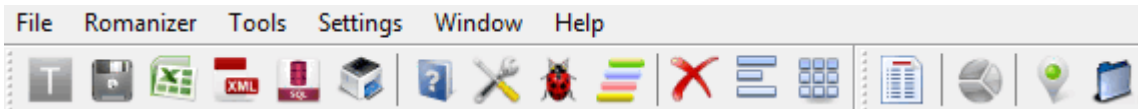
MAPSTopo® Lite (Romanizer) has four interfaces, Input Interface to enter geographical names, Output Interface to display Romanization results, settings to control the system behavior, and a Help Interface for documentation on how to use the system and other important information.




You can navigate between the interfaces by clicking the appropriate interface tab at the top; some permanent parts will always be present and displayed with all interfaces, these include system's master function buttons at the very bottom, Quick Options pane, and the status pane, all these are demonstrated in the image below.




System menus



Main function buttons

Print: () prints the contents of the result display area, your operating system may allow provide other print options such as printing to a file or to Postscript.

Romanize: () to start the Romanization process of the geographical names.

Save: () to save the results in a particular format text files or other types of files.

Control pane

Quick options panel contains options specific to the input and Output Interfaces, these are classified to the following three groups:

Source of geographical names:

Click the appropriate radio button to switch between the three sources of geographical names (loaded from file, from the input panel or the name, or the single line input).

Output display customization:

You can customize the display by selecting the color of diacritics (for Arabic text) and add or hide columns by placing a check in the appropriate box. Columns that can be hidden are (status icons, identification numbers, and hints).

System behavior

You can rapidly intervene in the way the system process your geographical names by placing a check in the appropriate box where you can impose the spell checker, use the integrated database, or disable the error screening process for a limited number of potential errors in order to bypass these errors continue with the Romanization process.

Input Interfaces

When you run the system for the first time (and every time) it will automatically start in the Input Interface as shown in below.

The lower part of the interface contains the master function buttons to perform the basic operations such as copying, saving, and printing, these buttons will remain displayed along with the other interfaces as well.

Clear: to clear the single line input; click (🗑️) button will clear the list of names from the input pane as well as to clear the memory from the loaded input file. Clearing the memory of the computer will have no indication except for a message shown in the status report display status report display area. This procedure is necessary if the response of the system becomes slow or you do not need the names loaded in memory anymore.

Load file: to load a file of geographical names.

Input pane

Use the input pane for an average of 1,500 names; names can be input in several ways:

- Type directly using the keyboard.
- Paste a copy of names from another application.
- Drag and drop contents from another application window or text editor.

To clear all the names click on the (🗑️) button at the bottom, you can also highlight or select all the contents by pressing on (Ctrl + A) and then hit the (Delete) key from the computer keyboard.

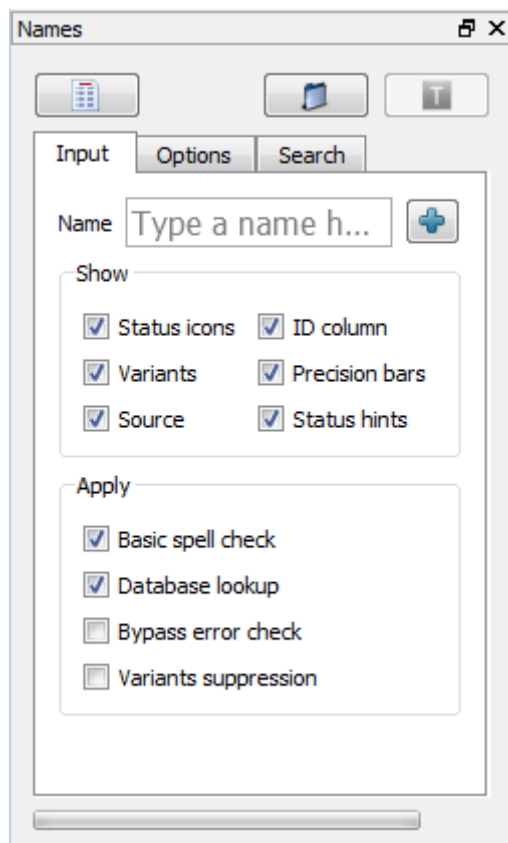
Names can be separated from each other in several ways:

- Each name is in a separate line, the delimiter in this case is (\n) mark i.e. the new line; this is the default delimiter.
- Adding any of the following characters (- , _ ; / \ space) or tab, in this case you must specify the type of the delimiter from the setting interface, see paragraph Setting the names delimiter on page (33) for more details.

Single name input


The single line input is for testing purposes prior to Romanization of a large number of names, use this input to enter one line of text representing the name in the following way:

Type the name or paste a copy from another source, you may also drag the name from the input pane to the right.




Choose the Romanization system using the local Romanization system selector shown below.

Click on the (Preview) button to display the result of Romanization, the result will be displayed on the area at the top; click the same button every time you change the Romanization system to get a different result.

Click on the () button to clear the input name.

You can copy the result of Romanization shown on the test result display area by clicking the (Copy) button, paste to any other application and make sure that you have the correct font to display all the letters and symbols.

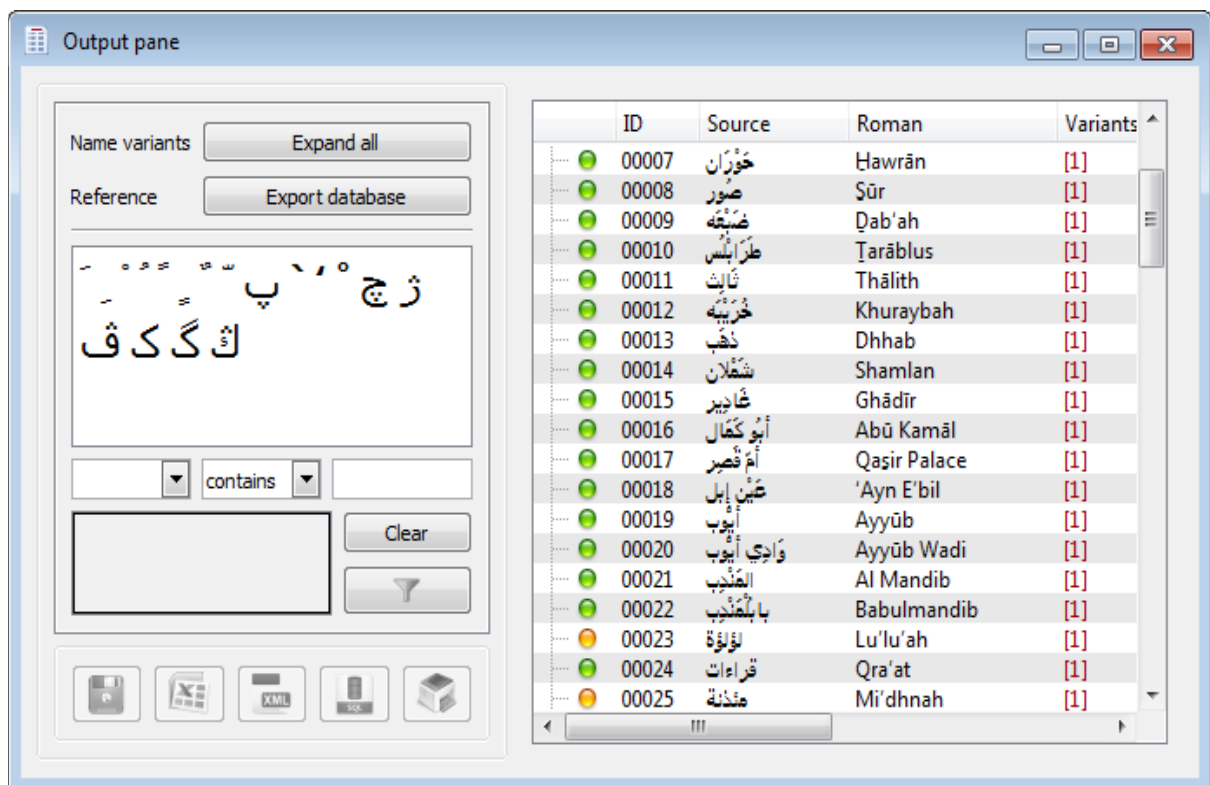
Loading files

You can load a file of geographical names using this pane, the source file will not be changed until you load another file or remove the file by clicking on the () button located in the pane.

Click () button in the control pane to select a text file.

Output Interface

The Output Interface is the system's main interface, shown below, most of the Romanization operations are controlled from this interface; the components of this interface are described below.



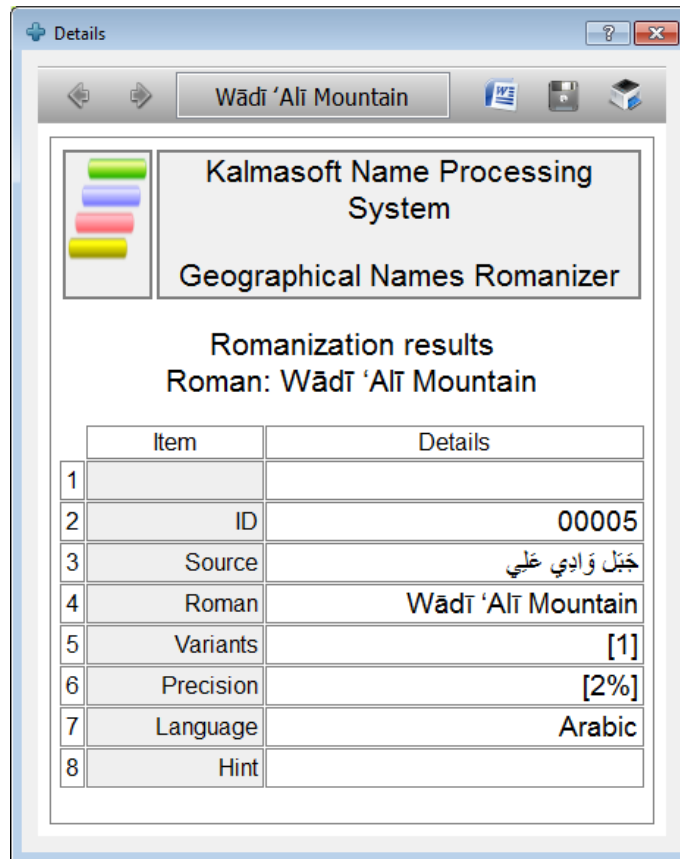
ID	Source	Roman	Variants
00007	خَوْرَان	Hawrān	[1]
00008	صَوْر	Šūr	[1]
00009	دَابَّاه	Dab'ah	[1]
00010	طَرَابُلُس	Tarāblus	[1]
00011	ثَالِث	Thālith	[1]
00012	خُرَيْبَه	Khuraybah	[1]
00013	دَهَب	Dhhab	[1]
00014	شَمْلَان	Shamlan	[1]
00015	غَادِير	Ghādir	[1]
00016	أَبُو كَمَال	Abū Kamāl	[1]
00017	أَمُّ قَصْرِ	Qasir Palace	[1]
00018	عَيْنِ بَيْل	'Ayn E'bil	[1]
00019	أَيُّوب	Ayyūb	[1]
00020	وَادِي أَيُّوب	Ayyūb Wadi	[1]
00021	الْمَنْدِيب	Al Mandib	[1]
00022	بَابُ الْمَنْدِيب	Babulmandib	[1]
00023	لُؤْلُؤَة	Lu'lu'ah	[1]
00024	قَرَاءَات	Qra'at	[1]
00025	مِنْذَنَة	Mi'dhnah	[1]

The output display area occupies most of the space to display all the results of operations done by the system; all results are presented in a form of an adjustable table with contents can be sorted alphabetically.

Romanization results can be copied directly from this interface by selecting the item or line and then pressing (Ctrl + C).

- To select the entire row (name + the results of different Romanization systems), click on the row header to the left or at the row number.
- To select the entire column (the results of a single Romanization system) click on the column header.
- To select two or more columns (all the names + the results of specific Romanization systems) drag the mouse on the headers of the selected columns.
- To sort the contents of any column, press the left mouse button on the column header, this will alphabetically sort the contents of the entire table; you can reverse the sort order by clicking on the column header again.

- To adjust the column width, drag the column border at the header to the left or right.
- To adjust the row height, drag the row border at the head up or down.



Details

Wādī 'Alī Mountain

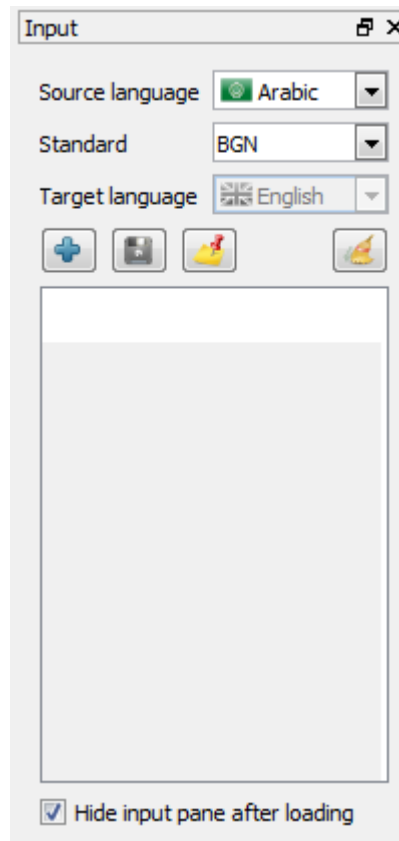
Kalmasoft Name Processing System
Geographical Names Romanizer

Romanization results
Roman: Wādī 'Alī Mountain

Item	Details
1	
2	ID 00005
3	Source جَبَل وَادِي عَلِي
4	Roman Wādī 'Alī Mountain
5	Variants [1]
6	Precision [2%]
7	Language Arabic
8	Hint

Romanization system selector menu

A drop-down menu located at the top right corner of the Output Interface, it serves as the main selection menu that also controls the different Romanization schemes.



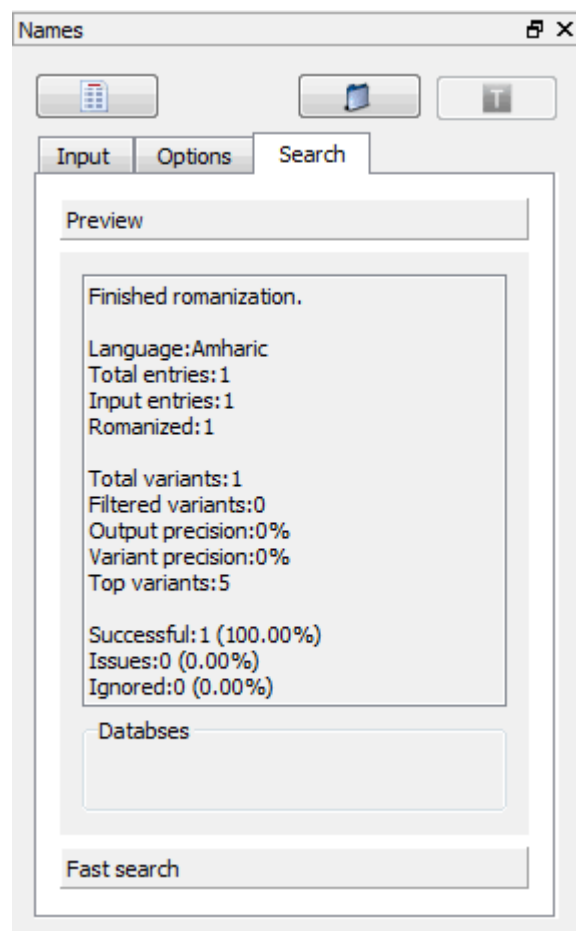
Do not use this menu to change the Romanization system if the number of names to be Romanized is very large (hundreds of thousands), do your tests using a limited number of names first so you do not have to wait a long time before you get the results.

Option	Details
Default System	Names will be Romanized using the default system
Currently selected systems	Names will be Romanized using only selected systems
All supported systems	Names will be Romanized using all supported systems
None, check mode	No Romanization , select for spell check

Status report display area

Status report display area is where comments related to the active interface appear, messages concerning the status of the system and the kinds of ongoing operations will also be displayed here; some hints will also be the details are as follows:

- Statement of the input source of the geographical names.
- A brief definition about the function of the active interface.
- The status of the system during the processing of geographical names.
- A mini statistical report about the input names and the operation conducted, number of errors detected, and alerts issued; the ideal situation is to get 100% of the total names Romanized without any errors or alerts, but this does not reflect the perfection of the accuracy of Romanization because the system does not perform according to phonetic constrains, it only does a lexical scanning followed by the basic phonemic transcription.



Error messages and status hints

The software displays enough information about the status of each name after the Romanization process; hints may either reflect the status of the Romanization process or inform the user that some changes has been made to the name. Most of the errors can be overcome by simply ignoring the error, but some names cannot pass the Romanization process because of errors that are hard to overcome or correct. You can refer to Appendix A. Error messages and status hints on page (50) where a complete list of types of errors is manifested.

Types of errors that can be identified include:

1. Improper vocalization: for example the position or type of the diacritics.
2. Spelling: location and type (Arabic or non-Arabic), e.g. wrong placement of letters.
3. Mojibake: names that contain non-Arab characters, digits or other symbols.



The hint always describes the first error (مدينة عيسى) for example has two errors, "Ḍamma on the letter Nūn and letter Sīn " only the first error will be manifested (the Professional Edition shows all errors and their respective positions)

MAPSTopo® Lite (Romanizer) Edition does not fully suggest error correction or allow doing correction in place directly from the Output Interface (the professional edition provides all of that), retype the correct names to get rid of the errors messages.

If the table cells do not show the full text of the hint you can move the border around the edges a bit to make more space for the full text, drag the right border to enlarge the cell width.

You can check the appropriate box in the quick options pane to hide the status icons, the whole column will rapidly disappear, remove the check and the icons will appear once again.

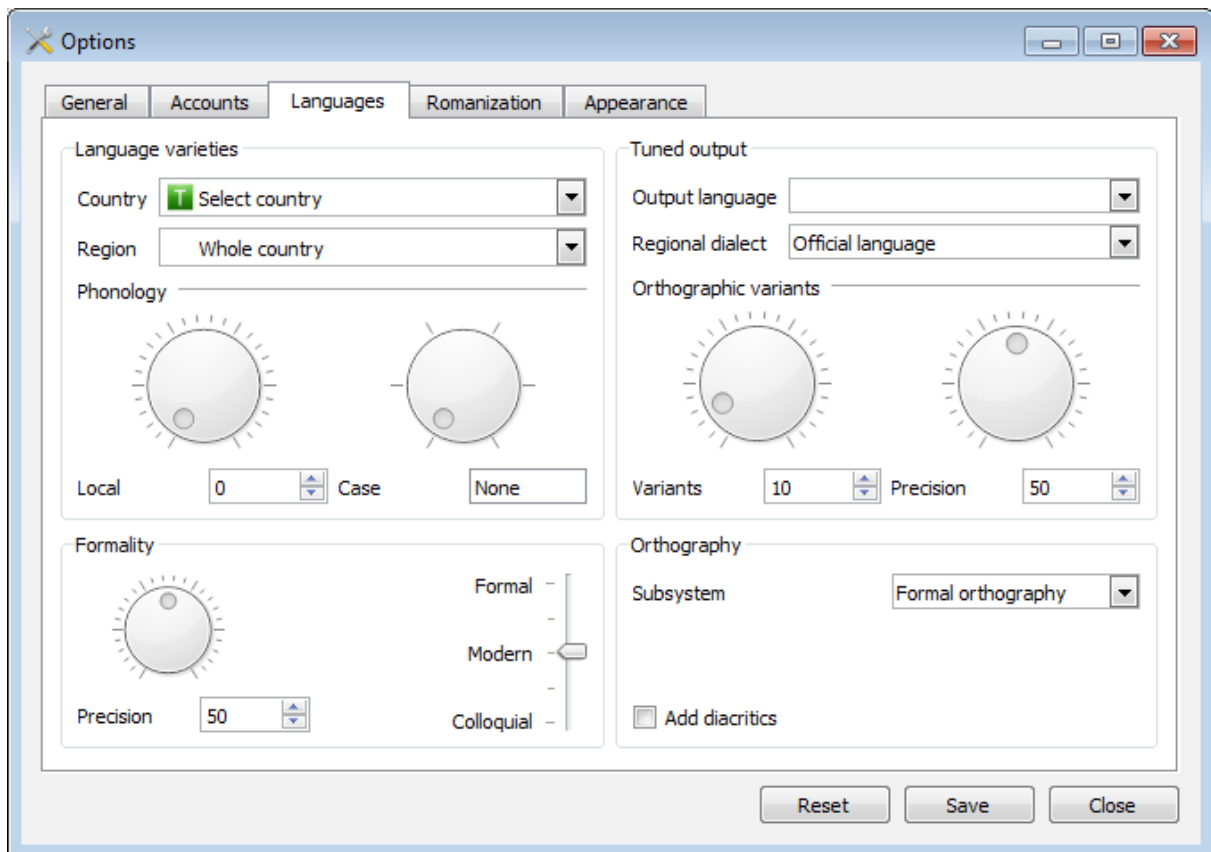
Identification numbers can be hidden from the Quick Options pane in the same manner as above, check the box [Hide ID column] the second column will disappear, this is a useful feature serves as a reference for later proofreading.

Hide the hints column from the quick options pane by checking the box [Hide status hints].

Settings interface

The settings interface is where MAPSTopo® Lite (Romanizer) overall behavior can be controlled through this interface, resources of the system and handling of geographical names can be set from here, we will first describe the main action buttons and then move on to describe each part separately.

- Save: save the new settings.
- Close: closes the dialog box without saving the new settings.
- Reset: restores system's initial settings.



To understand how this interface works split it vertically into two parts, the right part is for output, the left is for input; further divide each part into upper and lower pane, the upper pane is for the display, the lower is for files. So all the files and print controls can be found at the bottom of the interface and everything related to the name input and display on the screen is in the upper part.

Layout direction and widgets placement

The interface is highly customizable, drag panes or resize them as required.

Romanization system selection pane

Select the preferred Romanization systems by checking the appropriate boxes; you can see the characteristics of each system in the table below. You can also see a brief description on each system in the built-in help guide that comes with the system package.

System	Type	Full name
ADEGN	Transcription	Arabic Conference on Geographical Names
ALA-LC	Transcription	Association of American Libraries -Library of Congress
BGN	Transcription	Board of Geographical Names/ Permanent Committee on Geographical Names
Buckwalter	Transliteration	Tim Buckwalter Arabic Transliteration
DIN31635	Transcription	Deutsches Institut für Normung
IGN	Transcription	Institut géographique national
ISO233	Transcription	International Standards Organization
KATS	Transliteration	Kalmasoft Arabic Transliteration System http://www.kalmasoft/devtool.htm
RJGC	Transcription	Royal Jordanian Geographic Center
SAS	Transcription	Spanish Arabists School
SATTS	Transliteration	Standard Arabic Technical Transliteration System
UNGEGN	Transcription	United Nations Group of Experts on Geographical Names

Output file format and encoding pane

Output file setting should be prepared before the saving the results of Romanization because the system uses some symbols and characters that may not be supported by all types of user viewing client software. MAPSTopo® Lite (Romanizer) supports Unicode fully in both input and output so please adopt this encoding to ensure that all details are preserved.

The file format depends on how the result will be used, for viewing and printing purposes you can use any of the formatting types (Rich Text, HTML, PDF, ODT), but if the results will be subject to subsequent processing then you must use any of these formatting (Plain text, XML) instead.

File encoding is subject to the type of application that will be used later to display the results or make subsequent processing, in most cases choose [UTF-8] and make sure the box [Include BOM for UTF8 files] checked. You can also see a brief description of each encoding system in the built-in help guide with included in the system.

The remaining options are self-evident and include the addition of line numbers to the file, status flags, as well as addition of the status hints which are necessary for late review of all errors or make a deep examination by the user.

The software provides output files in four different forms of encoding, encodings can be controlled from the dropdown menu provided for different uses as summarized in the table below.

Encoding	Uses	Example of applications
UTF-8	for most multilingual applications	
UTF-16LE	use with specific applications	Microsoft Access-2007
Excel-2007,		
UTF-16BE	use with most applications	Apple Mac OS X
Windows-1256	use with all Microsoft applications	

Format	Full name	Details
Plain text		Processing purposes
Rich text		Display and print purposes
HTML	Hyper Text Markup Language	Web pages
PDF	Portable Document Format	Display and print purposes
ODT	Open Document Format	Display and print purposes
XML	Extended Markup Language	Processing purposes

Input file format and encoding pane

Only one file at a time can be set using this pane each time you load names from a file (the professional edition allow for setting multiple files in batch mode) supported formats are shown below:

Encoding	Details
Windows 1256	Default encoding for Arabic in Windows operating system
UTF-8	Unicode encoding
UTF-16LE	Unicode encoding

Format	Details
List (CR/LF)	Names formatted in single column and separated by newline
CSV	names separated by a comma
Tab delimited	Names separated with the Tab character
KATS (CR/LF)	Format based on Kalmasoft KATS
Autodetect	Format is automatically determined by the system
User defined format	Format specified by the user

Vocalization mode and input features pane

This pane has two parts; the left pane contains three options and a spinner, described as follows:

Apply the Fuzzy vocalization mode to completely unvocalized names; fuzzy vocalization depends on morphological and statistical criteria as well as of some basic spelling rules.

Use the name as is, that is, without interference from the system; use this feature with the fully vocalized geographical names.

Partial vocalization), this is the default mode and the system will help you by automatically completing the necessary vocalization if you just add the minimal disambiguating diacritics.

Determine the length of the name, the maximum number of characters of each name is 50, the minimum is 3, spaces and diacritics are counted.

The above vocalization modes are described in details in paragraph Modes of vocalization on page (35).

The right pane contains three options, a menu, and an input control described as follows:

- Allow the integration of numbers and names.
- Allow the insertion of special characters in names, such as letters (ك, ح, ج).
- Allow the insertion of Arabic extended letters used in other languages, such as Urdu and Farsi, e.g. (ك, ج).
- A delimiter selection menu.
- An input to set the identification number prefix of geographical names.

See the details of how to use this pane in paragraph Preparing the names for input on page (32).

System default settings

MAPSTopo® Lite (Romanizer) comes preset with default settings but you may change these settings at any time during or before running the system as needed, you can also save your custom settings for future use or restore the initial settings when you installed the system for the first time, the following table shows the status of all these settings:

Interface		Value/setting	Details
Input	Single line		
	Romanization system	ADEGN	Arabic Conference on Geographical Names
	Input file location	MAPSTopo/Input	Set as required
	Output file location	MAPSTopo/Output	Set as required
Output	Master system selector		
	Current Romanization	The default system	ADEGN
Setting	Interface language	English	
	Default system	ADEGN	Arabic Conference on Geographical Names
	Other Romanization systems	Not checked	Check as required
	Mode of vocalization	Partial vocalization	
	Maximum length of name	40 characters	Maximum is 50 characters
	Default delimiter	\n	New line
	Input pane format	List (CR/LF)	Name per line
	ID prefix		Nothing
	Allow digits with names	Not checked	Not allowed
	Allow special letters	Not checked	Not allowed

	Allow extended letters	Not checked	Not allowed
	Input file encoding	Arabic Windows-1256	Windows standard encoding
	Output file encoding	UTF-8	Unicode
	Input file format	List (CR/LF)	
	Output file format	Adobe PDF	
	Include BOM for UTF box	Checked	
	Add line numbers box	Checked	Line numbers will be added
	Add status flags box	Checked	Status flags will be added
	Add status hints box	Not checked	Hints and tips will be added
System	Names input source	Input pane	
	Hide check boxes	All not checked	
	Basic spell check	Checked	
	Bypass error check	Not checked	
	Use database	Checked	

Saving user custom settings

The software provides the ability to save the user custom settings, click on (Save) button and your settings will be saved for future use; these will be persistent and affect the system's behavior each time you run it unless you apply new settings.

Running the system

Setting the system for input

MAPSTopo® Lite (Romanizer) does not require any special fonts, but you must make sure that a single font is provided and installed in your system (Arial Unicode MS), this font usually comes bundled with Microsoft Windows XP; it contains all characters and symbols used by the different Romanization systems supported by the system. To make sure your system has the required font type the word (مُصْطَنَع) in the single line input pane and select the Romanization system (ISO233), you should see the word (Muş˚ţana˘) on the test result display area as shown in the example below.

مُصْطَنَع	Muş˚ţana˘	OK, your system is ready
-----------	-----------	--------------------------

Non-Arabic speakers can copy the above test word from the file “test.txt” included in the documents folder.

Geographical names can be input from three different sources, single line input for testing, input pane for moderate size lists of names using the keyboard or copy and paste techniques, and files of large numbers of names loaded to the system for Romanization. You can quickly switch between these sources from the Quick Option pane as necessary, in fact you can actually put names for processing in all three sources and process each one after the other (professional edition allows the insertion of multiple files and processed all at once).

The master system selector menu in the Output Interface determines the current Romanization system, it provides necessary functions to Romanize the geographical names according to user systems as well as all Romanization systems that are supported by the system in one single step.

It is not necessary that the names are arranged in a vertical list, you can enter names separated by any of the delimiters described in paragraph Setting the names delimiter on page (33) prior to the Romanization process, the system will portray the names in a columnar list format for you to confirm the input, if you use the default delimiter “newline” you will not be asked for confirmation.

You can alter any name in place before the Romanization process begins since the input pane serves as a text editor and supports all basic operations such as cut and paste, drag and drop, and redo functions by using the Microsoft Windows usual shortcut keys.

The master system selector works simply by selecting the system so you do not need to click the (**T**) button every time to start the Romanization, if the list of names is too long (few hundreds of thousands) you will have to wait a short time before the results show up; we recommend you make necessary setting in advance in this case, and then clicking the (**T**) button to initiate the process. This master selector is designed for your convenience and to facilitate rapid interface action, you can also use it to bypass the settings you made in the settings interface except for the possibility of changing the default Romanization system, that must be carried out only from the settings interface.

Preparing the names for input

MAPSTopo® Lite (Romanizer) is very sensitive to the input data, it makes several tests to before the Romanization process begins, these tests are of orthographic nature in general, they include spell check for properties such as length of the name, type of characters and the type of vocalization, the system also does some other covert arrangements include the removal of unnecessary characters such as white spaces and the Arabic lengthening characters “Ṭaṭweel”.

The software provides many features for the user to apply on the geographical names before Romanization, all can be applied from the settings interface, the available features are as follows:

Setting the maximum length of the name

User can set a precondition for the length of the input name, MAPSTopo® Lite (Romanizer) default is (50) characters, including diacritical marks and spaces, the user can set this to any number between 3 and 50; this will add an indirect means for correcting the names of excessive length.

No special icon will be assigned to clipped names because other icons are still needed to reflect the status of the clipped name, a scissors (✂) flag is incorporated directly with the Arabic name to indicate that it has been cut short, this flag will not print or saved to file but instead a tag word (clipped) will appear in the hints column, the example below shows an example of a name clipped after a maximum length of 30 characters.

قَرْيَةُ الْحُسَيْنِيَّةِ الشَّرِيفِيَّةِ	قَرْيَةُ الْحُسَيْنِيَّةِ الشَّرِيفِ ✂	Qaryat al-Husayniyah ash-Sharyf
---	--	---------------------------------

Setting the names delimiter

If you are using the input pane to enter the geographical names you must specify the delimiter that separates the names; the system is set to use a common delimiter (end of the line) that simply means you press the (Enter) key after each geographical name you type so you will have the names arranged in a vertical list (column), but you can change the delimiter to suit input data arranged in different format, for example the following arrangement:

لحج، السنابس، قرية الحسينية الشريفة، الأفلج، الطائف، شبعاء، البصرة، دارفور، القامشلي، المدينة المنورة، جبل مرة، الدجيل، عين الباشا، بورتسودان، الرمادي
--

The above example shows the use comma (,) as a delimiter, you can also enter the names separated by any of the following characters: (“;”, “tab”, “_”, “-”, “\”), and the space. If you chose the space make sure that you type the parts of the name between parenthesis like this (جبل الزيتون), or connect them with a hyphen like this “جبل-الزيتون” so the system will not process them separately.

Setting the ID prefix

Use the ID prefix to decorate the identification numbers of the geographical names, for example, if you want to Romanize names from different geographical areas for subsequent processing the ID prefix will be useful in sorting; to use this feature type a word of four characters or less in the appropriate place, for example “IRAQ” to get the ID numbers prefixed in the following format (IRAQ005417) or “KSA-” to get (KSA-005417), the field

width is six digits enough for one million names, the example below shows the use of the ID prefix “IRAQ”.

الرّمادي	ar-Ramādī	IRAQ005417
----------	-----------	------------

Allowing the integration of digits and names

MAPSTopo® Lite (Romanizer) does not allow the integration of digits and letters but you can allow this combination from the settings interface, see paragraph Vocalization mode and input features pane on page (28), we generally do not recommend using this feature, the example below shows the result of this feature.

الخرطوم ٢	al-Khurṭūm 2
-----------	--------------

Allowing the insertion of special letters

Arabic letters such as “چ” (Cheh) “ق” (Qaf with three dots above) are sometimes used with names of non-Arab origins, MAPSTopo renders these characters to the closest Arabic letter from the script if not supported by the Romanization system specified.

التاجي	at-Tājī
اكچوچت	Akjūjit
سيدي فال	Sīdī Vāl

Allowing extended Arabic letters

MAPSTopo® Lite (Romanizer) allow using letters used by Arabic script based languages (ASBL) such as Farsi and Urdu which use extended Arabic letters, some writing scripts in Morocco uses them as well, these letters are slightly different (ڄ, گ) we do not recommend that you allow insertion of such letters unless you are certain how they can be used.

چنگیز	Jangīz
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Modes of vocalization

MAPSTopo® Lite (Romanizer) provides three modes of vocalization, these can be set from the settings interface, a summary of these modes shown here with examples, a detailed description can be found in the next page.

Fuzzy vocalization

Fuzzy vocalization is used to vocalize bare or unvocalized Arabic names, it adds diacritics to the names using heuristics and some statistical profiles, the process depends on the type of letters in general; as a consequence, fuzzy vocalization generates Arabic orthographic variants, this feature is integrated in MAPSTopo® Lite (Romanizer) so that as many as possible legitimate variants of a geographical name will be input to the system for Romanization, the professional edition uses all variants. Do not use vocalized name with this feature set, the system will remove all diacritics automatically.

القطرانه	al-Qaṭarānah
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Partial vocalization

This feature allows auto-completion of the semi-vocalized names, based on the rules of Arabic orthography and is intended for partially vocalized names, the user have to add one or two diacritics enough to disambiguate the name; this is the default feature used by the system, the following example shows how to partial vocalization works.

مَدِينَةُ الْخُرطوم	Madīnat al-Khurṭūm
---------------------	--------------------

Manual vocalization

The software does not interfere in the vocalization process if you choose to leave the name as is with the exception of forcing the application of some necessary basic Arabic spelling properties such as taking into account the pronunciation of “Sun Letters” and “Tā’

Marbūṭa”. You must use this option if the names are already vocalized, in the example below please note that we added the “Fathā” before “Tā’ Marbūṭa” for the purpose of illustration, but we could omit it since the system will it add anyway.

ولاية مُسْتغانم	Wilāyat Mustaghānim
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The impact of each of the three modes is detailed in the following examples:

Vocalization	Input	Output	Details
Fuzzy	الخرطوم	al-Kharatūm	Two Fa’ṭha and long “ū” added
السودان	as-Sawdān	Two Fa’ṭha and long “ū” added	
طرطوس	Ṭaraṭūs	Two Fa’ṭha and long “ū” added	
بيروت	Bayrūt	One Fa’ṭha and long “ū” added	
Manual	الخرطوم	al-Khrṭwm	No change
الْخُرْطُوم	al-Khurṭwm	Damma and Sukūn changed the Romanized output	
السودان	as-Swdān	No change	
السَوْدَان	as-Sawdān	Fa’ṭha changed the Romanized output	
طرطوس	Ṭrṭws	No change	
طَرُطُوس	Ṭarṭws	Fa’ṭha and Sukūn changed the Romanized output	
بيروت	Byrwt	No change	
بَيْرُوت	Bayrwt	Fa’ṭha changed the Romanized output	
Partial	الخرطوم	al-Khrṭūm	Long “ū” added
الْخُرْطُوم	al-Khurṭūm	Damma changed the Romanized output	
السودان	as-Sūdān	Long “ū” added	

السّودان	as-Sawdān	Diphthong applied because of introduction of Fa'tħa	
طرطوس	Ṭrṭūs	Long "ū" added	
طَرطُوس	Ṭarṭūs	Long "ū" added	
بيروت	Bīrūt	Long "ū" and long "ī" added	
بَيْرُوت	Bayrūt	Diphthong applied because of introduction of Fa'tħa	

MAPSTopo® Lite (Romanizer) edition undertakes the process of fuzzy vocalization based on statistical rules only and does not apply any morphonemic criteria e.g. using Arabic morphological templates "binyanim", so results may not come as expected. The professional edition (MAPSTopo Pro) is capable of doing thorough analysis of the geographical name including the methods and tactics mentioned above so the results are much better.

Custom settings for vocalization

MAPSOno® Lite (Transcription) allows other custom vocalization for the Arabic geographical names, these are in fact primitive techniques based on direct matching with entries stored in a database either internal or external, the Lite version uses the internal database only:

Indirect vocalization

In addition to the vocalization modes discussed in the preceding pages, the system provides direct and indirect vocalization techniques to improve the input geographical names before Romanization as indicated below.

Vocalization using the built-in database

This edition allows the correction for a limited number of common names and name tags by direct matching and replacement with the contents of the integrated database which include some common words (e.g. “Wilāyah” state, “Madīnah” town, “Qaryah” village, etc.) check the box [Use Database] in the Quick Options pane, the system will replace any occurrence of the names regardless of their current vocalization as shown in the following example:

الْجُمْهُورِيَّةُ الْعِرَاقِيَّةُ	al-Jamhūrīyah al-‘irāqīyah
-----------------------------------	----------------------------

If you want to use the names without the intervention of the system you must uncheck the box to disable using the integrated database, the name will then be Romanized the way you input.

You may augment the internal database if you like, add the new entries to the file mtlrombase.txt located in the system folder.

Error detection and indication strategy

MAPSTopo® Lite (Romanizer) detects many types of errors in your input such as typos and inconsistent vocalization, for such errors and other orthographically legitimate errors the system will normally Romanize the name and issue a hint indicating those error, as in the example below.

سُلْطَنَةُ عُمَانَ	Inconsistent vocalization	Salṭanat ‘Umuān
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If the error cannot be ignored such as insertion of strange symbols or Latin letters, the system will ignore the name completely and indicate the type of error. If you decide to Romanize the name, you should check the [Bypass error check] box from the Quick Options pane, you'll see the icon () denoting that the error is bypassed; most of errors can be bypassed this way.

سُلْطَنَةُ عُمَانَ	Salṭanat ‘Umuān
--------------------	-----------------

Preparing for output

Printing

The software prints the Romanized names as displayed on the screen, including the status icons for the purposes of correction or proofreading, make sure to make necessary setup before printing.

If you want to re-format the contents before printing using some other desktop publishing applications for example Microsoft Word, you must use the format (RTF), because some of the symbol will be dealt with internally in order to display correctly on third party software, the (RTF) formatting ensure correct display and print without the need for further manipulation.

If you want to store the names for subsequent processing then you must save the files using the (UTF8) encoding since almost all commercial software can deal with text files encoded in this global encoding otherwise you will run into the risk of losing some data or be forced to install additional fonts; example of such third party software supporting UTF8:

Microsoft Word®, Microsoft Access®, Microsoft Excel®, Microsoft FoxPro®, Lotus Notes®, Open Office®

Publishing on web requires saving the files in (HTML) format, the system supports the standard HTML4 therefore we do not expect the result to look different of the same file if opened with different in the other ser viewing agents “html browsers”, we already tested the following software products which produced the same looking of MAPSTopo® Lite (Romanizer) HTML formatted output files:

Microsoft Internet Explorer®, Mozilla Firefox®, Google Chrome®, Netscape Navigator®, Opera®

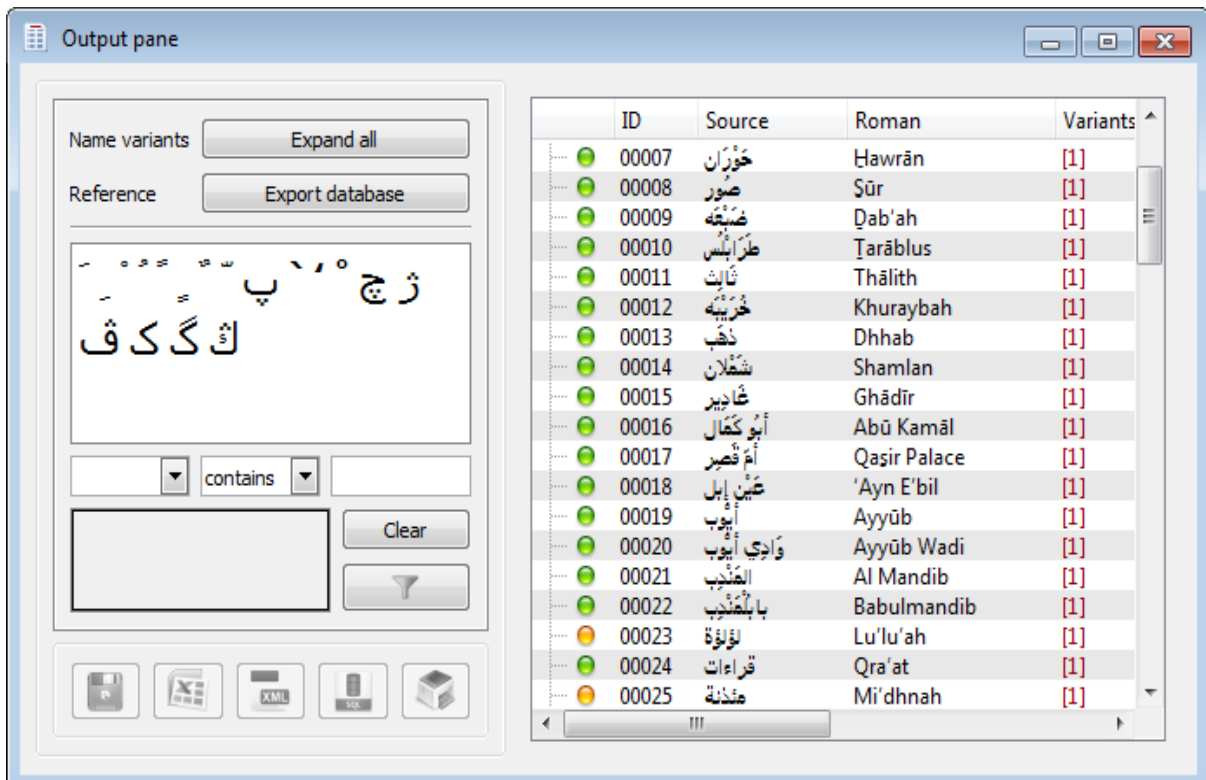
Saving files in different formats and encodings

Output files can be saved in more than one format and encoding as long as the file is open, choose the format and then click (Save) button; you can save the file in more than one Romanization system but only one encoding and format; reset and save the file in different name if you would like to use different encodings.

Output sorting and filtering

Alphabetical sorting is already described in paragraph Output sorting and filtering on page (40).

To filter the Romanization results click on the filter (🔍) button, a hidden area will appear below the result display area as shown below, you must specify the filter criteria to display only those lines matching the criteria you specified, available criteria are listed in the table below.



The screenshot shows the 'Output pane' window with a filter interface on the left and a list of results on the right.

Filter Interface:

- Name variants: Expand all
- Reference: Export database
- Search area: Contains []
- Clear button
- Filter button (🔍)
- Format icons: PDF, XML, DOC, etc.

Results Table:

ID	Source	Roman	Variants
00007	حَوْرَان	Hawrān	[1]
00008	صُور	Sūr	[1]
00009	ضَبْعَه	Ḍab'ah	[1]
00010	طَرَابُلُس	Ṭarāblus	[1]
00011	ثَالِث	Thālith	[1]
00012	خُرَيْبَه	Khuraybah	[1]
00013	دُهَب	Dhhab	[1]
00014	شَمْلَان	Shamlan	[1]
00015	غَادِير	Ghādīr	[1]
00016	أَبُو كَمَال	Abū Kamāl	[1]
00017	أَم قَصْر	Qasir Palace	[1]
00018	عَيْنِ إِبِل	'Ayn E'bil	[1]
00019	أَيُّوب	Ayyūb	[1]
00020	وَادِي أَيُّوب	Ayyūb Wadi	[1]
00021	الْمَنْدِيب	Al Mandib	[1]
00022	بَابُ الْمَنْدِيب	Babulmandib	[1]
00023	لُؤْلُؤَة	Lu'lu'ah	[1]
00024	قَرَاءَات	Qra'at	[1]
00025	مِثْلَانَة	Mi'dhnah	[1]

Criteria	Details
Contains	To display the lines contain a specific text or symbols
Does not contain	To display the lines that do contain a specific text or symbols
Begins with	To display the lines begin with a specific text or symbol
Ends with	To display the lines end with a specific text or symbol


The The filter panel displays some symbols, two dropdown menus, text input box, in addition to a filtered sample preview area; all are described as follows:


Symbols panel: click on the symbols to insert it in the text input box, this serves as a virtual keyboard if the specified symbols is not accessible via the keyboard.

Column selection dropdown menu: select the column on which you like apply the filter; the whole result table contents will be affected.

Criteria selection dropdown menu: select the criteria you want to apply to the results.

Text input box: type the text or any part of text here.

While you are setting the filtering criteria a real data sample will be displayed in the preview area, when you done setting the filtering criteria, click on () button to start filtering the results, only the matching records will be displayed.

Your filter criteria will be displayed in the preview area, when you done setting the filtering criteria, click on the () button to start filtering the results, only the matching lines will be displayed.

Note: please be informed that filtering is case sensitive.

After filtering the results the content of the display area will change completely, the only way to restore the original results is delete the filter criteria text and click the () button again.

If the filter button is showing the text then the results are original, the case is different after filtering where the same button will show the red icon (🚫) instead.

Filtered out results will still be saved and printed unless you intentionally set the maximum length of the input names or limit the generated variants.

You can also sort the hint field to get the erroneous entries as shown above.

Romanization scenarios

The following examples show how to Romanize Arabic geographical names for different purposes and situations that you may encounter in real life, this does not necessarily mean that you should abide by the techniques followed in these examples, consult the client asked for the Romanization services to provide information about the specifications on a case by case basis.

General directions

The main issues needed to be addressed are summarized below:

- Arabic geographical names source file encoding.
- Arabic geographical names source file format.
- Type of Romanization system.
- Output file format.
- Output file encoding.
- Whether the party is going to make subsequent processing.

A. Romanizing names for an official foreign client

A foreign official organization asked for Romanization of certain geographical names, this organization is not authorized to reuse of data (e.g. modify or sell) but it can published on the Internet in a format that does not allow retrieval i.e. copying or printing, use the

following settings:

- Romanization system: (decided by the client)
- Input file encoding: [Windows-1256 or UTF-8]
- Output file encoding: [UTF-8]
- Output file format: [RTF]

Open the result file in a text formatter e.g. Microsoft Word, and use Tahoma font size 16, for Arabic text and Arial Unicode size 12 for Latin, you can also use the table auto format feature available in Microsoft Word; you can also format the data using Microsoft Excel.

Convert the file to PDF format and add the appropriate protection (disable copying, editing, and printing).

B. Romanizing names for a foreign client

A foreign non-Arabic speaking official organization asked for Romanization of certain geographical names, this organization is authorized to reuse of data (i.e. test, modify), use the following settings:

- Romanization system: (decided by the client)
- Input file encoding: [Windows-1256 or UTF-8]
- Output file encoding: [UTF-8]
- Output file format: [CSV or Tab delimited]
- Transliteration of output file: [KATS] or [SATTS] or [Buckwalter]

(KATS) transliteration system will convert Arabic text to English ASCII text which can be converted back to Arabic script without losing any data.

Send the file together with a copy of the (KATS) transliteration system which is available at Kalmasoft website here: <http://www.kalmasoft.com/download/KATS.zip>.

C. Romanizing names for an official home client

A home organization asked for Romanization of certain geographical names to later be used by some official internal body e.g. national archive, competent ministry, technical office, data management division etc., this organization is authorized to reuse of data (i.e. publish, modify), use the following settings:

- Romanization system: (decided by the client)
- Input file encoding: [Windows-1256 or UTF-8]
- Output file encoding: [UTF-8]
- Output file format: [CSV or Tab delimited]

The setting above facilitates the opening the output in almost all each database management software and spreadsheets such as (Oracle, Microsoft Access, Microsoft FoxPro, SQL, Microsoft Excel, Lotus Notes).

Using the included sample files

The (Samples) folder contains file of Arabic geographical names from all states in the Arab region, you can use it directly for testing, use Microsoft WordPad to open each file to view or edit the contents, load the file and start Romanization, you may copy and paste to the input pane if you like. The professional edition allows loading all these files at once without having to open each file separately.

If you are using the system for the first time, we recommend you proceed with Romanization according to the scheme illustrated below:

Tips and tricks

The following are few notes to speed up the work and add up for a professional using of the system:

- If you are not sure of the correctness of the geographical names you can select the [Check mode] from the master system selector menu, this mode provides a basic spell check for you input names, store the list of names and edit or delete unwanted ones.
- Click on the header of any column to sort its contents alphabetically, click again to restore its initiation state.
- If your data takes time to prepare by adding diacritics, the best way is to save your favorite settings and then run the system on it later.
- To adjust the width of any column in the Output Interface, you do not need to drag its borders each time, double-click between the columns headers and it will be adjusted to accommodate the contents according to the longest name in it.
- Click on the (Hide pane) to spare a space for large view of Romanized in the result display area, click again to show the Quick Options pane.
- Drag the splitter in the Help interface to enlarge the help text display area, you can even drag it to the far left, the help index window will disappear, drag the splitter to the right and the window will appear again.

Frequently asked questions

Your problem may already be solved here:

Input Interface issues

Can't load files

- MAPSTopo® Lite (Romanizer) is not suited for ordinary running text, if you are trying to load files containing long paragraphs this will not work.
- Make sure that the file does not contain any strange symbols, you may comment out unwanted lines by adding "*" or "#"; those lines will appear again in the header part of the saved or printed output.
- You may be trying to load an unsupported file type, please check the list of supported types in paragraph Input file format and encoding pane on page (27), if your file is not supported the easiest way is to copy the names and paste them to the Input pane; you may also save the file as txt from the native application.

System halts during load

- You are trying to load a huge file that could possibly make the system unresponsive, please interrupt the system, divide the file, and try again.

Setting issues

My settings don't work

- Some settings may only be applicable under certain circumstances, for instance, the [Use Database] is useless if no database available.
- Some settings may look contradicting for the first time, this is not the case, however, if you think that you have messed things up please close the system and start again; if you have already saved any custom settings please restore the defaults and try again with a fresh settings, this is described in paragraph Saving user custom settings on page (30).
- My new settings do not seem to affect the results

- Some specific settings are not available in the demo version e.g. language formality and regional dialects for both source and target languages, these have been intentionally disabled.
- Some settings are sensitive only to specific names with irregular patterns e.g. Alif Maqsura and Taa' Marbuta, so it is not necessarily that they affect other regular names.

Can't save my settings

- This feature is not available in the demo version; new settings are active only during the transcription session. The software will not leave ".ini" or ".cfg" files in your system.
- Register the software to get full access to this feature, please register the software.

Display issues

Interface language looks "Greek"

- Make sure that you select the right language for your interface, if it still looks strange check if you have the right fonts installed in your system.
- MAPSTopo® Lite (Romanizer) demo version supports only English and Arabic for the interface.

Romanized names doesn't show up

- Please make sure you select the right input source, nothing will be displayed on the Output Interface if you choose to input names from the single line.
- If you are loading names from a file please check for any strange symbols preceding the name e.g. (*, #).

Can't copy items

- This feature is not available in the demo version; you cannot copy items from the Output Interface.
- Register the software to get full access to this feature, please register the software.

Print issues

Printout not showing results

- This feature is not available in the demo version; only the original input and the transcription report can be printed.
- Register the software to get full access to this feature, please register the software.

Mojibake and strange symbols when printing

- Please make sure that you select the right target language.
- If you are transcribing Arabic names to some Asian language please make sure that your system is already set properly to display the Asian characters.
- If the above fail, reinstall the (Arial Unicode MS) font and try again.

How can I get rid of Kalmasoft logo

- Kalmasoft logo "the four horizontally stacked color bars" is usually printed at the top of the first page, if you do not like this to be inserted in your document save the result to (RTF) file and remove the logo in a suitable text editor and put whatever you like.
- If you would to have your organization logo printed instead please contact Kalmasoft, direct contact details can be found here <http://www.kalmasoft.com/contact.htm> .

File saving issues

Can't save files

- By default MAPSTopo® Lite (Romanizer) saves result files in the (Input) folder, please set the new path clearly in the dialog box.
- Check the file name and file path.

Can't find my results in the saved file

- This feature is not available in the demo version; results can only be displayed.
- Register the software to get full access to this feature, please register the software.

Filtering and sorting issues













Filtering doesn't work





- Check the criteria you are trying to apply.
- Make sure that the results are not filtered already, clear the current filter text and just click (Reset) button to restore the original results.
- Beware that filtering is case sensitive.
- Perhaps the results do not actually contain the filter text.

Appendixes





Appendix A. Error messages and status hints

Messages and tips do not necessarily always indicate errors, some describe the status after you perform certain operations; some icons in the table below may not be available in the edition or the version of MAPSTopo® Lite (Romanizer) that you use.

Icon	Message	Hint	Meaning
	Not a name, ignored.	Check for Latin	Multilingual contents is not allowed
	Name is too long, clipped.	Name exceeding the maximum	Total length should not exceed 50 characters, default is 40
	Done		
	Strange contents.	The name has strange contents	e.g. “?”, “+”, “#”, “@”
	Special letters	The name has special letters	e.g. . “ك”, “ف”, “ج”
	Unable to vocalize		Need no vocalization or ready vocalized
	Non-Arabic name		
	This name is Nūnated	Remove Tanwīn	Names should not be Nūnated
	Repetition		Repeated content
	No diacritics	Vocalize the name	Vowels stripped out
	Extended letters		e.g. . “ئ”, “گ”
	Added from the database.		This name is added directly from the database i.e. not processed
	Spelling error		e.g. name starting with Tā’ Marbūṭa

	Inconsistent vocalization	Check the vowels	e.g. adding Ḍamma before Tā' Marbūṭa
	Variants exist.	Activate variant generator	Professional Edition only
	Re-enter the name		
	Name is too short, ignored		The minimum length is 3 characters, spaces and diacritics counted

The table below shows the status-only icons:

Icon	Message	Hint	Meaning
	Correct		Linguistically correct
	Apparently correct	Recheck the name	Linguistically correct but recheck
	Corrected		This name has been corrected
	Marked for exclusion	Name to be excluded	e.g. exclusion from Romanization
	Check bypassed		Error checking has not been applied

Appendix B. Romanization systems

System	Type	Full name
ADEGN *	Transcription	Arabic Conference on Geographical Names
ALA-LC	Transcription	Association of American Libraries -Library of Congress
BGN	Transcription	Board of Geographical Names/ Permanent Committee on Geographical Names
Buckwalter	Transliteration	Tim Buckwalter Arabic Transliteration system

DIN31635	Transcription	Deutsches Institut für Normung
IGN	Transcription	Institut géographique national
ISO233	Transcription	International Standards Organization
KATS	Transliteration	Kalmasoft Arabic Transliteration System http://www.kalmasoft.com/devtool.htm
RJGC	Transcription	Royal Jordanian Geographic Center
SAS	Transcription	Spanish Arabists School
SATTS	Transliteration	Standard Arabic Technical Transliteration System
UNGEEN	Transcription	United Nations Group of Experts on Geographical Names

(*) Not official name, another acronym is "ACGN", please consult the relative sources.