

## Using Macro Express Software with I-Share Voyager Databases (revised by the CARLI Office, January 2019)

At various Endeavor/ExLibris Users Group meetings, demonstrations have been presented on a software package called Macro Express that can be used in conjunction with Voyager. There are many potential uses of Macro Express to enhance staff productivity by automating some of the highly repetitive tasks within the Voyager staff clients.

Some I-Share library staff members and CARLI Office staff are using Macro Express in conjunction with various Voyager clients. When these staff have created a macro that they think might be useful to other I-Share libraries, these macros (and sometimes accompanying MS Access queries/reports when appropriate to the macro) have been placed on the CARLI Office website for downloading. The URL for the I-Share Shared Macros page is:

<https://www.carli.illinois.edu/products-services/i-share/execute>

Open the I-Share Shared Macros section to reveal links to macros and additional resources.

This URL is in the “secure” realm of the CARLI website. If you are connecting to this URL from an on-campus IP address that has been registered for reverse DNS lookup, you should not be prompted for a username or password. If you are connecting to this URL from off-campus, you will be prompted to input your institutional affiliation and then your personal patron barcode number as found in your library’s Voyager patron file. Once these data are supplied, access should be permitted from an off-campus IP address.

Macro Express software is available for download from <http://www.macros.com>. There is a free 30-day evaluation license available. The evaluation download contains all of the functionality of the regularly licensed software, so libraries are encouraged to try the software for free to make sure it is useful to your environment before purchasing the regular license. If you like Macro Express and wish to continue to use it in your library, you must purchase a license and update the evaluation copy of the software. The evaluation copy is not functional after 30 days unless it has been upgraded with the license number (sent to you by the makers of Macro Express when you purchase the software).

The makers of Macro Express recently released a “Macro Express Pro” version. The I-Share shared macros were all created using the basic Macro Express package. CARLI Office staff have not evaluated the differences between the basic and pro versions of the software, but the Pro version is not required to run shared macros.

This document is intended to be a basic overview of using Macro Express with I-Share Voyager databases. It is not intended to document individual macros that are found on the CARLI website. Each macro posted there has its own documentation.

This document is also not intended to be a tutorial on the use of Macro Express in general. Macro Express Help has a good introductory online tutorial. The CARLI Office strongly recommends that any staff members who will be running the macros that are downloaded from the CARLI website take the Macro Express Help’s online tutorial prior to importing or using downloaded macros.

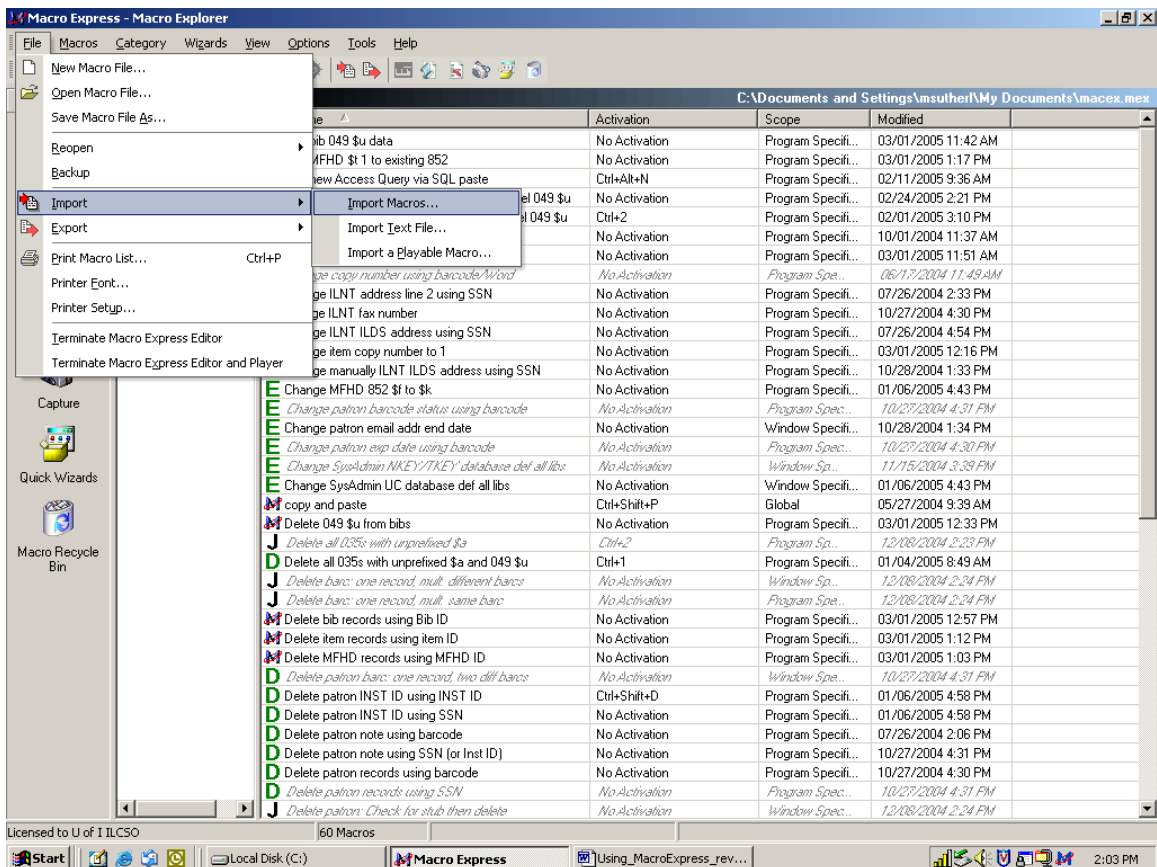
To get to the tutorial, from the Macro Express menu bar select **Help**, then **Tutorial**. Click the **Contents** tab, and then open the Tutorial “book.” Take each tutorial, continuing at least through the Sample macros. You may also wish to take the Advanced tutorials as well.

## Downloading and importing macros to the local PC

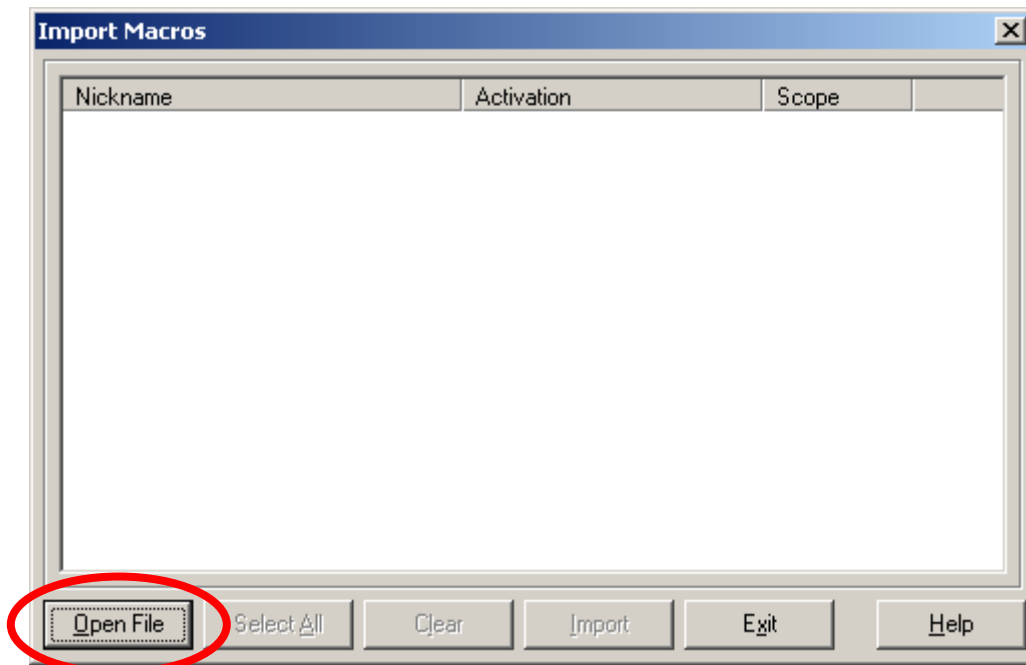
The I-Share shared macros and accompanying documentation are available for download from <https://www.carli.illinois.edu/products-services/i-share/execute>. Look for the list of macros that goes with the Voyager client you will be using, either the Cataloging client or the Circulation client. Macro Express macro files have the extension “.mex”.

Click the desired macro name and follow your web browser’s prompts for downloading files. Save the downloaded file to a convenient place on your PC (your usual download folder/location should be fine).

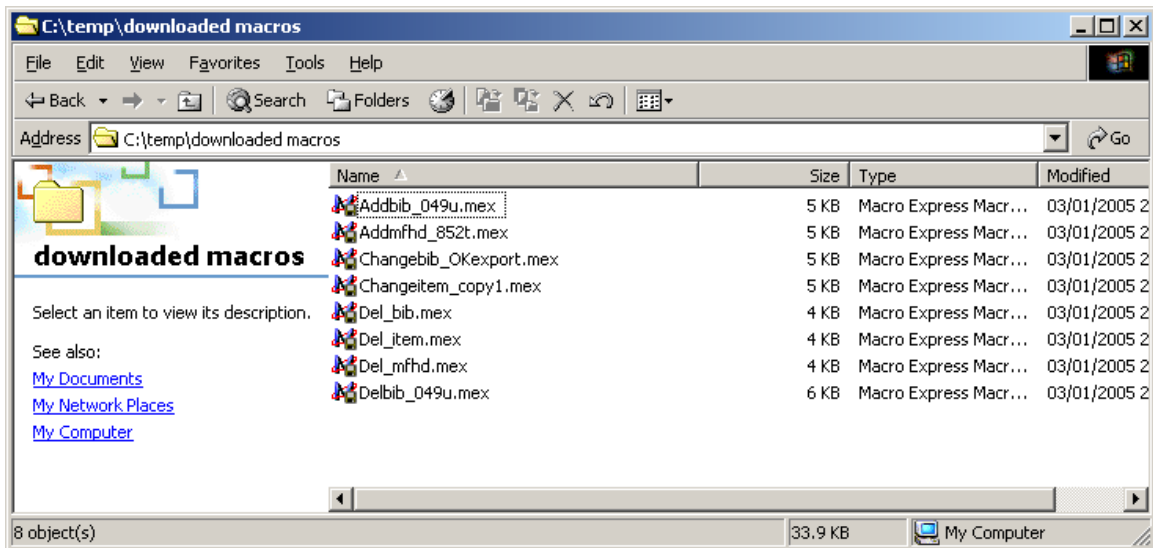
Open Macro Express. From the Macro Explorer view (the default view when Macro Express is first opened), go to the File menu, select Import, and then Import macros.



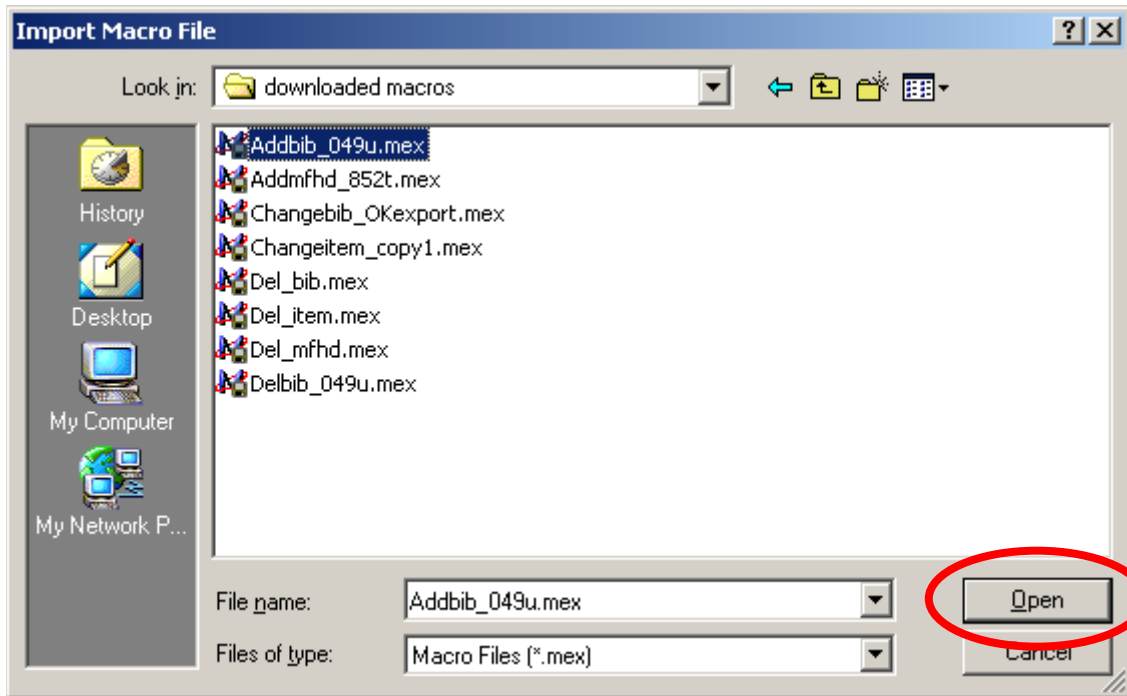
In the Import Macros dialog box, click on **Open File**:



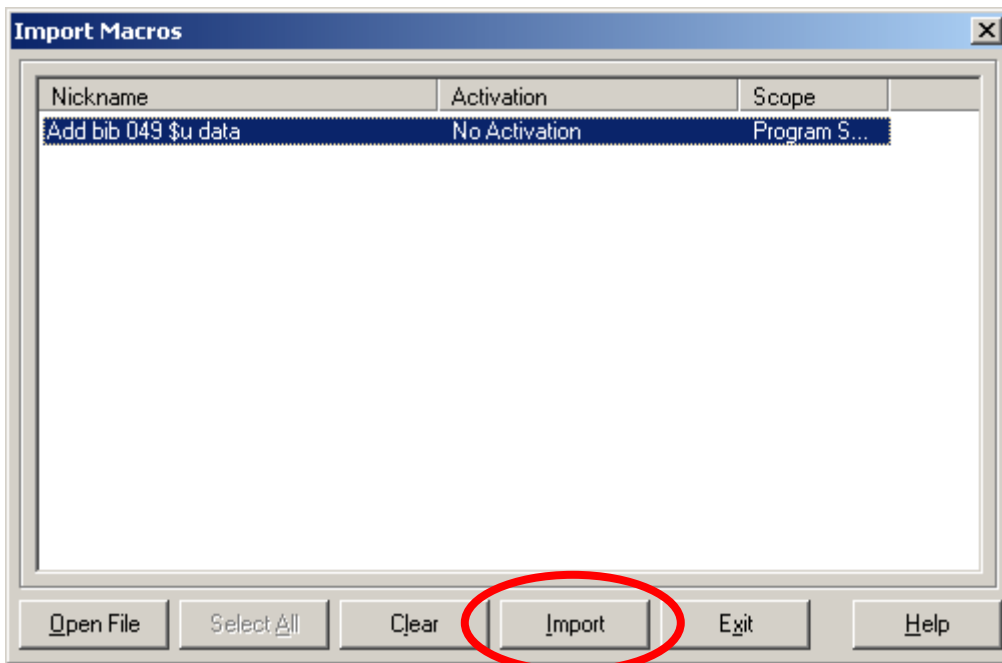
Next, drill down to wherever you downloaded the macro(s) on your PC. For illustrative purposes in this document, the macros were downloaded to the C:\temp\downloaded macros folder:



Highlight the desired file to be imported, and click the **Open** button. Only one macro can be imported at a time (i.e., you cannot select multiple files at this step in this process).



In the Import Macros dialog box, you should now see the Nickname (i.e., title/description) of the macro selected in the previous step. Select the entry that corresponds to the macro you want and click **Import**.



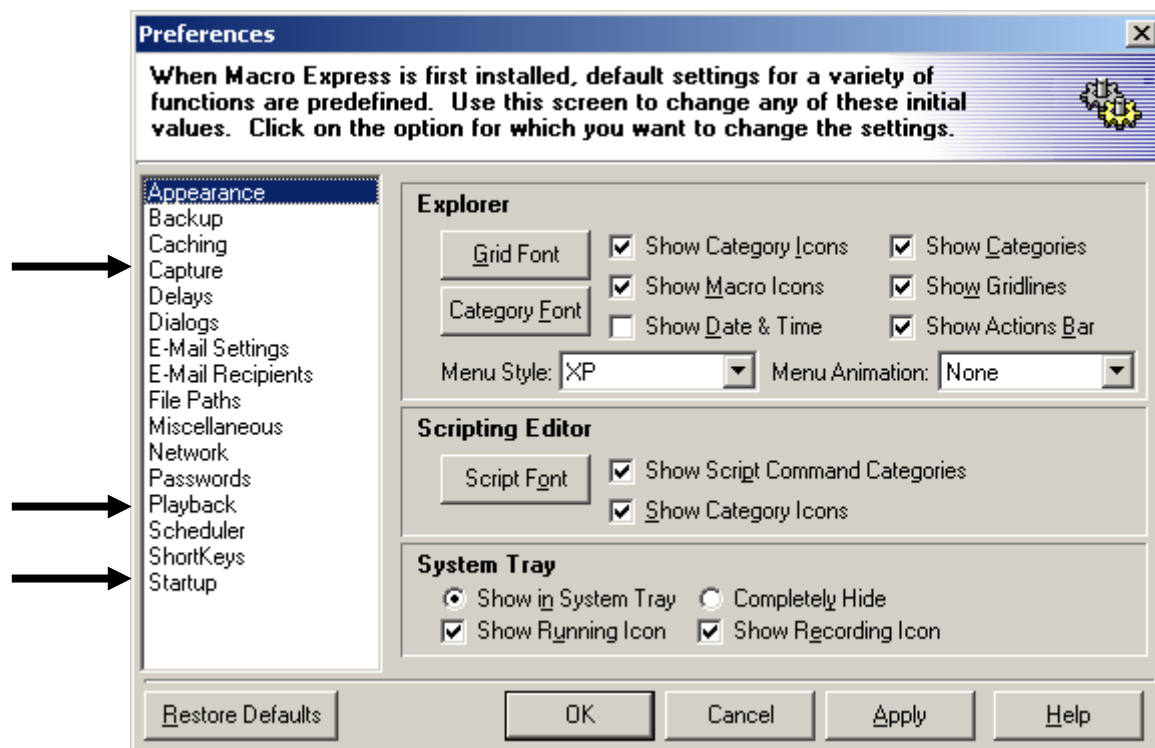
You should now have a new macro in your file, displaying in the Macro Explorer view. Before running the new macro, open it with the Scripting Editor to view any comments/remarks that have been added by the macro's author. It is also useful to review the macro in the Scripting Editor before running it to see exactly what the macro is designed to accomplish.

After you have successfully imported the new macro, you may wish to delete the .mex file you downloaded (to C:\temp\downloaded macros by default in this document), so that the next time you import another macro, the .mex file that you have already imported to your PC will not display.

## Macro Express Preferences

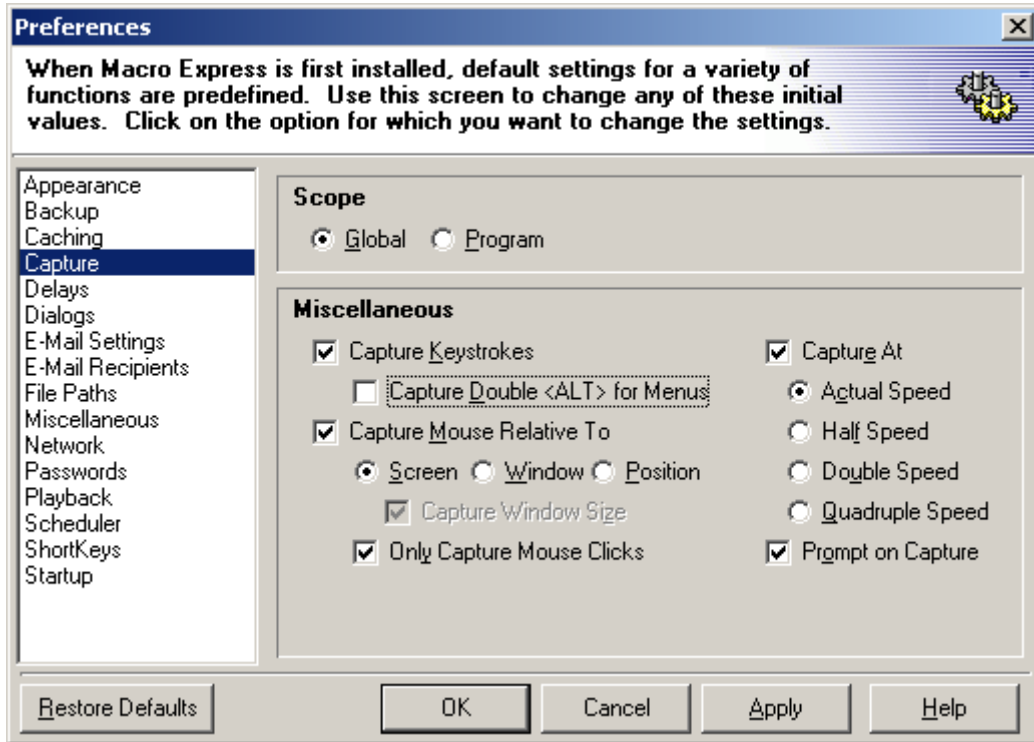
There are a few recommended settings in Macro Express's Preferences that libraries are strongly encouraged to use. These are based on the recommendations from some vendor User Group presentations, as well as experiences of CARLI Office staff members.

The Macro Express Preferences are found on the menu bar, under **Options / Preferences**. Each type of preference has a category listed in the box on the left of the screen. The example below is the default screen when you open Preferences:



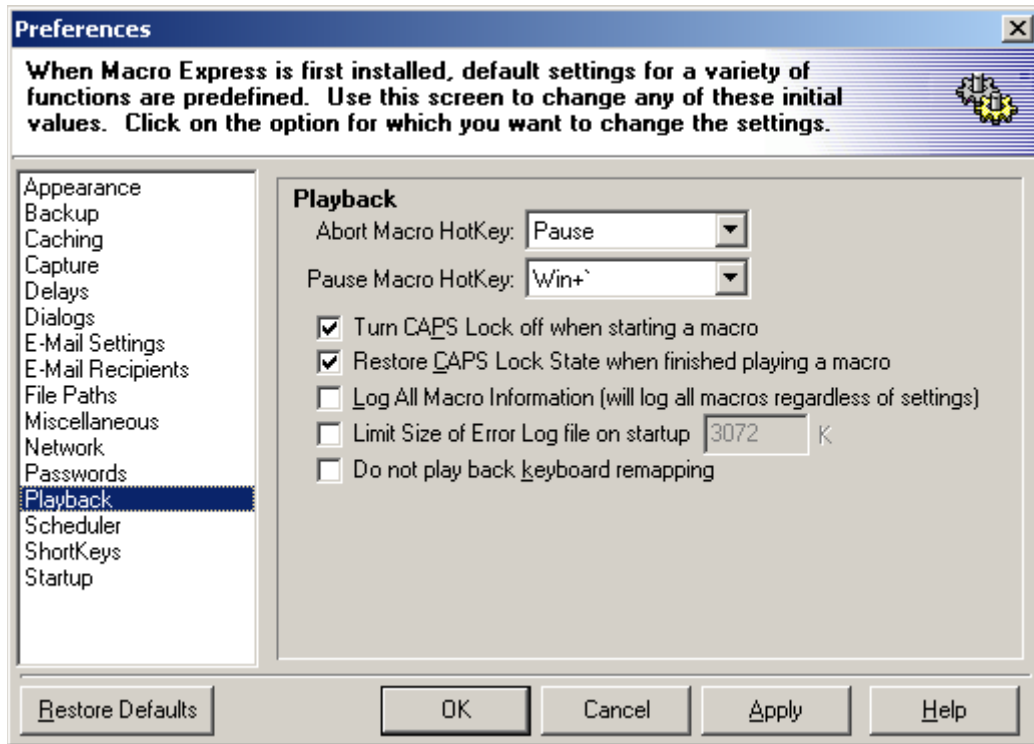
Highlight the categories listed below and set the preferences as recommended. The default preferences not listed below should work OK as supplied with the software, but individuals may want to set other preferences to meet local needs.

**Capture preferences.** Select **Capture Keystrokes**. Select **Capture Mouse Relative to Screen**. Select **Only Capture Mouse Clicks**. If you do not select this option, each mouse movement is recorded when you capture a macro, which can be very inefficient. Select **Capture at Actual Speed**. Select **Prompt on Capture**. When all options above are selected, click the **Apply** button.



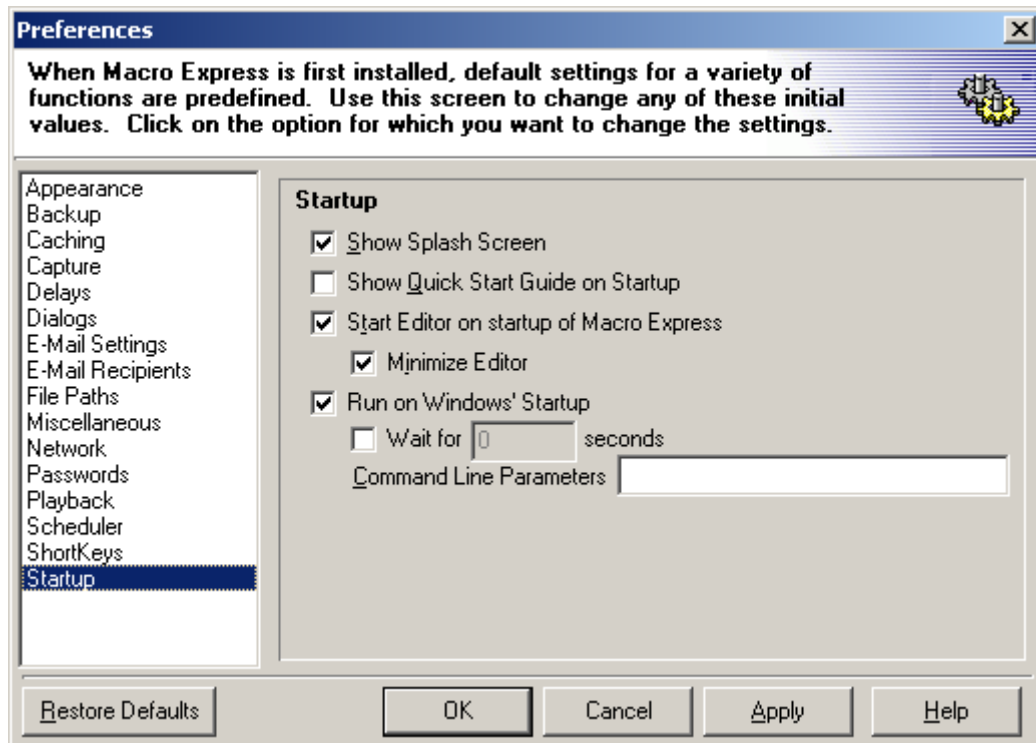
**Playback preferences.** Change the **Abort Macro Hotkey** to **Pause** if your PC keyboard has a Pause key or to **Break** if your PC keyboard has a Break key. If you ever need to stop a macro while it is running, a simple keystroke is preferable to a combination of keys that are harder to remember. If your PC does not have a Pause or Break key, select another Hotkey that can be easily remembered and used as needed. The important concept here is that the user knows how to stop a macro once it has started running.

The other options on this screen are at the discretion of the user. When all of the preferred options have selected, click the **Apply** button.



**Startup preferences (optional, but recommended).** Check (enable) the option for **Start Editor on Startup of Macro Express**. UNcheck (disable) the option to **Show Quick Start Guide on Startup**.

The other options on this screen are at the discretion of the user. When all of the preferred options have selected, click the **Apply** button.



Click the **OK** button to save the new preferences, and exit back to the main Macro Express screen.

## Voyager Client Preferences

In the Cataloging client, set the **Options / Preferences / General tab** to enable **Display MARC Views Maximized**.

The Circulation client doesn't offer this preference, but you should manually maximize the Voyager Circulation window before running any macros in the Circ client.

In addition, many of the macros on the I-Share Shared Macros page require specific Voyager client preference settings in order to work properly. These are detailed in the individual macro documentation, where applicable.

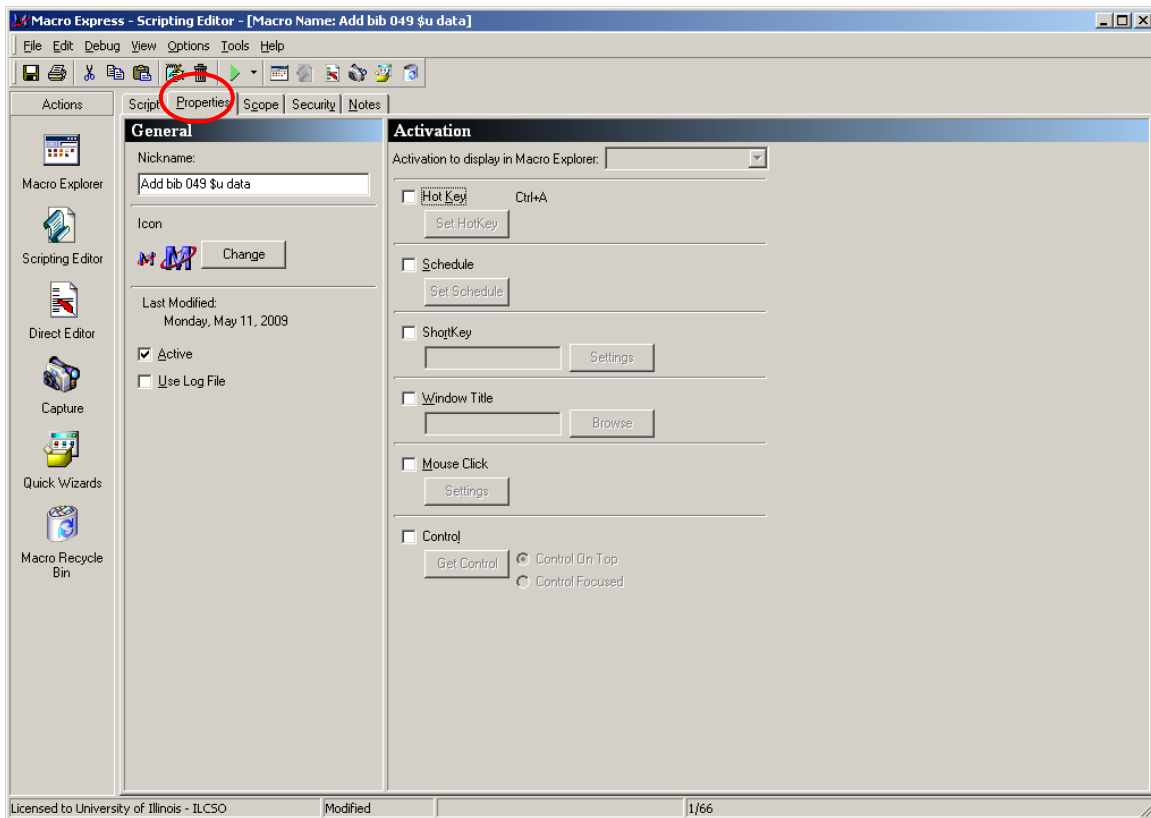


## Activation Keys

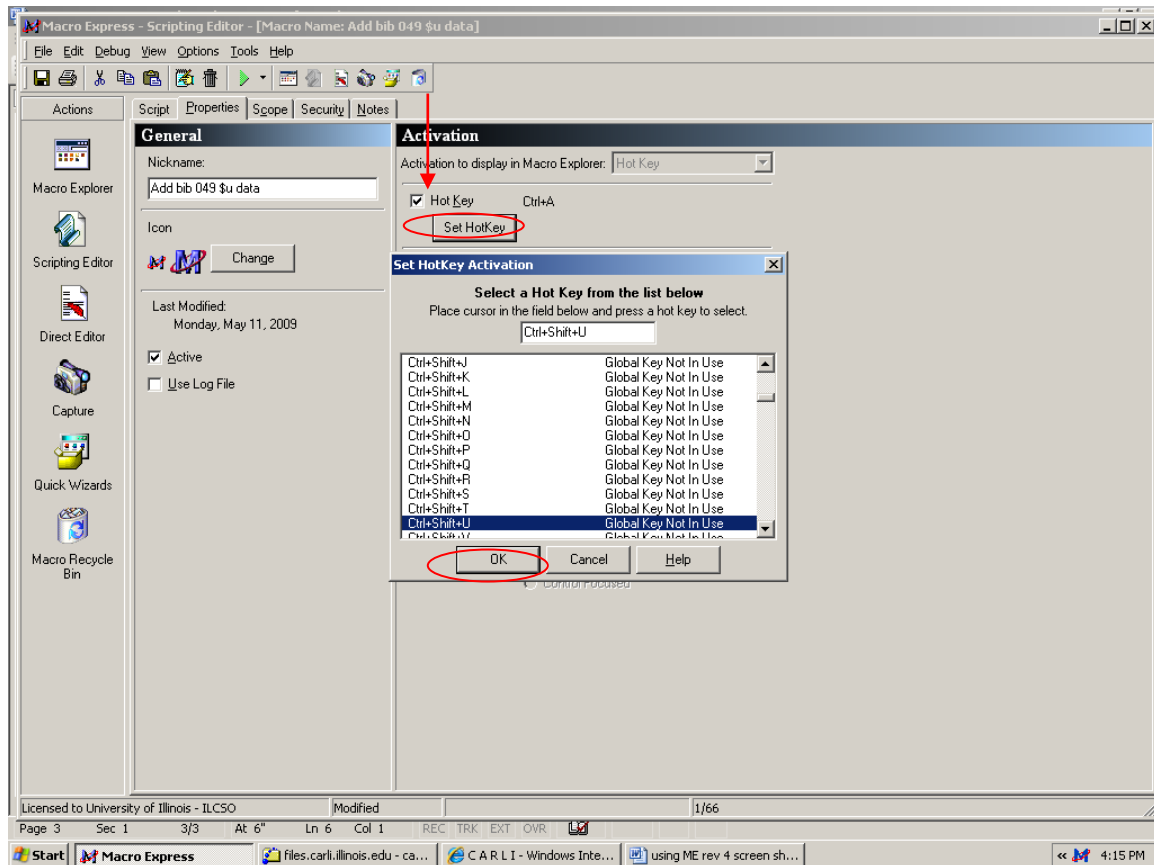
In Macro Express, each macro can have an **Activation key**, which is usually a keystroke combination that starts the macro running.

All individual macros on the I-Share Shared Macros page are posted without a specific Activation key assigned (e.g., “No Activation” displays in the Activation column when viewing existing macros in the Macro Explorer view). This is intentional, so that the import process does not find conflicts with any existing macro’s Activation key setting. This also allows libraries to develop their own strategies for assigning Activation keys to individual macros.

However, this strategy means that each shared macro needs to have an Activation key assigned by the user. This is done by opening the macro in the Scripting Editor (e.g., select the desired macro from the Macro Explorer view and double click to open it in the Scripting Editor), and then clicking on the **Properties** tab.



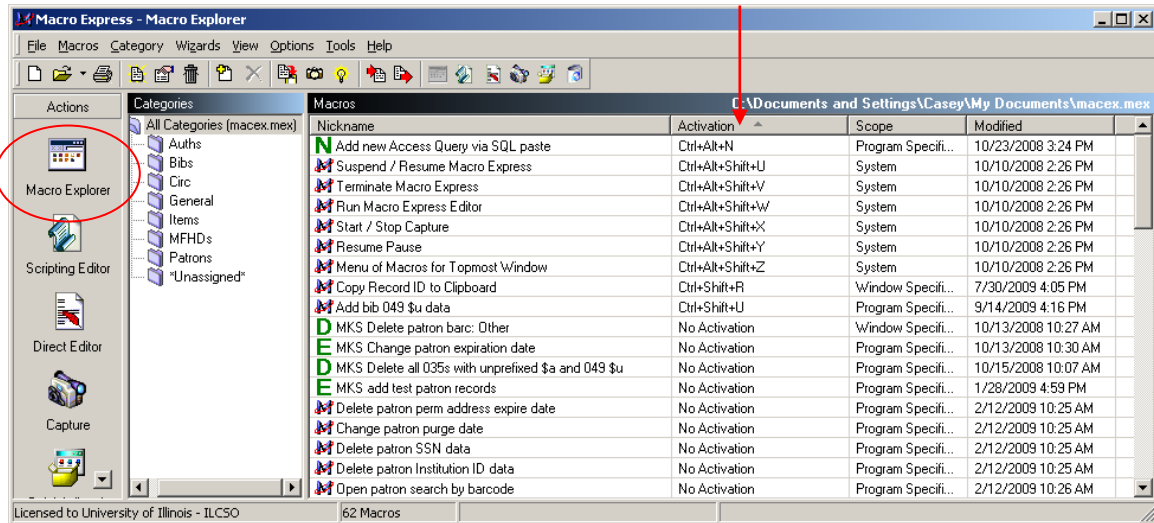
Check the box next to the **Hot Key** option, and then click the newly enabled button called **Set HotKey**. In the Set HotKey Activation dialog box that appears, scroll through the list until the desired key combination displays, then highlight the desired hot key and click **OK**.



NOTE: Before assigning an activation key to an individual macro, you **must** go into the Voyager client that the macro uses, and make sure the potential keystroke combination for the Activation key is **not** a keystroke combination that has functionality within the client. Reference sheets for the keyboard shortcuts in the cataloging and circulation clients may be found under the I-Share Shared Macros section at <https://www.carli.illinois.edu/products-services/i-share/execute>.

For example, in any of the Voyager clients, you would not want to assign the keystroke combination of ALT+F as an Activation key, because ALT+F is the keystroke combination to open the File menu in all of the Voyager clients. But the keystroke combination CONTROL+SHIFT+F has no Voyager functionality, so it could be used as the Activation key in an individual macro.

When assigning Activation keys, you also want to make sure the potential key is not used in another existing macro. Activation keys should be unique across all macros on an individual workstation. To see which Activation keys have been assigned already on the workstation, go to the Macro Explorer view, and look under the Activation column. Click the column header for **Activation**, and the existing macros will sort by the Activation keys assigned in each macro.

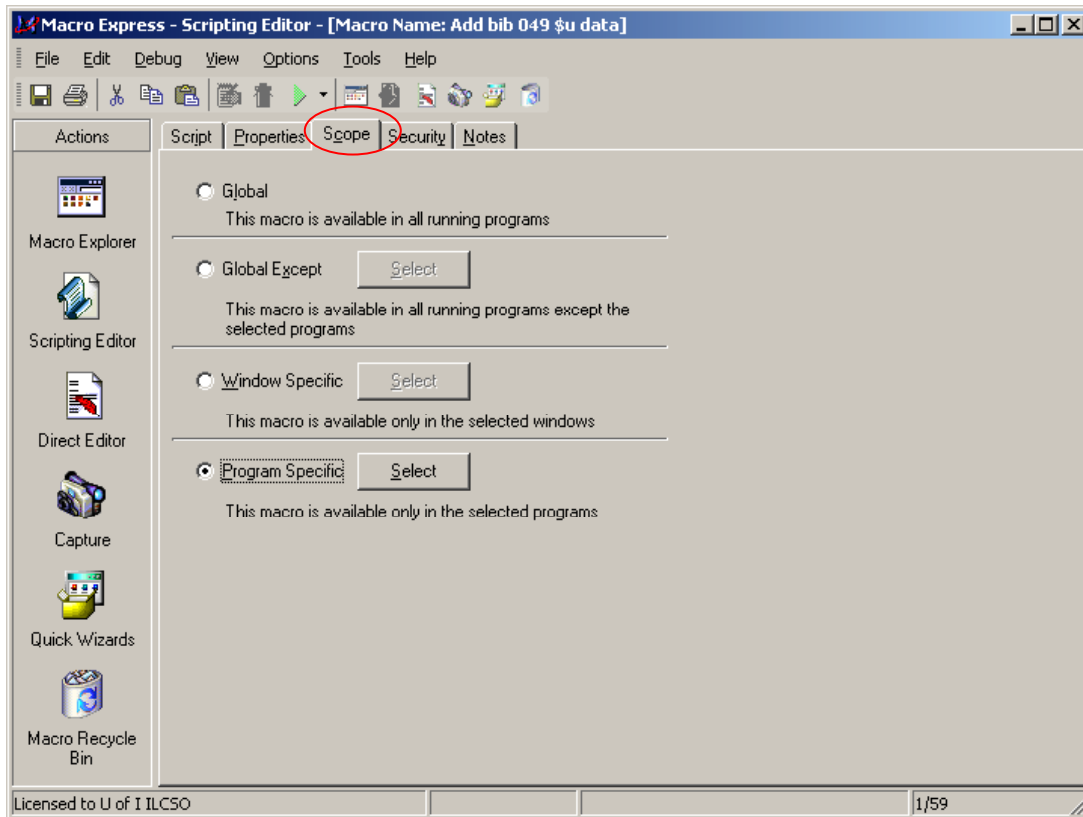


## Scope settings

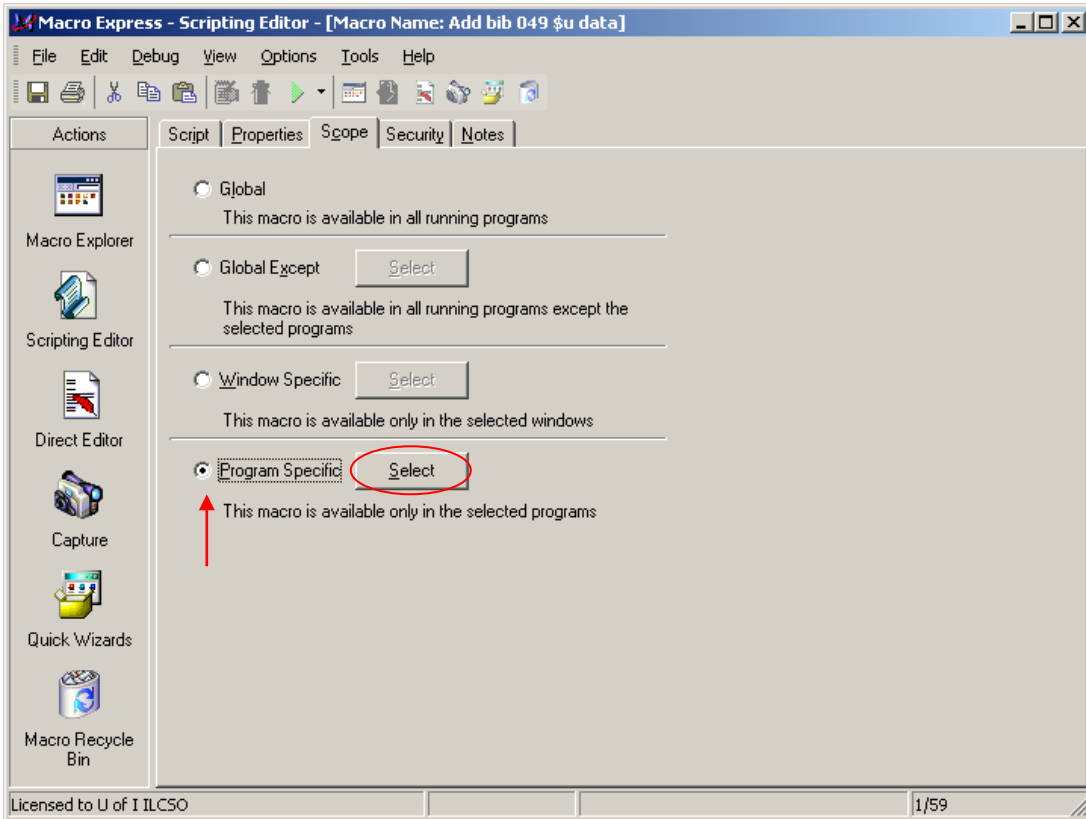
If you are creating a new macro to work with your Voyager database, setting the macro to be **Program Specific** is safer than Global. Program Specific macros will only be invoked when the specified programs are running. Global macros will invoke the keystrokes/commands within the macro in any program that is running on the PC, which may give undesired results in non-Voyager programs.

Open the Voyager client on the PC that will be used by the macro (e.g., make sure the Cataloging client is running if that is the client you wish to set in the macro's Scope setting).

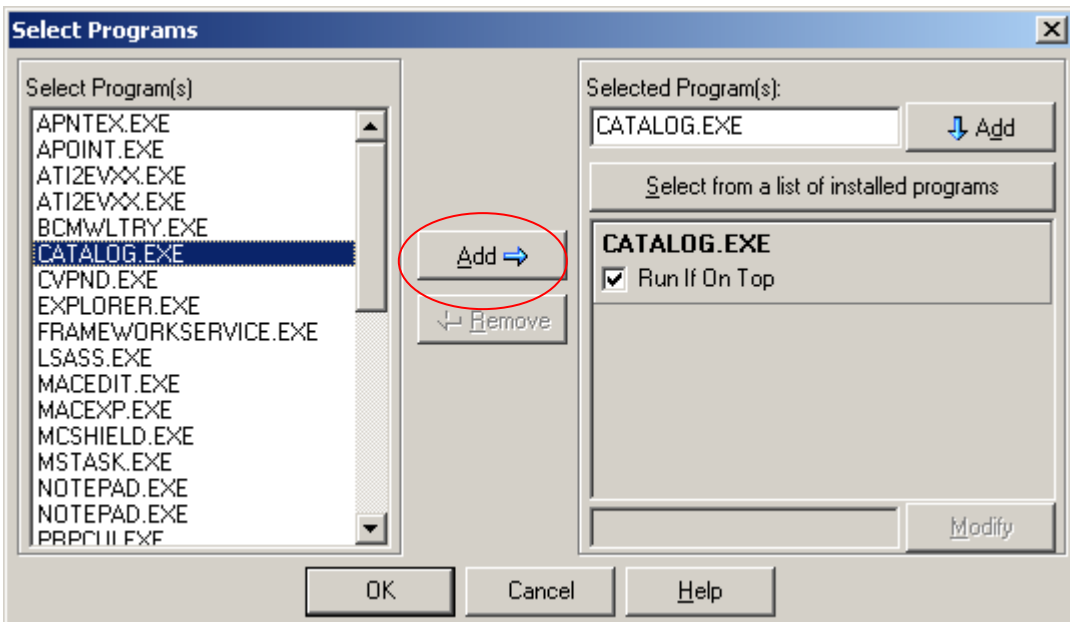
Set the Scope by opening the macro in the Scripting Editor and clicking on the **Scope** tab.



Click the radio button next to the **Program Specific** option, and then click the **Select** button.



This will open a dialog box showing all programs currently running on the PC on the left side of the screen. Select the desired client (e.g., CATALOGING.EXE for the Cataloging client) and click **Add**. This will move the client program name to the right side of the screen. Click the **OK** button to apply the change.

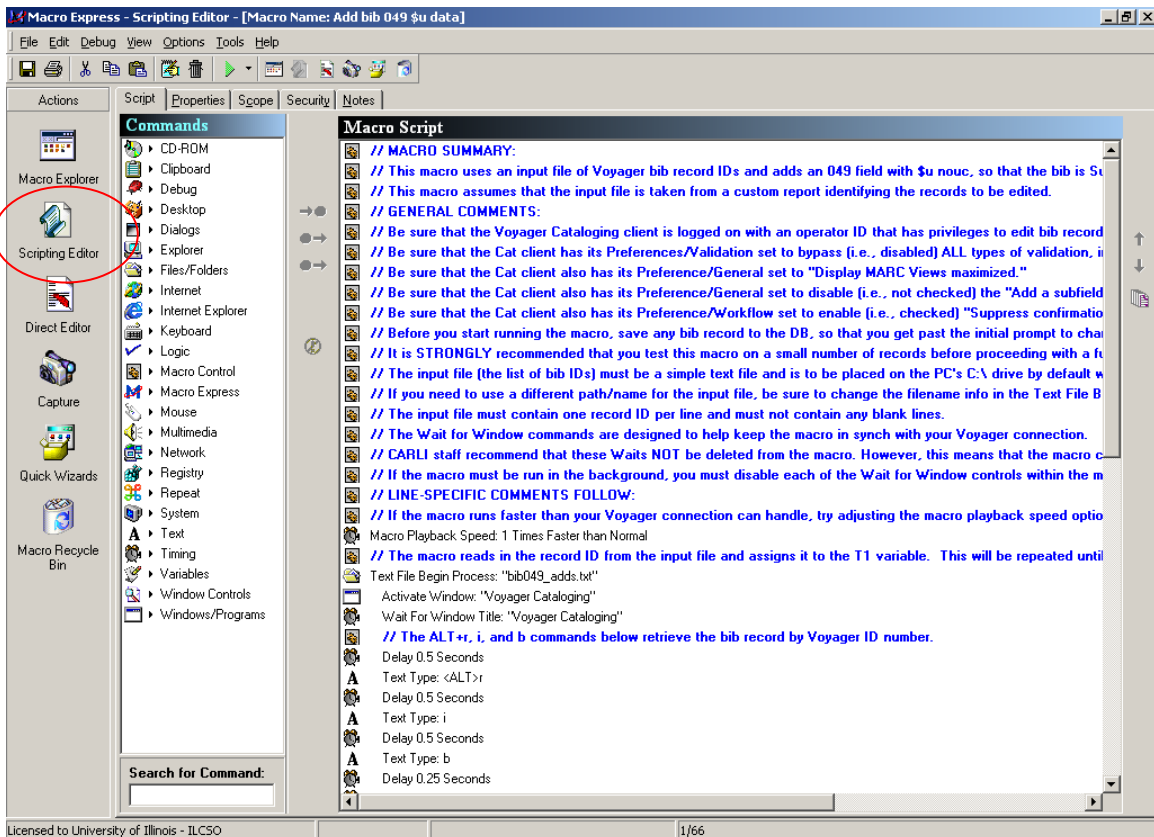


## Other Macro Express functional recommendations/tips

### Read the macro's comments

Before running any macro, you should always read the comments inserted by the macro's author. These comments may direct you to edit the input/output file names, set particular Voyager client preferences, or simply explain what the macro is designed to accomplish. Reading the comments can prevent misunderstandings about what the macro will do to your data or prevent problems with the proper running of the macro.

To read the comments, open the macro with the Scripting Editor. Comment lines are always preceded with "//" and are in blue text (by default). Often in I-Share shared macros, there are general comments inserted at the beginning of an individual macro and line-specific comments inserted throughout the macro that explain the intent of the commands.



## Test the macro!

IMPORTANT NOTE: Neither the CARLI Office nor the author of any shared macro posted to the CARLI web site is responsible for unintended results from the use of these macros. Any errors made to records using any shared I-Share macro are the responsibility of the library to correct locally. CARLI staff will NOT restore any database because of errors made to records by imprudent or incorrect use of these macros. By downloading and running any macro from the I-Share Shared Macro page, the library accepts this policy.

IMPORTANT NOTE: Before downloading a macro from the CARLI website, or using an old macro on your workstation, review the description and notes to be sure that the macro has been revised for Voyager 9.1.1 (revision dates after June 9, 2015). Changes to the clients may disrupt how older versions of macros may behave.

If the macro is designed to process Voyager records in a quasi-batch mode using an input file, always test the macro on a small subset of records before running it against the full file of input records. If the macro uses the "Text File Begin Process" command for reading from an input file, the best way to test the macro on a subset of records is to double click on the **Text File Begin Process** command within the macro, and then change the option near the bottom of the screen to **Process Partial Records**. When the Process Partial Records radio button is selected, the box labeled **Value** under "Number of Records to Process" is enabled. Enter the number of records desired for the test in the box. A suggested value for an initial test run of any I-Share shared macro is 5 records. Click **OK** after all changes have been made on this screen. Then **Save** the macro after making this change.

NOTE: Versions of Microsoft Windows later than Voyager 7 may restrict or block the placement of source and output files at C:\. Be prepared to modify the location of these files on your computer, and modify the file path and file name in macros.

In an effort to enforce the recommendation to test an I-Share shared macro before running it in production mode, all macros downloaded from the I-Share Shared Macros page have the default setting of **Process Partial Records** enabled, with a value of 5 records entered.

**Text File Process** [X]

**Commands**

Open and Start Processing a Text File  
 End Processing Loop

Filename:    
 Bypass File Existence Check

Start Processing Record  
 Value:   Variable:  [v]

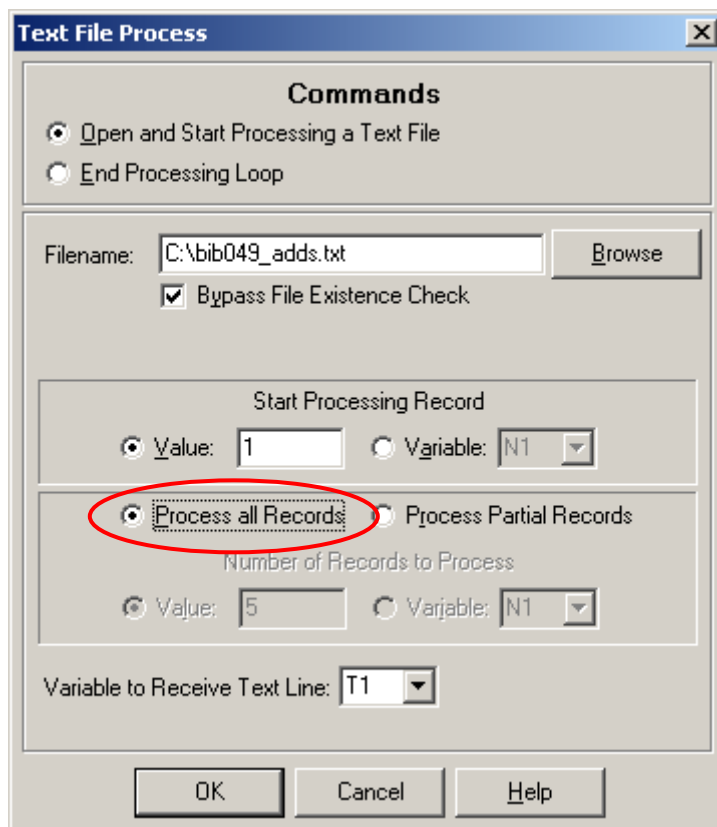
Process all Records  Process Partial Records

Number of Records to Process  
 Value:   Variable:  [v]

Variable to Receive Text Line:  [v]



Once you are satisfied that the macro is performing as expected, edit the **Text File Begin Process** command again to **Process All Records**. Click **OK** and then **Save** the macro after making this change.



After the test has proved to be successful, you also need to edit the input file to remove the record ID numbers that were processed in the test run, because you don't want the macro to perform its steps on the same record(s) a second time (assuming the right actions were taken in the test). If you do not edit the input file to remove any record ID numbers, the macro will attempt to process the same records again. In the case of macros that delete data or records, for example, the data/records will not be in the database after the first test run. Therefore, the second run of the macro will not find the desired data/records and the macro will likely stop processing correctly. If this happens, use the Abort keystroke established in Preferences to stop the macro's activity.

See the next section for more detail on editing the Input and/or Output files.

## Input and Output Files

For macros that run in a quasi-batch mode using an input file of record IDs, the library is responsible for creating the actual input file. Most often, the input file will contain the results of an Access query that identifies the records to be processed by a macro. For example, the I-Share shared macro to change the item record's copy number from zero to 1 requires an input file of Voyager item record IDs. The list of appropriate item record IDs can be obtained by

running the query called “Find item records with copy number zero” which is available from the I-Share Shared SQL web page at the URL below:

<http://www.carli.illinois.edu/products-services/i-share/reports/secure/sql-local-cat3#0121c>

The input file must be a simple text file with one record number per line, with no blank lines anywhere in the file, and no duplicated entries in the file. Often, this file can be created by copying the record ID numbers from a query result into a new document in Notepad, and saving the file with the appropriate filename, as specified within the macro.

In the I-Share shared macros that use an input file, the macro will include a command called **Text File Begin Process**. Open this command by double-clicking the line in the macro (in the Scripting Editor view), and a window displays similar to the screen shots in the section above. The box called **Filename** shows the path/filename where the macro expects to find the input file. If the library wishes to use a different path/filename than what is specified within the macro, edit this box to point to the actual path/filename on the PC.

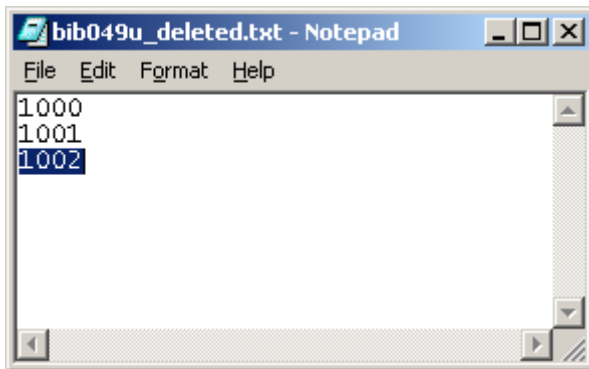
All of the I-Share shared macros that require an input file also include a command that will create an output file, to show which records have been processed by the macro. The creation of the output file is done automatically by the macro; staff do not have to create this file prior to running the macro.

The command that creates the output file is usually found near the end of the macro (in the Scripting Editor view), called **Variable Modify String: Append <variable> to Text File**. Double click on this command and then look in the box labeled **Filename**. This will show the path and exact filename to which the output is being saved. If the library wishes to use a different path/filename than is supplied with the macro, edit this box to point to the actual path/filename on the PC to which the output should be saved.

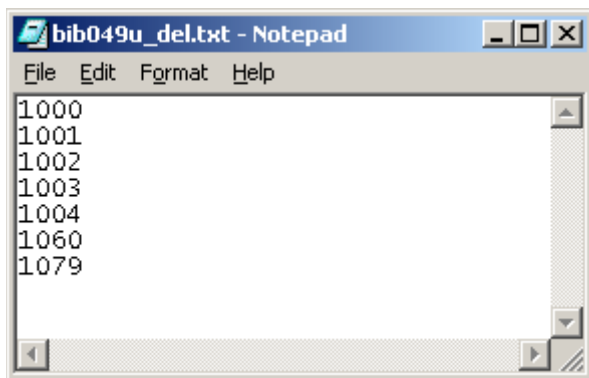
Some macros may have multiple commands to create the output file. Be sure to identify and edit all instances of the **Variable Modify String: Append <variable> to Text File** commands found within a macro. A quick way to locate all references to output files within a macro is to use the macro’s Find functionality for the word “append”. Repeat the Find until no more instances of “append” are located in the macro script.

The interrelationship between the input and output files is particularly important when the macro is being tested on a few records, or whenever the macro gets out of synch, or is manually stopped before all of the records in the input file have been processed. If the macro is restarted for any reason, you need to adjust the input file to remove the entries that have already been processed. This is done by comparing the output file with the input file, and manually deleting the entries from the input file that represent records present in the output file.

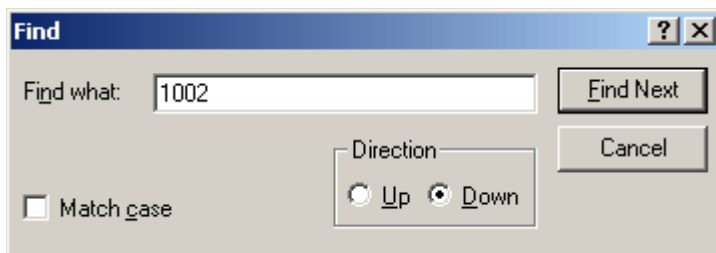
To identify records that have already been processed by the macro, open the output file with a text editor such as Notepad and copy the last record ID found to the PC's clipboard. In the screen shot below, the output file is called "bib049u\_deleted.txt" and the last edit was made to record 1002:



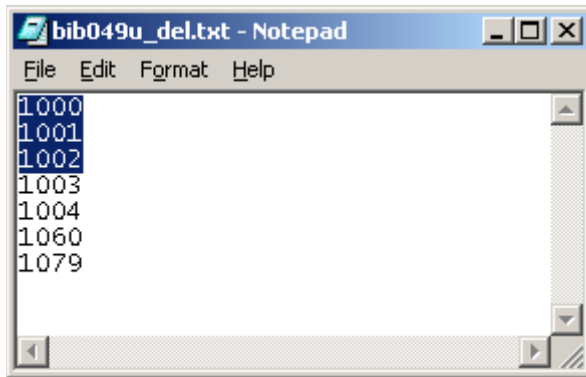
Next, open the input file using a text editor (such as Notepad). In this example, the input file is called "bib049u\_del.txt":



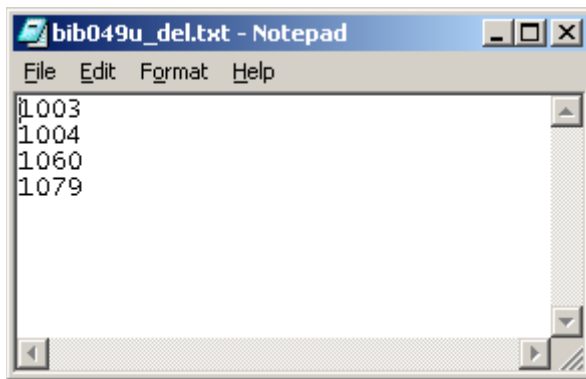
Do a **Find** command (**Control+F** in Notepad) and paste the copied record ID number into the **Find what** box:



When the Find command has completed, select and delete the found/copied record ID number and all lines before it from the input file:



Finally, save the input file after the ID numbers for the processed records have been deleted. Make sure any blank lines created by the deleted record numbers are removed from the input file:



NOTE: you should always **Save** and **Exit** both the input and the output files before starting the macro again. Problems can result if the input and/or output files are open when the macro is reading from or writing to either file as part of its processing.

## Activating Windows and Wait for Windows Functionality

Many I-Share shared macros include a command to **Activate** the window for whichever Voyager client is used by the macro, and to **Wait for Window Title** (with an individual Window title identified in the command). This is particularly true of macros designed to process a batch of records based on an input file. These commands are used to help keep the macro in synch with the Voyager client's responses. The presence of these **Activate Windows** and **Wait for Window Title** commands means that staff will not be able to perform other tasks on that PC while the macro is running. Library staff need to be aware of this when planning their macro workflows.

## Macro Playback Speed / Delays

Sometimes Macro Express runs faster than a particular library's access to their Voyager database can handle. If the macro gets out of synch with your network connection to Voyager, try changing the **Macro Playback Speed** option to a higher number, to slow down the macro overall.

If you notice that the macro gets out of synch consistently at a particular step in the process, you can adjust the **Delay** that is built in around that step.

The Voyager functionality to save a record to the database often requires more time than simple maneuvering around a record, so the I-Share shared macros have a longer delay built in when a record is saved. It is recommended that these delays be shortened only if absolutely necessary.

Some macros can easily get out of synch when the delay after the save is not long enough. This is especially true for those macros that edit/save bibliographic records that can have many variable fields that are re-indexed upon the Voyager **Save to Database** command. In some databases, the default Delay after a Save to Database command may be too short. If the macro consistently gets out of synch after the Save to Database has been issued, the user should manually increase the Delay that follows the save.

## Voyager Client Commands

When creating new macros to work with Voyager clients, it is always best to use the Voyager keyboard commands (when possible) to program the required actions within the client, rather than using mouse captures. For example, in the Voyager cataloging client, to open a bib record using the record ID, the macro should use the **Alt+R** then **I** then **B** keystrokes instead of recording the mouse moving to the main menu, selecting Record, then selecting I from the submenu, then selecting B from the next submenu. In the Circulation client, the macro should be programmed to use the **CONTROL+P** keystrokes to open the Search for patron record window, rather than recording the mouse moving to and clicking the Patron icon at the top of the screen.

Voyager keyboard commands are available for the most common client functions, and they should be used whenever possible. If there is not a keystroke command available for a particular client function, but the data to be changed by the macro can be found in the same physical location in all records, then programming a series of standard keyboarding functions will often prove useful. For example, a macro may use five **TAB** keys inserted to move the cursor to the first position in a bib record's variable fields. Or the **Control+End** keystrokes can be inserted into a macro to move the cursor to the end of the record.

Macros using Voyager clients are easiest to program when the same set of keystrokes would apply to every record, under all circumstances. Macros that deal with variable fields in bibliographic records or MFHDs, for example, can be trickier because the data is, well, variable in location within the record and content. There are some techniques that can be used to deal with variable fields, however. The macro called "AddMFHD\_852t.mex" from the I-Share Shared Macro web page uses a technique of copying field tag data to the clipboard, then assigning the copied text to a variable, and then using an "if" statement on the variable to determine the location of the 852 field within the MFHD. This concept may be useful for other macros that deal with variable length fields in bibs and/or MFHDs.

For macros that use an input file to process records in a quasi-batch mode, it is always best to have the macro search for a record using the internal Voyager control number (when possible) rather than performing a non-keyword search, for example. This means that the input file for these types of macros must be created from an external query run against the database to identify the appropriate records to be edited by the macro. These queries should include the record ID as part of their output. See the section above on **Input and Output Files** for more details on the input file requirements.

An exception to this advice is for macros that use the Circulation client. Exercise caution when using patron barcode numbers for retrieval. While in theory patron barcode should be unique between patron records, they can be duplicated within an individual record and therefore require manual intervention to select the correct record.

## Getting Help

As source of help, Macro Express Help (online in the software) is often useful in answering a specific question. In addition, the Insight Software Solutions (creator of Macro Express) web page <http://www.macros.com> offers an abundance of online information about using the software. Click on the Support link on their web page for more information.

CARLI Office staff have moderate experience with using Macro Express software. We encourage you to try the sources listed above for initial help, but we are willing to take general questions on Macro Express as needed. CARLI staff will support any of the macros posted to the I-Share Shared Macro page, of course.

If you need assistance with the information detailed in this document, contact the CARLI Office at [support@carli.illinois.edu](mailto:support@carli.illinois.edu) .