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Getting Started

Introduction

A macro is a series of steps that you teach the computer. These steps can then be recalled repeatedly to automate the operation of the computer.

Macros save time and reduce errors.

Macros Easy (ME) Features

- Automates routine and repetitive computer tasks, saving time and reducing errors.
- Easy to use. Macros load and run automatically based on standard Windows events.
- Easy to learn. There are no scripts or programming languages. All macros are created using simple, point and click wizards.
- Powerful. ME can simulate actions of end users and other programs automatically.
- Flexible. ME can watch for exceptions and error messages and automatically select the correct macros to handle the situation.
- Data Access. ME can read text files, ODBC databases, and HTML and XML sources on the Internet and your local Intranet.

Typical ME Uses

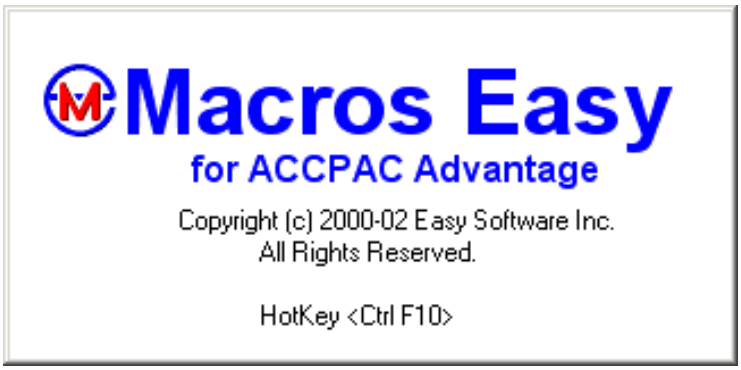
- Automated data entry
- Error detection and prevention
- Auditing
- Notes
- Training
- Data Import/Export

Do You Need ME

- Would you like to improve the efficiency of your data entry and computer operation?
- Do you need a solution to efficiently handle exceptions?
- Would you like to avoid custom programming?

Operation

When ME starts, the Splash screen will appear briefly.



At the bottom of the screen is the hotkey identifier.

This shows the hotkey for this user to create macros. The default hotkey is <Ctrl F10>.

When ME is active, pressing the hotkey <Ctrl F10> in an application field will bring up the Macro Wizard.

See: Quick Start

Maintenance and Reporting

When ME is running, a small icon appears in the system tray. This icon is intended for advanced users. You can right click on this icon to bring up a small control menu. Double clicking the ME icon (or right click, open) brings up the Maintenance and Reporting Window. This is used to maintain and report on macros, fields, groups, hotkeys, passwords, etc.

Stopping ME

Closing the maintenance and reporting window does not stop ME. The tray icon allows you to stop and start ME. Right click the tray icon to bring up the control menu.

New Users

New Users are automatically added the first time they start ME. By default, users are set up in Group ALL, with <Ctrl F10> as their hotkey, and with a blank password.

Reporting

Bulk reporting is provided in ME. In addition, because the database is a standard MS Access database, you can create you own selective reports using Access or Crystal.

MS ACCESS

Do not use MS ACCESS to change the ME database. ME makes assumptions about the structure of the database. Changes made by MS Access are likely to result in program exceptions and unexpected halts.

Quick Start

1. Run Setup.exe from the installation CD. This will install and run Macros Easy (ME). If Autorun is enabled, this step will be performed automatically when you insert the CD.

Note: If you are upgrading ME over an existing installation, first uninstall ME from the control panel. If this step is not done, a repair, not an upgrade will be performed. A repair does not upgrade ME. ME automatically backs up existing data during uninstall, and restores this data after an install.

(Note for Windows 2000/XP users: Select CHANGE from the control panel, not REMOVE, or a backup is not performed.)

2. To confirm ME is running, look for a small icon in the system tray. Do **not** open this icon yet.

3. Open an application you would like to automate. Move to a screen and field in which you want ME to take some action.

4. Press CTRL F10 to popup ME.

5. Three steps are involved in creating a macro:

   a. Filter - created once per application
   b. Name - created once per field
   c. Macro - created each time.

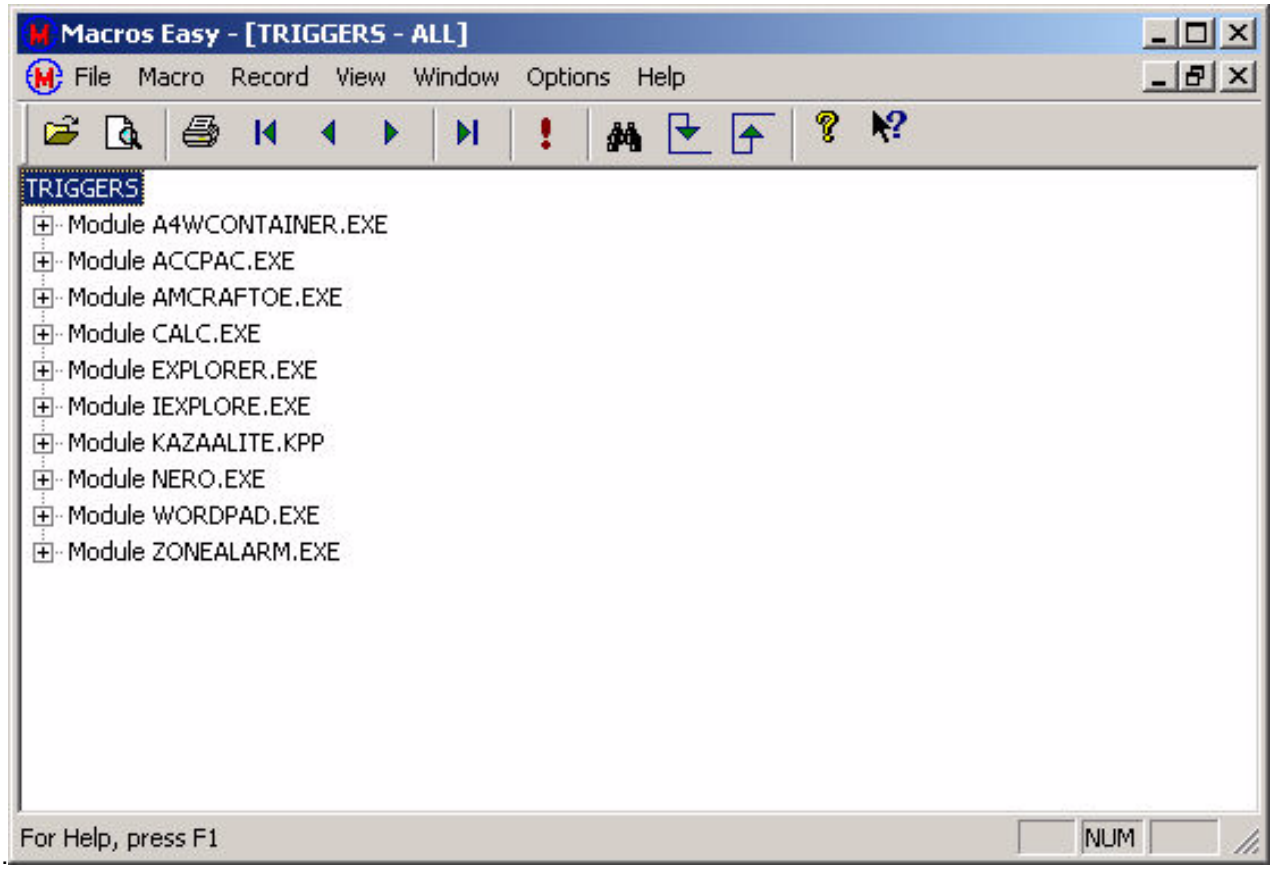
ME will walk you through a series of Wizards to create your macro. (See Macro Wizard and Tutorials.)

Once you have created a macro, it is immediately available. It will run as soon as a matching event occurs to trigger it.

Further information is available in Frequently Asked Questions.

6. Double clicking the ME icon on the task bar will bring up ME. This functionality is intended for more advanced users once you have created some macros using the wizard.

Note: While ME is Open macro execution is suspended to simplify maintenance. You must close , not minimize this window to enable ME.



This view shows the programs that have macros, and can be expanded to allow macro maintenance and reporting. (See: Actions, Triggers and File Open.)

Hint: To "find" the macro you just created, select "File, Open" and open the Macro view. Select "Macro, Find" to activate the Finder, then CTRL Click the Finder on the application field in which you created a macro.

Pressing the re-query tool in a multi-user environment will make changes made by other users visible to you.

Note: Changes made by other users are automatically loaded by ME whenever you open a new application screen. However, they are not made visible until you re-query.

Close (not minimize) this window to enable ME.

7. You may right-click the ME Icon for Tray Icon functions.

The HIDE menu option will also enable ME.

8. ME will be automatically started each time you start Windows.

Upgrade

If you are upgrading ME over an existing installation, first uninstall ME from the control panel. If this step is not done, a repair, not an upgrade will be performed.

ME automatically does a backup of existing data during uninstall, and restores this data after an install. (Note for Windows 2000/XP users: Select CHANGE from the control panel, not REMOVE, or a backup is not performed.)

Setup

To install ME, run Setup.exe from the installation disk.

In a multi-user installation, install ME to a shared drive. Once this is done you can run the workstation setup from each user's station. Use the setup disk or run ME (uMacros.exe) from the shared drive.

Do not setup ME on each user's local drive as this will prevent users from sharing macros and field names, making maintenance and support considerably more difficult. There is little, if any, performance benefit as almost all of the ME runtime is local DLLs.

Setup Recovery

During SETUP, any existing ME database is automatically upgraded to the current version.

Any existing backup (uMacros.tdf) is renamed to UMmm-dd-yyyyhhmmss.tdf, and a backup of the database is made. The old database is renamed to uMacros.mdb.SAV.

ME uses this information to upgrade the database or recover the database in case of setup failure.

You may recover previous macros/fields/users/etc. by manually restoring UMmm-dd-yyyyhhmmss.tdf to uMacros.tdf, then running File Restore/Replace.

Frequently Asked Questions

What are the main differences between traditional macro programs and ME?

1. Triggers - In ME you do not run macros. ME automatically selects the correct macro(s) to run from its lookup table. This allows you to create macros that work the same way as Windows.

Traditional programs are typically task oriented and work the way that DOS did. You need to know which macro to select for each situation.

2. Actions - ME provides three different types of macros: PASTE, KEYMOUSE, and PLAYBACK. This allows for precise tailoring of your macros to handle different situations.

Traditional macro programs usually provide only playback macros and typically fail if the application program does something unexpected.

3. Tests - ME allows you to test the values of fields to control macro execution.

Traditional macro programs typically are not able to test the values of fields and are unable to adjust their actions to match the screen.

4. Groups and WorkGroups - ME is a database and you do not need to copy macros from one group to another. Security automatically makes groups of macros available to users and controls each user's abilities within that group. WorkGroups allow multiple users to be maintained as a set, speeding and simplifying maintenance.

Traditional macro programs are typically file oriented and require you to copy macros from one group to another with the associated problems in controlling macro versions and updates.

Does ME rely on the screen location of programs?

Some macro programs cannot playback mouse actions correctly if you move a program/window on the screen. ME automatically adjusts your macros to match the location of each window.

How do I create a macro?

Press CTRL F10 (default hotkey) in the field that needs a macro.

ME will call the Macro Wizard.

The first time ME sees a module (program), you will be asked to create a filter. A filter allows ME to create macros for that program specific to a file or company, or generic over all files or companies. You can change the filter later using Options, Filter.

The first time ME sees a field you will be asked to create a name for that field. This allows you and ME to refer to that field from then on by name, making it easier to use in macros.

From then on, ME will only display the create macro dialog.

Three dialogs are involved:

Filter Create
Field Create
Macro Create

How do I run a macro?

Macros are run by Triggers. Triggers can be something like a mouse click, a timer, or even a user-defined name.

Triggers such as mouse clicks or hotkeys run macros automatically.

Named Triggers can be run automatically via a schedule, manually via user-defined popup menus, interactively via the Tray icon or File Run, or from the command line.

How do I stop ME?

Press CTRL ESCAPE to stop a macro. You may have to hold CTRL ESCAPE pressed for approximately 1 second, to allow pending macros to clear the queues.

You may also press CTRL ESCAPE to stop macro recording, but CTRL BREAK is the recommended way to stop recording.

You can also stop ME by opening the ME main window via the system tray icon or by creating a macro via the hotkey (CTRL F10). Macro execution will be suspended while these windows are open.

Unloading ME via the system tray icon halts all macros.

Are ME macros "Procedural", and what does that mean?

Procedural macros are macros that run step-by-step in a preset order. Non-procedural macros are macros that run in any order. ME macros are both non-procedural and procedural to match the MS Windows operating system. ME macros are event driven. Triggers can be set on events, and run macros in the order that events occur. In this way, macros are non-procedural and have no preset order of execution.

However, when any single event occurs, multiple macros (unlimited) can be Triggered by that event. These macros are not run simultaneously, they have a sequence, making them procedural. The macros are run in the order in which they appear on the ME Triggers View, and can be re-ordered from this view.

Note: Because PlayBack macros can automate multiple fields they are another form of procedural macro that ME provides. However, because of the limited capability of PlayBack macros to handle exceptions, they should be used sparingly. PlayBack macros worked well in the DOS environment. They are less useful in Windows.

How do I maintain ME?

Double click on the ME Icon on the system tray. This feature is intended for more advanced users. Novice users should always try to use the wizard, available via the <Ctrl F10> hotkey.

Does ME support Groups?

ME supports Macro Groups and User WorkGroups. Macro Groups provide an easy way to group macros for maintenance and reporting purposes. WorkGroups provide an easy way to group users for security purposes.

When we mention Groups, we are always referring to macro groups. When we mention WorkGroups, we are referring to user workgroups.

Every user has a macro group which is the current group of macros they are working with. Every user also has a user workgroup. By default, each user is their own workgroup, but users can join other workgroups.

How do Groups work?

When you create a macro, it is created in your current Group. (See: Options, Group.)

To run/modify this macro, you can either change to this group or select Options, Group, **ALL**.

Group ALL is a special group, with access to ALL macros that you have security access to, as determined via the security view. To give a user access to a group of macros, DO NOT copy the macros into the user's group. Rather, users should typically be in group ALL. Use the Security View to give access to the Group of macros.

Please explain more about Group ALL.

In typical macro programs, each collection of users has a group and you copy macros from one group to another. However, there are two problems with this approach:

1. It takes time to copy macros from one Group to another.

2. As changes are made, you can end up with different versions of the same macro in different groups, which leads to errors.

ME stores its macros in a database so there is no need to copy macros from one Group to another.

Except when developing new macros, each user should typically be in Group ALL.

To give a user access to a group of macros, use the Security View and change that user's access to the Group from NONE to READ. To the user it will appear that all macros in the Group have now been copied into their group.

Any change to a macro in a Group will automatically be updated for all users who have access to that macro Group.

Hint: The WorkGroup field in Security View simplifies security maintenance.

What are WorkGroups? Are they the same as Groups?

Groups are groups of macros. WorkGroups are groups of users.

Groups are used to simplify macro maintenance. They allow multiple users to access different macros without having to copy macros between users.

WorkGroups are prototype users, used to simplify maintenance of user security.

Each user can have their own specific security access to various groups of macros. However, this can make maintenance of each user's security time consuming.

As an alternative, you can create a user WorkGroup. Users can then be made a member of the WorkGroup. From then on, any security changes made to the WorkGroup will affect all users that are members of that WorkGroup.

Each user can be a workgroup or workgroups can be created simply as "dummy" users. It is recommended that you create workgroups as "dummy" users with meaningful names (e.g.: Sales, Purchasing, etc.) for easier identification and to reduce maintenance in case of personnel changes.

What is group SYS?

Group SYS gives users access to all groups, bypassing security. This feature is provided for debugging and should not be used by regular users, as there is no facility to disable unwanted groups of macros. A user in group SYS has access to all macros which means that any macro could potentially run, even those macros that could be potentially damaging if run at the wrong time. SYS should only be used by experienced and trained personnel that understand the significance of what they are doing.

What security is available to protect against group SYS.

When ME is activateed, a Master Password may be entered. If this is done, system security is enabled.

Security is arranged according to:

NONE
CREATE
READ
UPDATE
DELETE
SYSTEM

Only those users with SYSTEM level access or the Master Password can access group SYS.

Before ME is activateed or if you do not set the Master Password, everyone has full access to all features of ME, including group SYS.

I want to limit access to the Fields View and Security View.

Access to the Field View is determined by your security level in group ALL.

Access to the Security View is determined by you security level in group SYS.

Access to Actions, Triggers and Notes views is determined by your security level in the associated macro Groups.

I don't want users changing or creating macros.

Users with security level READ can only run macros; they cannot add or change macros.

I don't want users having access to the Month End macros.

Create a group MONTH END to contain these macros with a group password. Set every user's access to that group to NONE.

At month end, any user that knows the MONTH END Group Password can change to the MONTH END group and run those specific macros. Once month end is complete, they can change back to group ALL.

How do I run an application menu using ME?

Application menus can be run using a PLAYBACK macro. Simply record a macro that starts the menu item you require.

You cannot use Paste or KeyMouse to run a menu.

Note: KeyMouse macros can run menu commands that are a single keystroke. e.g.: <Alt m>.

What is the Syntax of ME, and what is syntax. Is there a Script?

Syntax means grammar -- the rules that govern the underlying macro language.

ME has the same syntax for all macros.

for MODULE
for SCREEN filtered by FILTER
for MACROFIELD
using ACTION
send VALUE
on TRIGGER in SEQUENCE
on TRIGGERFIELD
if TEST from SOURCE
if TESTFIELD combine AND
if TESTVALUE combine OR

ME does not have a script. You work graphically with ME and do not need to know the macro language.

The design of ME purposely avoided introducing a script language because of the level of expertise required to use a script. All script languages are a form of programming. ME was designed to eliminate the need for custom programming, not to create another form of custom programming.

ME was designed as an alternative to script macros. Most users rarely need (or can use) the full power of a script language. While simple in concept, ME handles a wide range of user requirements without the complications of a script.

What are the differences between Paste, KeyMouse, and PlayBack macros? They all seem to do the same thing.

Use a Paste macro to talk directly to a field when you don't need any other macros to know about it.

Use a KeyMouse macro to talk to a field when you want other macros to know about it.

Use a Playback macro when you want to talk to more than one field or you want Windows to know about it. This includes such things as application menus and accelerator keys, which are a Windows responsibility.

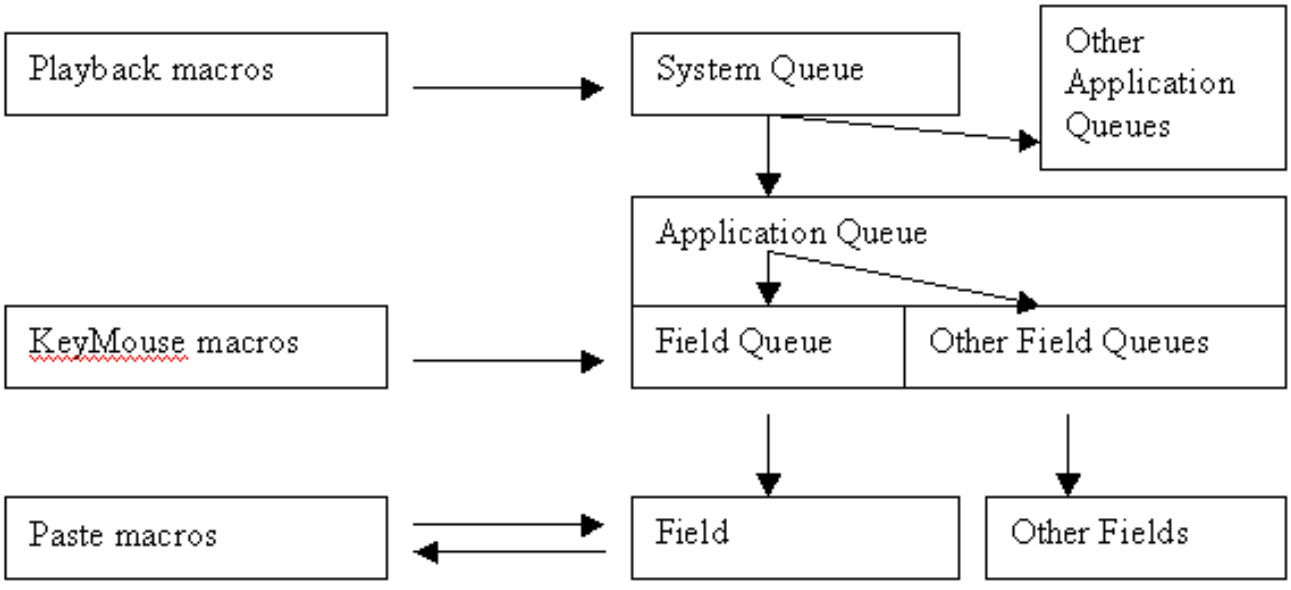
Paste macros talk directly to the screen fields, bypassing keyboard and mouse input and message queues. They do not generate Trigger macros and are able to update fields covered by other windows. Paste macros can only work with a single field and only certain field types are suitable for Paste.

KeyMouse macros simulate mouse and keyboard activity. These macros will only send key/mouse input to the correct field but can only work with one field at a time. They generate CLICK and HOTKEY Triggers. KeyMouse macros do not call the system when the ALT key is pressed while Playback macros do.

Playback macros are compatible with all field types. They produce mouse and keyboard activity, which the system directs according to the Windows rules for mouse and keyboard activity. As such, Playback macros can work with multiple fields within a single macro. However, there is no guarantee that Playback macros will be directed to the field that you originally intended because your application may not behave as it did when the macro was originally recorded. Playback macros generate CLICK and HOTKEY Triggers.

In general, use a Paste macro to update fields, KeyMouse macros to generate Triggers and handle exceptions, and Playback macros when you want a macro to switch between multiple fields, or when you are unable to use Paste or KeyMouse macros.

Technically, Paste macros are not Keyboard or Mouse macros. They generate windows messages that read/write fields directly. KeyMouse and Playback macros are Keyboard and Mouse macros. KeyMouse macros take place at the level of the application's input queue and know the Field ID ('window handle') of the field. Playback macros take place at the level of the System input queue.



The above diagram shows how the various macro types operate. Notice that only the Paste macros can read and write fields. All other macros are queued and can only write fields. Notice that KeyMouse macros work with fields but through the Application queue. Notice that Playback macros do not work with fields, rather they work through the System queue. As a result, they can work with multiple applications and fields. However, there is no guarantee that your playback macro will operate on the correct field or even the correct application.

What limits are there on macro size?

Paste macros have a maximum length of 255 characters. KeyMouse macros are 255 text characters long. Because the special keys and mouse clicks are spelled out in text, the macro may be less than 255 keystrokes and/or mouse clicks in total.

However, an unlimited number of KeyMouse macros may be created for the same field on a single Trigger and ordered using the Move Up/Move Down menu selection. ME concatenates these into one long macro of unlimited length, depending on available memory.

Playback macros are unlimited in length, and are not constrained by memory.

Archive/Retrieve seems similar to Export/Import. What is the difference?

They are similar, but also very different. Archive/Retrieve stores and retrieves values from your application to/from the ME database, where you can then use them to control your macros and update your application. Export/Import stores and retrieves values from your application to/from external files. This allows your application to exchange data with external applications.

Export/Import differs from traditional file conversion in two ways:

1. Unlimited formats are supported.
2. Full application verification of all imported data.

Export and Audit seem very similar. What is the difference?

Export and Audit are very similar. Each user has their own export file but there is only one audit file. As such, Audit can be seen as an Export to a common file.

In addition, Audit automatically sets the Trigger and Test required to create audit macros. As such, Audit can be seen as an Export with an automated macro builder.

Export can be used to audit users individually. Use the Audit macros as a sample of how to do this. (See Tutorial - Audit and Tutorial - Export.)

What is the FIELD Action?

Field is like a Retrieve or Import but data is sent directly from another field on your screen, not from a stored value. This allows you to copy data from one field to another based on Triggers and Tests.

Why are keystrokes removed when they cause HOTKEY Triggers but mouse CLICK Triggers are not?

In Windows, keyboard events occur before the key is released. Mouse events occur after the mouse is released. For this reason CLICKS are treated differently than HOTKEYS.

ME removes hotkeys because this is the expected behavior of a hotkey. You can create a macro to put the keystroke back. You cannot create a macro to remove the hotkey.

Mouse Clicks are not removed because the mousedown event has already occurred.

Another difference between Hotkeys and Clicks is that the CLICK Triggers ignore the ALT, SHIFT and CTRL key states. Hotkeys do not ignore the shift states.

Note: You can treat a mouse click like a hotkey by selecting Action KEYMOUSE - KEY and clicking the mouse instead of pressing a key. These macros will respond to the mouse press rather than release, check the ALT, CTRL, SHIFT states, and remove the mouse event. See the next question.

How is the CLICK Trigger different than a HOTKEY LBUTTON Trigger?

ME allows you to define two types of Left Mouse Clicks.

LCLICK
LBUTTON

Both generate the same windows event, a left mouse click. The only difference is in how ME handles these events when they are used to Trigger macros. CLICK occurs when the mouse is released and is not removed from the application queue. CLICK is independent of the state of the SHIFT, ALT, and CTRL keys. LBUTTON occurs when the mouse is pressed and is removed from the application queue. LBUTTON can be combined with the SHIFT, ALT, and CTRL keys.

CALC is changing my formulas!

When you create a CALC macro, ME automatically simplifies the formula before saving the macro. You are given one last chance to look at the formula before saving. If the simplified formula looks correct, Press OK to save the macro. If the formula was already in its simplest form, ME will save the macro without showing the formula again.

CALC is not erasing the field.

Calc uses the non-numeric text in a field as a mask before returning the calculated value. In effect, ME leaves the existing text in place and performs the calculations around it. To have ME remove the mask, end the formula with an '=' (equal) sign.

Help - My Macros won't run!

Check to see if the ME maintenance window is open or minimized. It must be closed for macros to run.

Check to see if the ME icon is on the system tray. It must be there for macros to run.

Check that your application and screen is running. One common mistake when creating macros is to forget that macros are tied to fields, which represent physical windows on the screen.

Create a macro that pops up a note and use this to get your macro running.

Experts only: If any field used by your macro does not exist, your macro cannot run whether it be the Action, Trigger, or Test fields. ME only runs when the physical windows are present.

To detect this situation, turn on Options, Trace. This option can affect system performance so turn it off when testing is complete.

Try to run your macro and look at your log file (UM_<user name><machine name>.log).

```
Macro not loaded - no hwnd Macro found - Index 7754
```

Here is a sample from the log file. ME did not load Index 7754 because the macro window did not exist.

```
Macro not loaded - no hwnd Event found - Index 7755
```

Here is another example. Index 7755 did not load because the Trigger window did not exist.

```
Index=7755 LOAD OK - ACCPAC - Unisoft Sample Data - Error '<LCLICK(37,9)>
```

In this last example, Index 7755 loaded, and when it runs it will post a LCLICK to the OK button.

You may see ME try multiple times to load an Index before it succeeds. This is normal. Each logical field name can have multiple physical windows so ME tries all possible combinations of physical windows.

```
Macro not loaded - no hwnd Macro found - Index 7755
Macro not loaded - no hwnd Macro found - Index 7755
Macro not loaded - no hwnd Event found - Index 7755
hwnd=0x1c04ec Index=7755 LOAD OK - ACCPAC - Unisoft
```

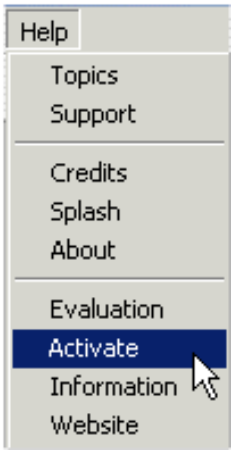
In the above example, ME tried four combinations and found one that matched the macro. The reason for this was that both the Action and Trigger had two different physical windows defined, leading to 4 (2 x 2) possible combinations. Only one of these combinations actually existed on the screen at this time. This matching is done automatically using a high-speed lookup table; so don't worry about defining more than one physical field for each logical field. The flexibility provided by using the lookup table was the reason for creating ME.

The lookup table is explained more in The ME Difference.

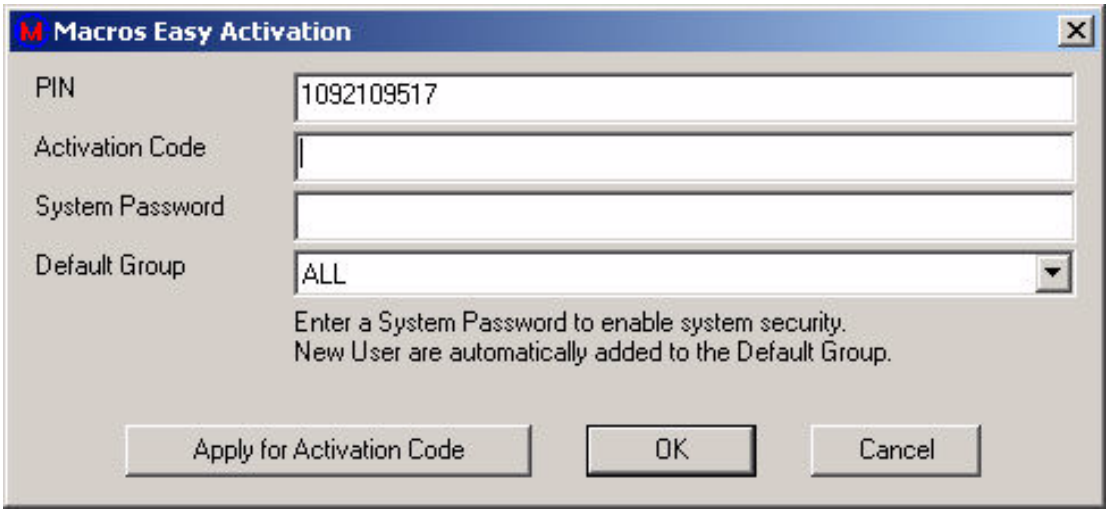
Activation

Activating ME unlocks the limitation built into the evaluation version and sets the number of users supported by the database.

You may activate ME by selecting Help, Activate.



Or running Activate from the start menu: Select Start, Programs, Macros Easy, Activate.



Activating ME for one user activates the product for all users on the network.

If you do not have a activation code, select:

This will allow you to email your PIN to ME. Your PIN is your "program identification number", and uniquely identifies your ME installation. If you move ME to a new machine, your PIN will change. Request a new activation code from UniDevCo.

Enter your activation code received from activate@unidevco.com, then press

.

When increasing the number of licensed users on a previously licensed version of ME, simply re-run the activation with the new activation code.

Setting a System Password turns on security. Re-run activation to change this password.

The system password provides full access to ME. Entering this password in the Options, Group menu provides system

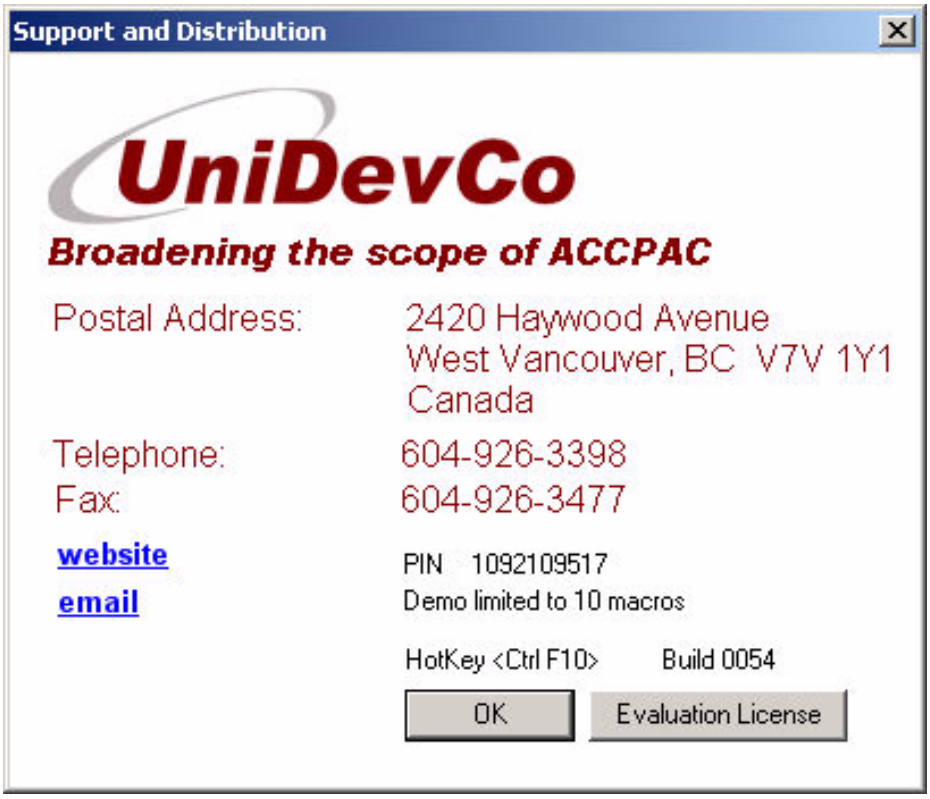
level access to ME. This option is provided to allow a user to override the security system to deal with unexpected problems.

It is the user's responsibility to keep this password secret. The system password should be 8 characters long, a combination of letters and numbers and may include spaces and other symbols. Passwords in ME are not case sensitive.

When new users first use ME, they are created under the default Group. It is recommended that the default group be left as TRAIN or ALL and that you use the Security View to control user access to Groups.

Support

Product Support is available by selecting Help, Support.



ME is distributed exclusively for ACCPAC by UniDevCo.

Macros Easy - ReadMe

Upgrade

If you are upgrading Macros Easy over an existing installation, first uninstall Macros Easy from the control panel. If this step is not done, a repair, not an upgrade will be performed.

Macros Easy automatically does a backup of existing data during uninstall and restores this data after an install.

(Note for Windows 2000/XP users: Select CHANGE from the control panel, not REMOVE, or a backup is not performed.)

Setup

Run Setup.exe from the installation CD. If Autorun is enabled, this step will be performed automatically when you insert the CD.

A Workstation Setup is created during installation, which may be run if any other users on the network try to run Macros Easy directly (via uMacros.exe).

Uninstalling Macros Easy does not uninstall the database.

Setup Recovery

During SETUP, any existing Macros Easy database is automatically upgraded to the current version.

Any existing backup (uMacros.tdf) is renamed to UMmm-dd-yyyyhhmmss.tdf and a backup of the database is made. The old database is renamed to uMacros.mdb.SAV.

Macros Easy uses this information to upgrade the database or recover the database in case of setup failure.

You may recover previous macros/fields/users/etc by running File Restore/Replace.

Installation Confirmation

To confirm the Macros Easy installation, check for the ME icon in the system tray.

Minimum OS Requirements

Win95B, NT4 for 32bit programs.
Win98SE, NT4SP3 for 16 bit programs.
Internet Explorer 4.0 SP2
All later versions of MS Windows are supported.

Installed Software

Macros Easy installs/upgrades the following as required:

MS MFC 6.2 Runtime
MS ODBC 3.51
MS Common Controls
MS ACTIVEX Controls 6.0
Crystal - Reporting engine 8.5

Optional - (select Custom/Modify Setup)

MS HTMLHelp 1.32
MS Active Accessibility 2.0 (See: www.microsoft.com)
MS MDAC 2.5 (See: www.microsoft.com/data)
MS JET 4.0 (See: www.microsoft.com/data)
Acrobat 4 (See: www.adobe.com)

MDAC/JET

MDAC/JET may be required if you experience the following:

- Error loading type library/DLL
- Macros Easy halted for illegal operation

ACCPAC V5 GRID

Active Accessibility 2.0 is required to support ACCPAC GRIDS. If ACCPAC V5 grid macros are not working, it is likely that you need to upgrade active accessibility.

Activating Macros Easy

You may activate ME by selecting Help, Activate.

Or by running Activate from the start menu: Select Start, Programs, Macros Easy, Activate.

This will email activate@unidevco.com for an activation code.

An activation code is required to turn a limited demonstration product into a fully functional product with no limit on the number of macros created.

Limitations

You can run macros within macros within macros to a limit of 100. This limit is intentional, to catch run-away recursion. There is no limit on the number of macros that can be run at each level. KeyMouse macros are unlimited in size. Smart macros are limited to sending 255 characters per field. This limit is intentional, to limit blank space in the database*.

*MS Access may be used to compact and repair the database. This can be done regularly to compact blank space in the database. **WARNING - DO NOT USE MS ACCESS TO MODIFY THE DATABASE!!**

Archives are limited to 255 characters per field. Unlimited archives are available per user. Multiple versions of a field can be saved by including version numbers in the archive name.

The above limits are by design. They are not limitations inherent in Macros Easy and can be readily expanded at customer request.

Reporting

Basic reporting is provided in Macros Easy. This can be readily expanded/customized using Crystal Reports. The reports in Macros Easy are in Crystal Reports format.

Macro Types

Macros Easy has three underlying types of macros:

1. "Paste" macros
2. "KeyMouse" macros.
3. "PlayBack" macros.

Paste macros work with field oriented applications in which each field is a contained within a separate Window. Macros Easy maintains a definition for each application field and can automatically select the correct macro for each field, depending on event. Field updates are applied directly using windows messaging and no events are created.

KeyMouse maintains a field definition similar to Paste macros but updates fields by normal keyboard and mouse techniques.

PlayBack macros are the type of macros most users are familiar with and consist of a series of recorded keyboard and mouse actions.

To test a field to see if it qualifies for Paste macros, try to cut and paste data to the field. If this works correctly, then the field will likely work with Paste.

If a field does not work with Paste macros, use KeyMouse macros.

Playback macros should be used when you need to work with more than one screen at a time, or when neither

Data Grids

Paste support is provided for ACCPAC Advantage Series version 5.x grids. Paste is available only while the focus is within the grid.

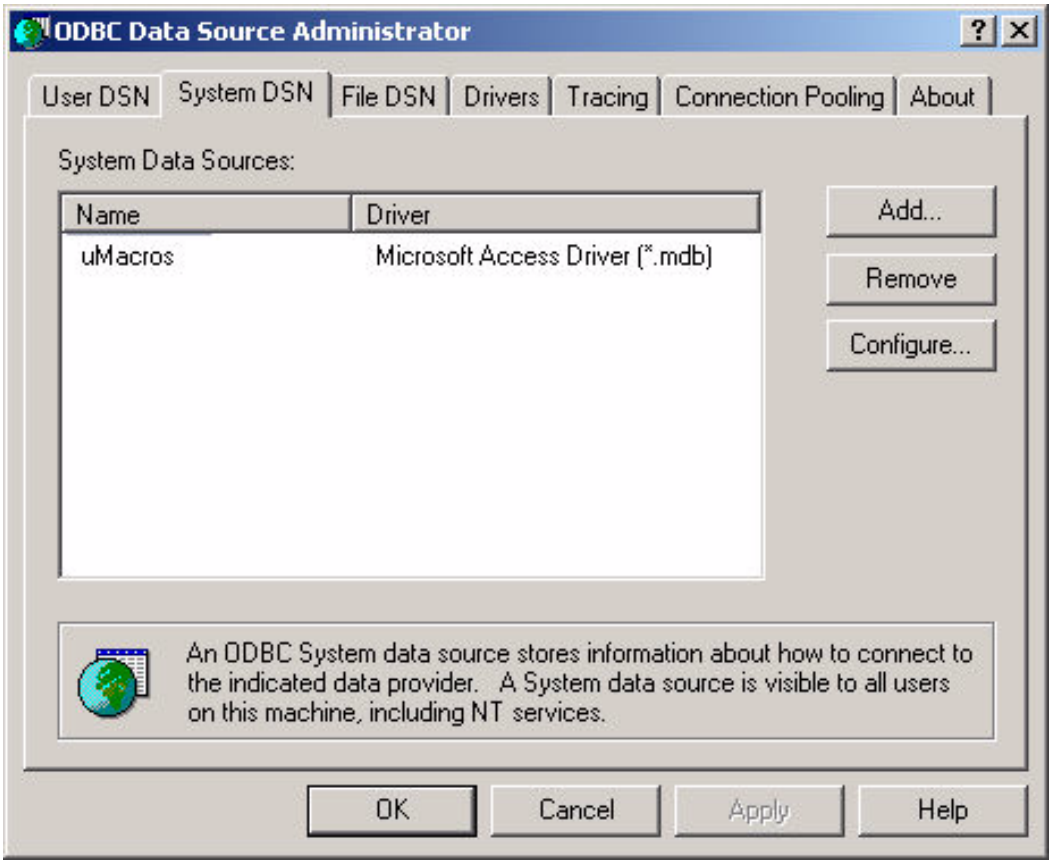
Testing

Selecting "Options, Trace" will provide detailed information about your macros as they run as well as error messages to aid in problem detection and resolution. The results are logged to UM_<username>.log.

Database Repair/Compaction

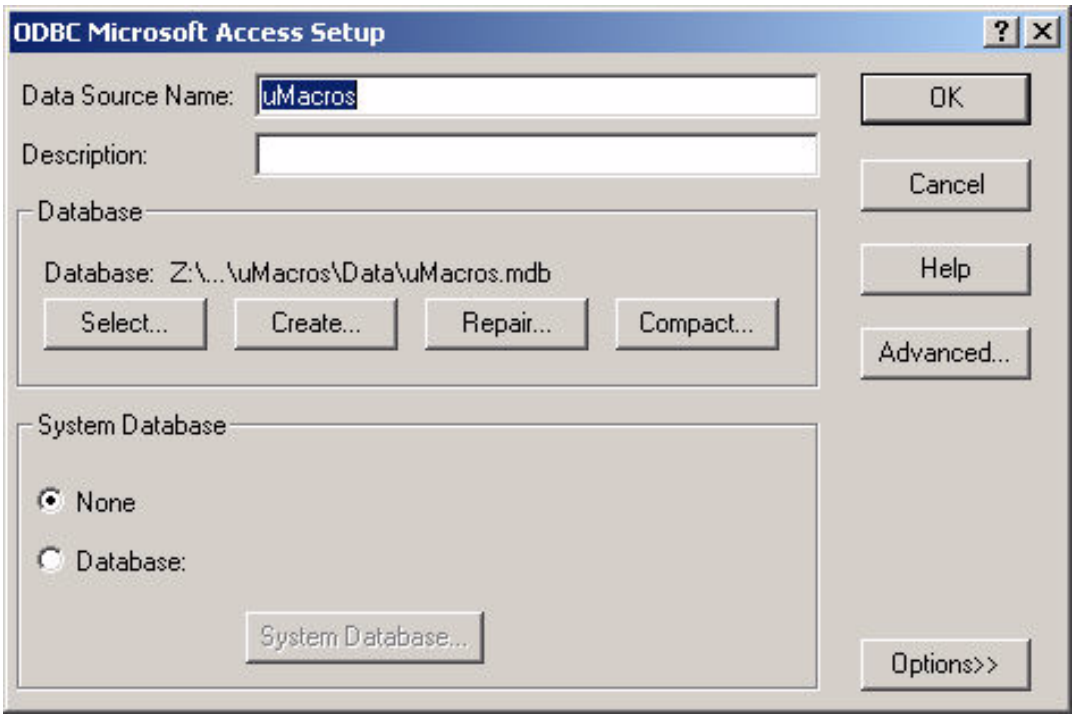
Over time, the ME database will grow in size, and should be compacted to remove wasted space. Before this can be done, every user must exit ME.

From the MS Windows Control Panel, select the ODBC administrator.



Select

.



Select

to compact the database. This should be done on a regular basis. Depending on the number of fields and macros added to the database, once a month is recommended.

Select

to repair the database. This would typically only be required if a halt occurred during updates to the database.

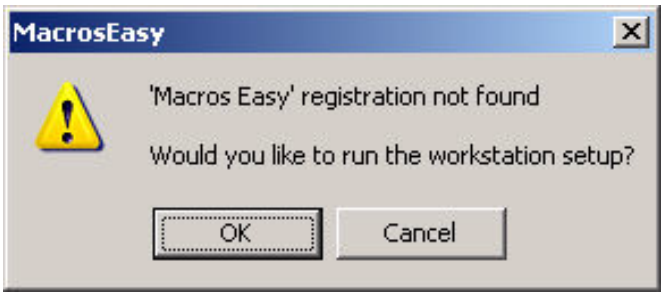
ALTERNATIVE REPAIR

Uninstall ME from the Control Panel then re-install ME from your original CD. During uninstall, ME does a backup of your database and during installation this backup is restored. (Note for Windows 2000/XP users: Select CHANGE from the control panel, not REMOVE, or a backup is not performed.)

This method of repair will repair errors that the ODBC Administrator is unable to correct.

Installation Errors

If ME is not properly installed, you will receive the following message:



Press OK, and ME will be installed. Any existing database will not be overwritten.

Failed Open Database

The typical reasons for failure to open the database are:

1. Database is open for modification by a product such a MS ACCESS - close ACCESS.
2. DataSource missing or damaged - reinstall ME.
3. Drivers need updating - see readme and install mdac_type.exe from Microsoft.

   http://www.microsoft.com/data
4. Deleting the temporary directory.

Messages

Advanced Logging Enabled. WARNING: CAN AFFECT THE PERFORMANCE OF YOUR SYSTEM

You have selected advanced logging. All events will be logged, which is likely to affect the performance of your system.

Already running

Only one copy of Macros Easy can run at a time.

Batch complete

A batch operation was completed.

Cannot delete group ALL/SYS

Groups ALL and SYS are the Macros Easy global groups, providing access to all other groups and cannot be deleted.

Cannot delete DeskTop

Field DeskTop is a Macros Easy global field and cannot be deleted.

Cannot initialize Macros Easy. Please try again

Macros Easy was not stopped correctly, and did not restart. Try running Macros Easy again. If this does not work you may have to restart your system before running Macros Easy again.

Cannot start browser

You have requested a link to the Macros Easy website, but Macros Easy has not been able to start your web browser. Possibly your default web browser is not identified correctly to Windows.

Cannot start mail

You have requested to send email regarding Macros Easy, but Macros Easy has not been able to start your mail program. Possible your default mail program is not identified correctly to Windows.

Cannot start reporting engine

The reporting engine did not start. Possibly an installation/setup problem.

Capture not found

The Capture engine did not start. Possibly an installation/setup problem. This problem may prevent Macros Easy from helping you name new fields.

Change multiple fields?

If multiple fields exist with the same name, to change the field type of one field, you must change all fields with the same name.

Change related records? (Answering No creates a new field)

When changing the name of a field, Macros Easy can also change the name of all other fields and macros with the same name. Normally you would answer yes except when two different fields were given the same name in error.

Checksum failed

The internal checksum on Macros Easy is corrupt. Re-activate Macros Easy.

Create new Group?

You have typed the name of group that does not exist when selecting Options, Group. Macros Easy will create a new group if you answer OK.

Macros Easy activation not found
Would you like to run the Macros Easy workstation setup?

You are attempting to run Macros Easy from a shared drive without first running the workstation setup. Answer OK and Macros Easy will be setup on your local system.

Delete existing recording?

You are about to record a new journal over an existing journal.

Error - Activation CheckSum
Error - Activation Code

Your activation code is in error. Re-activate Macros Easy.

Error - Backup failed

Macros Easy was not able to create a backup file. Your database may need to be repaired.

Error - Backup Inhibited

Macros Easy is creating a macro, doing a restore, or some similar activity that prevents a backup from running.

Error - cannot convert character %s

The characters you are sending to a field cannot be converted to keystrokes.

Error - Cannot create import stream
Error - Cannot open import stream
Error - Cannot position import stream

Errors have occurred during an import. It is likely that the import file does not exist, or an Import Open macro has not yet been run.

Error - Cannot schedule macro

An error occurred while trying to create a timer macro to run the scheduled macro.

Error - Cannot start journal replay

An error occurred while tying to start a playback journal.

Error - Cannot start timer

Macros Easy was not able to initialize a timer. Timer macros may be delayed or disabled.

Error - CheckLicense failed

An error occurred while checking the activation. It may be necessary to re-activate Macros Easy.

Error - Copy failed ComboBox
Error - Copy failed ListBox
Error - Copy failed TestMacro
Error - Copy failed Text

Macros Easy was unable to copy the contents of a field. It is likely that the field type is not correct.

Error - Copydata exception

An internal error has occurred. Report this problem to Product Support.

Error - Copy failed GetCopy
Error - CopyEmpty failed GetCopy
Error - CopyTest failed GetCopy

Macros Easy was unable to copy the contents of a field. It is likely that the field type is not correct.

Error - DB version wrong

Your database version is incorrect. Un-install Macros Easy, then re-install the latest version.

Error - Encryption failure

An internal error has occurred. Report this problem to Product Support.

Error - Failed to create status bar
Error - Failed to create toolbar

An internal error has occurred. Report this problem to Product Support.

Error - filter %s

The filter you have entered does not match the allowed formats. See Filters.

Error - Group Security

The user has an illegal security level.

Error - Import definition missing

There is no Import specification to match the Import Open macro.

Error - Import field buffer
Error - Import field read
Error - Import field seek
Error - Import file exception
Error - Import file position
Error - Import file state
Error - Import open EOF
Error - Import record
Error - Import record EOF

An error has occurred reading the Import file. It is likely that your macro has tried to read past the end of file.

Error - Journal full

You have recorded a very large macro.

Error - Journal in use - %s index - %u group - %s

You are attempting to delete a macro with a journal that is being used by another macro.

Error - Maximum replay depth

Your macro has reached the maximum replay depth.

Error - OpenDB failed

Macros Easy was unable to open the Macros Easy database.

Error - Paste failed ComboBox
Error - Paste failed GetCopy
Error - Paste failed Import
Error - Paste failed ListBox
Error - Paste failed Text

Macros Easy was unable to change the contents of a field. It is likely that the field type is not correct.

Error - Playback during recording

Macros Easy does not allow macro replay during macro recording.

Error - Popup Failed

Macros Easy was unable to popup over your application.

Error - Process Shell failed
Error - Program exception

An internal error has occurred. Report this problem to Product Support.

Error - Record during playback

Macros Easy does not allow macro recording during replay.

Error - Replace Inhibited

Macros Easy is busy and unable to perform a batch replace at this time.

Error - Report Engine failed Shutdown

Macros Easy was not able to shutdown the Crystal Reports engine cleanly.

Error - Restore Inhibited

Macros Easy is busy and unable to perform a batch restore at this time.

Error - Replace/Restore failed

Macros Easy was not able to restore/replace your database from the backup. Re-run the replace/restore. If it fails again it is likely corrupt. Use another backup file.

Error - RunMacro Failed
Error - RunTimerMacro failed - index %u
Error - SaveMacro Failed

An internal error has occurred. Report this problem to Product Support.

Error - Schedule macro not found

A schedule macro has not been able to locate the prototype macro. It has likely been deleted.

Error - SendLog failed

Macros Easy has not been able to update the log file. This occasionally happens on 16 bit OS systems due to multi-tasking limitations.

Error - Timer busy

A timer macro was not run because Macros Easy was busy. Report this problem to Product Support.

Error - Unable to display note

Macros Easy was not able to display a note.

Error - Unable to RUN program

Macros Easy was not able to run the program specified in a "RUN" macro. Check the path and file name specified.

Error - Unable to set foreground window

Macros Easy was not able to set the foreground window.

Error - Macros Easy halted - Unhandled exception

An internal error has occurred. Report this problem to Product Support.

Error - Unrecognized backup - TYPE

Macros Easy have found an unrecognized record during File Restore/Replace. Your backup file may be corrupt.

Field in use - Index %u

You are trying to delete a field that is in use by a macro.

Find cancelled

The user pressed Escape to cancel Find.

Group in use - Index %u

You are trying a group that is in use by a macro.

Inhibit - Note already exists

Macros Easy only displays one copy of each note.

Inhibit - Scheduled macro already exists - Index %u

Macros Easy only schedules one copy of each macro.

Insufficient security

You are attempting an operation for which you are not authorized.

Journal too long - truncate?

You are copying a PlayBack macro to a KeyMouse macro, and there is insufficient room. Press OK to copy a truncated version of the journal.

Journal Record Cancelled

The user pressed CTRL ESCAPE and cancelled journal recording.

Journal Replay cancelled

The user pressed CTRL ESCAPE and cancelled journal replay.

Keep a copy of current macro?

You have selected a new group for this macro. Macros Easy will keep a copy of the existing macro in the current group if you answer yes.

License expires <date>

Evaluation licenses have a built in expiry date.

Licensed users = <number>

Your license is good for the <number> of users listed within any one day. The usage count is reset at midnight. Users with Macros Easy running in the background, or left signed on overnight are not part of the count, unless they actually run a macro.

Logging disabled on OS 16 before replay

Macros Easy is unable to update the log during the fetch operation of journal replay on 16 bit OS. This is due to 16 bit OS multi-tasking limitations.

Logging Enabled. WARNING: CAN AFFECT THE PERFORMANCE OF YOUR APPLICATION

Selecting Options, Trace enables application logging and may affect the performance of the application being logged.

Logging restored on OS 16 after replay

Macros Easy has restored logging after the fetch operation of journal replay on 16 bit OS.

Macro stopped by user

The user pressed CTRL ESCAPE during macro replay to stop the executing macro.

Macros exceed unlicensed Macros Easy limit of 10 macro(s)

Unlicensed versions of Macros Easy have a built in safeguard against exceeding manufactured limits.

Action requires text/button field

Only limited capability is supported for some field types.

Must save changes

All outstanding edit changes to a journal must be saved prior to inserting a recording into the journal.

No current record

You are attempting a maintenance operation, but there is no current record selected. Select a record and retry the operation.

Notice - Macros Easy was not able to restore the contents of the current field in your application. Please check the current field before posting any work. You may have to adjust this macro to allow for mask or editing characters in your application.

During macro maintenance, Macros Easy performs a trial edit of the screen fields in your application that are used in the macro. If this edit fails, these fields may not be restored to their original values.

MAKE SURE NOT TO POST THESE CHANGES. You may need to adjust your macro to allow for the mask or edit characters. Please contact Product Support with the details of this problem to have this mask added to Macros Easy

This problem does not occur while running macros.

OK to delete - <field>?

Press OK to delete this field from the database.

OK to delete - <macro> group - <group>?

Press OK to delete this macro from the database.

OK to delete - %s index - %u group - %s?

Press OK to delete this macro from the database.

OnTimer - illegal timer

An internal error has occurred. Report this problem to Product Support.

OnTimer - inhibit during journal recording
OnTimer - inhibit during journal replay
OnTimer - inhibit while Macros Easy busy
OnTimer - inhibit while Macros Easy open

Timer macros are deferred while Macros Easy is running journals or editing macros so that they do not interfere with macro maintenance. Timer macros are not suspended while other macros are running.

OS feature not available

Macros Easy cannot recognize the program you are running. This problem is related to 16 bit programs running on early versions of Win95 and NT. You may require a service pack or upgrade for your operating system.

Please choose another name Name in use by type %s

The field name you are trying to assign to a field is already in use by another field type.

Press CTRL and Click the mouse in the field you want to find.

Move the mouse to the field you are trying to find then press CTRL ESCAPE.

Press CTRL and Click the mouse in the MACRO field.

Move the mouse to the field that matches the macro name then press CTRL ESCAPE.

Print Job Failed – <reason>

Your print job has failed for the <reason> specified. Contact Product Support if the problem persists.

Record:%d i:%d s:%d %s l:%d h:%d d:%d x:%d y:%d e:%s

When Test mode is selected, this message displays the current Journal item being recorded.

Replacing record n - TYPE

This message appears during a File Replace.

Replay:%d i:%d s:%d %s l:%d h:%d d:%d x:%d y:%d e:%s

When Test mode is selected, this message displays the current Journal item being replayed.

Restore - Restore the database, existing items are unchanged

A database restore adds new items and leaves existing database items unchanged.

Restore/Replace completed successfully

The database restore/replace completed successfully.

Restore/Replace had errors. Manually run Restore/Replace to recover.
Restore/Replace incomplete

The database restore/replace was unsuccessful. Manually run the restore/replace.

Replace - Restores the database, and replaces existing items

A database adds new items and overwrites existing database items.

Restoring record n - TYPE

This is a status message that appears during File Restore.

Run program - error path not found
Run program - error program not found

The Run macro is unable to locate the program to run.

Schedule added index %u

A schedule macro must create a new macro from a prototype.

Security = DELETE
Security = READ
Security = SYSTEM
Security = UPDATE

These messages appear as confirmation of a change to security authorization, after a Security Edit.

Send field is full

There is no more room in the Send field. Create a copy of the current macro on the same Trigger and add the remaining steps to this new macro. Use the Up/Down function to ensure that new macro runs immediately after the "full" macro.

Set Filter failed"

Macros Easy has not been able to filter your group for reporting. Notify Product Support.

StartRecording
StartReplay
StopRecording
StopReplay

Macros Easy logs these messages on a change of journal status.

This version of 'Macros Easy' cannot run past the year 2037

Limitations in Microsoft specific date routines place an absolute limit of 2037 on this version of Macros Easy. Please contact your dealer for a new version. Or contact info@unidevco.com.

This version of 'Macros Easy' has expired

Evaluation versions of Macros Easy are manufactured with expiry dates.

Please contact your dealer for a newer version. Or contact info@unidevco.com.

Timer deleted index %u

A user macro has run and been deleted.

Timer not found index %u

An internal error has occurred. Report this problem to Product Support.

Unable to allocate memory

Your system has insufficient memory available to run Macros Easy.

Unable to create report

The report could not be created. It is likely a setup/installation problem.

Unable to start workstation setup"

The workstation setup could not be started. It is likely a network configuration problem or Macros Easy was not installed to a shared drive.

Unexpected Journal deleted %u

Redundant/unnecessary journal items are automatically removed after journal recording.

Unlicensed Macros Easy is limited to 1 user(s)

Limitations on the number of users are manufactured into evaluation version of Macros Easy. Please contact your dealer for additional licenses. Or contact info@unidevco.com.

Unlicensed Macros Easy is limited to 10 macro(s)

Unlicensed versions of Macros Easy are manufactured with limited capability. Please contact info@unidevco.com.

User belongs to WorkGroup

You cannot modify security for a user that belongs to a workgroup. Modify the workgroup instead.

Waiting for printing to end"

You have exited Macros Easy while a print job was still active. Press Ok to wait for the print job to complete.

Warning - Default macro already exists

You are creating a macro that may override the default macro.

Warning - Journal is in another macro.

You are about to create a macro that runs another macro's journal. This is typically done to create an AND/OR condition, but should be avoided as there is a better alternative. See And/Or Conditions.

Warning - Macro already exists

You are creating a macro that is a duplicate of an existing macro.

Warning - No records restored

This message is informational. No records were restored during a File Restore/Replace.

WARNING - this will update your database. Existing database entries WILL be replaced.

This warning appears prior to a File Replace.

WARNING - this will update your database. Existing database entries will NOT be replaced.

This warning appears prior to a File Restore.

WorkGroup in Use - User %s

You cannot delete a workgroup if it is use.

Your license for Macros Easy is limited to ??? user(s)

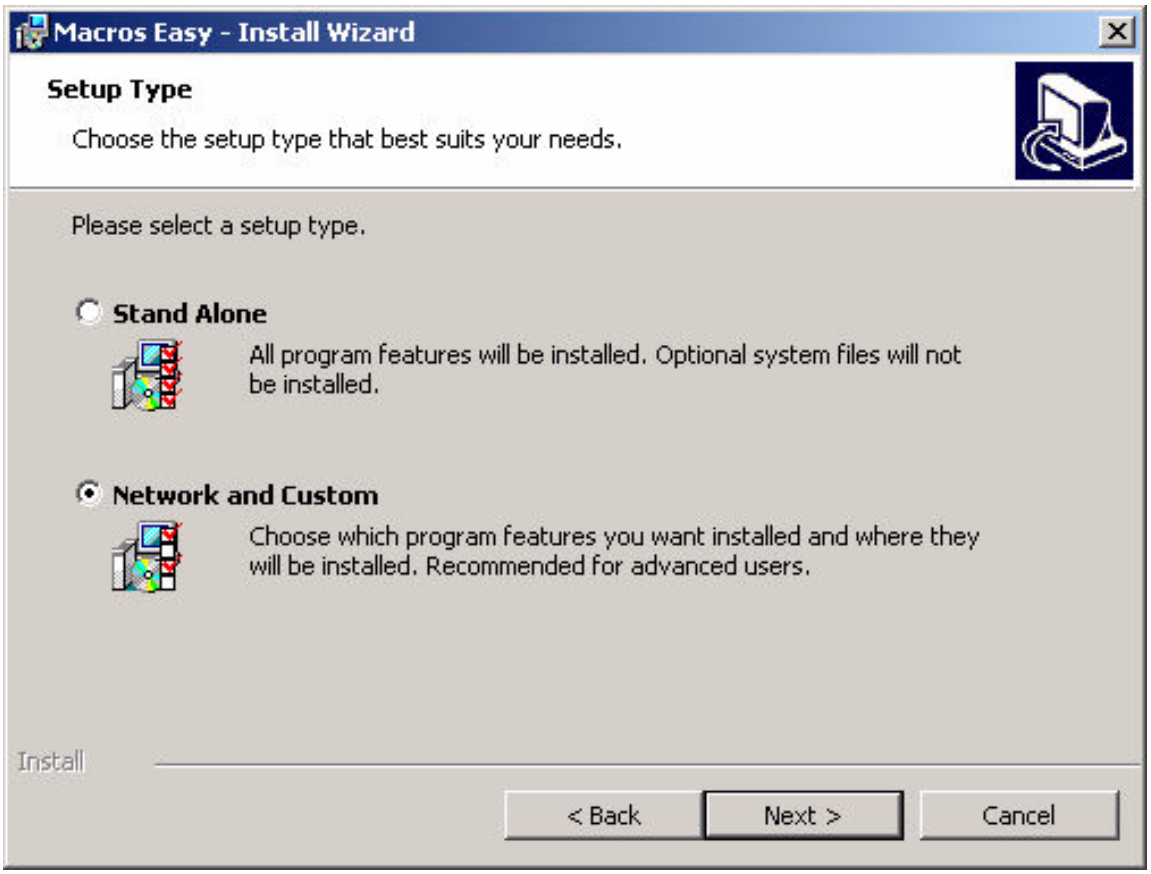
More users than you are allowed on your license have tried to use Macros Easy. If the problem persists, it is because everyone at your site loves Macros Easy and wants to use it. Buy more Macros Easy licenses so we can continue to improve the product and everyone will know how wonderful you are!

Please contact your dealer for additional licenses. Or contact info@unidevco.com

Multi-User

Server Installation

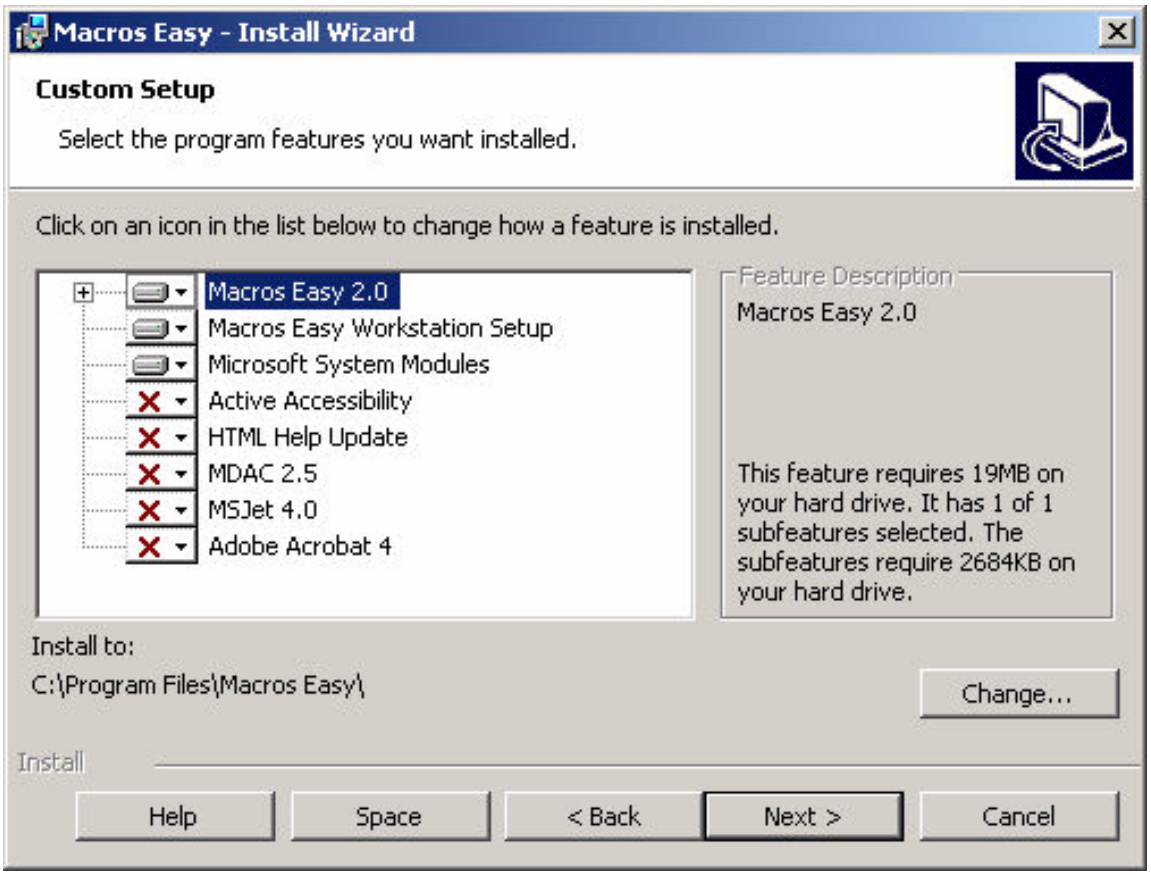
To enable multi-user operation, first install ME to a shared drive. This installation may be done from either the server, or a client machine.



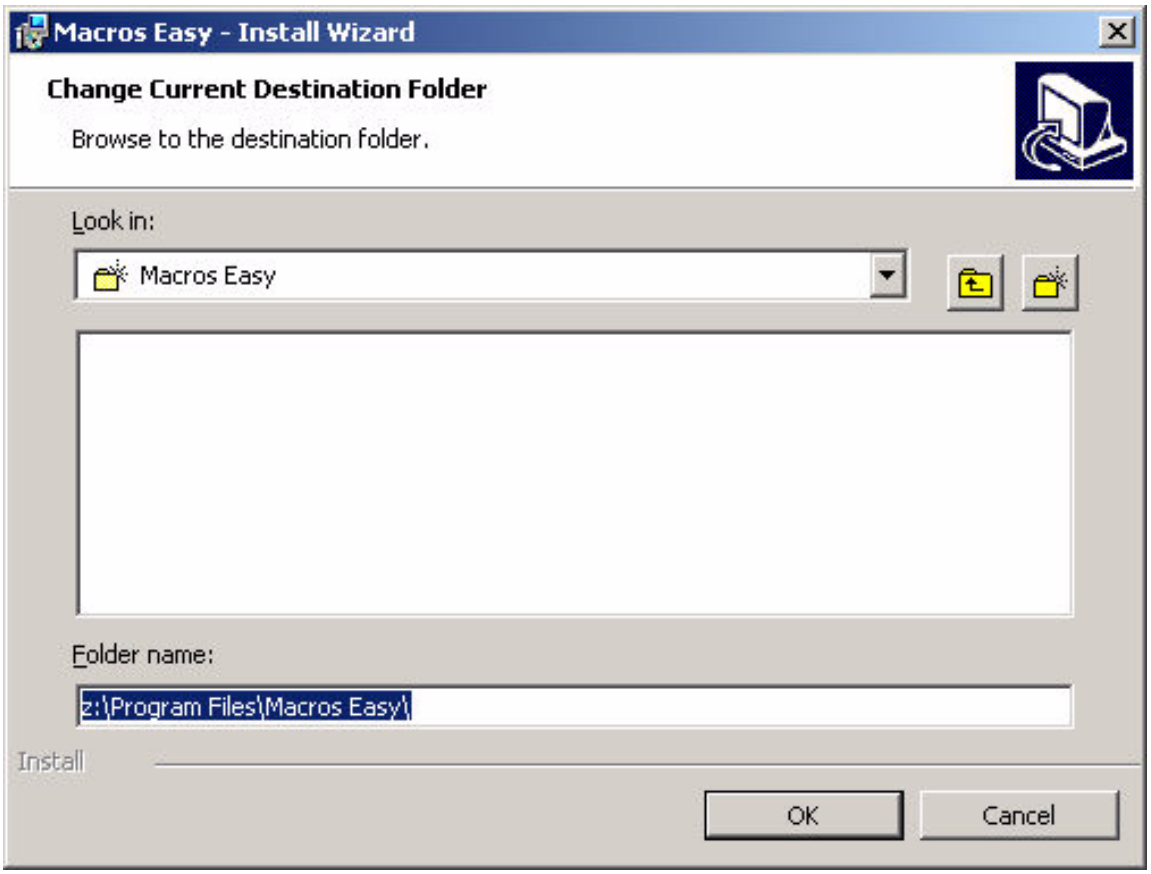
1. Select Network and Custom during Installation.

2. Press

.


Macros Easy - Install Wizard
Custom Setup
Select the program features you want installed.
Click on an icon in the list below to change how a feature is installed.
Macros Easy 2.0
Macros Easy Workstation Setup
Microsoft System Modules
Active Accessibility
HTML Help Update
MDAC 2.5
MSJet 4.0
Adobe Acrobat 4
Feature Description
Macros Easy 2.0
This feature requires 19MB on your hard drive. It has 1 of 1 subfeatures selected. The subfeatures require 2684KB on your hard drive.
Install to:
C:\Program Files\Macros Easy\
Change...
Install
Help
Space
< Back
Next >
Cancel

3. Press
Change...
.


Macros Easy - Install Wizard
Change Current Destination Folder
Browse to the destination folder.
Look in:
Macros Easy
Folder name:
c:\Program Files\Macros Easy\
Install
OK
Cancel

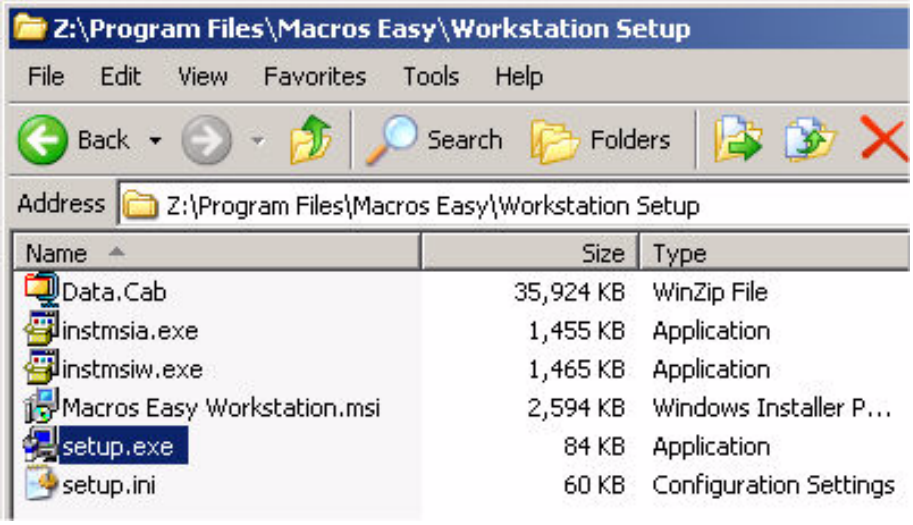
4. Change the drive letter to a shared network drive. In this case Z:.

5. Press

to complete the installation.

Workstation Installation

Once the server has been installed, client machines are installed using the workstation setup. This is run directly from the shared drive.



Stopping a Server

In a multi-user configuration you must stop ME on the client machines before stopping the server, otherwise an error may occur. In this case an administrative lock may be placed on the client machine, requiring a restart of the client before ME can be restarted.

You may stop ME on the server at any time. ME need not be running on the server for client workstations to run ME. Only the database, uMacros.mbd must be shared to run ME multi-user.

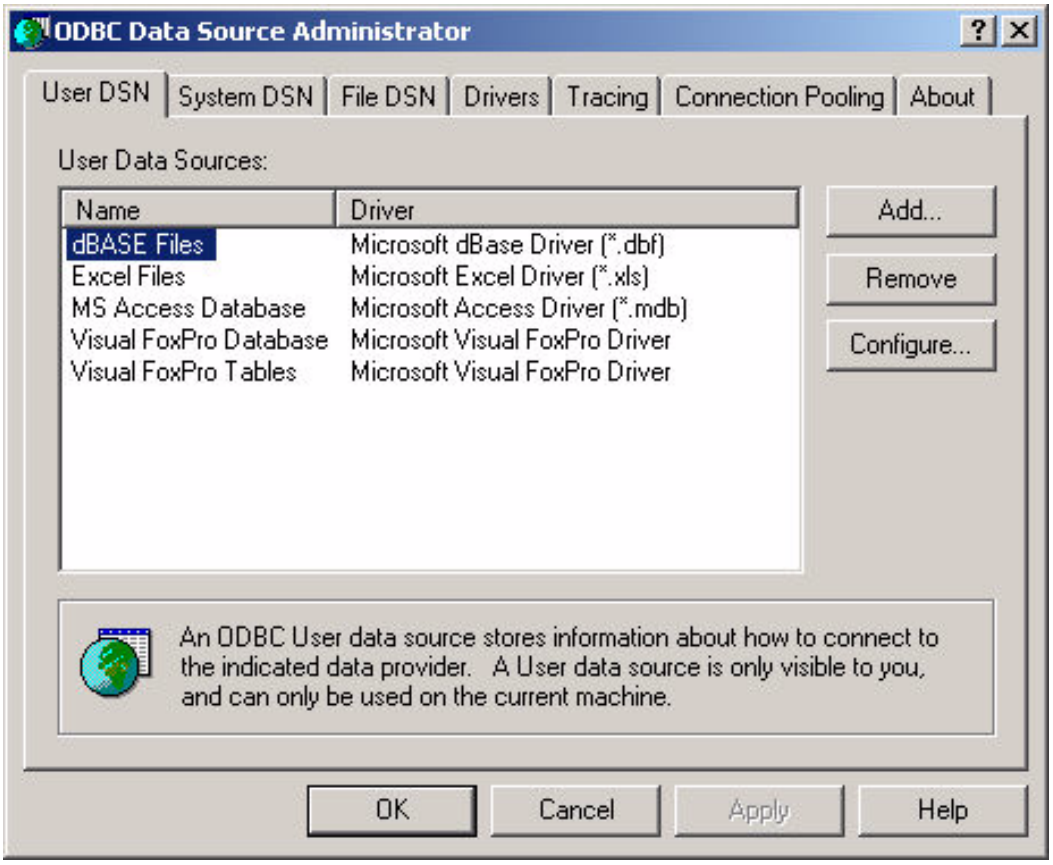
Performance Workstation Installation

Normally, workstations run ME from the shared drive. This simplifies upgrades but may affect performance slightly and makes ME sensitive to server failures.

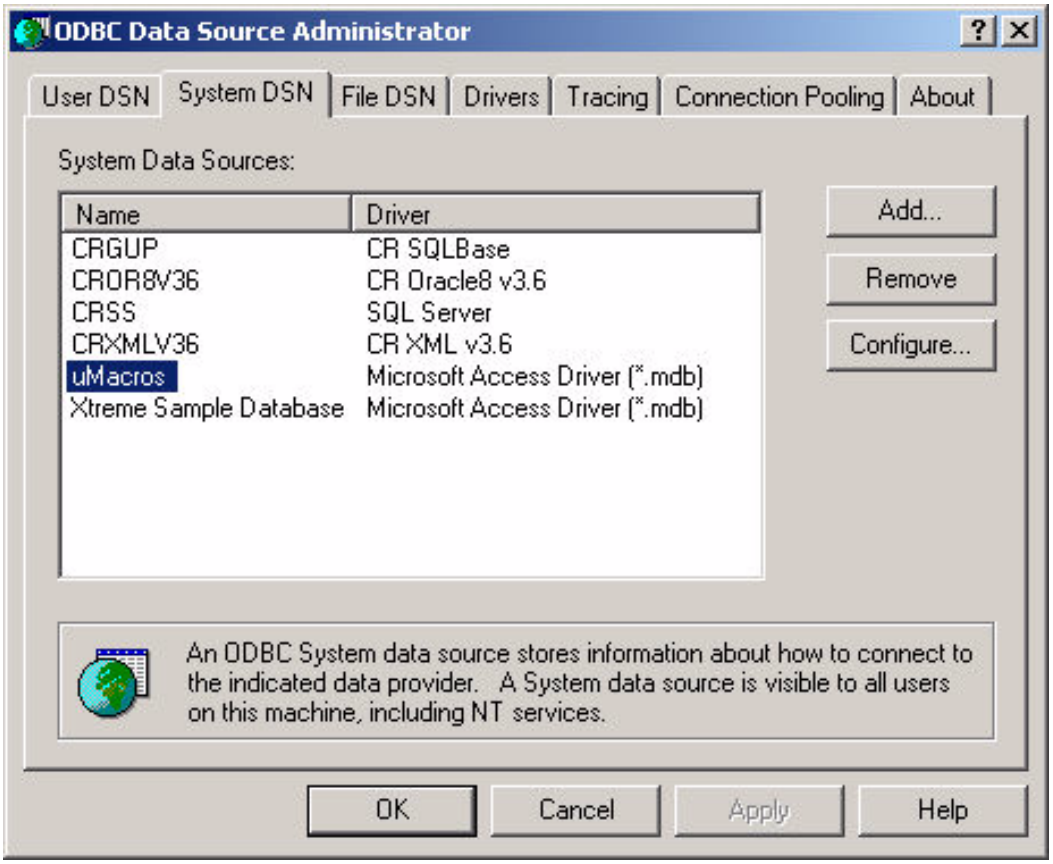
Should you wish to maximize the performance of ME on a workstation, this can be done using the ODBC Data Source Administrator. This has a small impact on performance and allows ME to shutdown gracefully in case of a server failure.

1. Instead of installing a workstation version of ME, do a full install of ME but to the local drive of the workstation.

2. Open the ODBC Administrator from the Control Panel.

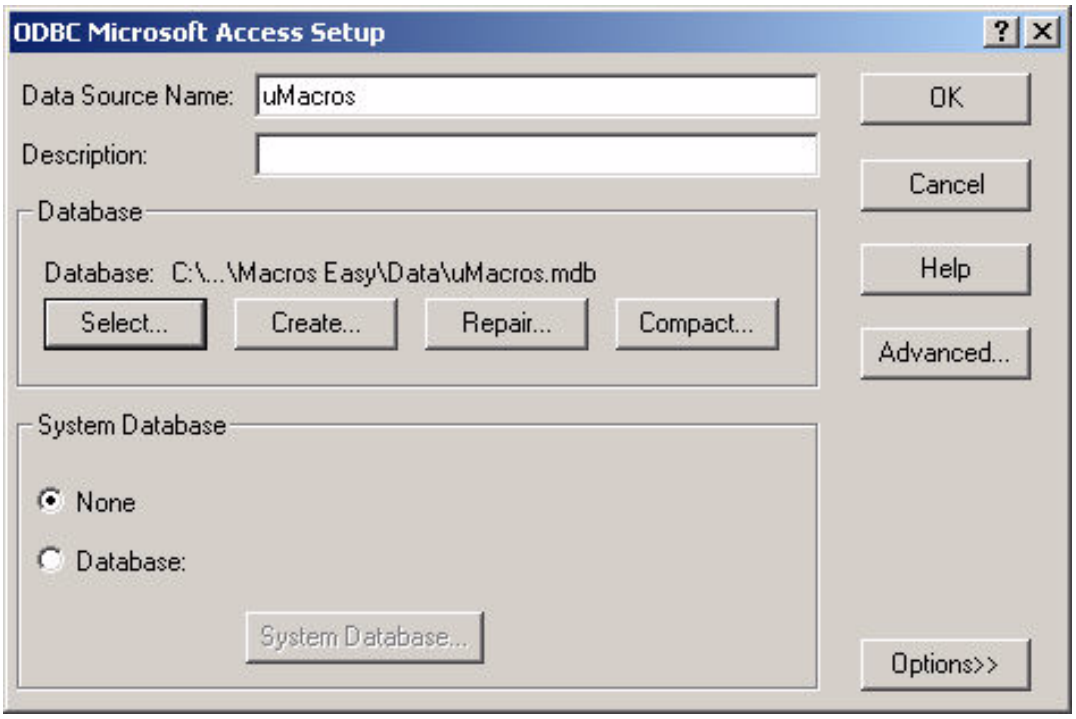


3. Select System DSN, uMacros.

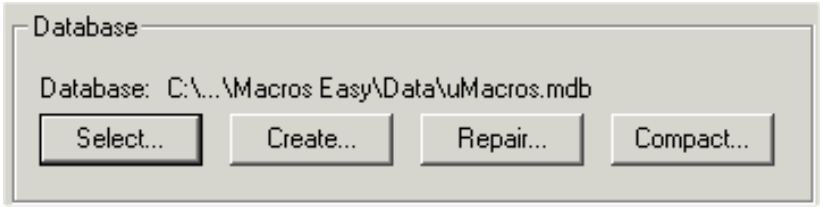


4. Select

.

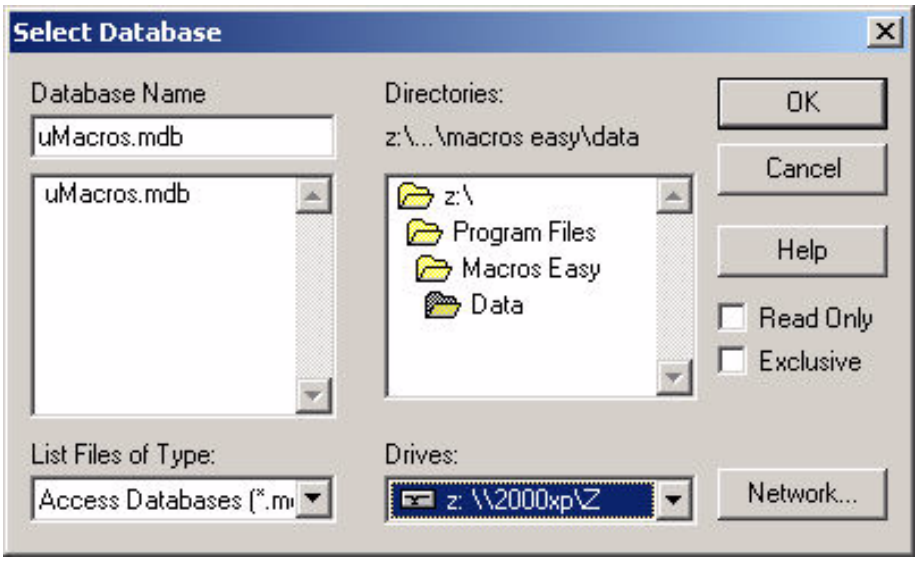


5. Currently the database is pointing at the local "C:" drive.



6. To change this, press

.



7. Change the drive to the shared drive, in this case "Z:", and press

in answer to each question until

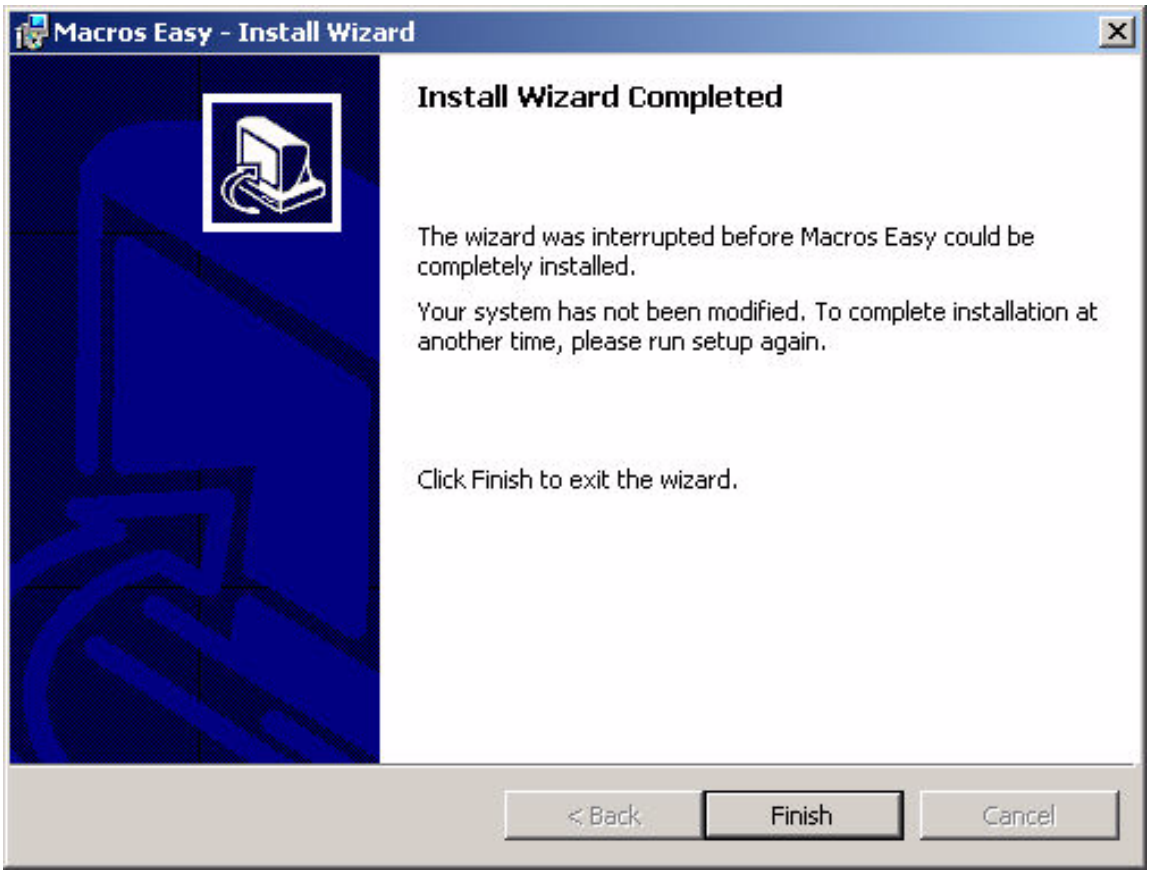
complete.

Win9x

Some Win9x systems have slow processors and limited memory and are already running at capacity. These systems may experience a slowdown when running ME because there are insufficient resources left to run the product.

If your system is already running too slow, then it is likely at capacity and ME should not be installed. As a guideline, a system with less than a P300, 128MB memory and 100Mb network card should be evaluated beforehand to make sure performance is adequate before adding ME.

Failed Installation



Should your computer restart during an installation, you may receive an error message similar to the above message if you retry the installation. If this is the case, run "restore.bat" from the ME directory then use ME normally.

Note: If the problem persists, Log in as Administrator and retry the installation. Even if you have administrator rights, the problem may require using the Administrator ID.

The ME Difference

The Problem:

General-purpose software must be flexible to allow for a wide range of users. Unfortunately, this generality and flexibility can result in inefficient data entry.

Data entry forms often have many fields that are unused by any one user, yet the user is forced to jump over the fields, or worse, fill in default values every time they use the form. While the amount of time involved in a single screen is minimal, over a time this can add up to many hours/days of time wasted with the resultant costs to your business.

Macros provide a means to reduce this inefficiency by simulating user actions without complicated and/or expensive custom programming.

The Traditional Solution:

Traditional macros execute step-by-step leading the user through a data entry operation. This step-by-step "procedural" style of execution worked well in DOS. However, it has limitations in Windows.

In Windows, users are able to jump between fields out of order, typically using the mouse, to handle exceptions.

Traditional macros are not able to handle this and often advise against using the mouse as a solution. This limitation removes one of the major benefits of Windows! ME has no such limitation.

Note: ACCPAC Plus allowed non-procedural macros. ACCPAC Plus users may recall the VISIT Trigger was used to fill in fields in Plus macros. ME continues that tradition by providing a VISIT Trigger for ACCPAC Advantage Series.

The ME Solution:

ME allow users to visit fields in any order and can often automate fields without ever visiting them. This non-procedural style of operation allows users to enjoy the full flexibility of Windows and gain the efficiency of automating routine tasks.

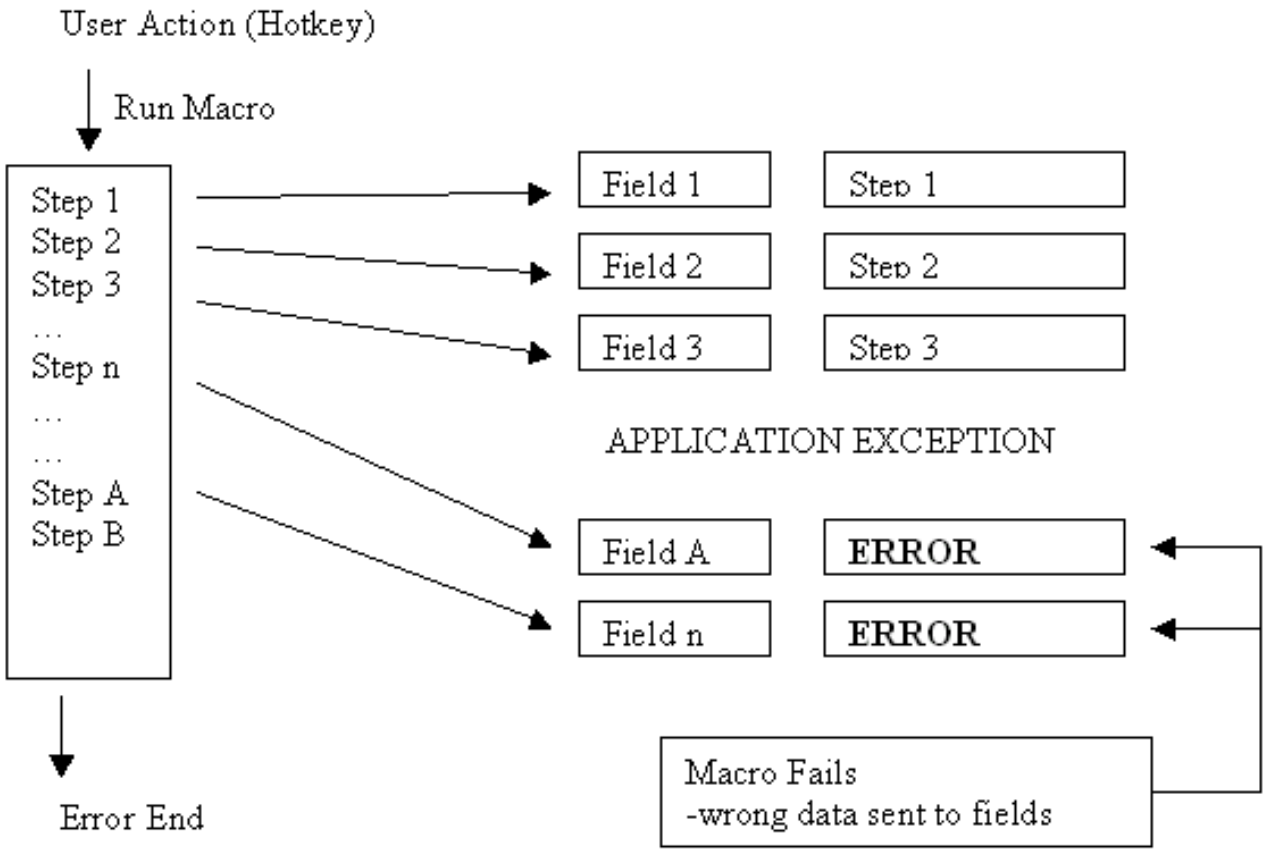
How it Works:

As macros are built, they are automatically associated with the fields on the screen. During macro replay, ME selects the correct macro for the correct field, independent of the order in which a user may move through the fields.

ME does not lead the user through data entry in a pre-defined order. Rather, the user moves through the data entry fields in the order they choose to best suit the task.

Traditional Macros

In a traditional macro, you run a macro, which leads you through the application until an exception occurs.

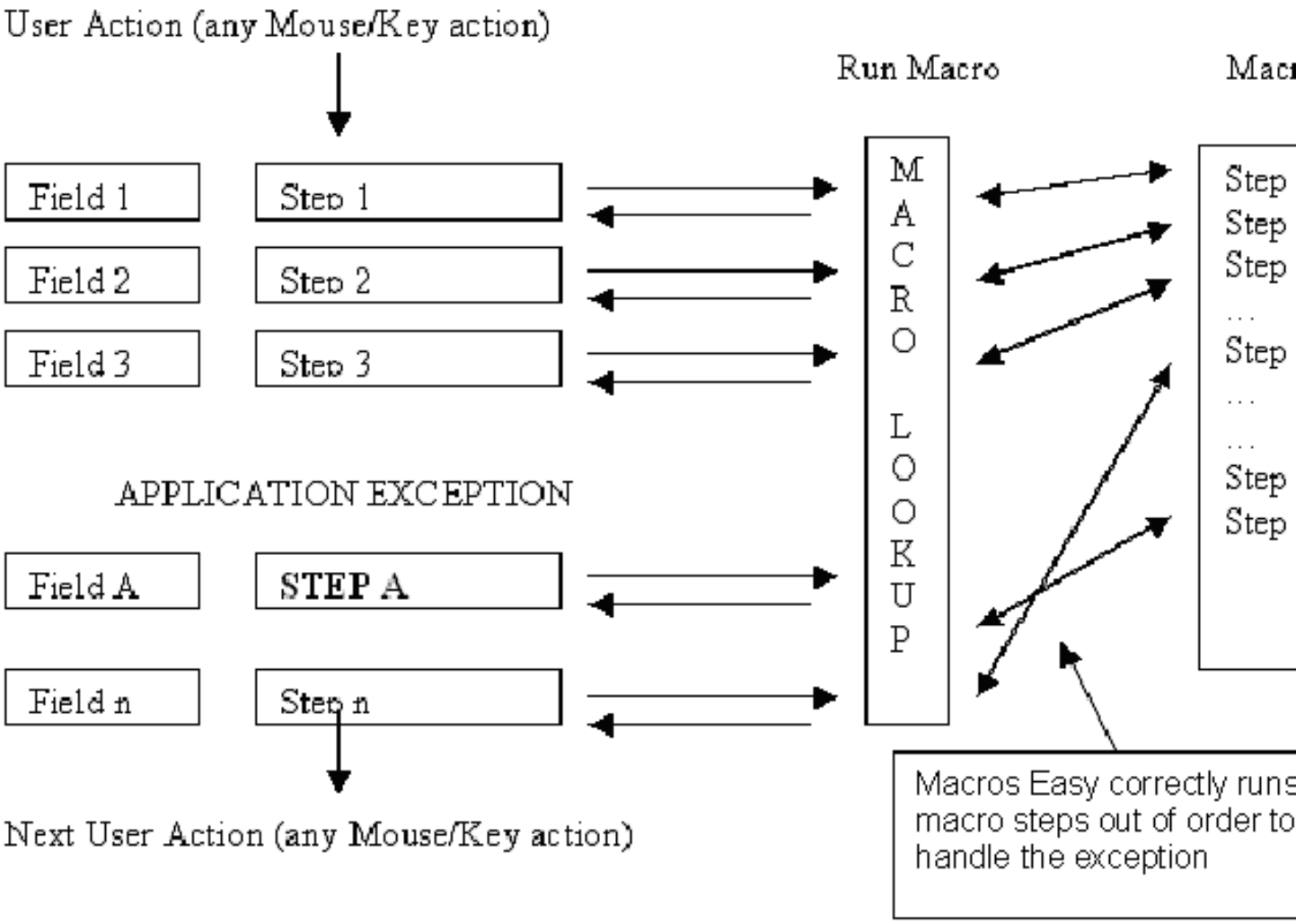


In the traditional approach, the user starts a macro, which sends data to the application fields. This process works fine until an APPLICATION EXCEPTION occurs which results in the cursor/focus moving to a different field than normal. At this point the macro fails as the wrong data is send to the wrong field. The macro will likely send the wrong data to the wrong field from then on, compounding the problem until the macro finally ends.

If you have tried to use traditional macros in windows, you have likely seen this happen. The macro sends the wrong data to the wrong field.

ME

In ME, you navigate through the application in the order you want. On each user action and field, ME looks for the correct macro and runs it to automate your application.



In the ME approach, there is a LOOKUP TABLE between the application and the macros which dynamically selects the correct macro for the correct situation. As a result, when the EXCEPTION occurs, ME does a lookup to select the correct macro for the situation then continues normally after the exception is processed. The Macro Lookup is optimized and cached, to avoid delays. It typically occurs in the idle time between user inputs to be undetectable to the user.

About

The About screen shows support, licensing, and copyright information.

ME is distributed exclusively for ACCPAC by UniDevCo.

Macros Easy (ME) for ACCPAC Advantage

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Macro Wizard

Macro Wizard

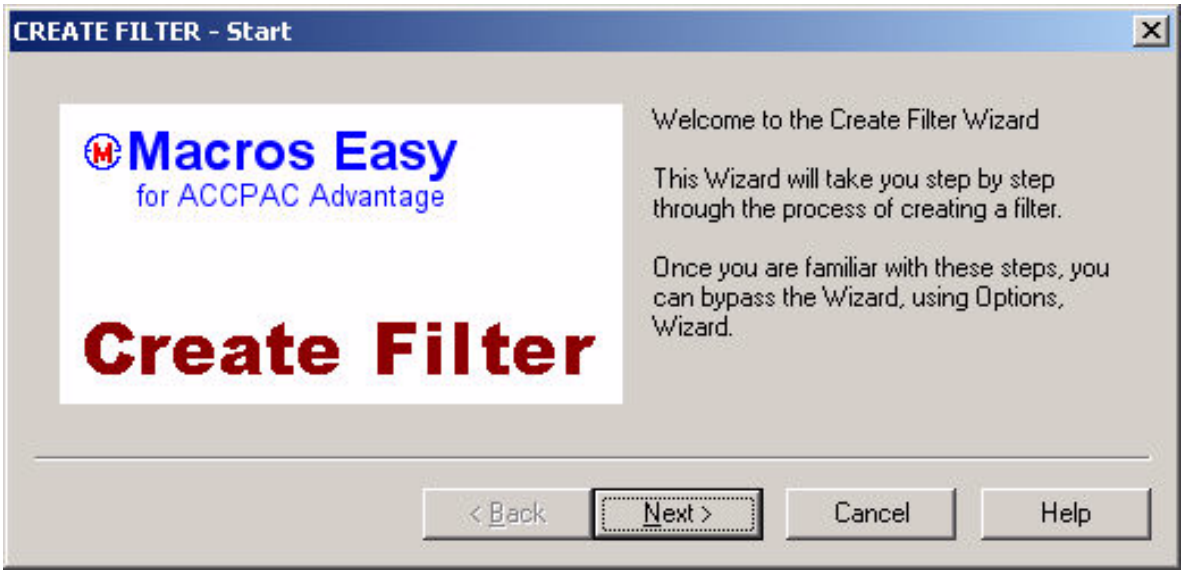
When ME is active, pressing the hotkey <Ctrl F10> in any application field will bring up the macro wizard. The wizard will look at the field and screen you are in and decide on one of three possible actions:

1. Filter Create
2. Field Create
3. Macro Create

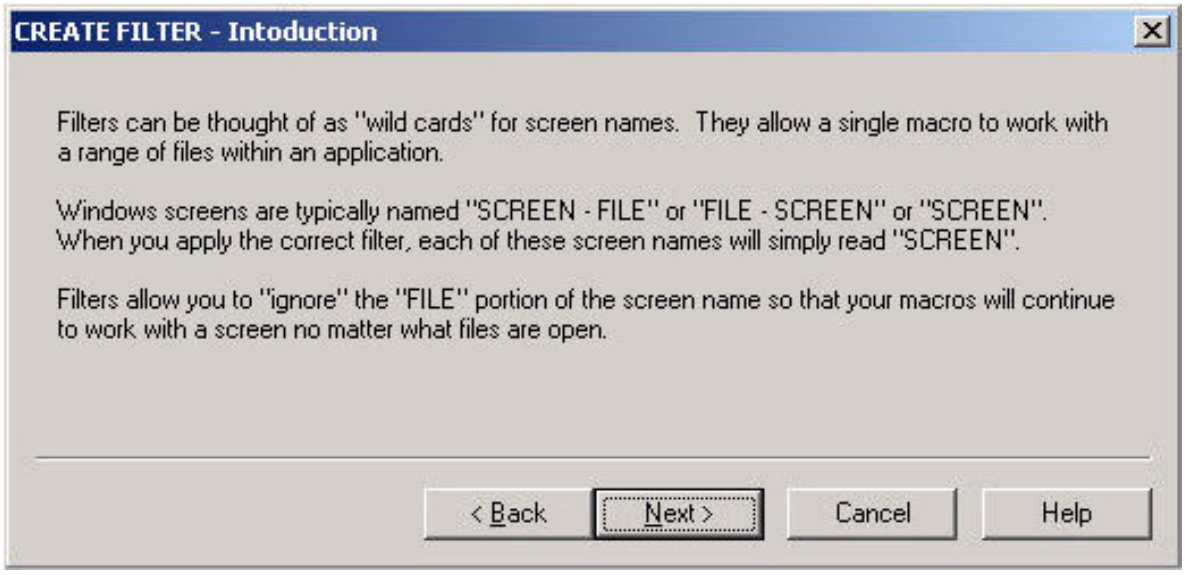
Note: The Wizard is disabled if you have not selected Options, Wizard.

Wizard - Filter Create

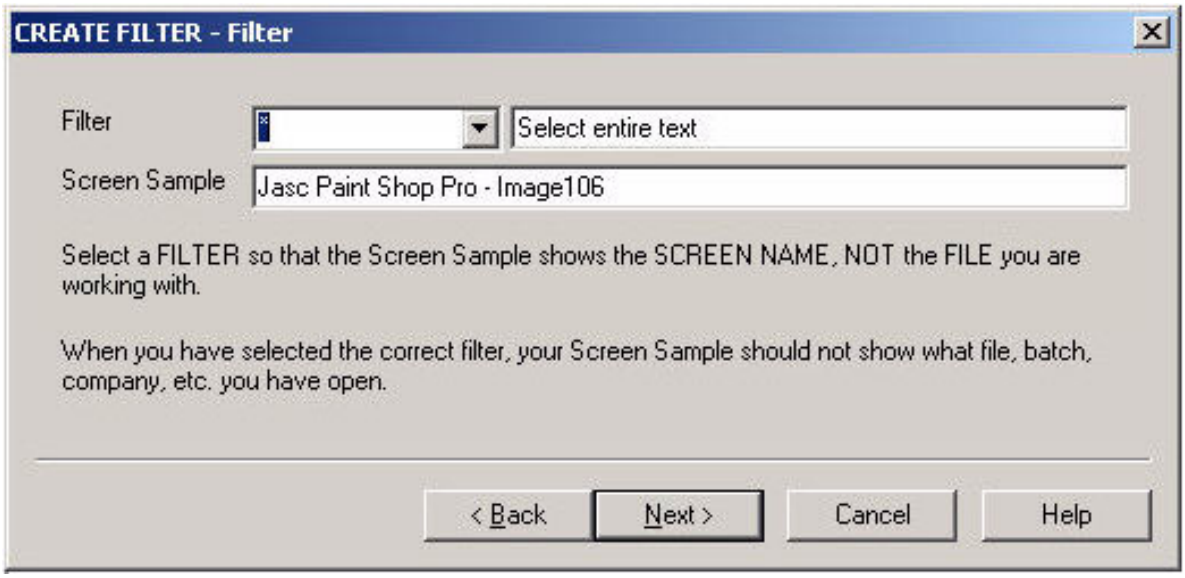
The Create Filter Wizard allows you to create a filter for a module. Filters are used to remove application specific information from screen names so that all field and macro definitions work over a range of application screens.



1. The Wizard Start page identifies that you are creating a filter.

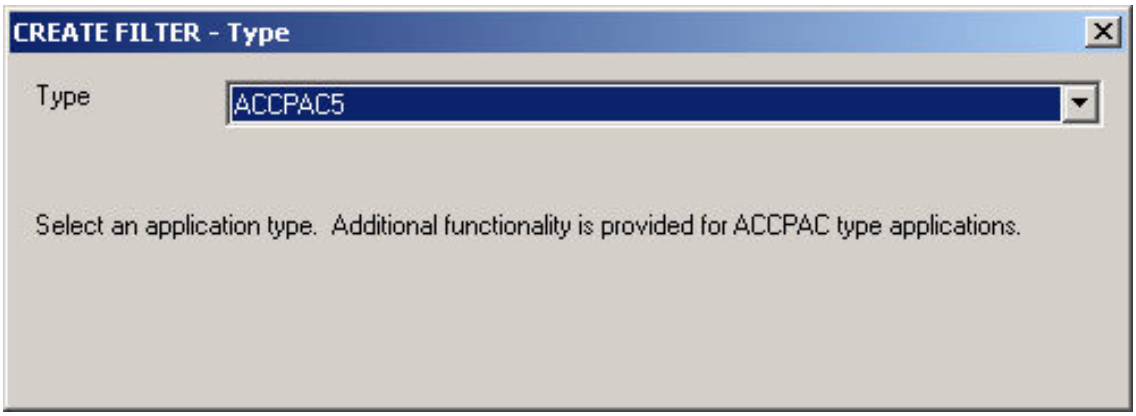


2. The Introduction page explains why filters are created.



3. The Filter page allows you to select a filter to match your application. In this case, the filter has removed the Company Name from the screen name. As a result, this field will work with all companies.

Note: If you want company/file specific macros, select a filter "*", which will leave the company/file name in the screen name.



4. The Filter Type page allows you to select additional functionality for ACCPAC type application, and associated VBA add-on modules.

5. The Finish page tells you the filter is complete, ready to be saved.

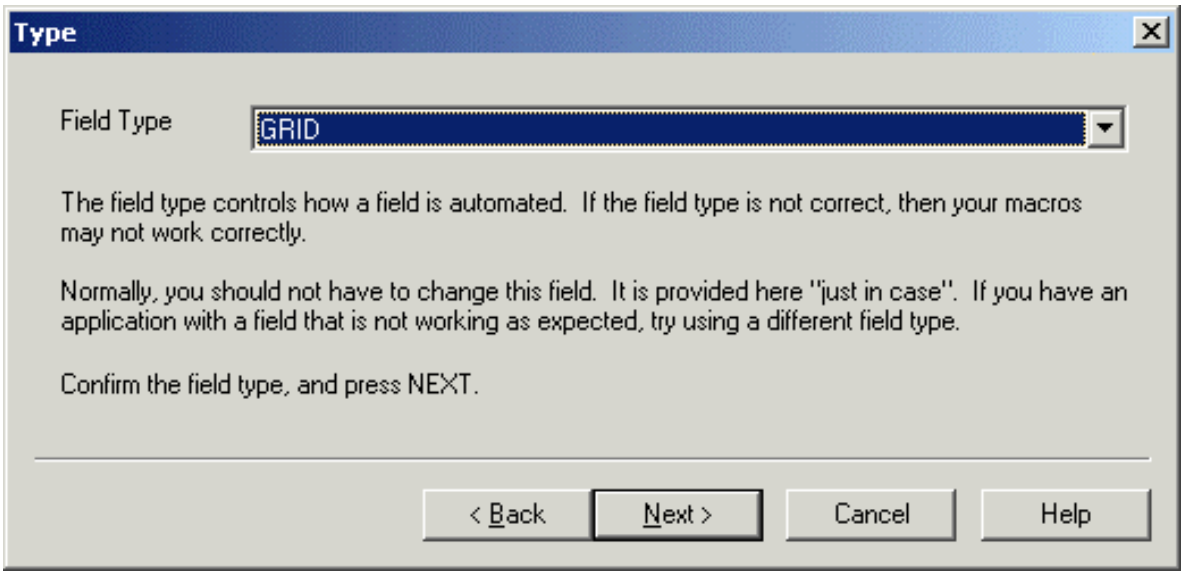
There is only one filter per application. After the filter is created you will not see this wizard again in this application. (See Options, Filters.)

Wizard - Field Create

Field Name

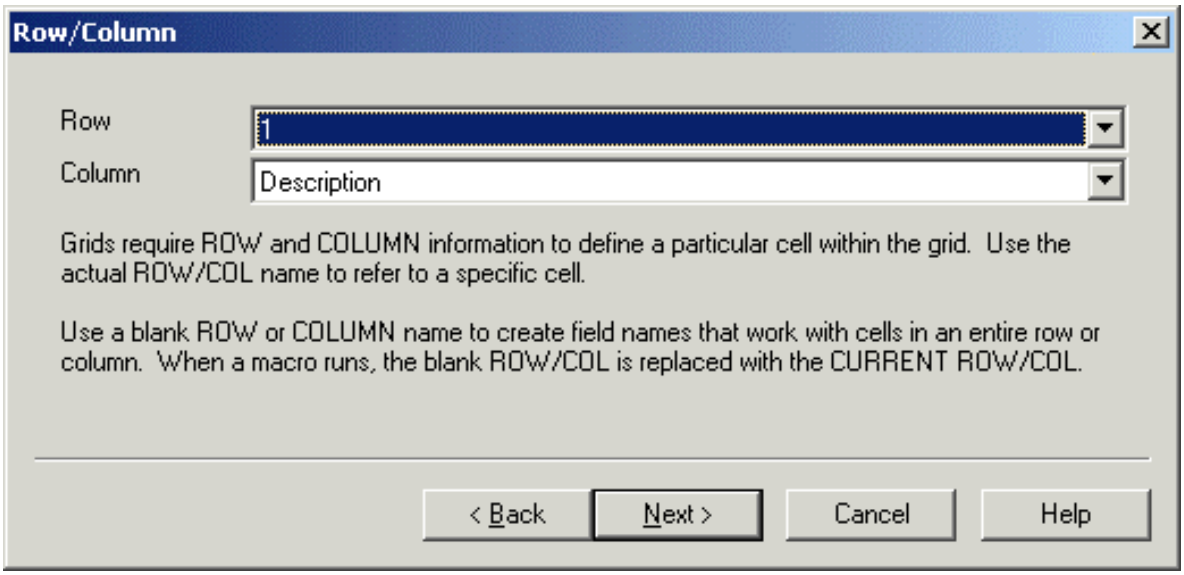
If ME has not seen this field before, the Create Field Name Wizard will popup asking for a name for this field.

1. The Start page explains that you are going to be creating a field name.



2. The Type page asks you to confirm the TYPE of field you are defining. Usually no action is required except to press NEXT.

You may override the field type should you wish to change the basic macro behavior for this field. All fields with the same name must have the same type.

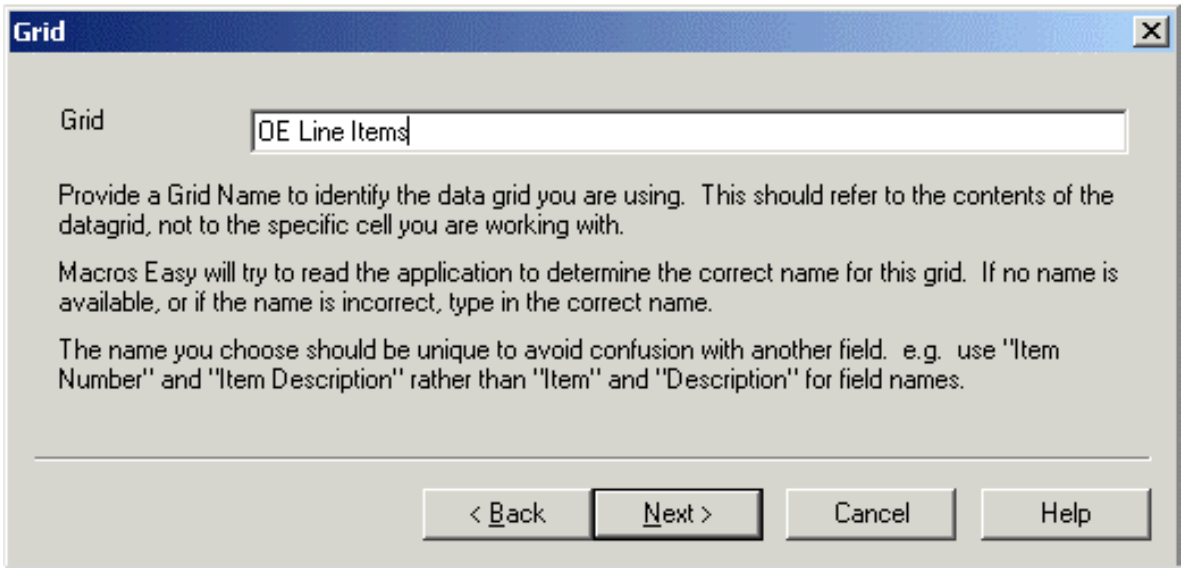


3. The Row/Column page only appears if you are working with a TYPE GRID. Skip to step 5 if you are not using a GRID.

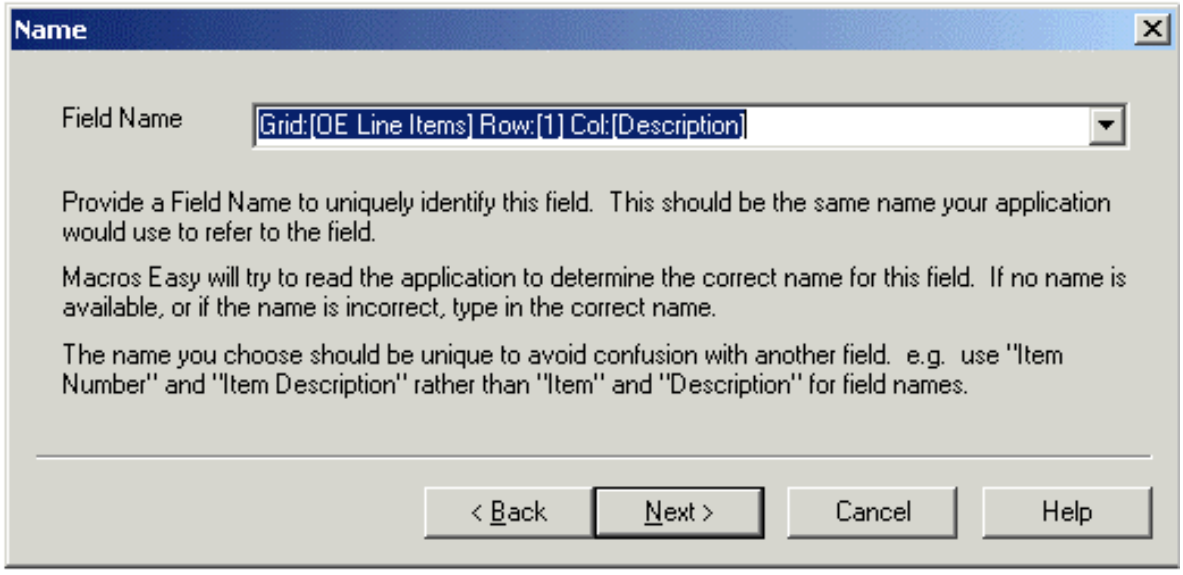
Typically you may want to change the ROW to BLANK. In the above example it would create a field that worked with any row, in the column named “Description".

If the row name is blank, ME will use the current row at run time.

If the column name is blank, ME will use the current column at run time.



4. The Grid page only appears if you are working with grids. Enter a name for this grid. Normally ME uses the first column of the grid as the name but you can change this.



5. The Name page allows you to create a name for the field. Type GRID field names cannot be edited directly.

Once you have named this field, ME will remember the name and not ask again.

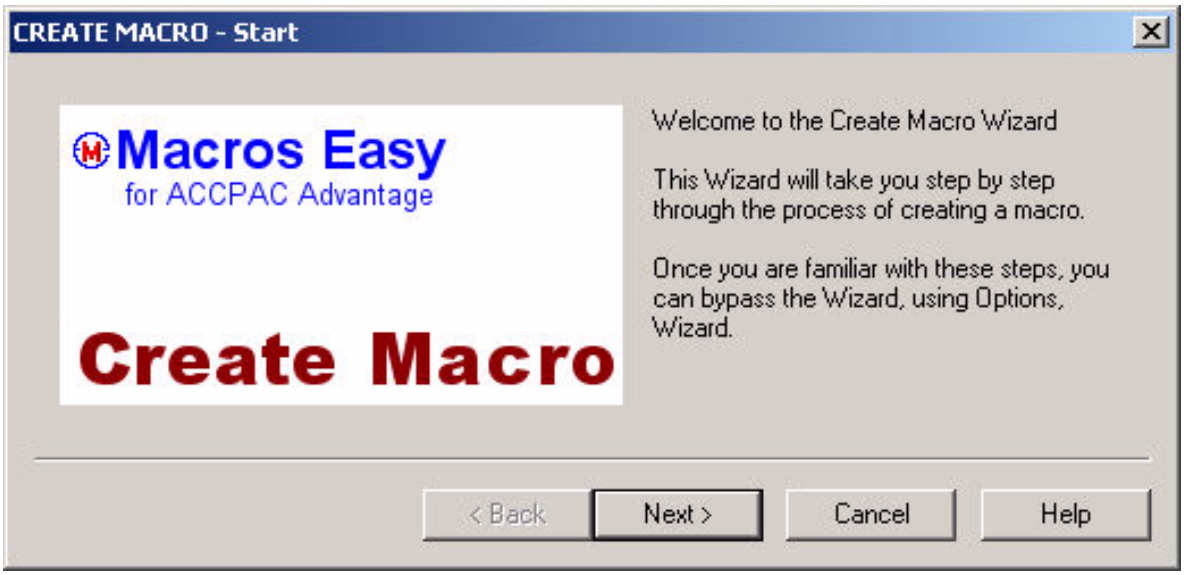
Note: Occasionally applications will use multiple physical fields to display a single screen field to the user. The fields not in use are hidden or covered up by other fields.

In this case, ME may appear to ask for a field name more than once. Give each occurrence of the same field the same name, otherwise your macros will run sometimes and not others. You may need to experiment with various application options until you have forced your application to display all versions of the screen fields.

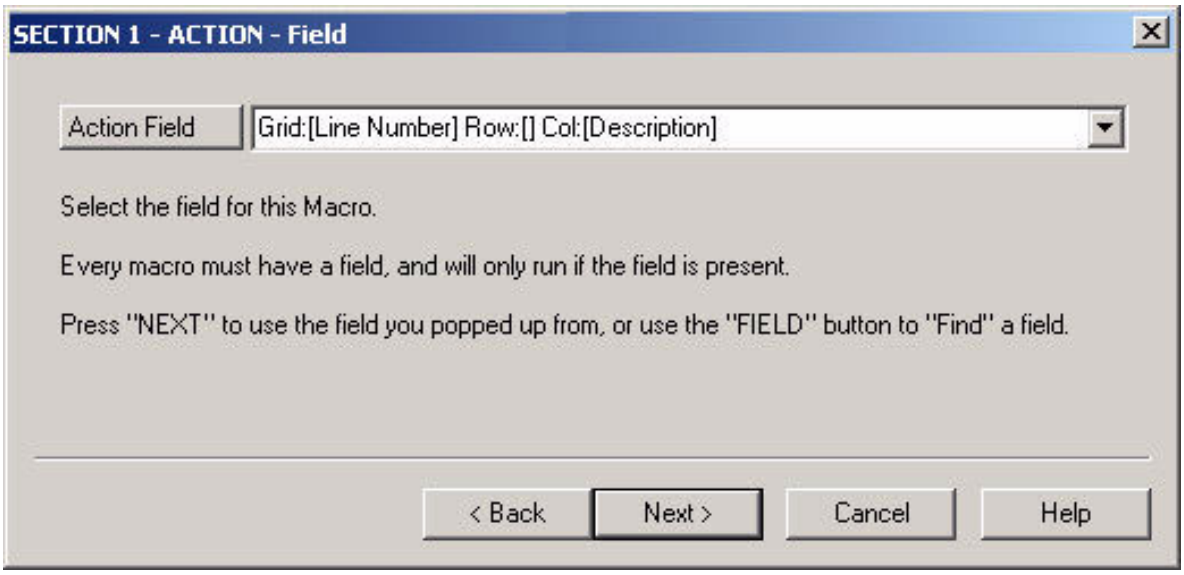
6. The Finish page informs you that you have completed creating a field name. Press FINISH to create the new name.

Wizard - Macro Create

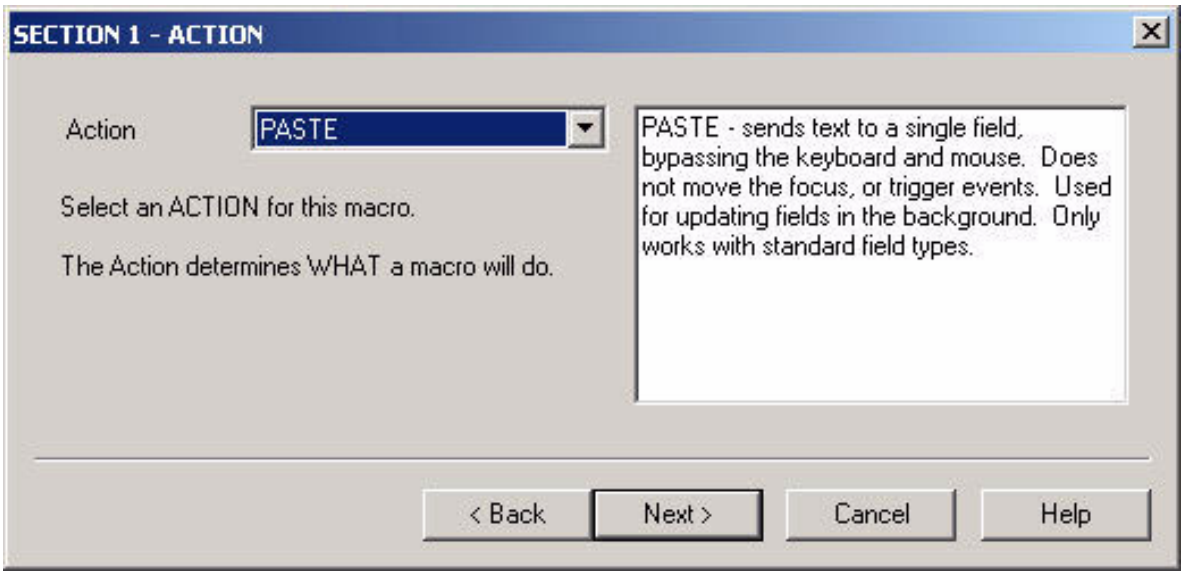
Pressing the hotkey <CTRL F10> calls the Create Macro Wizard.



1. The Start page lets you know that you will be creating a macro.

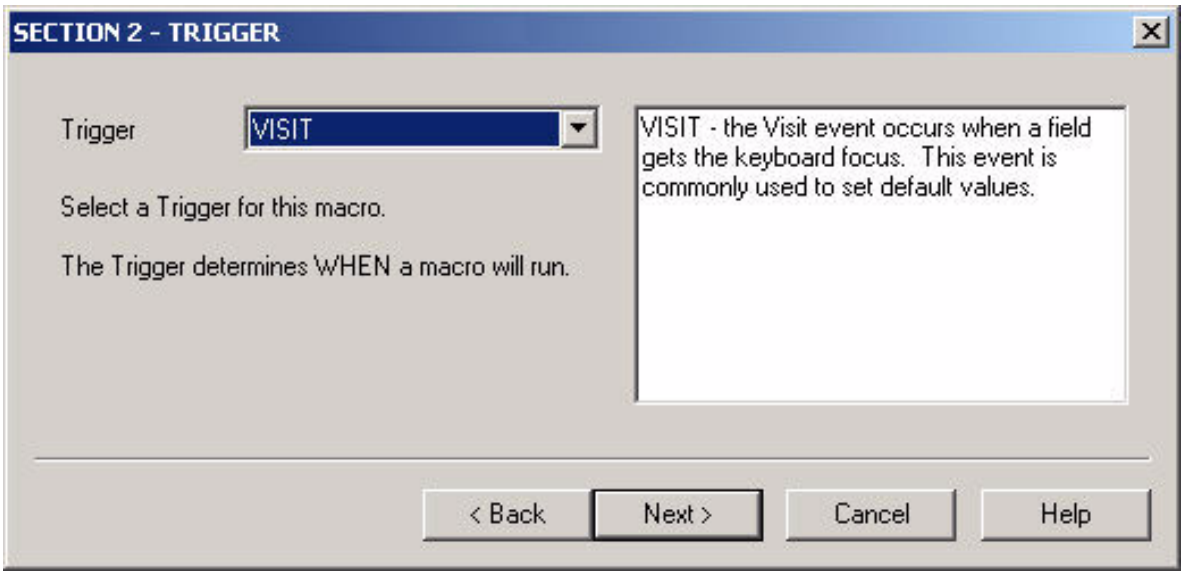


2. The Field page allows you to select the field for this macro. The 'Field Name" is automatically filled in with the name of the field from which you pressed the hotkey. You can find another field using the Action Field button, or select a previously defined field using the button.

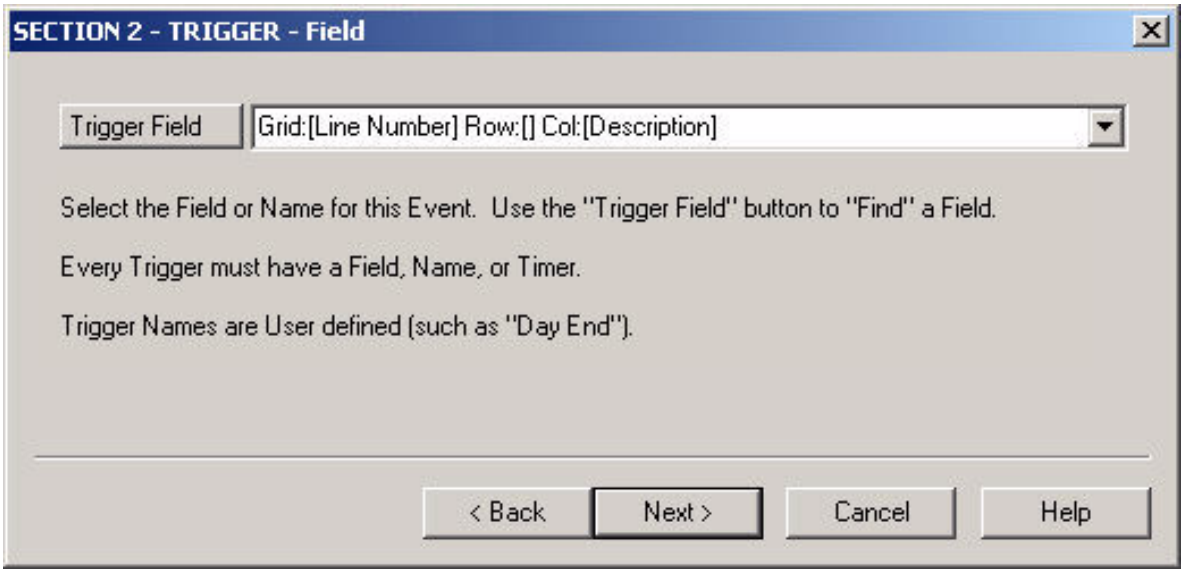


3. The Action page allows you to select a Action to perform. Actions determine what a macro can do. A brief description of each action appears as you select different Actions.

4. The Value page determines the data that will be run in the macro. Depending on the Action you selected various buttons may appear on the page to assist in building the Value.

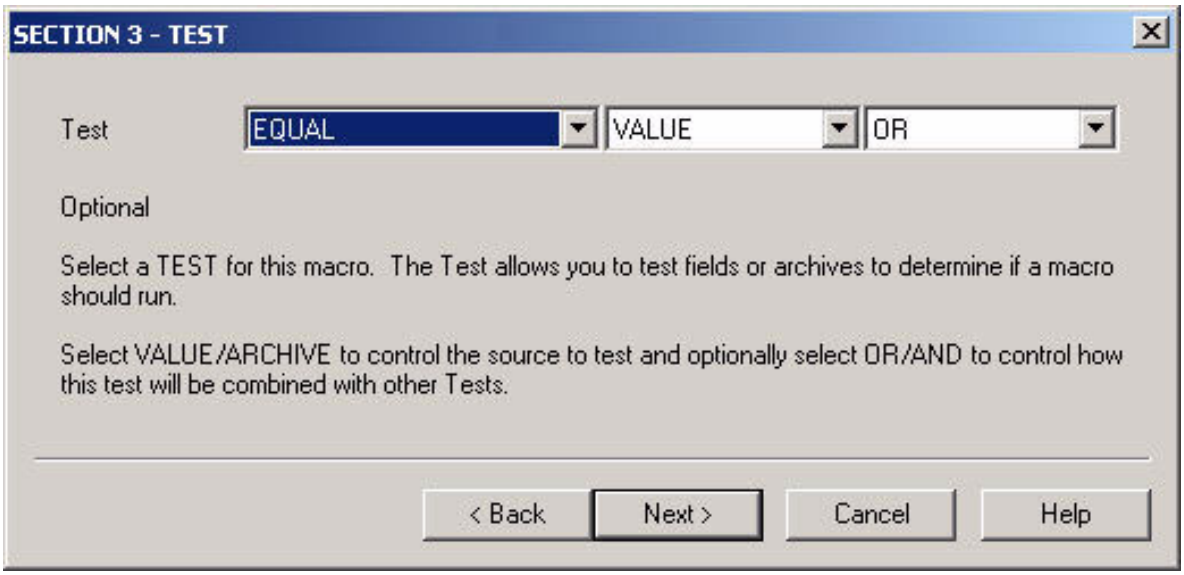


5. The Trigger page determines the Trigger that will run the macro. A macro will only run when a Trigger occurs. A brief description of each Trigger will appear as you select different Trigger types.



6. The Trigger Field page determines the Field that the Trigger must occur in. This need not be the same field as the Action.

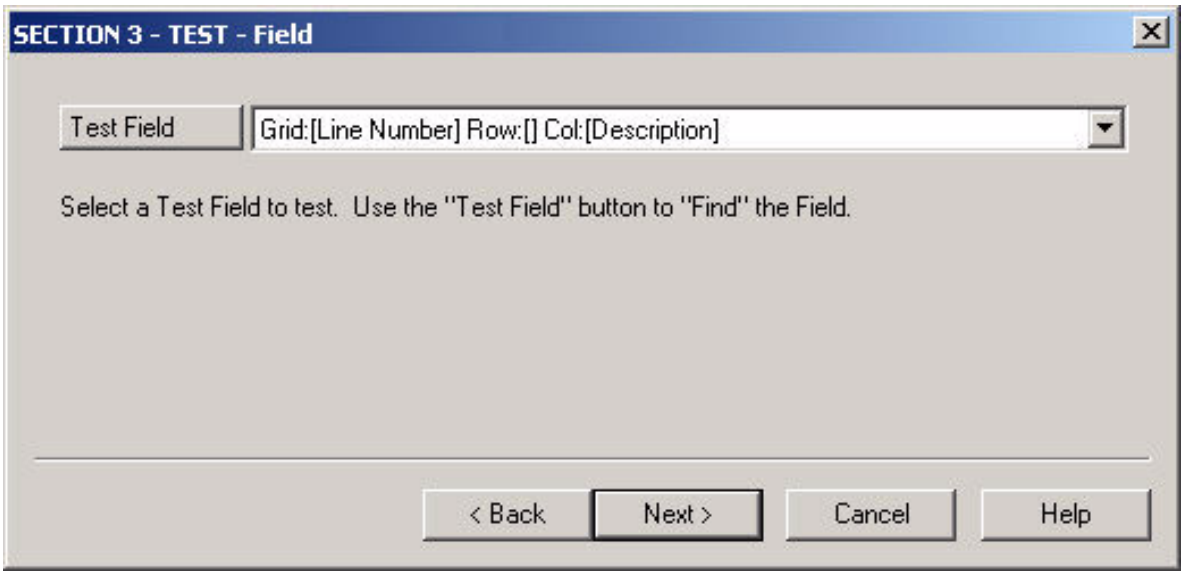
You may find another field using the button, or select a previously defined field using the button.



7. The Test page allows you to optionally select a Test to be applied before the macro will run. Skip to step 10 if you do not select a test.

Select VALUE/ARCHIVE to determine if you want to test the screen using a value in the macro or a value saved in an archive.

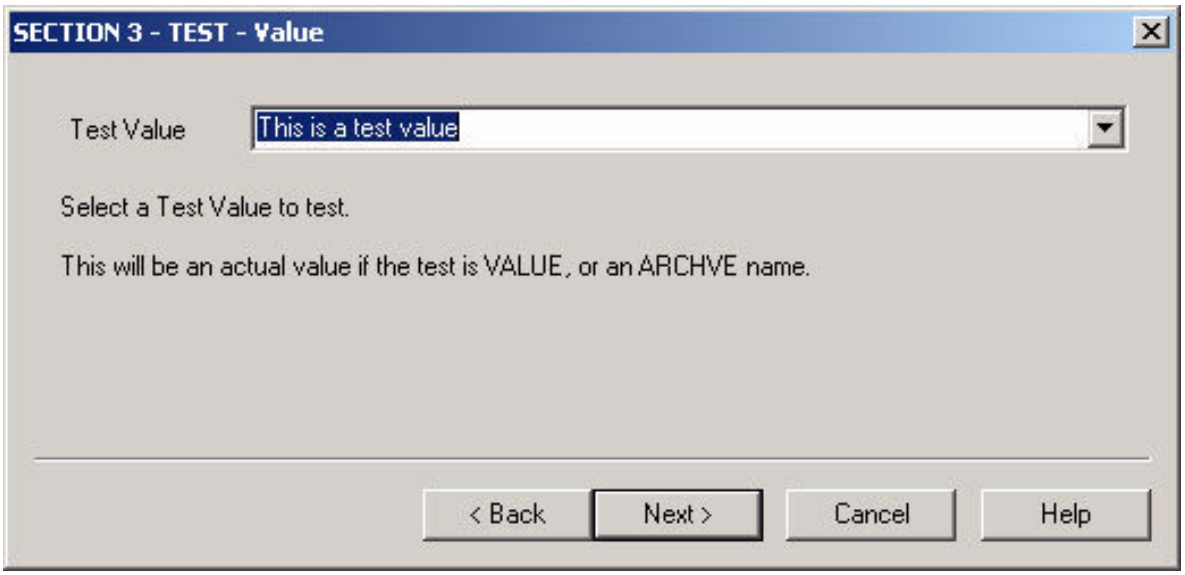
Select AND/OR to control how this macro will be combined with other macros in an And/Or Condition.



8. The Test Field page will only appear if you have selected a Test. Select the field you want to test. This need not be the same as either the Action Field or the Trigger Field.

You may use the

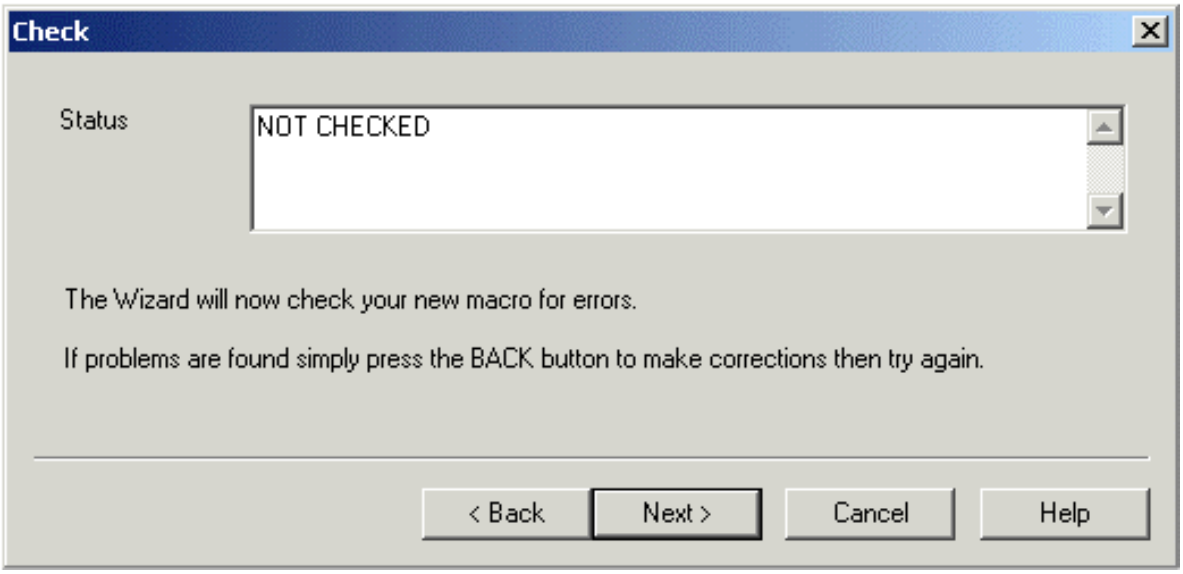
button to find another field or use the button to select a previously defined field.



9. The Test Value page will only appear if you have selected a Test.

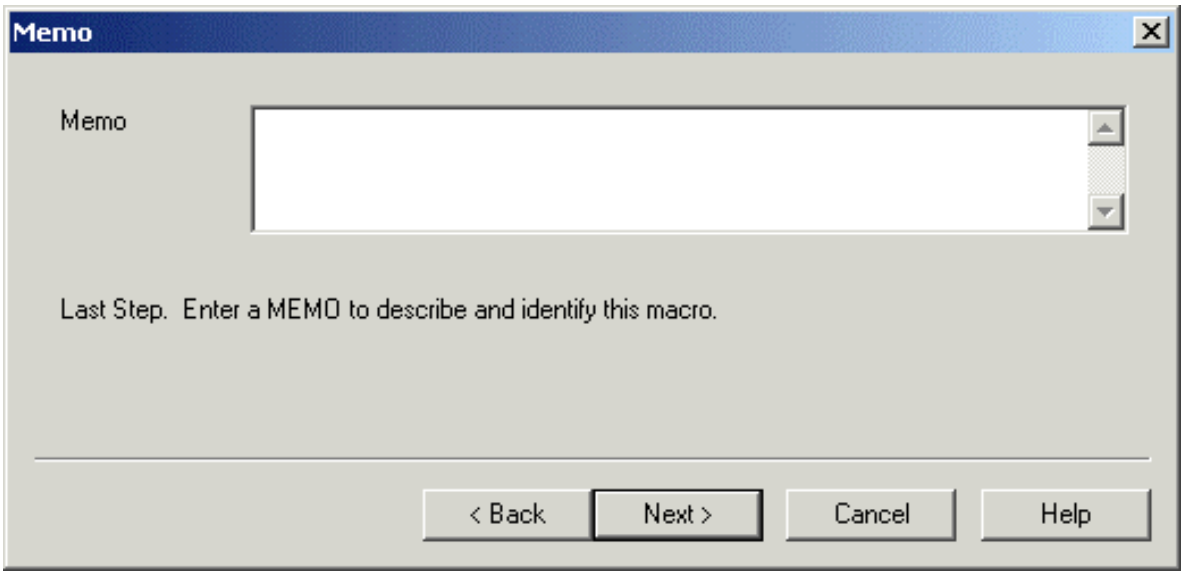
If you selected a VALUE test, fill in the value you want to test. You can use the button to select previously defined test values.

If you selected an ARCHIVE test, select the archive you wish to test using the button.

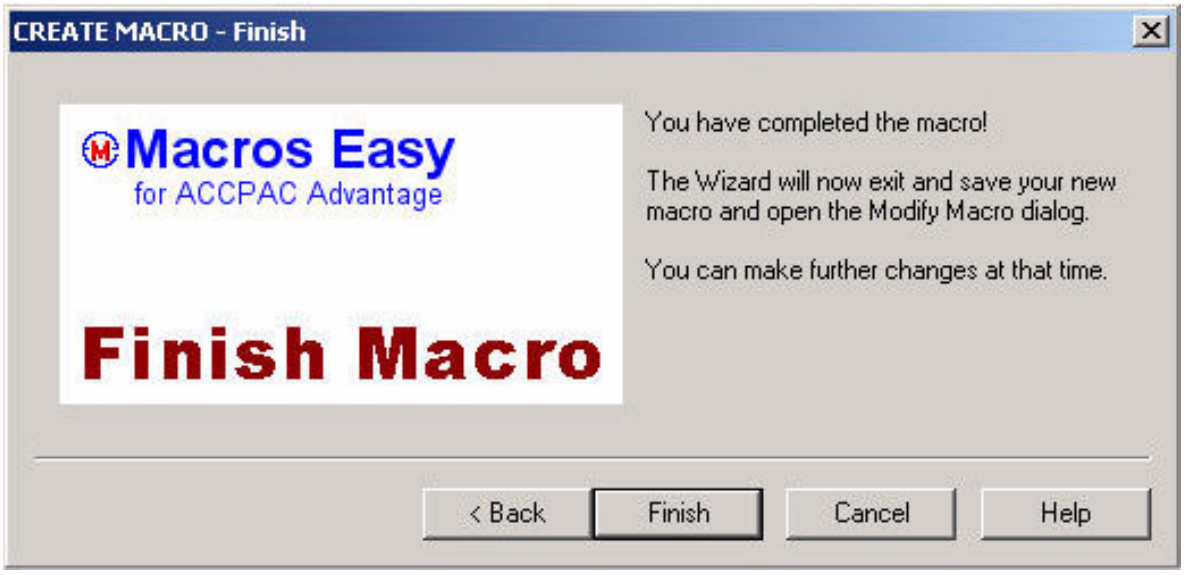


10. The Check page will check your macro to see if it duplicates an already existing macro. You will be warned if the macro is a duplicate.

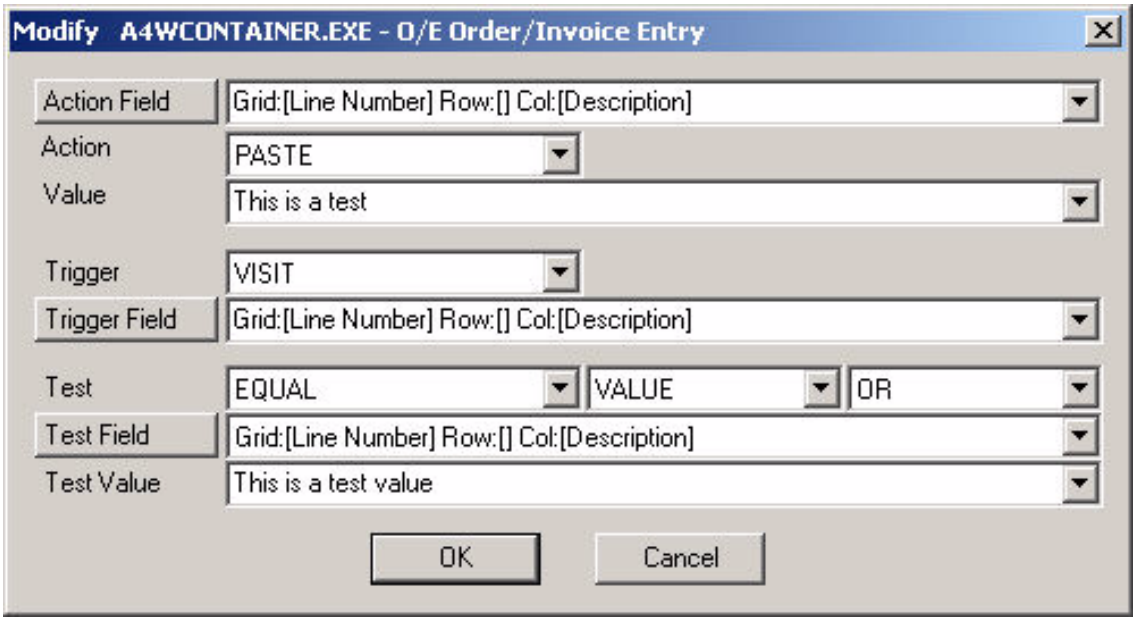
In case of a duplicate, go back and make changes or select OVERRIDE to proceed. You may be planning to make changes to this macro, which requires the creation of a duplicate.



11. The Memo page allows you to enter a description for this macro. This can aid in locating and maintaining your macros. While macros do not require names, this field can be used as a "macro name".



12. The Finish page informs you that a new macro will be created and displayed in the Modify Macro dialog to allow further changes.



13. The Modify macro dialog allows you to view and edit you macro at a glance. This is the menu that you would normally work with when Options, Wizard is not selected. It is displayed after the Wizard as a training aid.

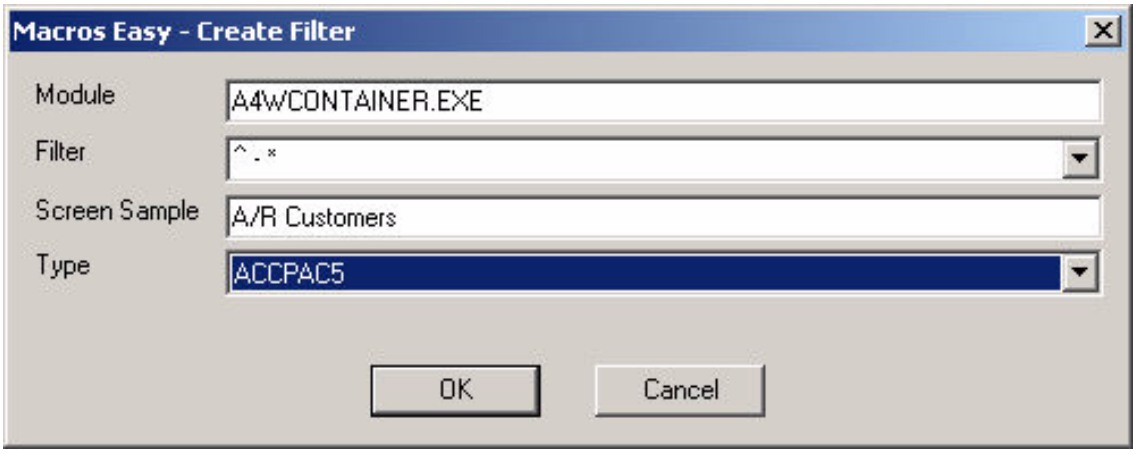
Macro Expert

When Options, Wizard is not selected, ME runs in Expert mode. In Expert mode, the fields from the Wizard dialogs are compressed into single dialogs to speed working with macros.

When ME is active, pressing the hotkey <Ctrl F10> in any application field will bring up the macro expert. The expert will look at the field and screen you are in and decide on one of three possible actions:

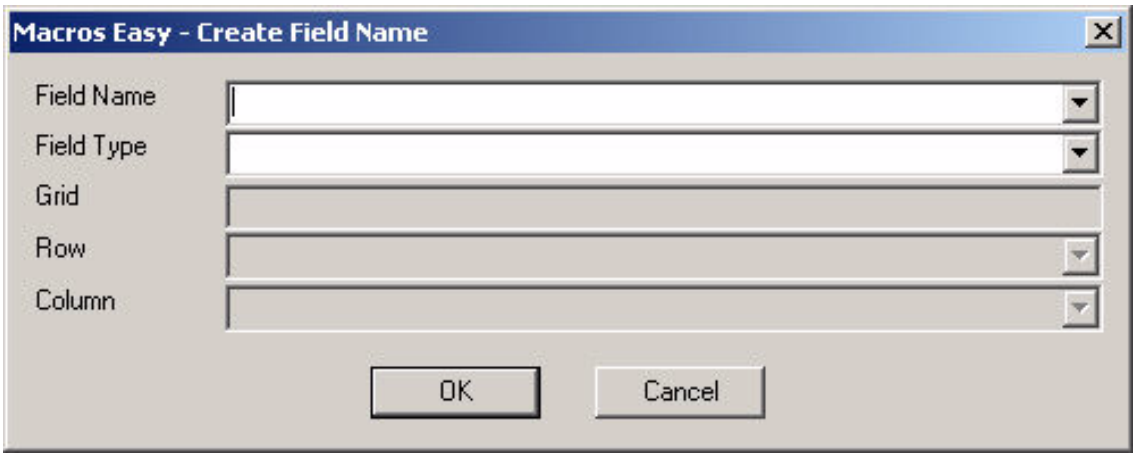
1. Filter Create
2. Field Create
3. Macro Create

Filter Create



The Create Filter menu allows you to create a filter for a module. Filters are used to remove application specific information from screen names so that field and macro definitions work over a range of application screens. (See Options, Options, Filters.)

Field Create



Field Name

If ME has not seen this field before, a small screen will popup asking for a name for this field. Once you have named this field ME will remember the name, and not ask again.

Note: Occasionally applications will use multiple physical fields to display a single screen field to the user. The fields not in use are hidden or covered up by other fields.

In this case ME may appear to ask for a field name more than once. Give each occurrence of the same field the same name, otherwise your macros will run sometimes and not others. You may need to experiment with various application options until you have forced your application to display all versions of the screen fields.

Field Type

You may override the field type should you wish to change the basic macro behavior for this field. All fields with the same name must have the same type.

TYPE GRID

The following fields are only applicable for Grids. Editing grids requires that the screen containing the grid be open.

Grid

If the field type is "GRID" you can enter the grid name for this field. Normally ME uses the first column of the grid as the name, but you can change this.

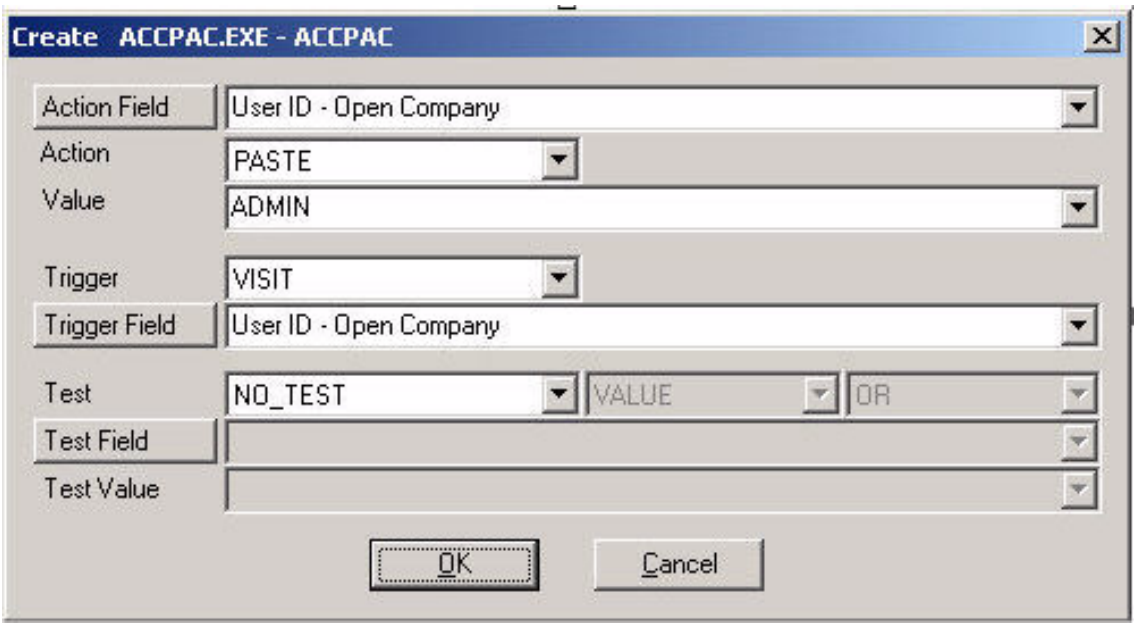
Row

If the field type is "GRID" you can enter the row name for this field. If the row name is blank, ME will use the current row at run time.

Column

If the field type is "GRID" you can enter the column name for this field. If the column name is blank, ME will use the current column at run time.

Macro Create



The Create Macros dialog can be called by pressing the hotkey <Ctrl F10> while in Export Mode (de-select Options, Wizard) or via the Macro, Create menu item.

The dialog is divided into three areas.

ACTION - The top section (Action) determines what the macro is going to do.

Action Field

The 'Action Field" is automatically filled in with the name of the field from which you pressed the hotkey.

You can use this field or change the field using the combo box or the finder Action Field.

Action

Select the appropriate Action for this macro. Depending on what you are doing, ME may suggest an action.

Value

Fill in the Value you want ME to automatically send to the field. Depending on the Action, buttons may be presented to help in building this value. ME may also read suggested values from the screen and add them to the combo box to speed entry of default values.

TRIGGER - The middle section (Trigger) determines when the macro will run.

Trigger

Select a Trigger to run the macro.

Trigger Field

Select the field, or use the finder Trigger Field. Triggers can also be user-defined names. If the Trigger is "Name", enter a name of your choosing.

BOTTOM - The bottom selection (Test) determines if the macro will run.

Test

Select a Test to limit when the macro will run.

Value/Archive

Select

depending on the source you want to test. Select VALUE to test against a value entered into the macro. Select ARCHIVE to test a field against a previously stored screen value.

And/Or

Select

to control how this macro is combined with other macros.

Test Field

If a test is selected, a "Test Field" will be required. Select the field using the combo box, or by using the finder

.

Test Value

If you selected VALUE/ARCHIVE

, enter the value you want to test. Otherwise, use the combo box to select the Archive you want to test.

Note: The Action, Trigger, and Test fields can all refer to different fields, but they must all be on the same screen.

Tutorials

Paste
Button Press
Hotkey
Error Handling
Notes
Audit
Check Boxes
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Field Copy
Scheduling a Program
Export
Import
Copying a PlayBack macro to a KeyMouse macro
Grids
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Internet/Intranet Lookup
Exchange Rate Calculator

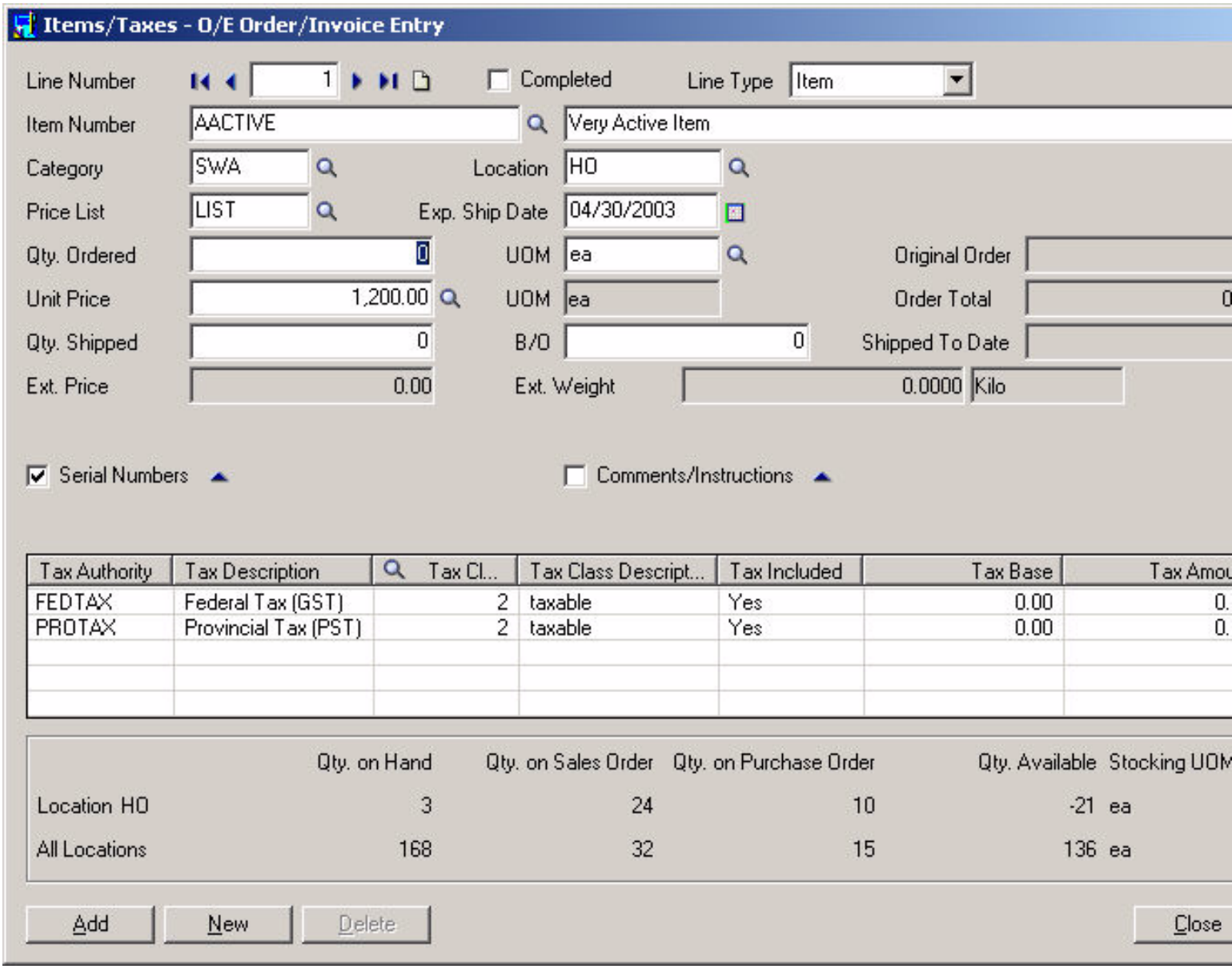
Tutorial - Paste

1. Paste Action allows you to update fields in the background without moving the mouse or the keyboard focus. It is especially useful for filling in default values for fields. However, Paste is not available in all field types. You must always test a Paste macro after it is created to ensure it works as expected. If Paste does not work with a field, you can use a KeyMouse or PlayBack Action to update the field.

2. When ME is running, a small icon appears in the system tray.

3. Open your application and move to a screen and field in which you want to have ME set a default value.

In this example we will use the ACCPAC O/E Order/Invoice Entry, using zoom -- F9 -- Detail entry. Start a detail line and move to the "Qty Ordered" field.



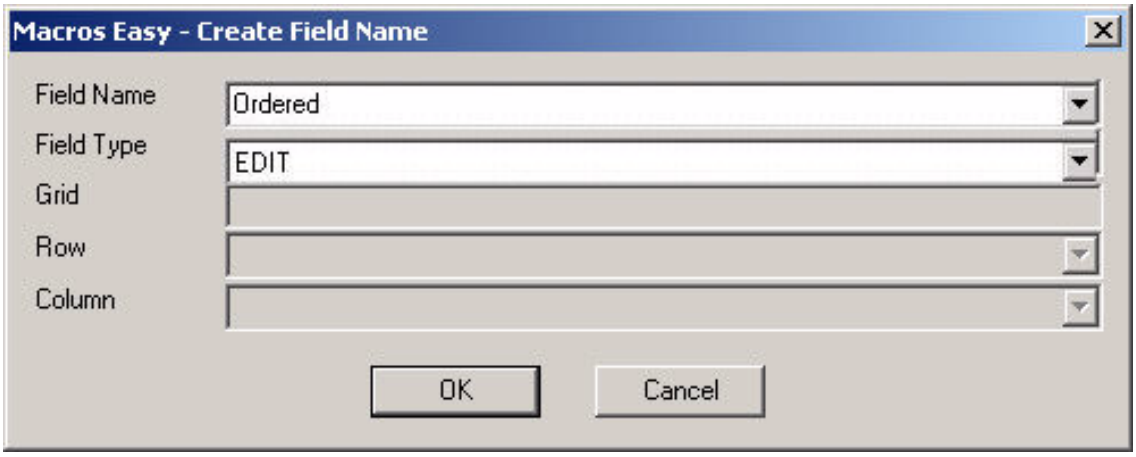
We are going to change the default value for this field from 0 to 1.

4. Type in the value you want to appear automatically in this field. In this case type in 1.

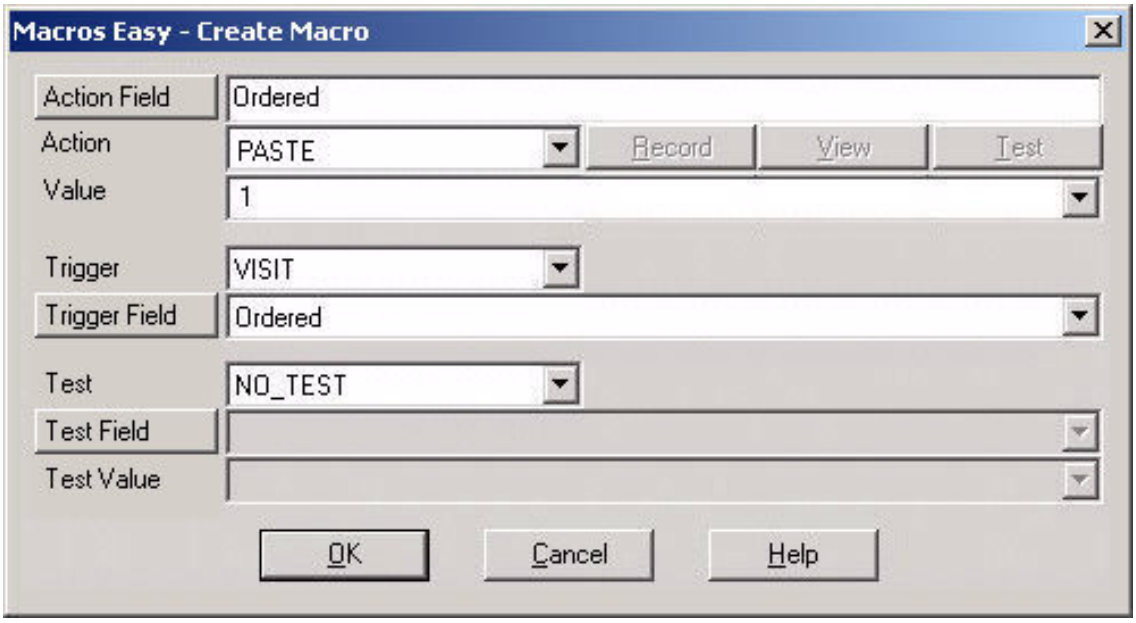
5. Press CTRL F10 to popup ME.

5. (Optional)
If this is the first time ME has seen this field, it will ask for a field name. In most cases ME will automatically fill in a name for you. You may edit the name to suit your requirements.

Press OK to accept the name.



6. ME will bring up the Create Macro dialog.



ME has automatically filled in the menu with the most likely defaults.

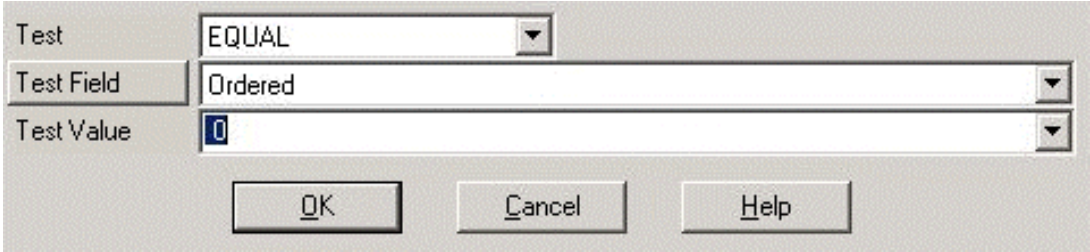
This macro tells ME to send a '1' to the 'Ordered' field using Paste when we visit the Ordered field and not do any tests.

We could press OK to save this macro and from now on ME would set the Ordered field to 1 whenever we visit the field. However, this would not be very good if there was already a value in this field.

We need to do one more thing. Tell ME to only change the value if it is currently zero.

7. We use "Test" to do a test. Select BLANK_ZERO from the list box.

ME will change the test condition to EQUAL, and set the 'Test Value' to 0 or blank depending upon the field being tested.

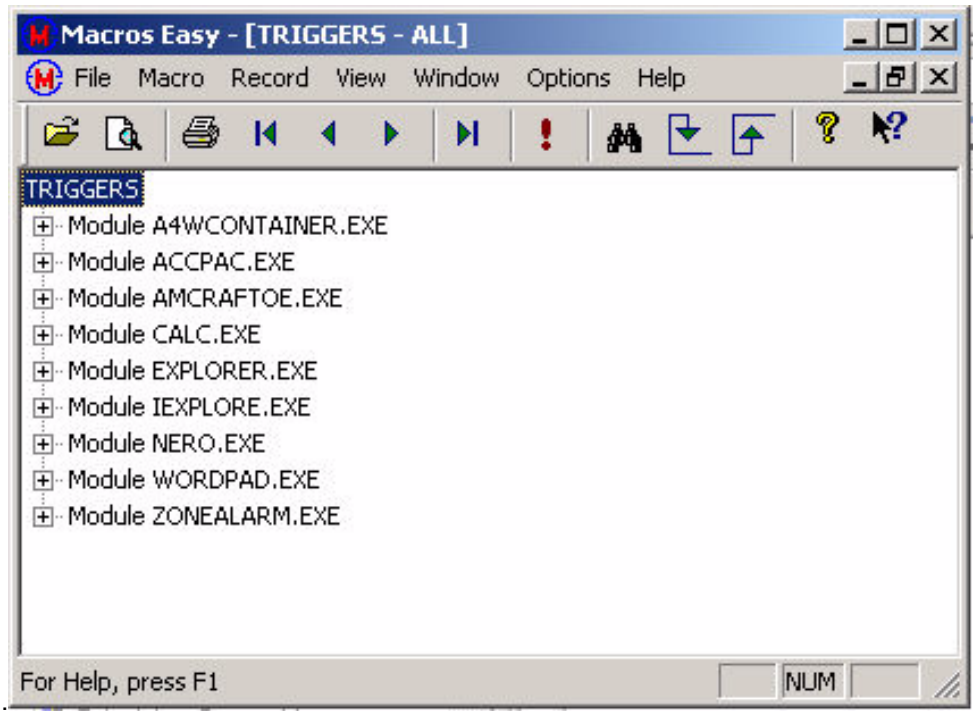


The macro will now only run if the 'Ordered" field is EQUAL to '0'.

8. Press OK to save this macro. Test your first macro to make sure it works as expected. (See Tutorials and Macro Wizard.)

9. Double clicking the ME icon on the task bar will bring up ME.

Note: While ME is Open, macro execution is suspended to simplify maintenance.



This view shows the programs that have macros and can be expanded to allow macro maintenance and reporting. (See Actions, Triggers and File Open.)

11. ME will be automatically started each time you start Windows. Pressing the re-query tool in a multi-user environment will make changes made by other users available to you.

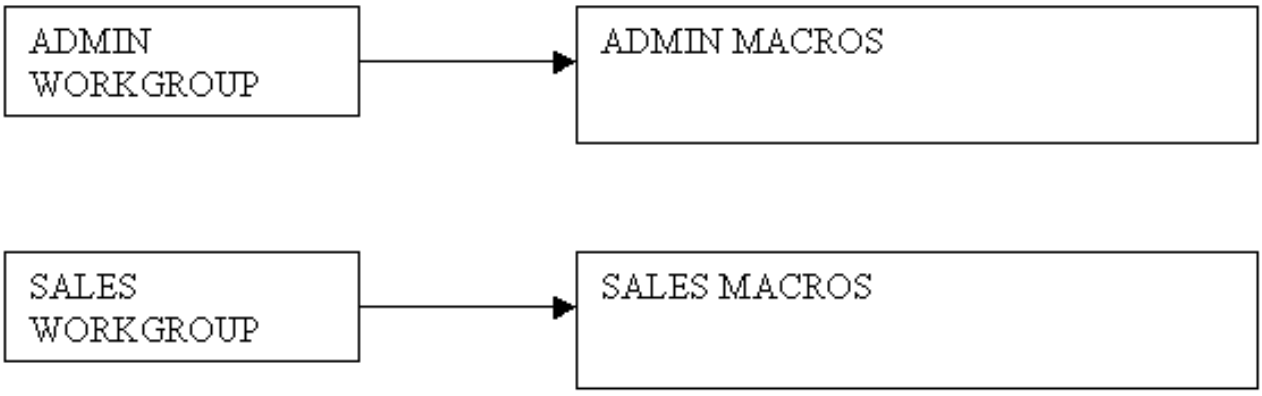
Tutorial - Groups

ME uses Groups to simplify maintenance. Groups in ME are somewhat different than traditional macro programs.

Traditional Approach

Suppose you have two work-groups, ADMIN and SALES, and you wish to create macros for each.

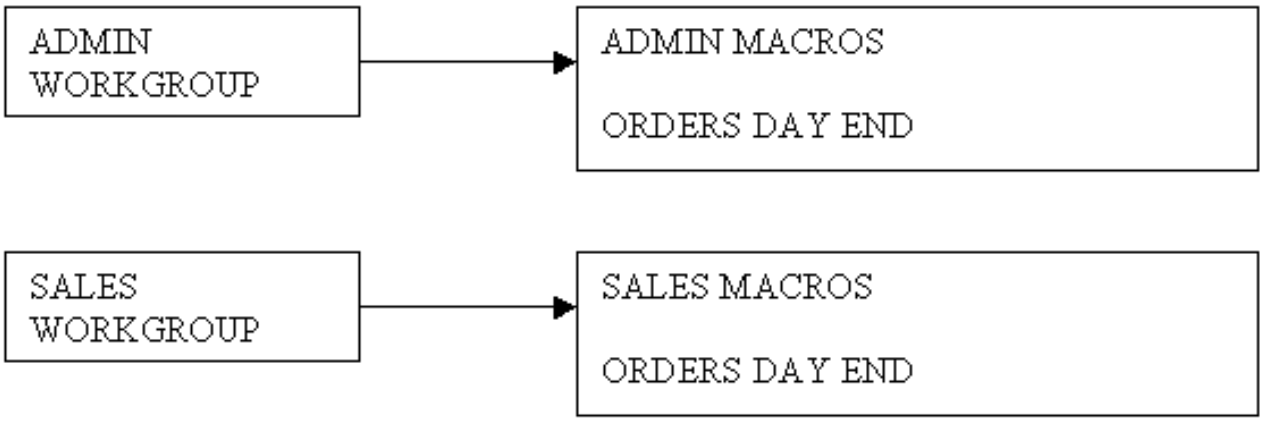
You might create two groups of macros and build macros for each work-group in their own macro-group.



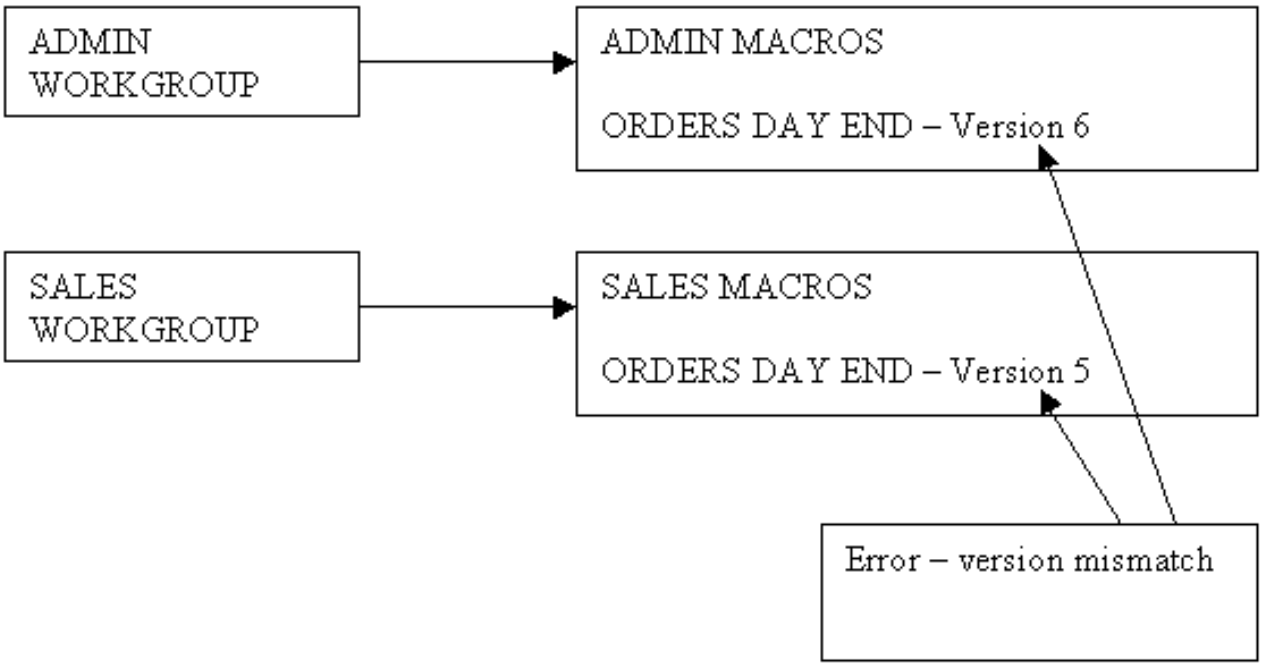
Now suppose you wish to create a macro, ORDERS DAY END.

The problem is that both work-groups need access to ORDERS DAY END.

The traditional solution is to copy this macro into each group.

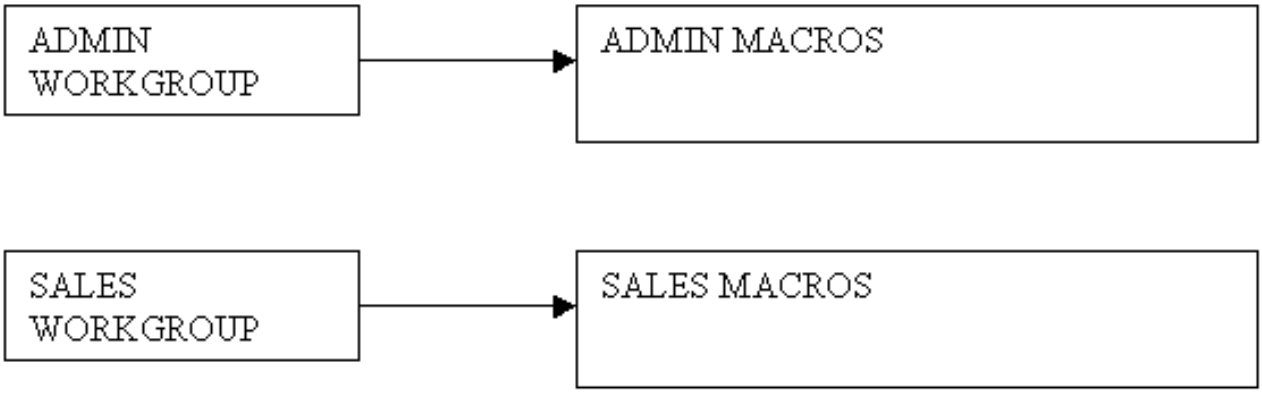


This solution leads to maintenance problems as more and more work-groups and macros are added and changes are made, ultimately a mistake is made and different versions of the same macro lead to errors.

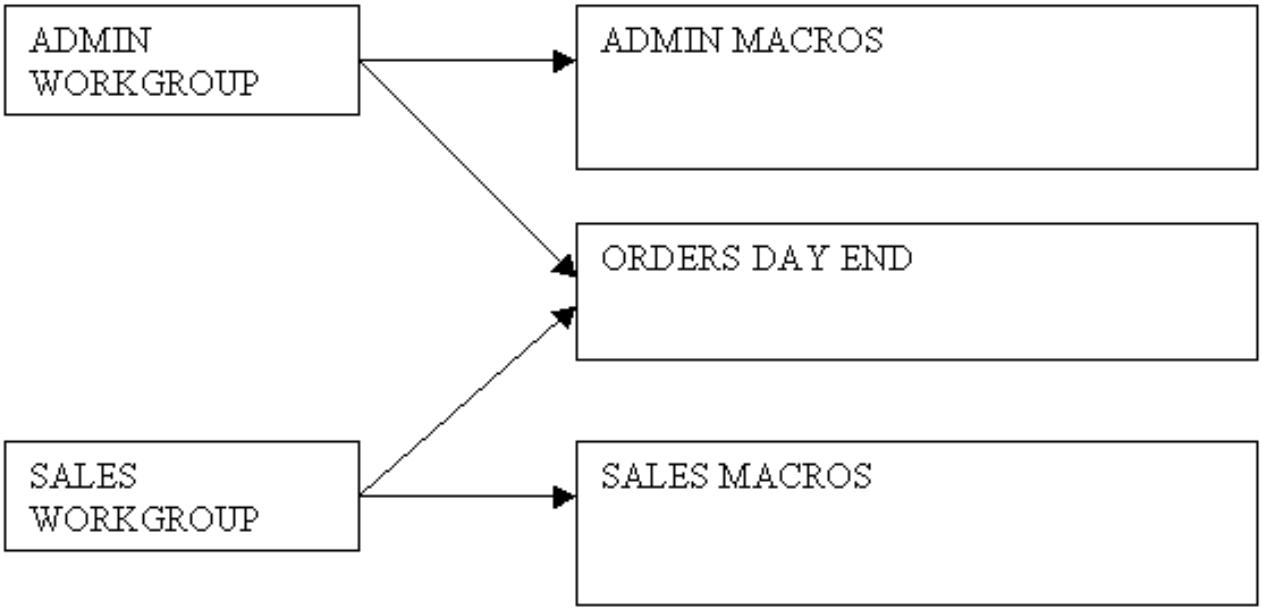


ME Approach

In ME you can also set up macro-groups to match the user work-groups.



However, when you want to create a ORDERS DAY END macro, you do not copy the macro to the Sales and Admin groups. Rather, you create a new group, Orders Day End, and give each work-group access to the new macro-group via the Security View.



To gain access to the ORDERS DAY END group, the ADMIN and SALES workgroups selects OPTION, GROUP, ALL.

Except when developing new macros, all users should typically select OPTION, GROUP, ALL to enable the Security View to determine which groups of macros they can access.

Note: To access the ORDERS DAY END, users can also change to the ORDERS DAY END GROUP (via Options, Group). However, this will then turn off all other macros for them in all other groups. This method is not recommended unless the user specifically wants to disable macros in other groups.

Group SYS gives users access to all groups, bypassing security. This feature is provided for debugging and should not be used by regular users as there is no facility to disable groups of macros.

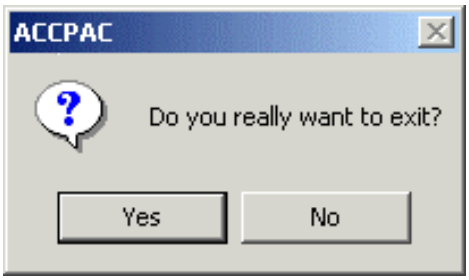
Tutorial - Button Press

1. When ME is running, a small icon appears in the system tray. Verify that ME is running.

2. Open the application in which you want to create a macro.

Position the keyboard "focus" (the field that gets keyboard input) to the field in which you want to create a macro. Normally the TAB key, SHIFT TAB, or mouse can be used for this purpose.

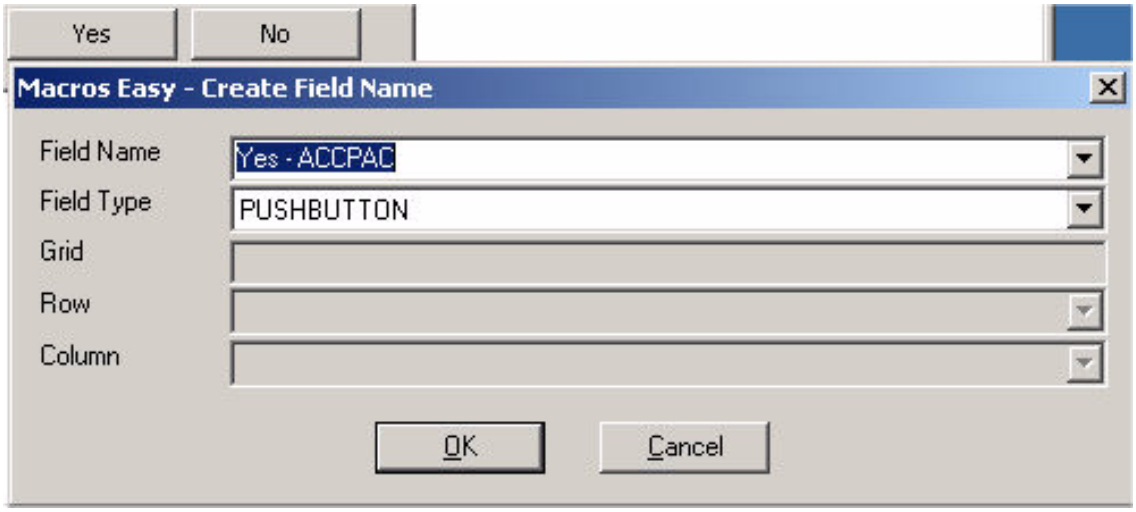
e.g.: We will use the standard ACCPAC exit message.



3. Press CTRL F10 to popup ME.

4. (Optional)
If this is the first time ME has seen this field, it will ask for a field name. In most cases ME will automatically fill in a name for you. You may edit the name to suit your requirements.

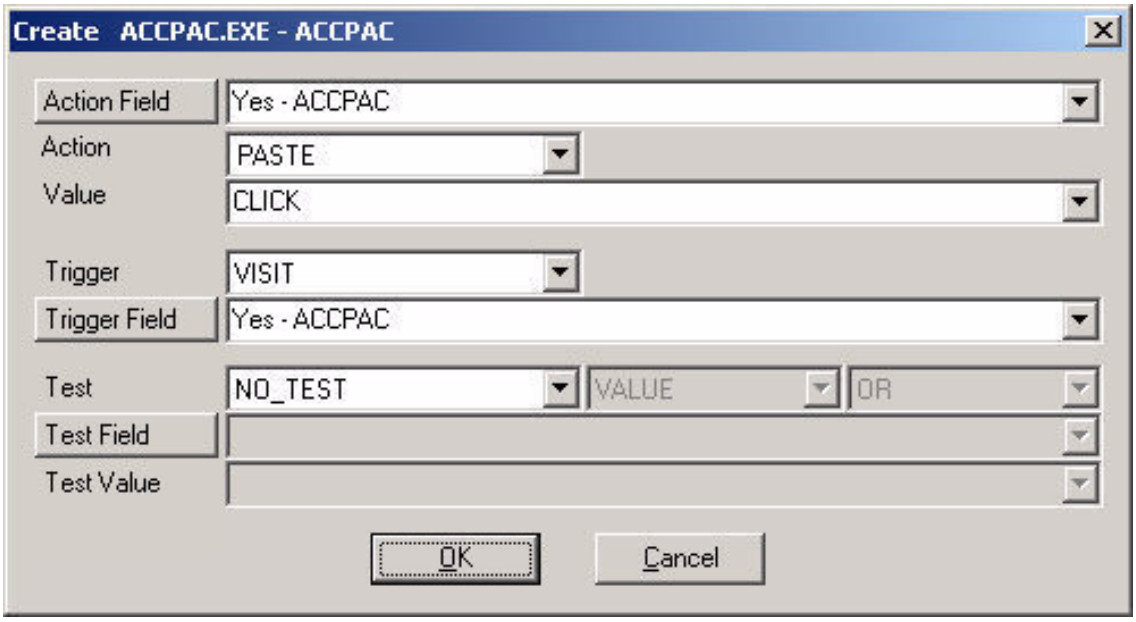
Press OK to accept the name.



You can override the field name and field type if required. Typically you would change the field name if a different field with the same name already exists. Changing the field type changes how ME runs macros on this field so should not be done unless ME is not working correctly for this field.

In MS Windows, checkboxes and radio buttons are types of BUTTONs. Yes and No buttons are typically PUSHBUTTONs.

5. ME will bring up the Create Macro dialog.



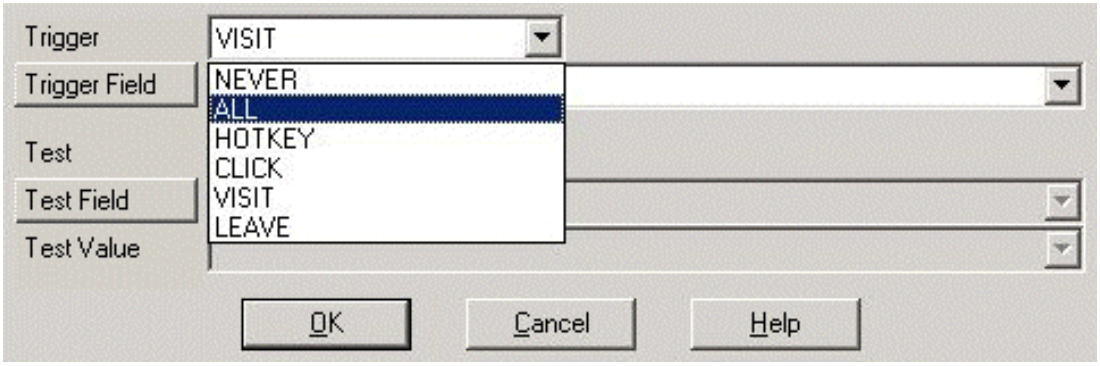
When this macro runs, ME will send a CLICK to the 'Yes - ACCPAC' field on the Trigger VISIT to 'Yes - ACCPAC'.

The Action used will be PASTE, which bypasses the keystroke/mouse.

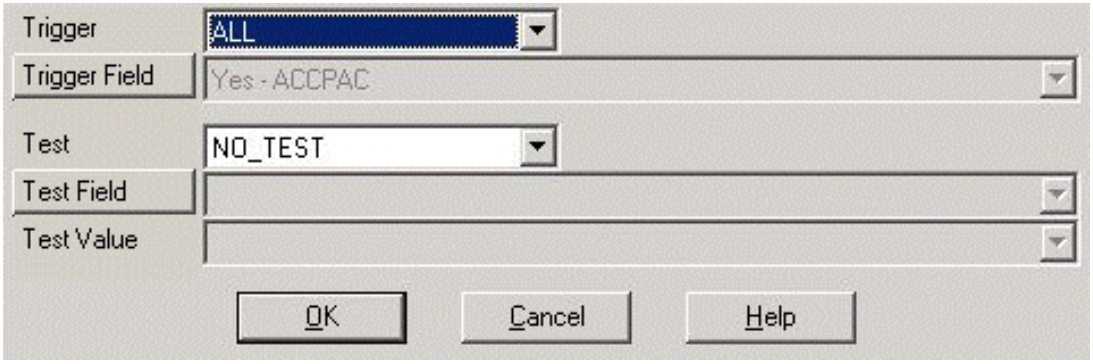
We could also set the Action to 'KEYMOUSE' or 'PLAYBACK' and record a mouse click on the button. These actions use the system queue, allowing the user to type ahead before the action occurs.

6. This macro will only run on a Visit to the 'Yes - ACCPAC' field. This is not what we want. We want this macro to always run.

To do this, change the 'Trigger' to ALL.



The macro will now run on ALL Triggers for this screen.



7. Press OK to create your macro.

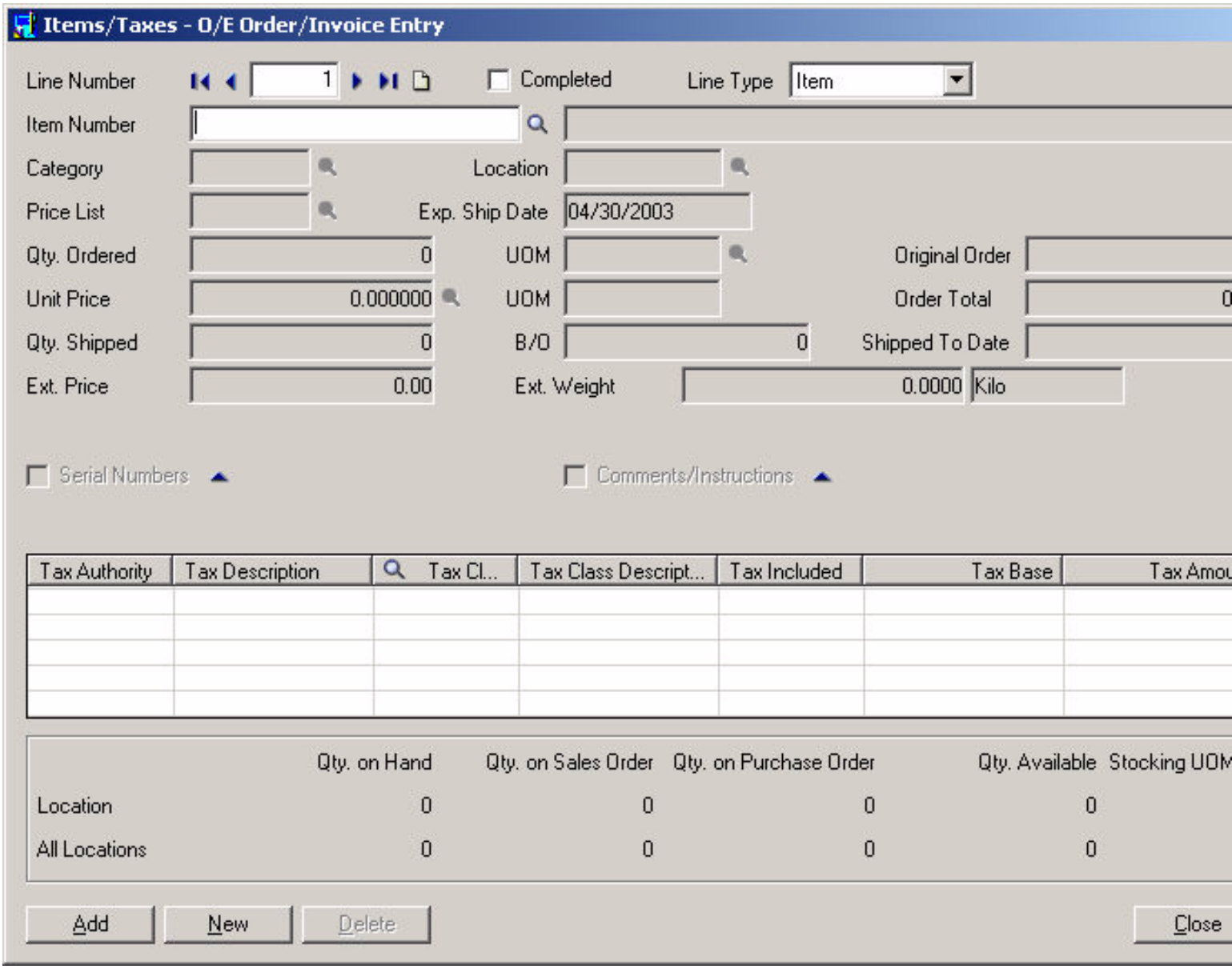
8. The macro will run and press the "Yes" button causing ACCPAC to exit. From now on, ME will automatically press this button for you.

Tutorial - Hotkey

1. When ME is running, a small icon appears in the system tray.

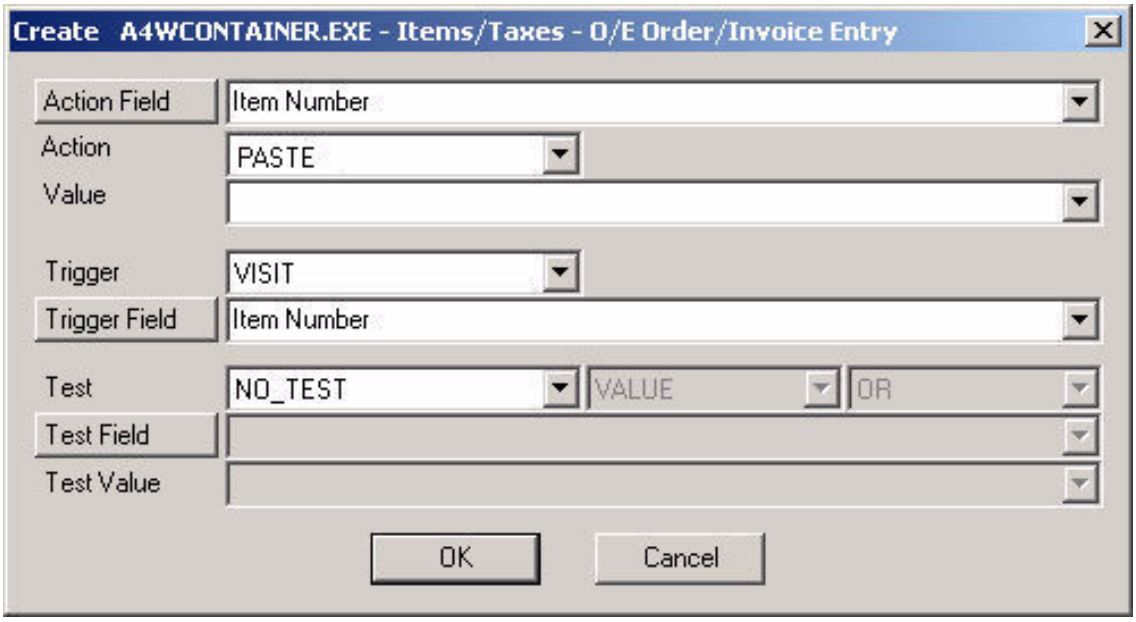
2. Open your application and move to a screen and field in which you want to have ME take some action based on a keystroke.

In this example we will use the ACCPAC O/E Order/Invoice Entry, using zoom (f9) entry mode. Start a detail line, and move to the "Item Number" field.



Notice that ACCPAC does nothing when you enter this field. You might wish ACCPAC to do something else in this situation. Perhaps call the Finder. We will use ME to do this automatically.

3. Press CTRL F10 to bring up ME.

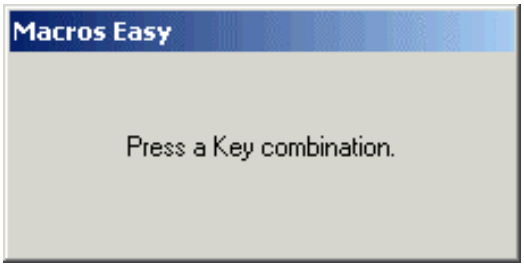


In this case we want to send an F5 to the Item Number field, when ever the user presses TAB or ENTER in this field.

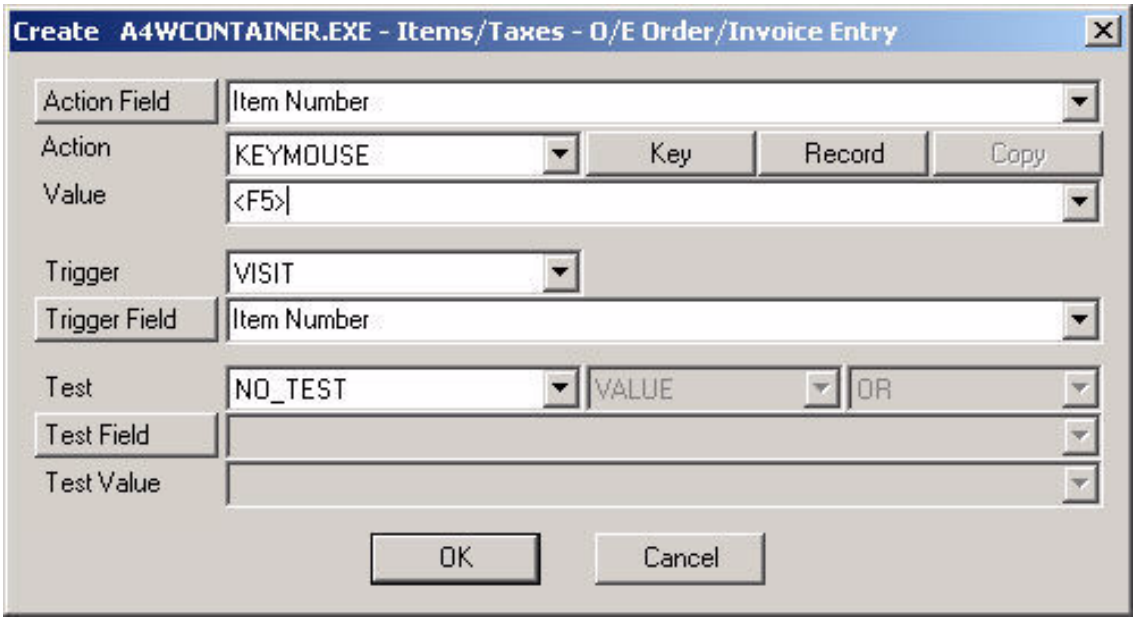
4. Change Action to KEYMOUSE.

Press

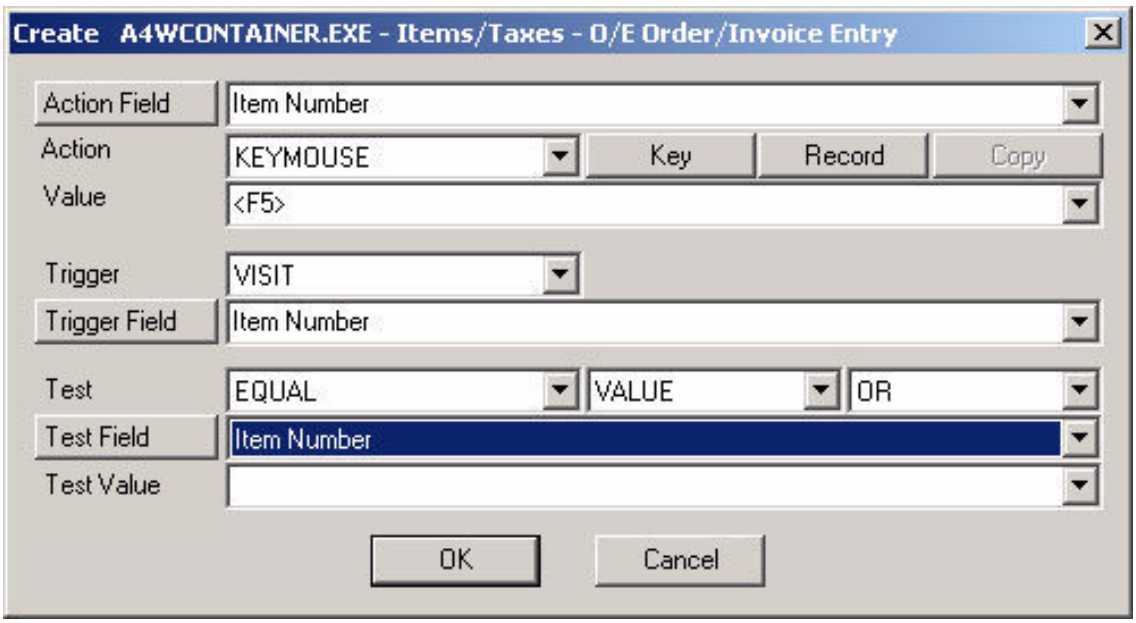
.



ME will ask you to press a key. Press F5.



5. ME will now press F5 in the Item Number field every time we visit that field. However, in this case we only want the finder to be called if the Item Number it blank. Change the 'Test' to BLANK_ZERO.



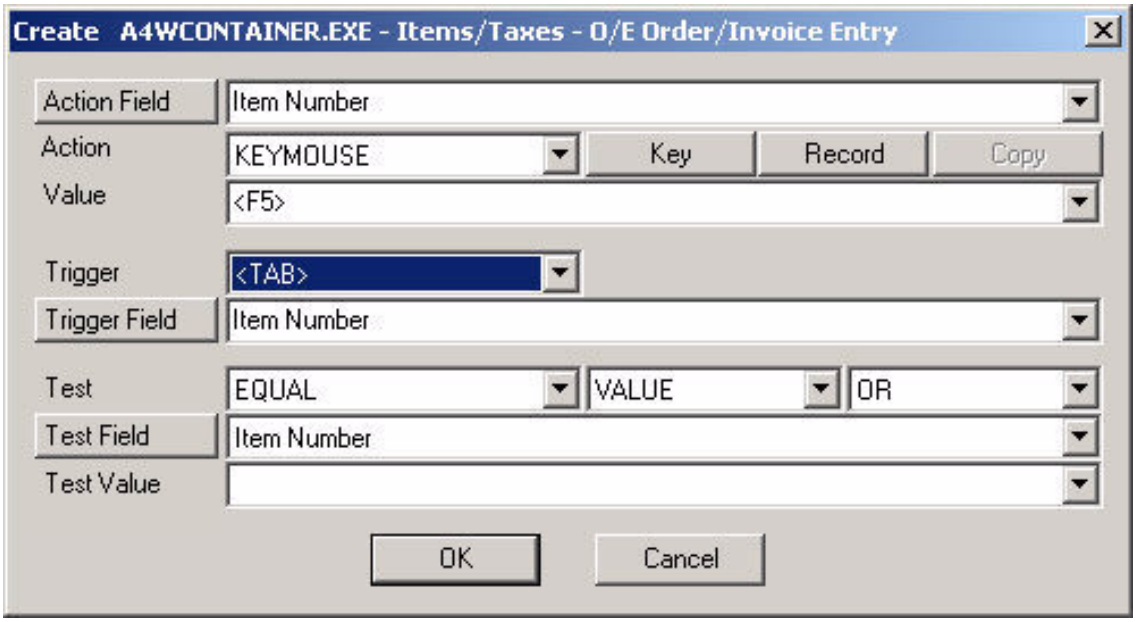
ME automatically sets up a test for Item Number EQUAL to banks/spaces. Now our macro will only run if there is no Item Number.

6. In many cases this is all that is required and you can save the macro. The Finder will be automatically called whenever you visit the Item Number field if the Item Number is blank.

If this is all you need, press OK to save the macro. However, if you only want to call the Finder occasionally, then we need to add a Trigger.

7. Change the Trigger to HOTKEY.

ME will ask you to press a key. Press TAB.



ME has now set up a Trigger on the <TAB> key. What this means is that this macro will only run when the TAB key is pressed in the Item Number field and the Item Number is blank.

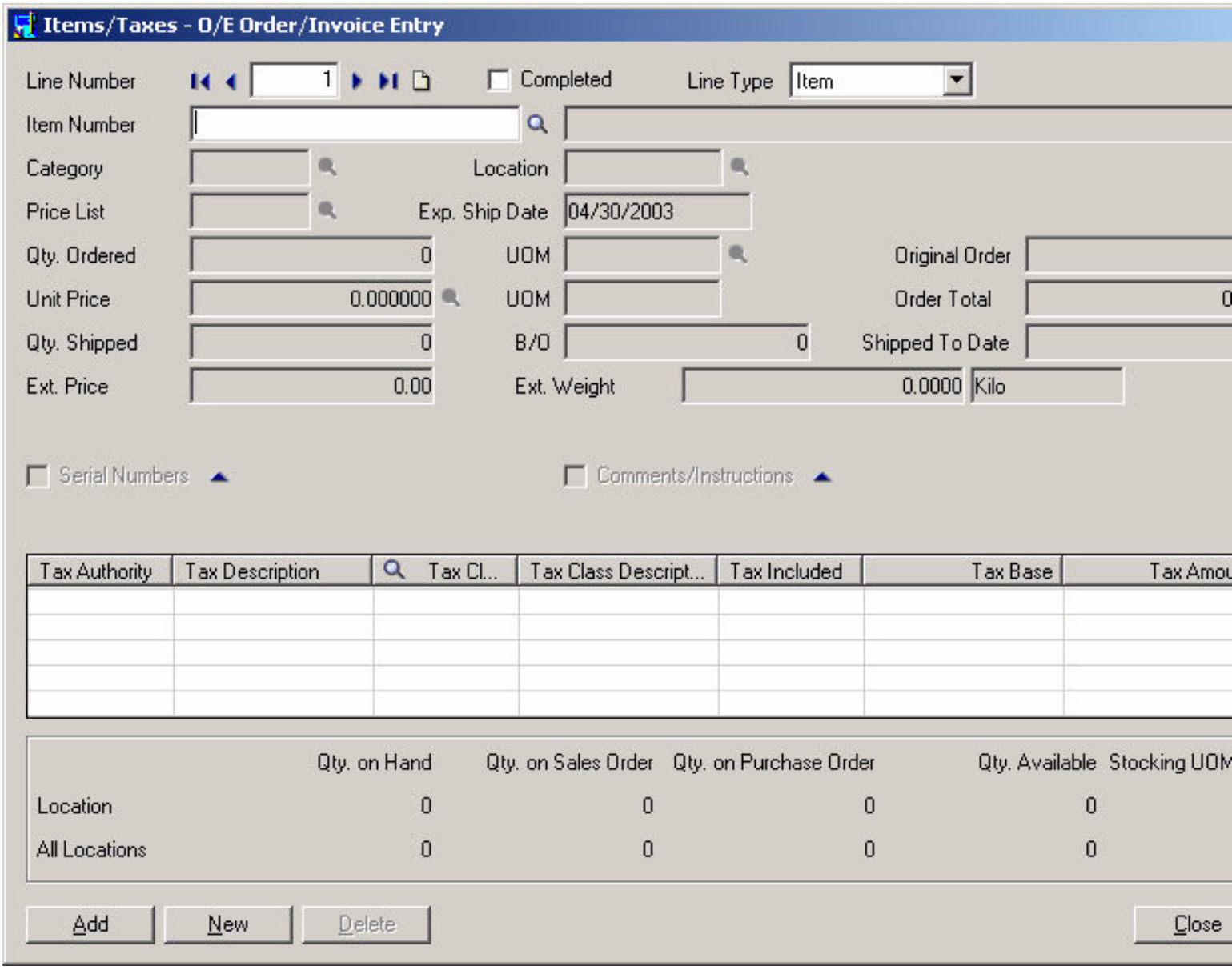
8. Press OK to save this macro. Test the macro using the TAB key to navigate through the Item Number field.

Tutorial - Error Handling

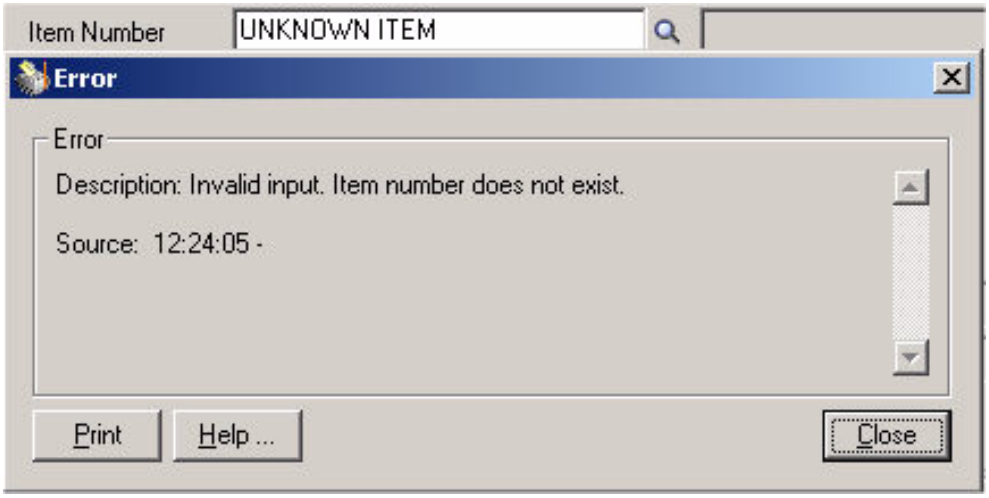
1. When ME is running, a small icon appears in the system tray.

2. Open your application and move to a screen and field in which you want to have ME take some action.

In this example we will use the ACCPAC O/E Order/Invoice Entry, using zoom -- F9 -- Detail entry. Start a detail line and move to the "Item Number" field.

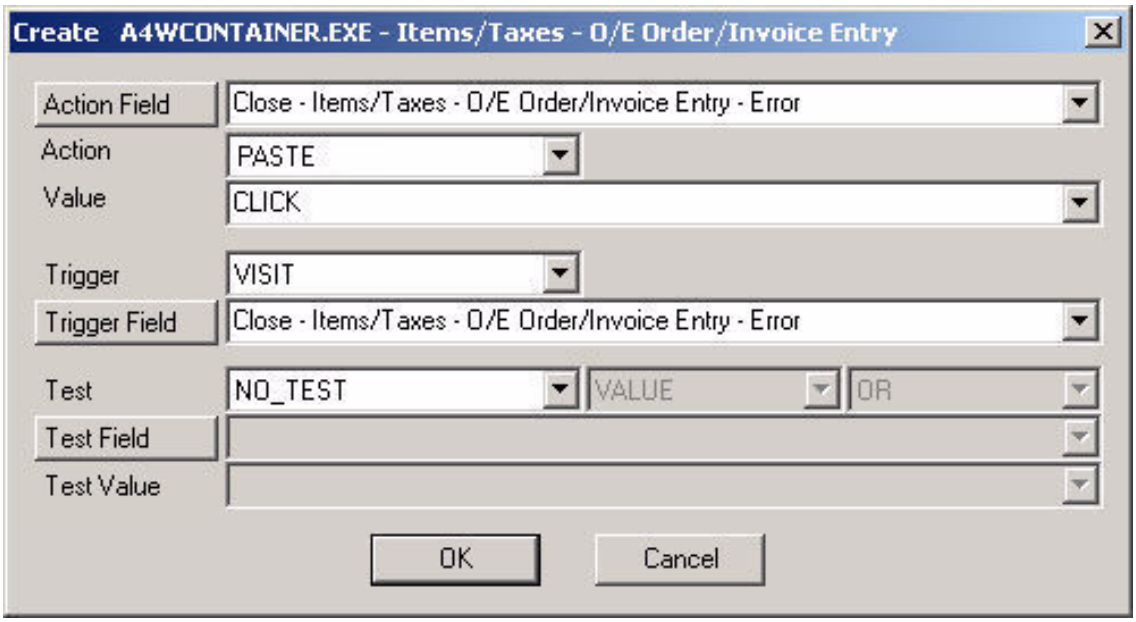


Enter an Item Number you know does not exist and Press TAB.



You might want ACCPAC to do something else in this situation; perhaps call the Finder. We will use ME to do this.

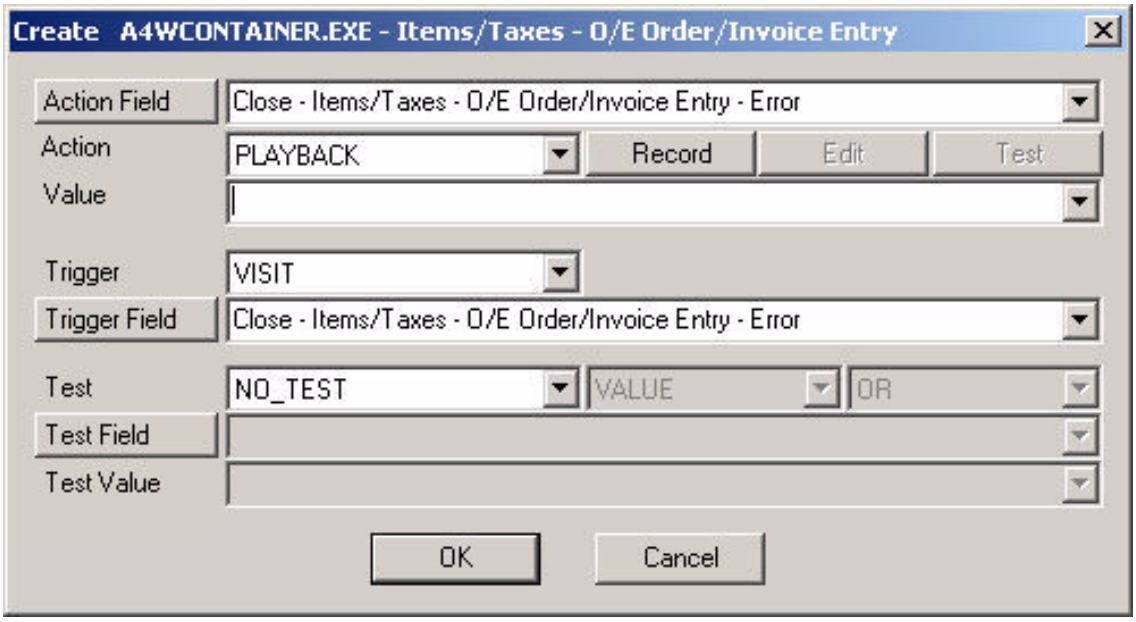
3. Press CTRL F10 to call ME. Create a field for the OK button, if required, the Create Macro dialog will appear.



This macro would automatically close the error message and return us to the item number field. This may be all we want to do, but in this case we also want to call the Finder.

To do this we can record a short macro to press the OK button then press F5 to call the Finder.

4. Select Action PLAYBACK.



PLAYBACK is typically used when you want a single macro to take action in more than one field.

5. Select

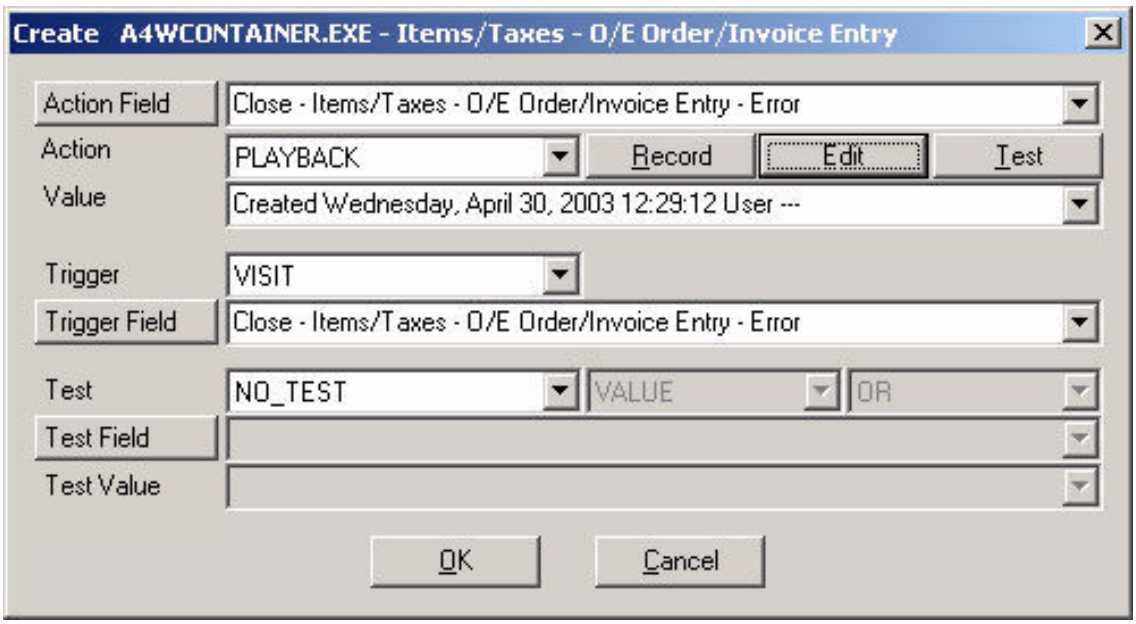
.

Notice the top left corner of the screen, which confirms you are recording.

6. Press the Close button to clear the error message and return to the item number field. We will use the mouse to do this but you could use the SPACE, RETURN, ESCAPE, or ALT F4 keys also.

7. Press F5 to call the Finder.

8. Press CTRL BREAK to end recording. Notice the recording message is gone from the top left corner of the screen.



You have now recorded a keystroke/mouse macro. These are the standard macros most users are familiar with.

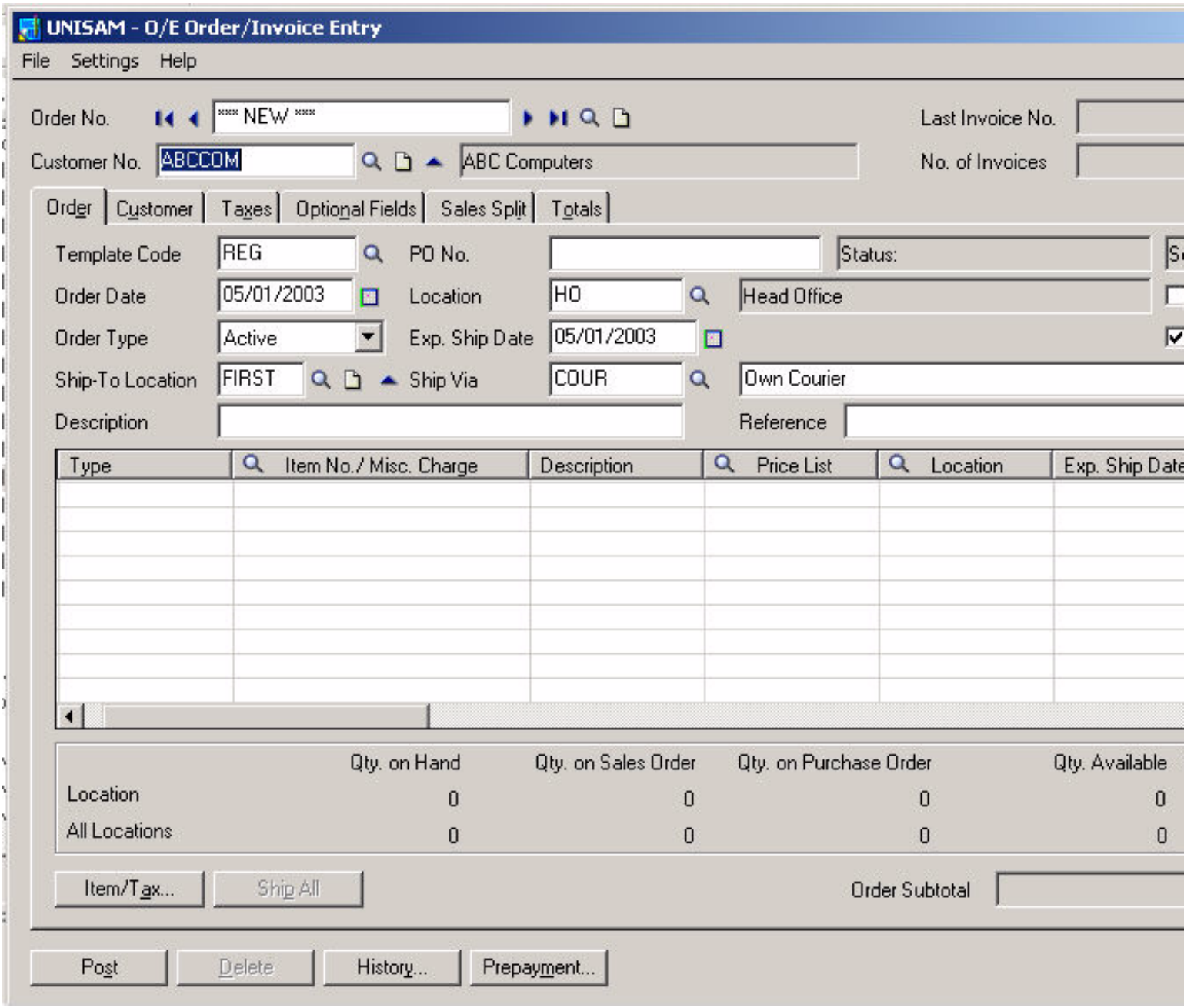
9. Press OK to save your macro. Test your new macro in ACCPAC.

Notice at the top left of the screen a message is displayed during macro replay. Pressing CTRL ESCAPE will stop macro replay.

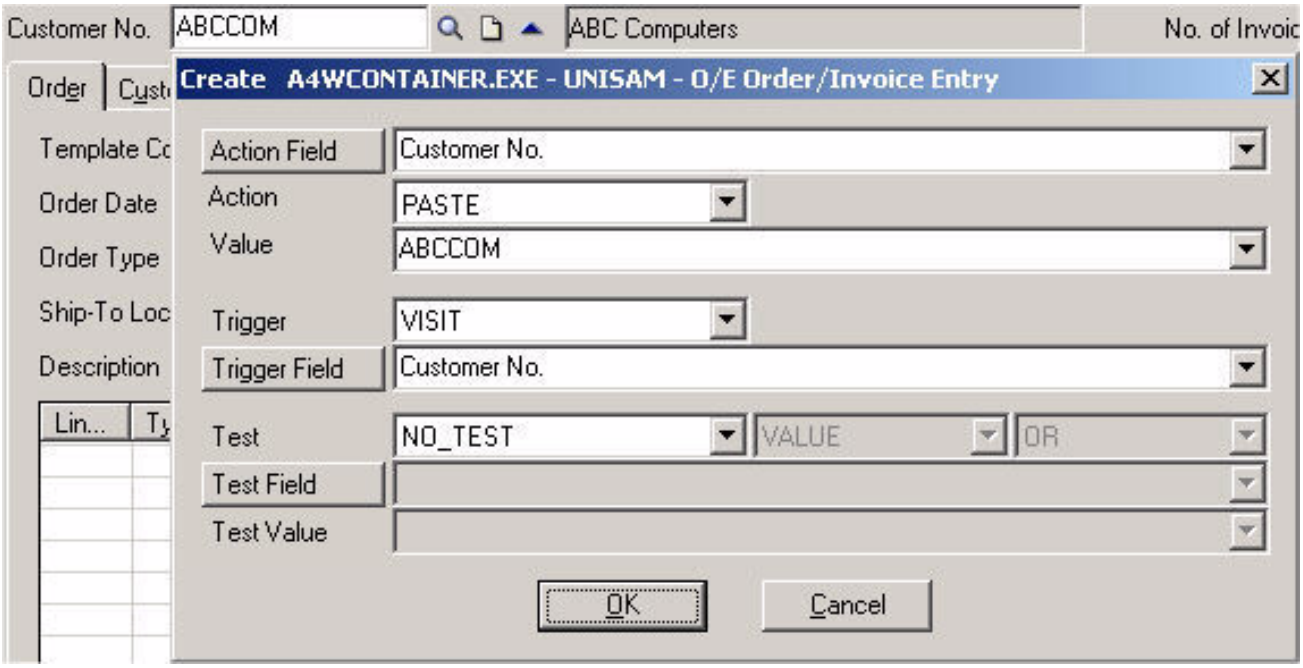
Tutorial - Notes

1. When ME is running, a small icon appears in the system tray.

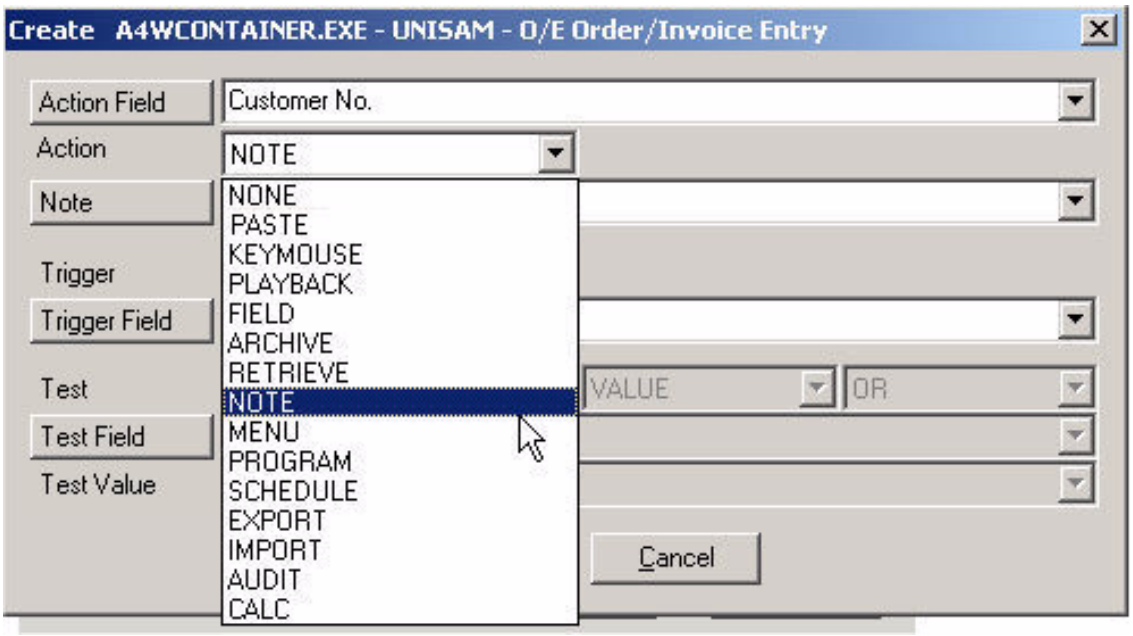
2. Open your application and move to a screen and field in which you want to create a Note. In our case we will use the ACCPAC O/E Order/Invoice Entry, Customer Number field.



3. Enter a valid customer number into the Customer Number field and press CTRL F10 to popup ME.



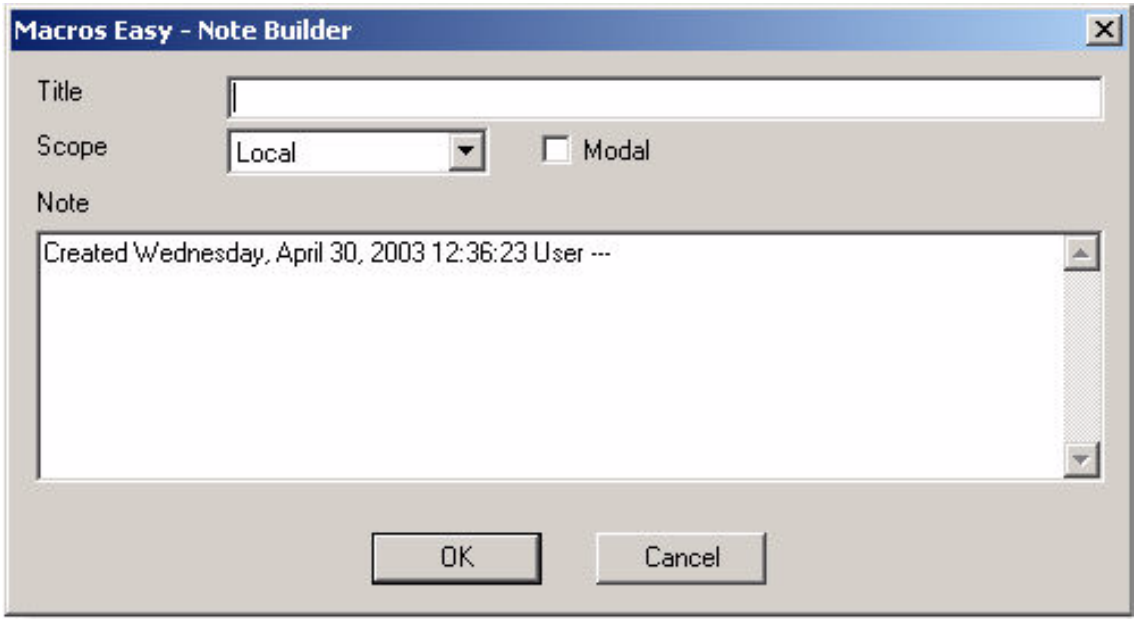
4. To create a Note, change the Action to NOTE.



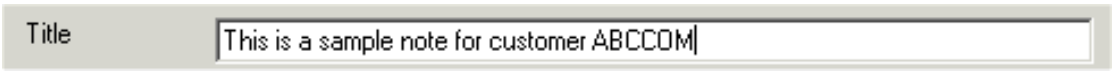
5. This Dialog will change slightly.

6. You can either select an existing note using the Note Combo Box or press the Note button to create a new note. We will Press the Note button.

7. This will open the Edit Note dialog.



8. Enter a Title for this note. The title must be unique.

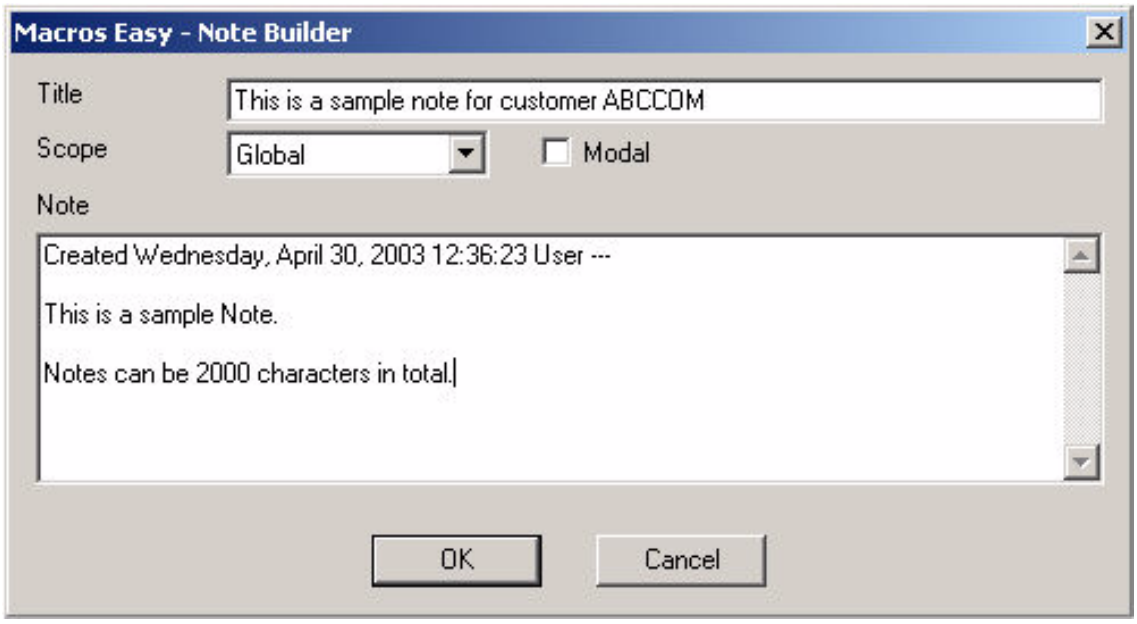


9. You can select a scope for the note. A LOCAL note only appears on the field in which it was defined. A GLOBAL note pops up in the defined field, but in any screen or module that contains the same field. Select GLOBAL.

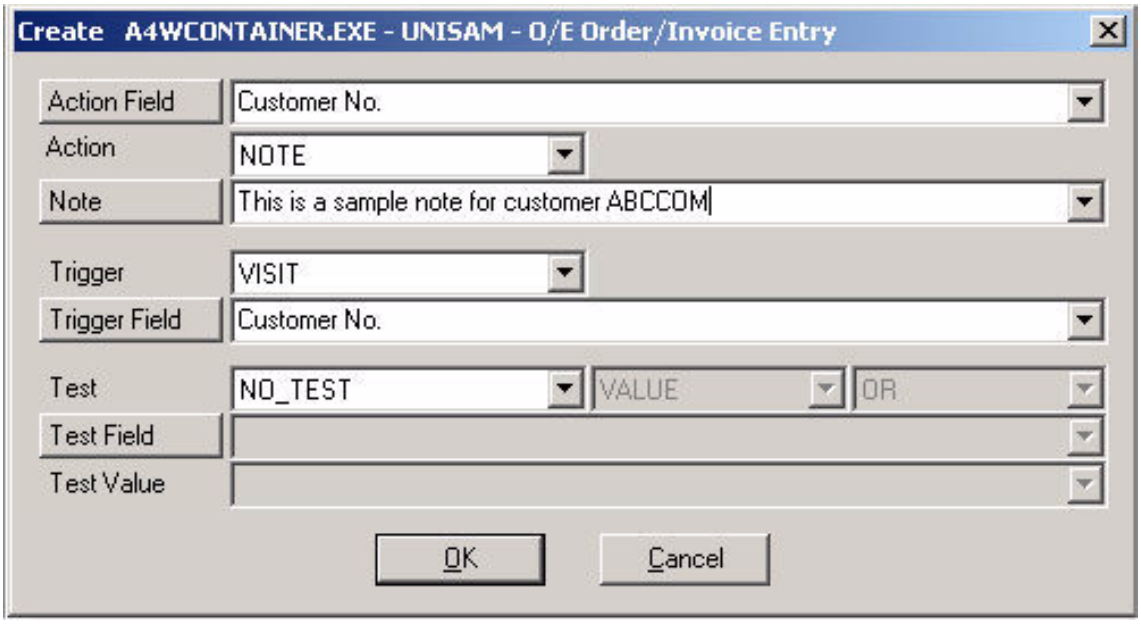
Now this note will pop up in the Customer Number field in any module or screen.

You can also decide if this note will be Modal or not. A modal note will take the keyboard focus away from ACCPAC and give it to the note. This has the effect of interrupting the user, making sure they read the note, and is typically used for important messages. Modal should not be used for strictly informational notes.

10. Enter the text of the note.

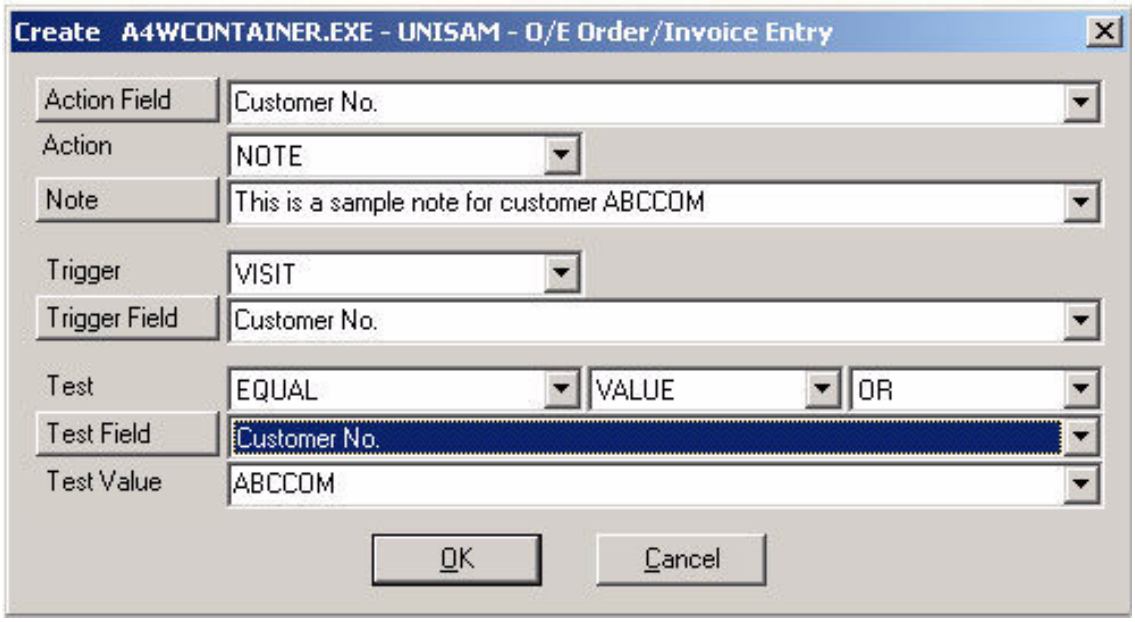


11. Press the button to save the note.



12. If we save this note as it is, it would pop up for every customer, every time we visited the Customer Number field. Let's change this note so that it only pops up for customer ABCCOM.

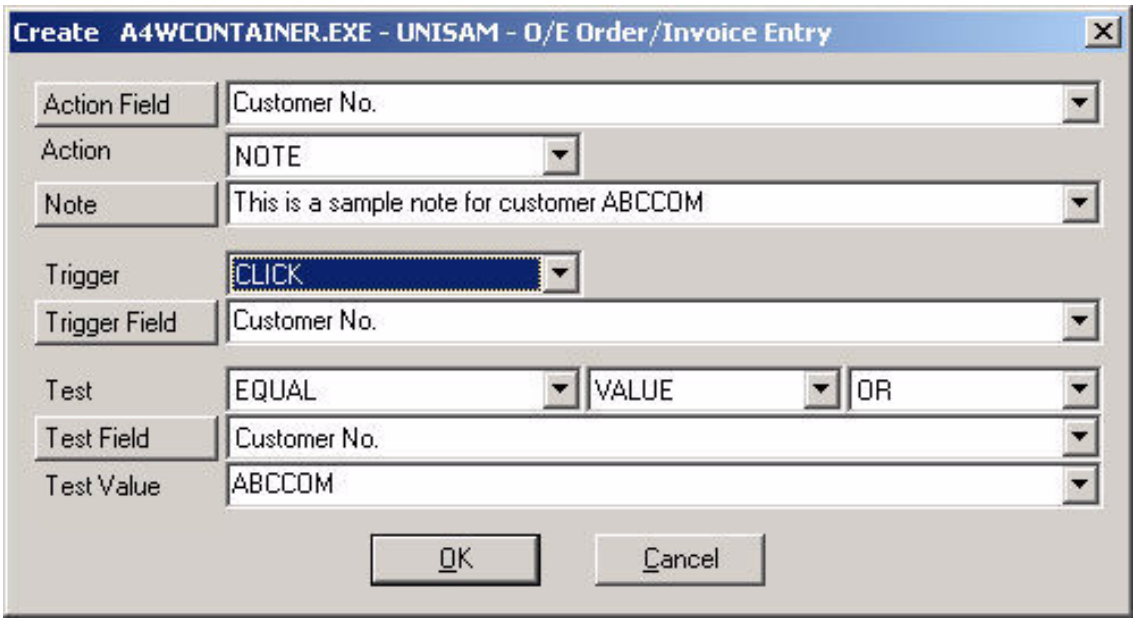
13. Set the Test to EQUAL.



ME has filled in the Test Field and Test Value fields so that the macro will only run if the Customer Number field is EQUAL to ABCCOM.

14. We could save the macro at this point by pressing OK. In that case, the note would be displayed every time we visited the Customer Number field (because of the Trigger and Trigger Field). In most cases that would be what you want. However, in this case let's make the note popup on a completely unrelated event. Let's change the macro so that the note will popup when we click the totals button.

15. Change the Trigger to CLICK.



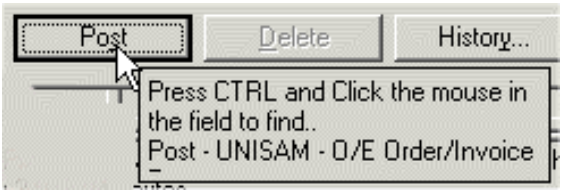
Now, the note will popup whenever we click the Customer Number field. This is still not what we want. We need to change the 'Trigger Field' to the 'Post' button. If the 'Post' button has already been defined to ME, then we could select the field using the list box feature of the Trigger Field. However, rather than do that, let's see how to FIND a field even if it hasn't been defined to ME.

16. Notice that the Trigger Field label is actually a button. Press the

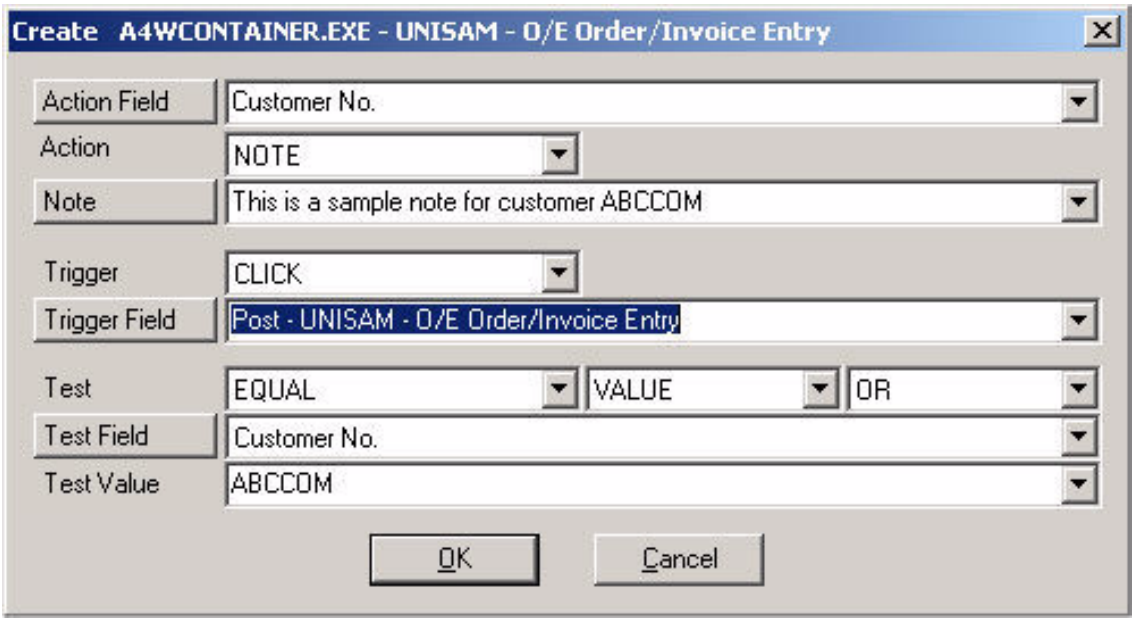
button.

This will bring up the FINDER window, which will follow the cursor around the screen. As you move the FINDER you will

notice that the windows underneath are outlined indicating the window that has been found.

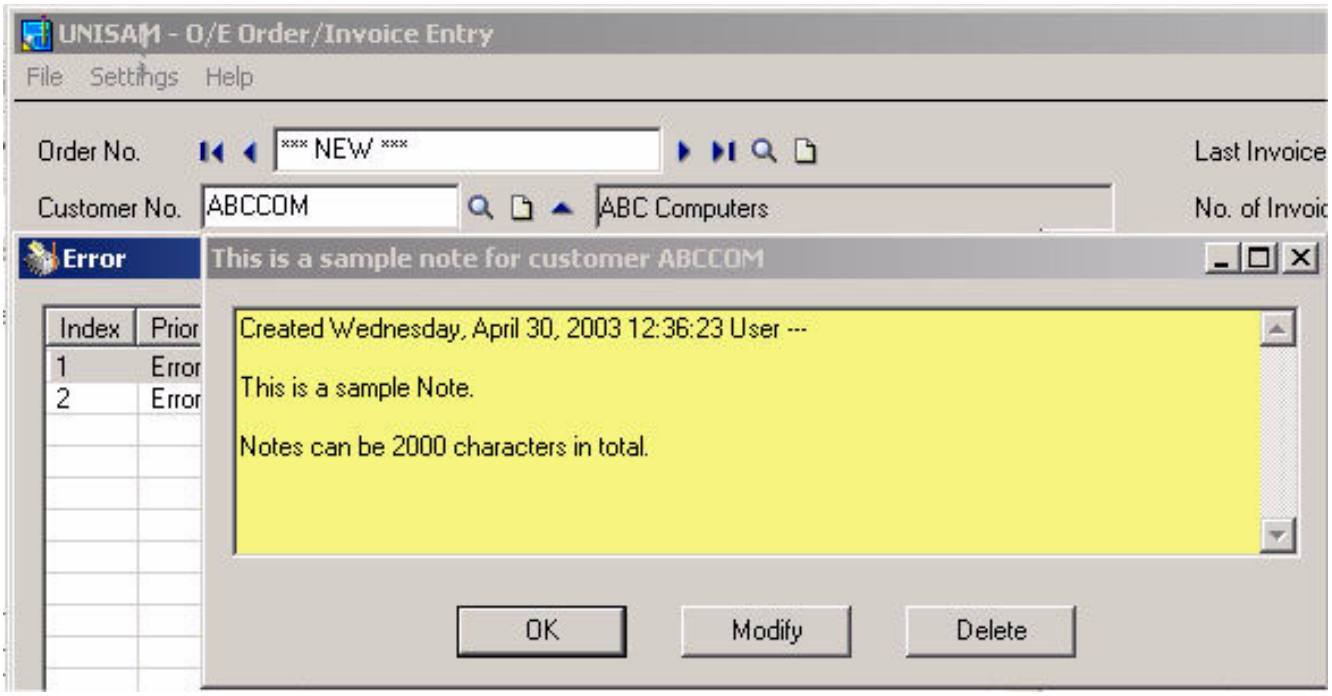


17. Move the FINDER to the 'Post' button so that it is outlined as in the above graphic, then press CTRL and CLICK the LEFT MOUSE BUTTON.



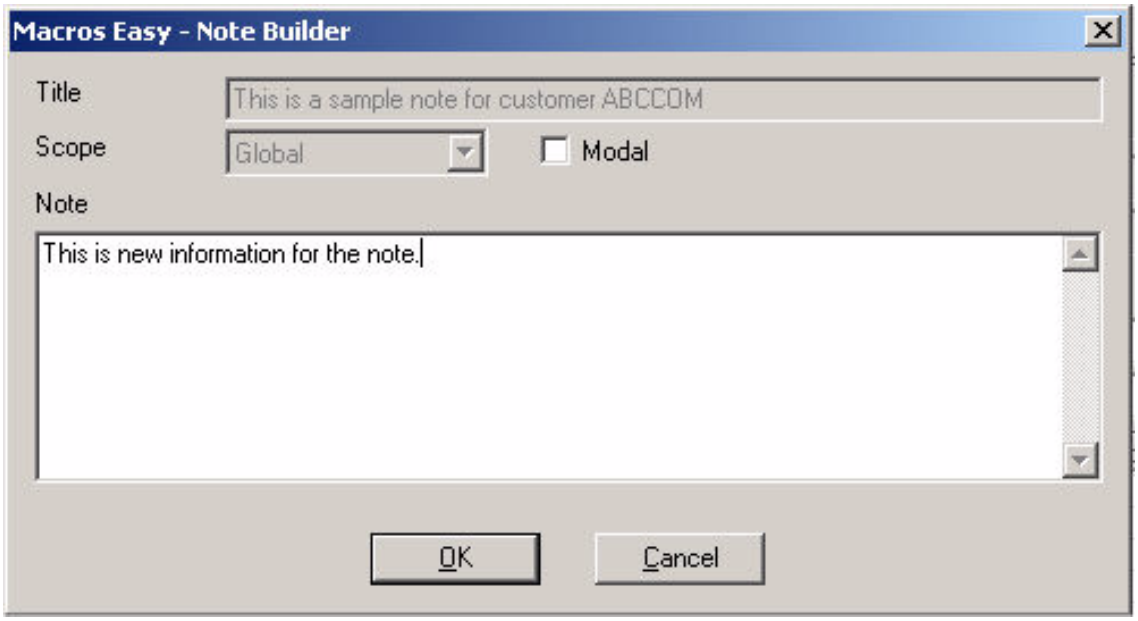
The FINDER has set the 'Trigger Field' to the 'Post' button. Press OK to save this macro.

18. Click the 'Post' button to test our macro.

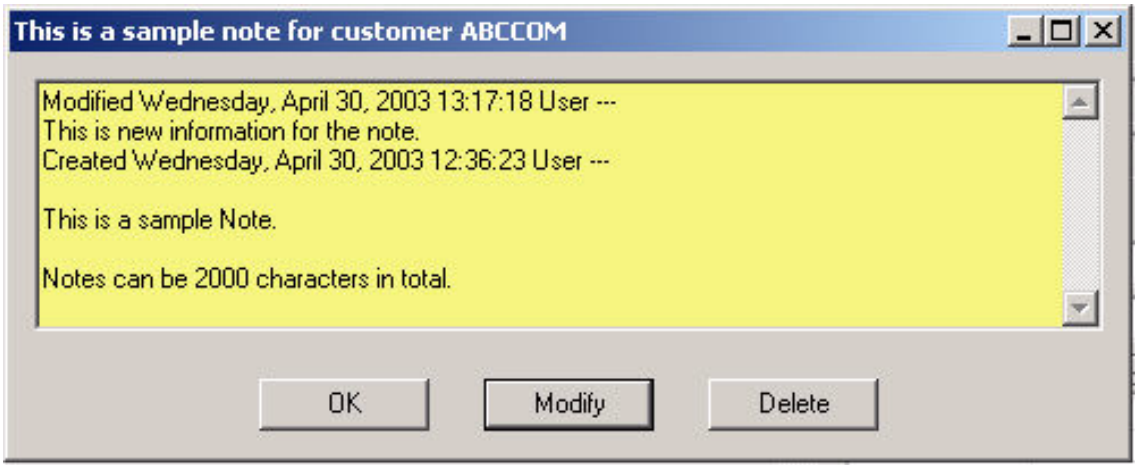


Our note has now popped up.

19. Press Modify to change the note.



20. Add any new information for the note then press OK

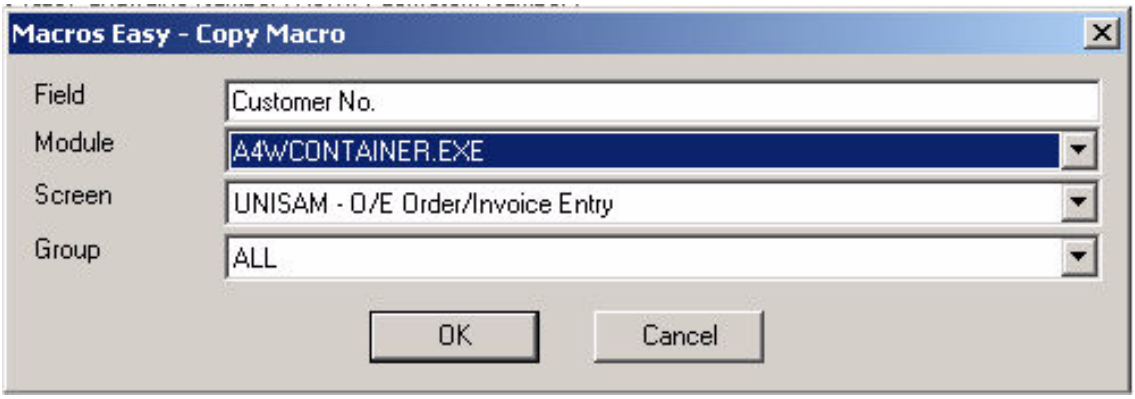


The new information has been added to the existing note. Users can modify notes when they pop up, but only by adding information. Notes can only be edited directly via the Actions, Triggers, or Note views.

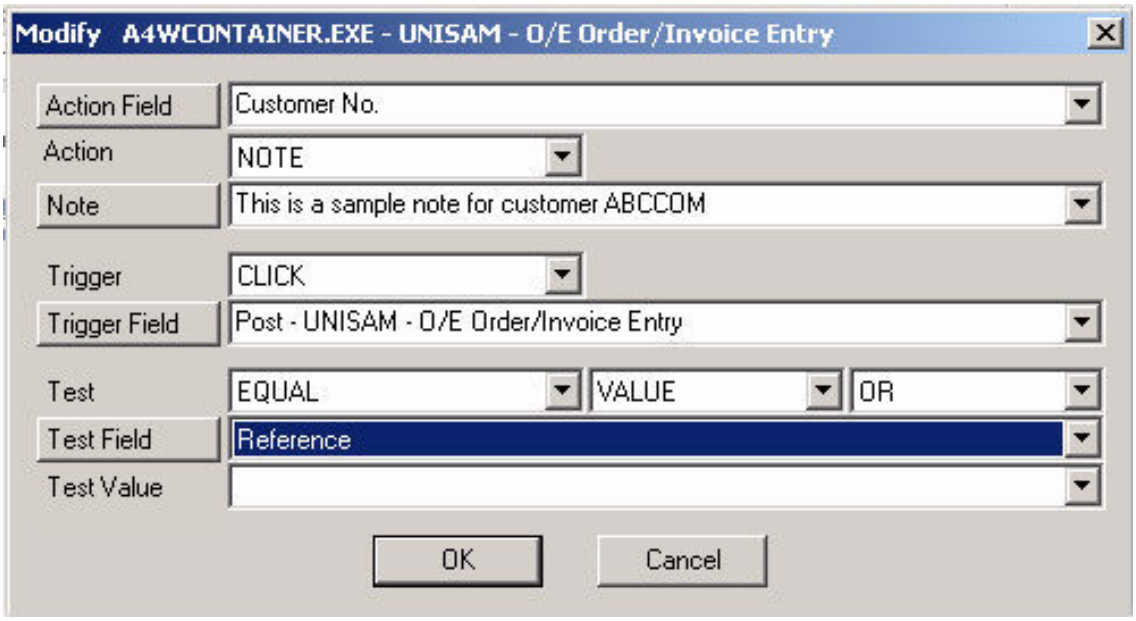
QUESTION:

Q. Can I create a macro that will pop up for Customer ABCCOM only if the 'Reference' field is empty?

A. Use the Macro, Copy menu selection to copy your newly created macro but do not change the Screen or Group.



Press OK, then change the Test Field of your macro to the 'Reference' field.



When you save this macro you will have two identical macros with different IF conditions.

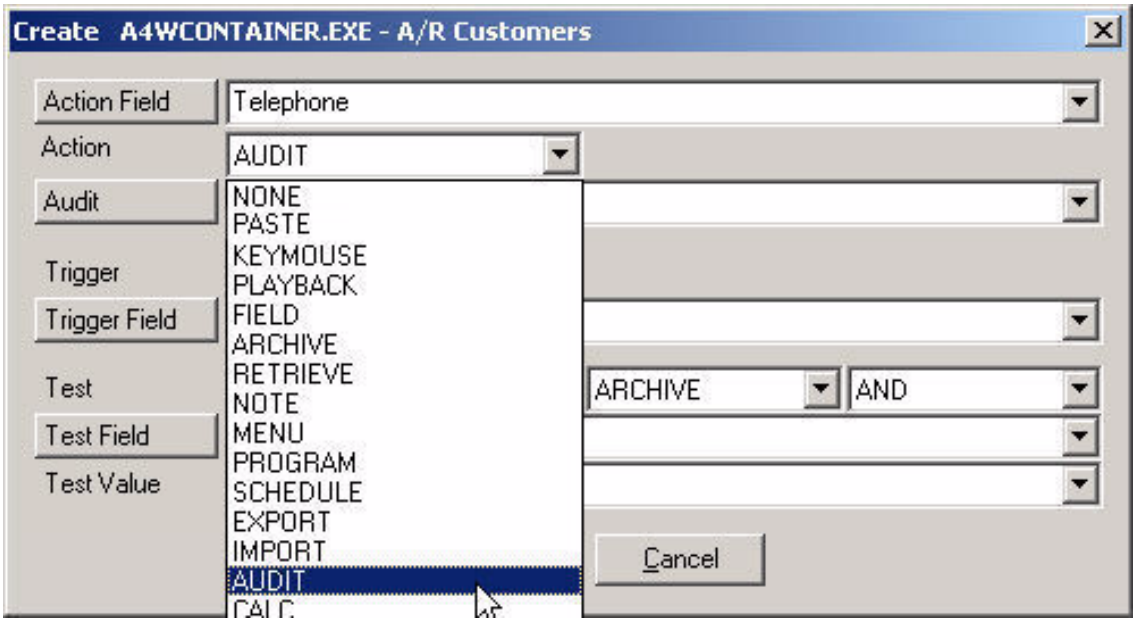
ME automatically combines identical macros with different Test Fields into AND conditions. In this case, the macro will only run if the customer is ABCCOM and the reference number is equal to blank.

There is no limit to the number of macros that can be combined into an AND condition.

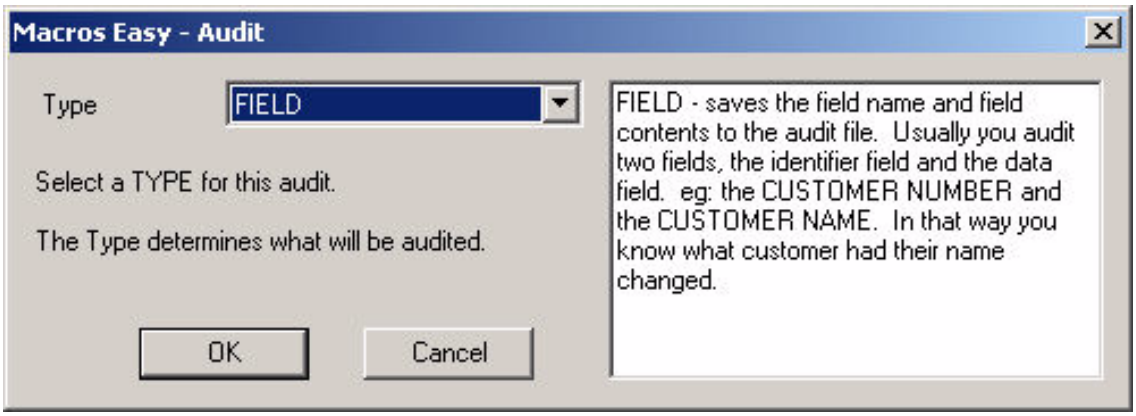
Tutorial - Audit

ME provides the means to audit changes to fields.

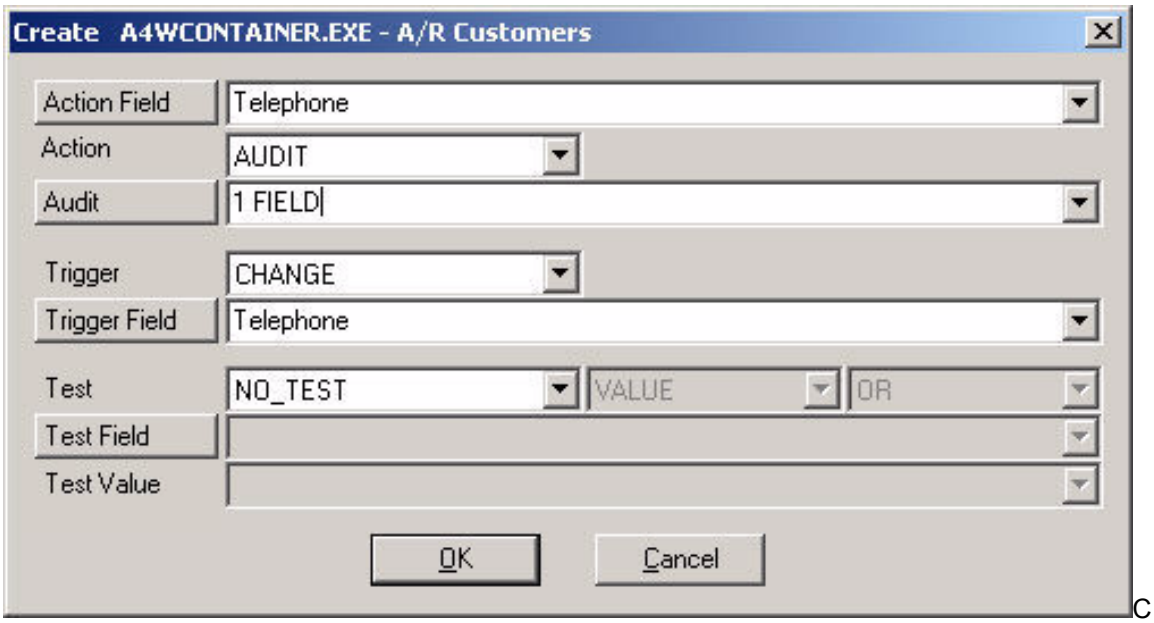
1. Press the ME hotkey <Ctrl F10> in the field you want to audit. We will use the A/R Customer telephone number.



2. Select Action AUDIT. This will open the Audit dialog. If the dialog does not open, press the button.



3. Select the FIELD option and press .



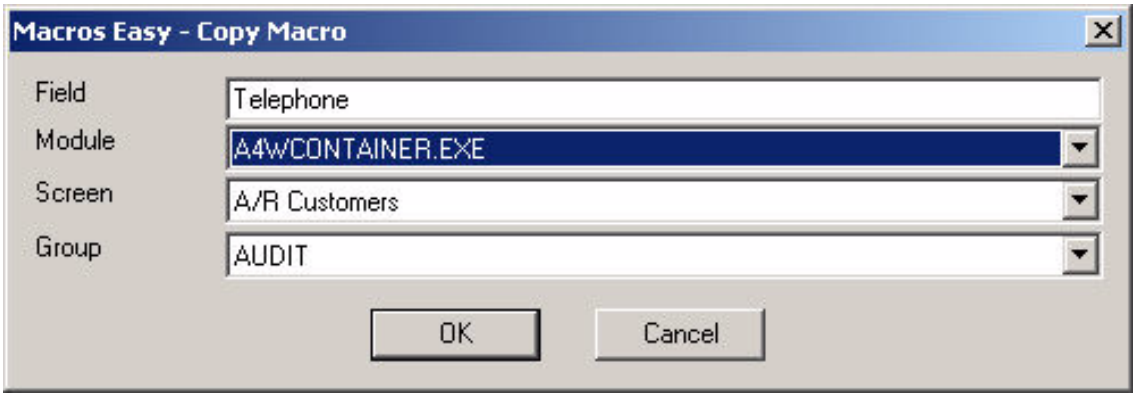
C

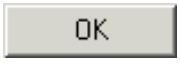
4. ME has created a macro for you that will AUDIT the Telephone field when the user changes the Telephone field.

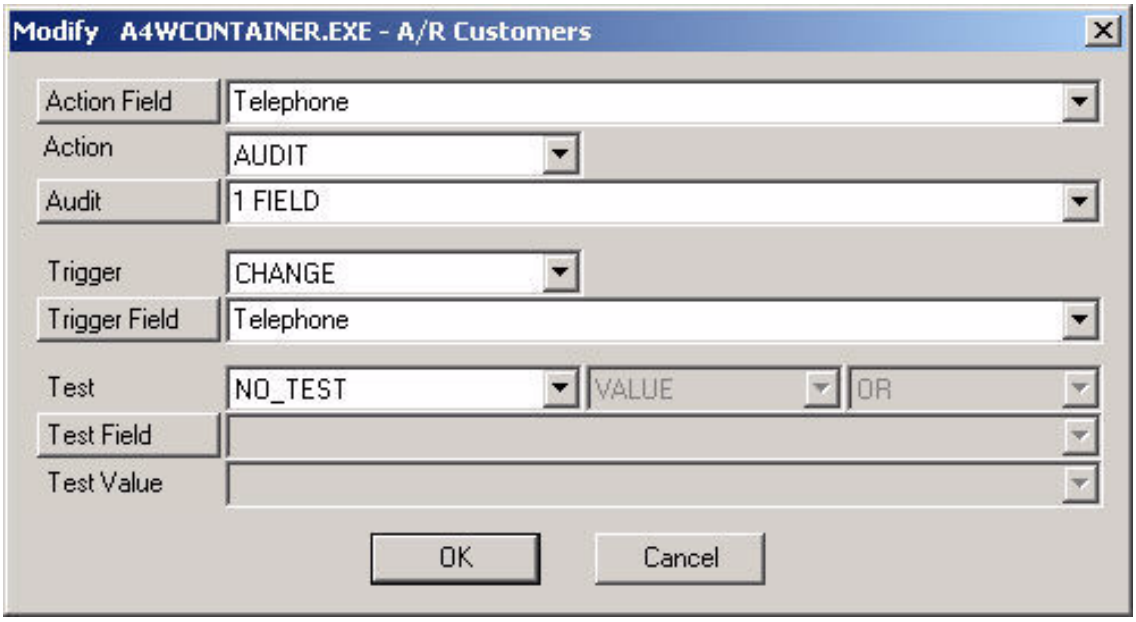
5. Press to save this macro.

6. While this macro would provide an audit of changes to the telephone field, it is not complete because it only shows the changes. ME provides other features to complete your audit.

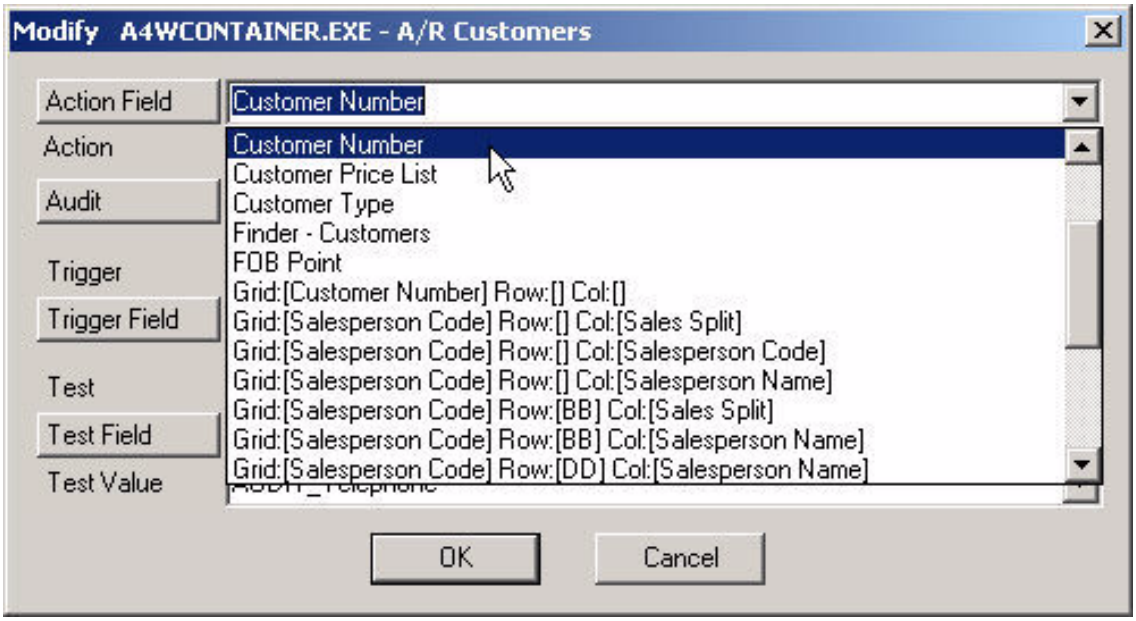
7. Right-Click on this new macro and select Copy.



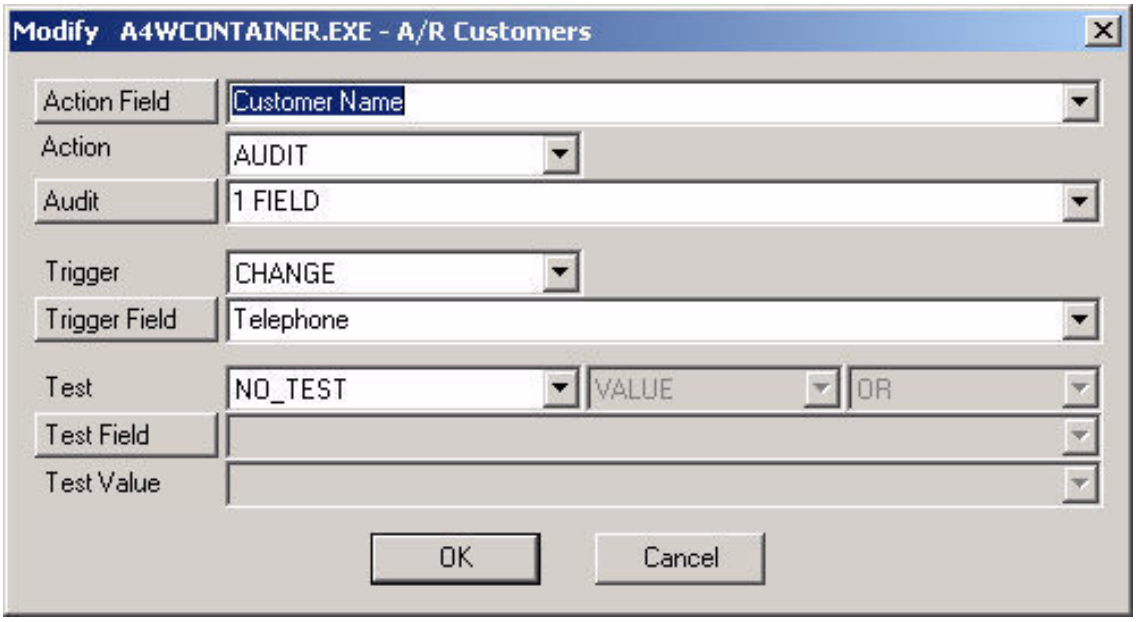
8. Press  to create a copy of this macro.



9. Change the Field to Customer Number.

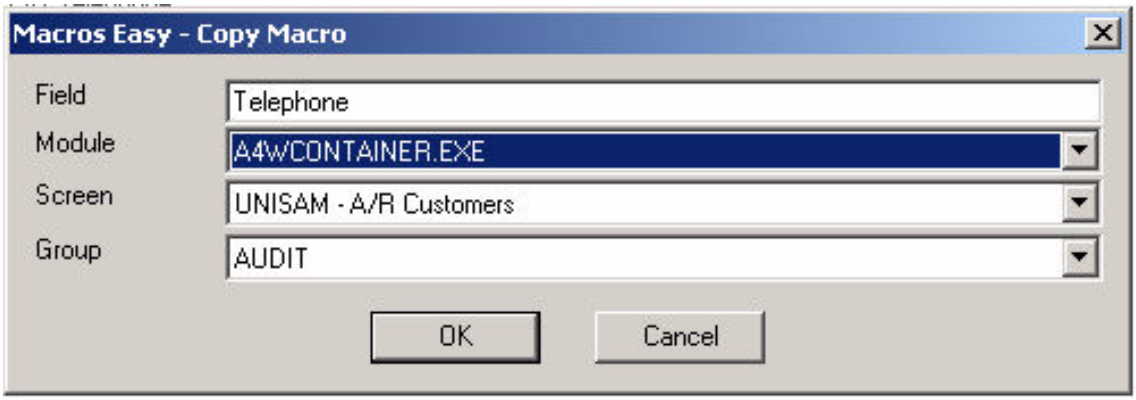


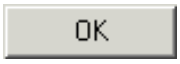
10. This new macro will now also audit the Customer Number so we will know which customer had their telephone number changed.

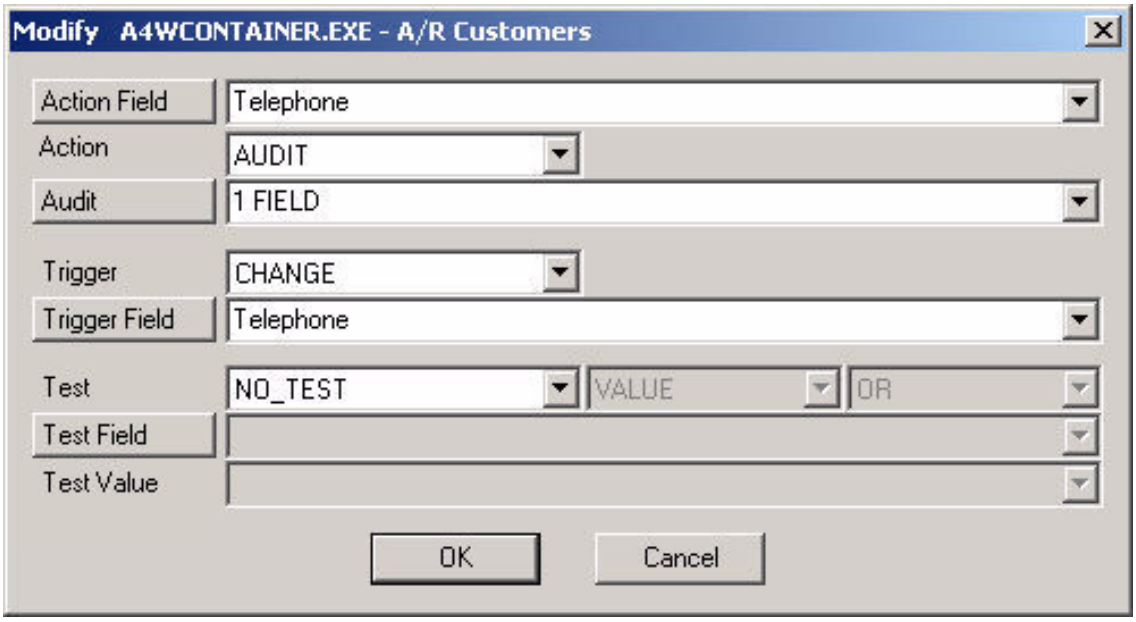


11. Press to save this macro.

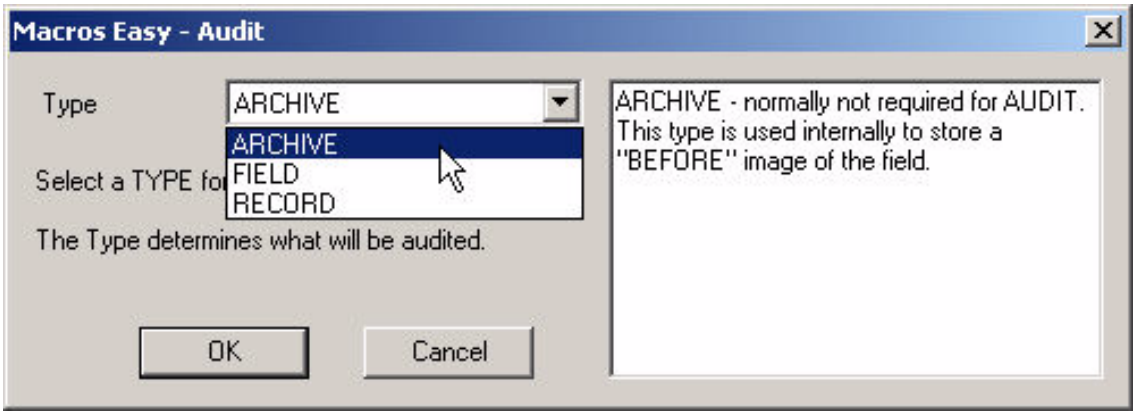
12. Again, Right-Click on the Telephone Audit macro and select Copy.



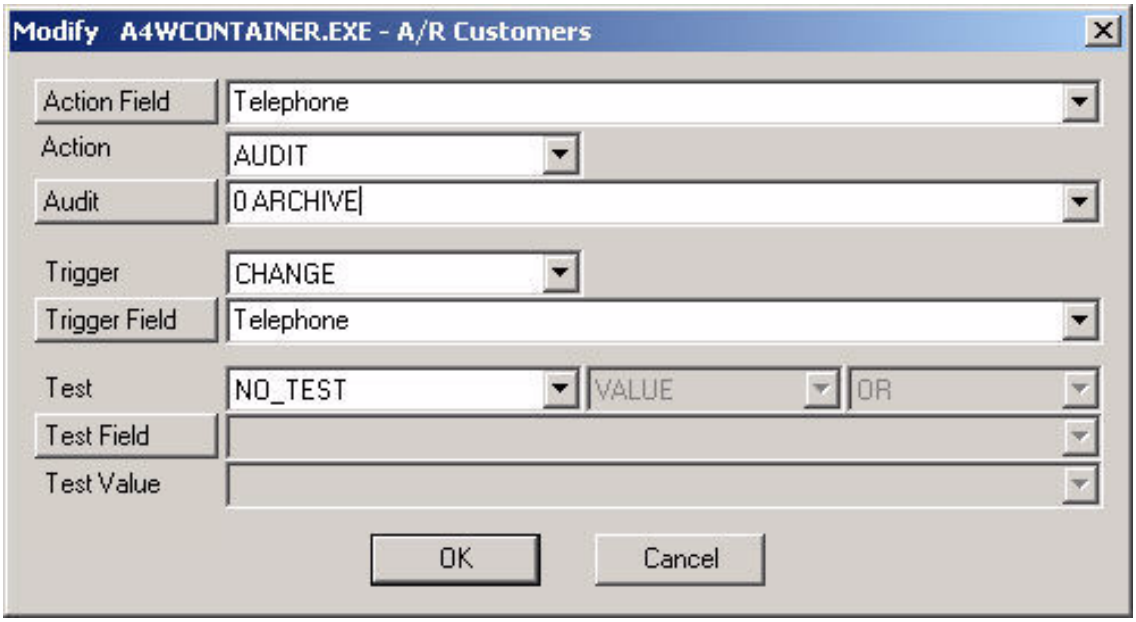
13. Press  to create a copy of this macro.



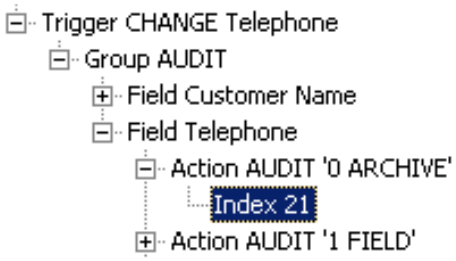
14. Press the button.



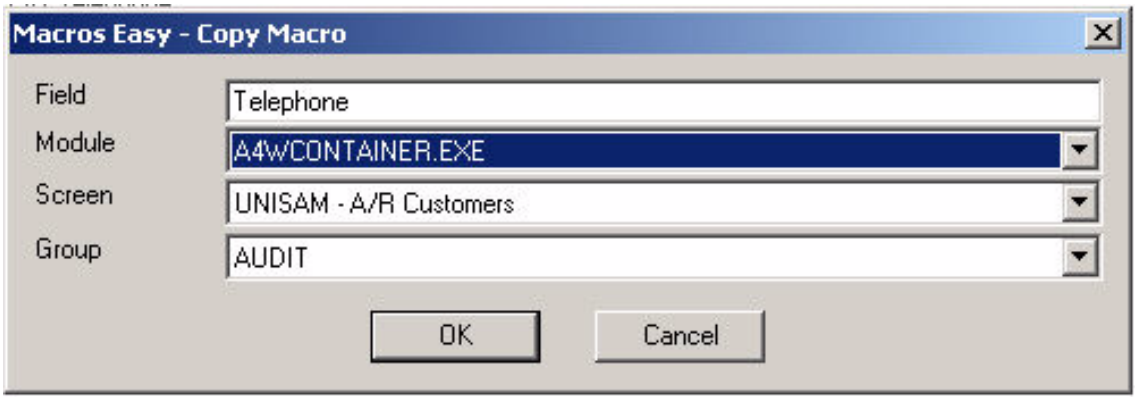
15. Select Option ARCHIVE.



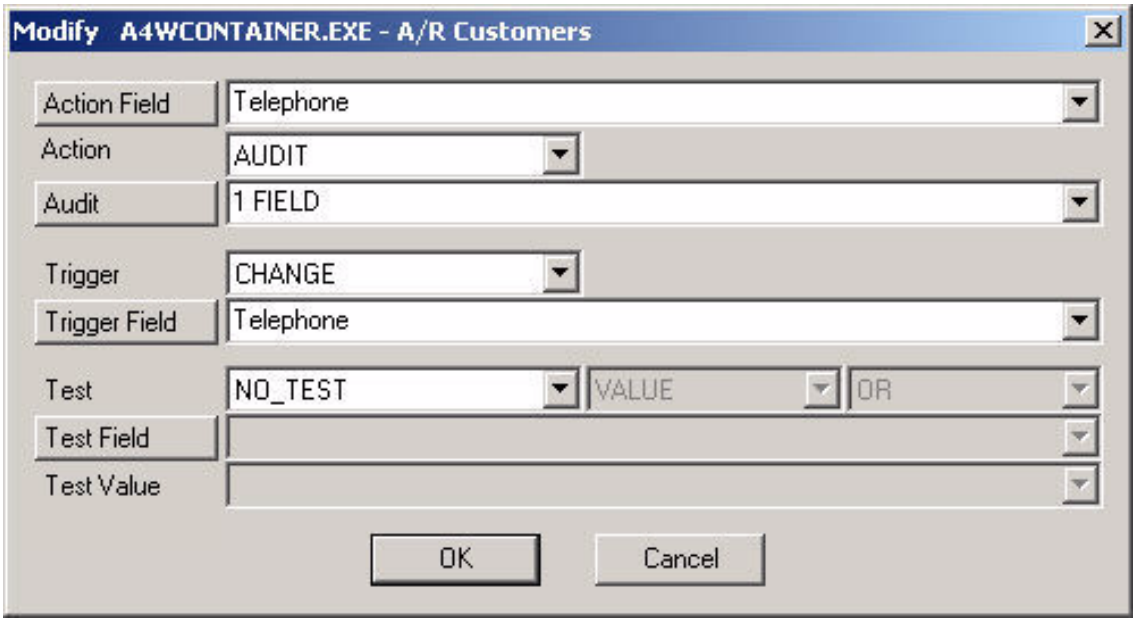
16. This new macro will audit the Telephone ARCHIVE. This allows us to audit a copy of the telephone number before the user made any changes. Press OK to save this macro.



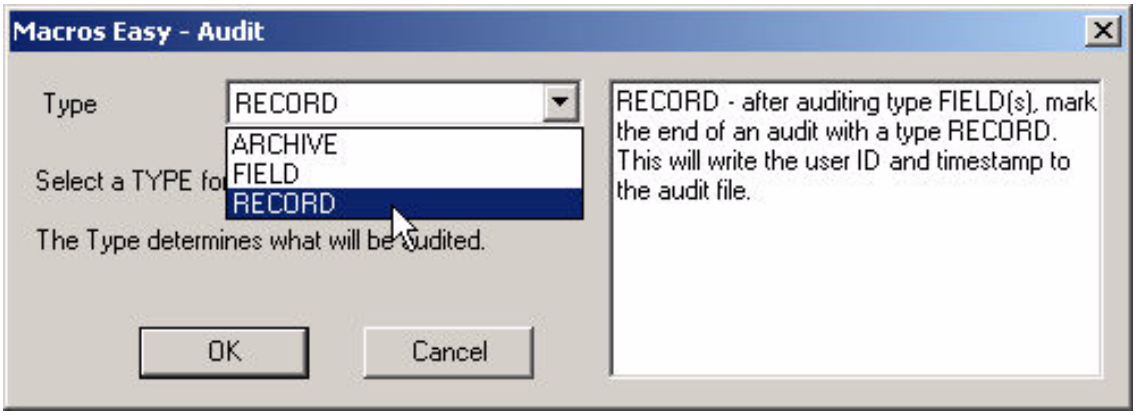
17. Now we want to tell ME that we have all the information for this audit. Again, Right-Click on the Telephone Audit macro and select Copy.



18. Press OK to create a copy of this macro.



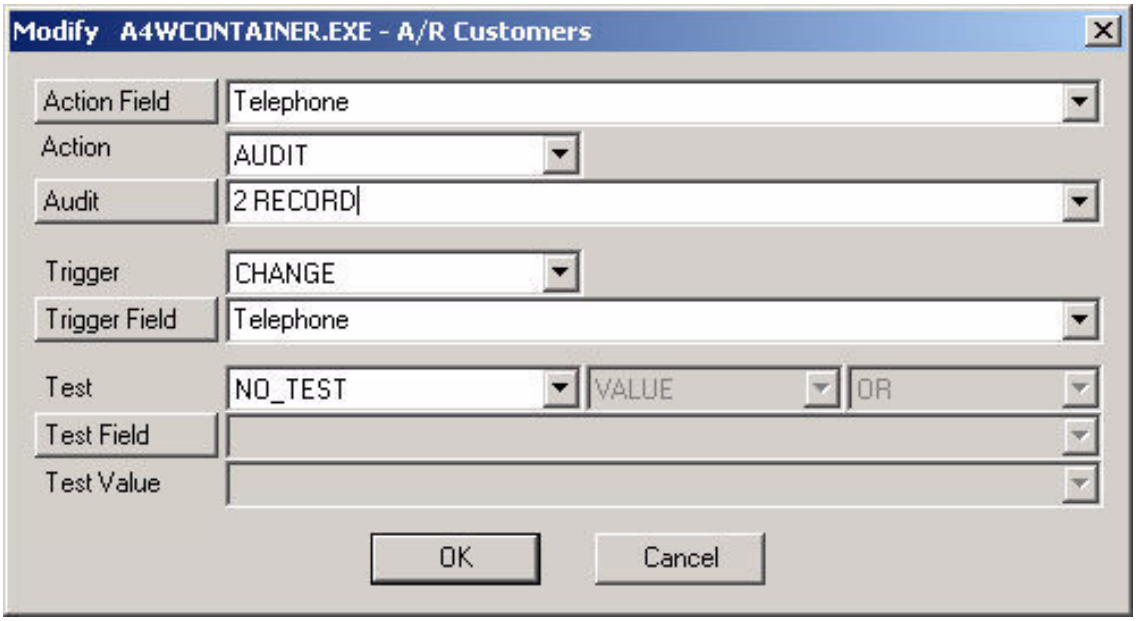
19. Press the Audit button.



20. Select Option RECORD, and press

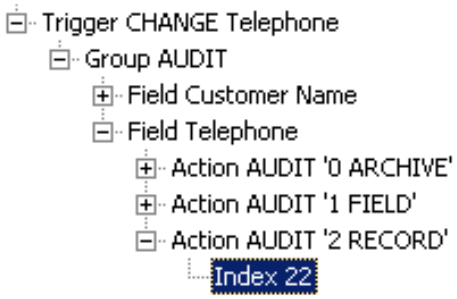
.

This tells ME that you have completed all the fields for this audit record. ME will automatically add a timestamp and UserID to the audit record.

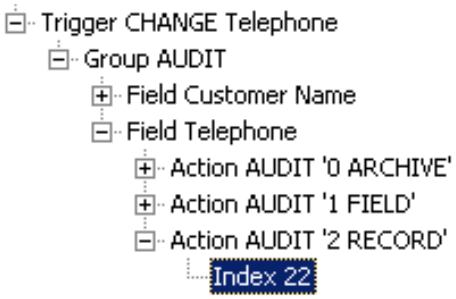


21. Press

to save this macro.



22. The last step is to make sure that your macros run in the order you want. Use the Move Up and Move Down menu functions to move the macros into the order you require.



23. In our macro, when the user leaves the Telephone number, we will audit, in order, the:

Customer Number (KEY)
Archive (BEFORE)
Field (AFTER)
Record (TIMESTAMP and USER ID)

This is the typical order for an audit. You can create your own order, but you should be consistent between all audits, should you want to run reports on the Audit. The audit file is a standard TAB delimited text file easily read by programs such as Excel or Crystal.

Remember, we audited the customer number to identify the telephone number being changed. Each audit record should have a field (KEY) to identify the rest of the record.

The Archive is the BEFORE information. The Field itself is the AFTER information, and the Record provides TIMESTAMP and USER ID information.

24. This completes our audit tutorial. Close the ME main window to allow macros to run and try your new macro. The audit results are in UM_AUDIT.TXT.

Customer Number ABCCOM
ARCHIVE Telephone (604) 677-1234
Telephone (604) 677-1233
2002/07/30
05:23:10
--

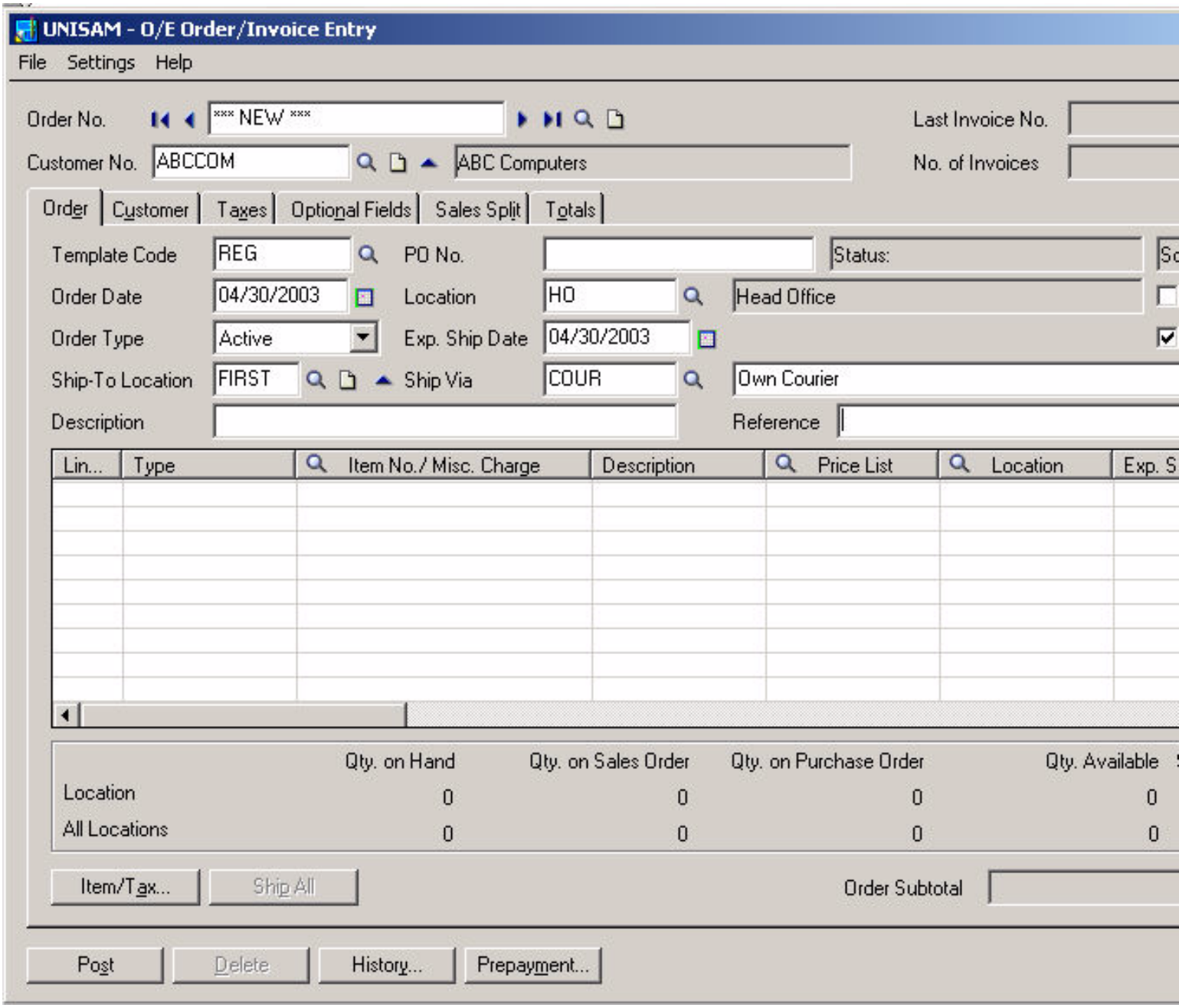
In our example, for the customer ABCCOM, the telephone number was changed from 1234 to 1233 on 2002/07/03 at 05:23:10, by user --.

Tutorial - Check Boxes

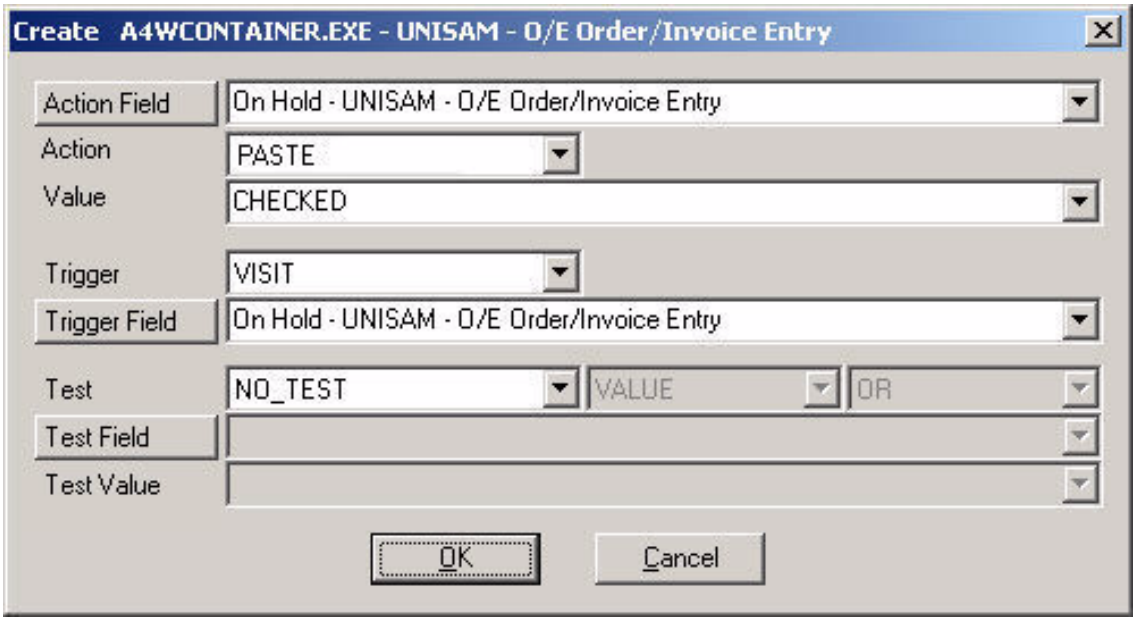
1. When ME is running, a small icon appears in the system tray.

2. Open your application and move to a screen and field in which you want to create a Note.

In our case we will use the ACCPAC O/E Order/Invoice Entry, On Hold field.

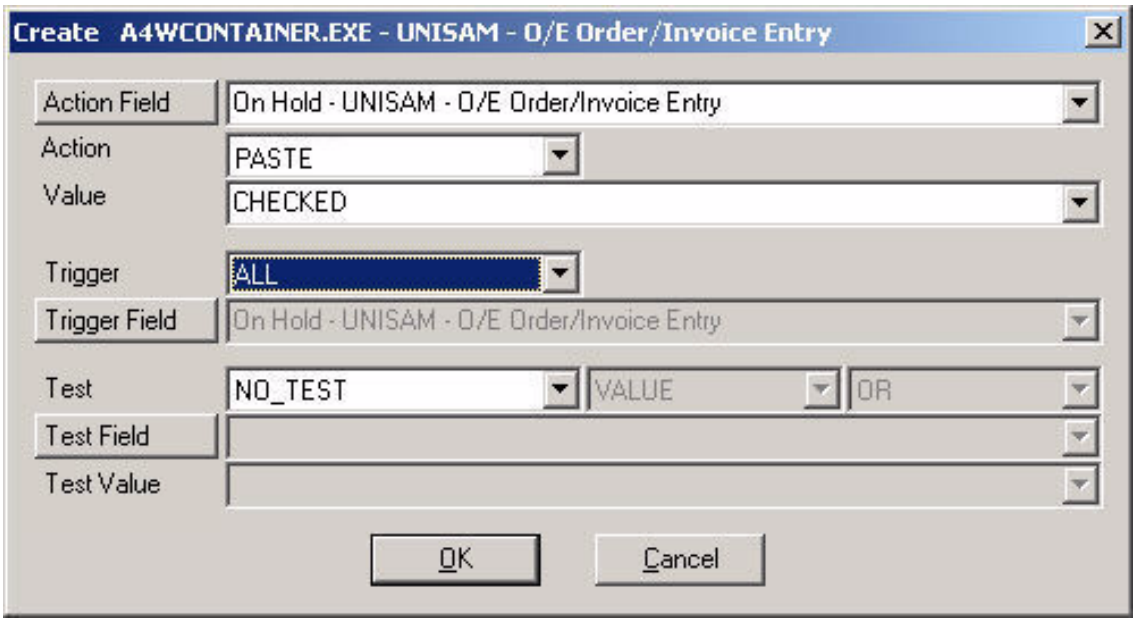


3. 'Check' the On Hold field then Press CTRL F10 to popup ME.



This macro will set the On Hold field to CHECKED on VISIT. However, we want to prevent someone from un-checking On Hold.

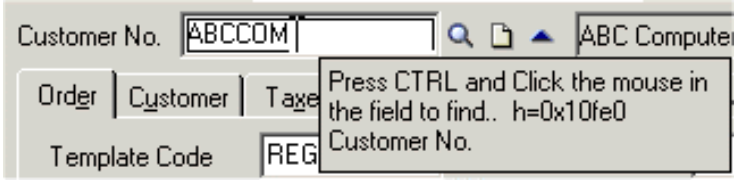
4. Change the Trigger to ALL.



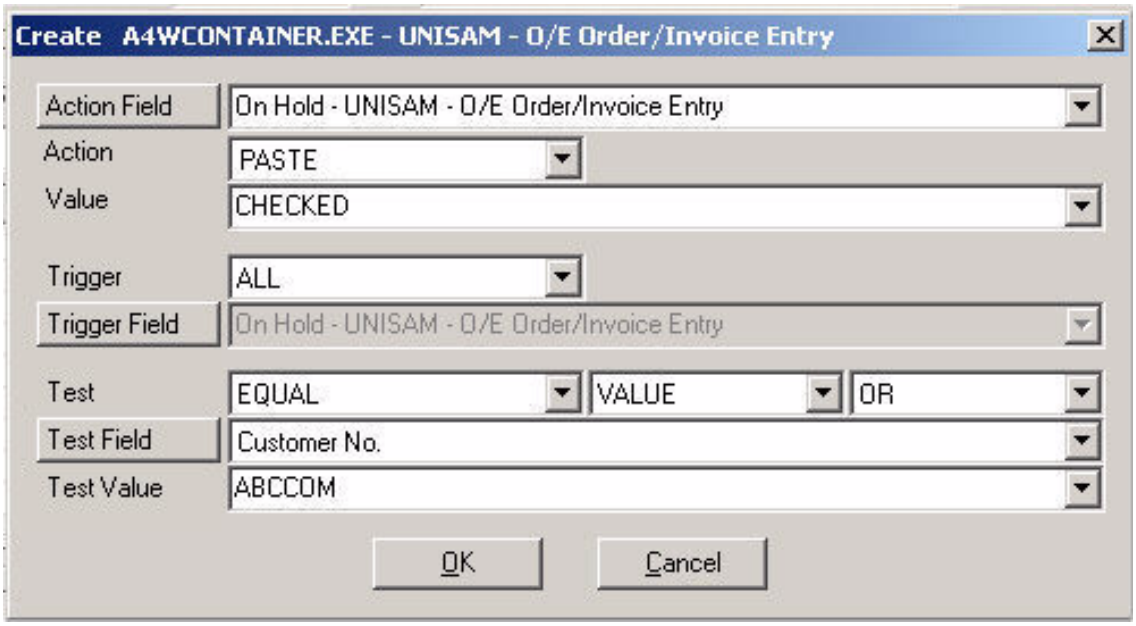
This macro would prevent anyone from creating an order without On Hold being checked.

As a final step, we will change this macro so it will only set On Hold for customer ABCCOM. We can do this by including a Test on Customer Number.

5. Press the Test Field button. This will bring up the FINDER. Move the FINDER to outline the Customer Number Field.



6. Press CTRL and Click the mouse in the Customer Number field.



Press OK to save your macro and return to ACCPAC. Watch what happens when you un-check the On Hold field for ABCCOM.

Question.

Q. ME appears to be setting the On Hold value, even when we haven't visited the field.

A. PASTE Action does not require a VISIT to a field in order to set the value of the field. However, there is a limitation if you use PASTE without a VISIT. PASTE works by directly changing the fields on the screen, bypassing normal keystroke/mouse macro limitations. This allows PASTE to update fields without the focus, even for fields hidden from view by other windows.

This works in most fields because applications will typically read the screen before posting changes. But, in some fields, updates are only read when the field gets the focus (VISIT). When using PASTE, other than in a VISIT, test your macro to confirm PASTE works as expected. If PASTE does not work in a field, you can create a second macro to send a mouse click to the field, thus forcing a visit. Alternatively, you can replace the PASTE macro with a playback macro.

Tutorial - Optional Fields

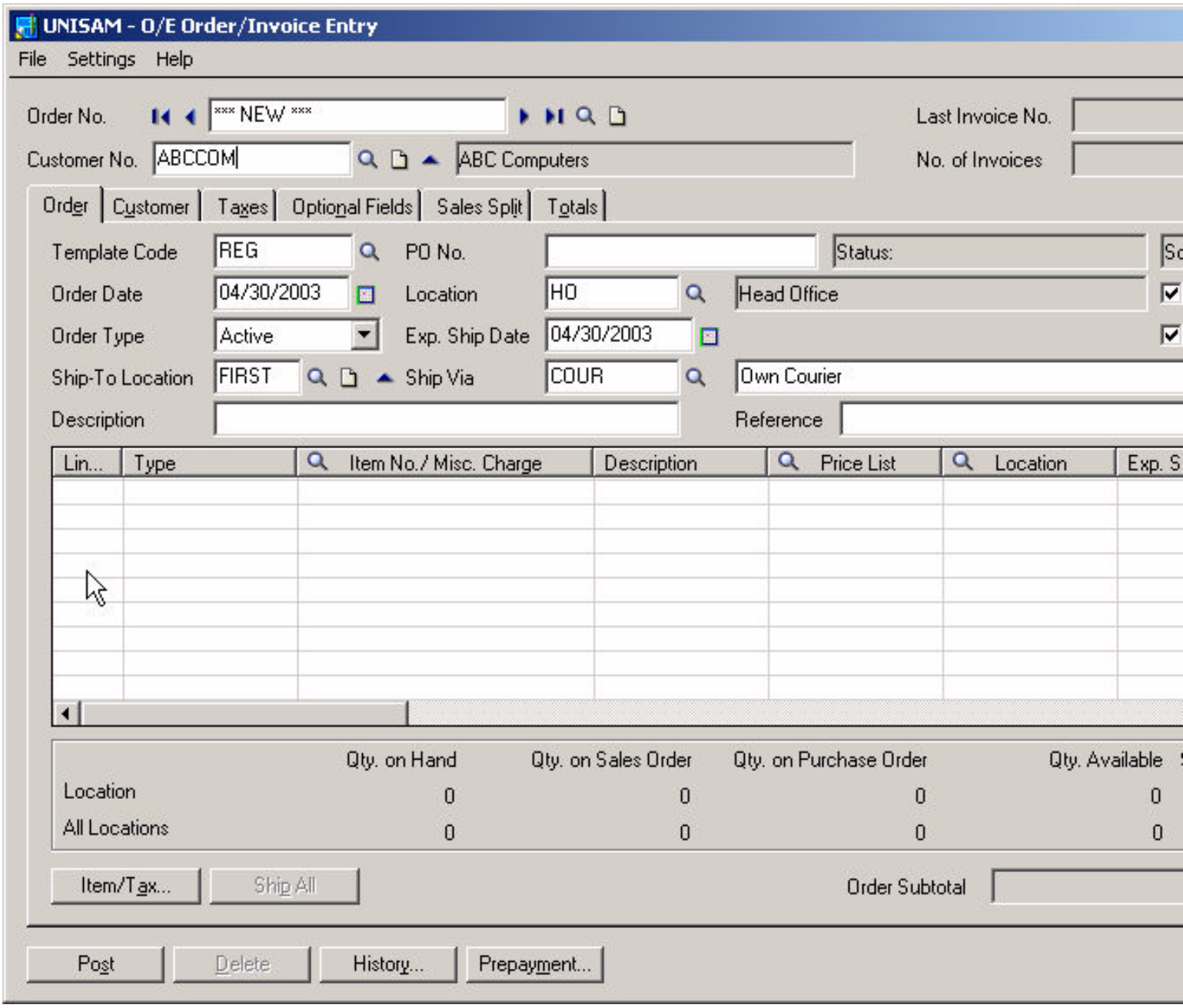
One problem is to provide default values for optional fields. Optional fields and Data Grids in general are best handled by Triggers and Playback macros.

Note: Paste is implemented for ACCPAC 5.x grids as an automatic form of PlayBack macros. You can often optimize these macros by replacing them with your own custom PlayBack macros.

1. When ME is running, a small icon appears in the system tray.

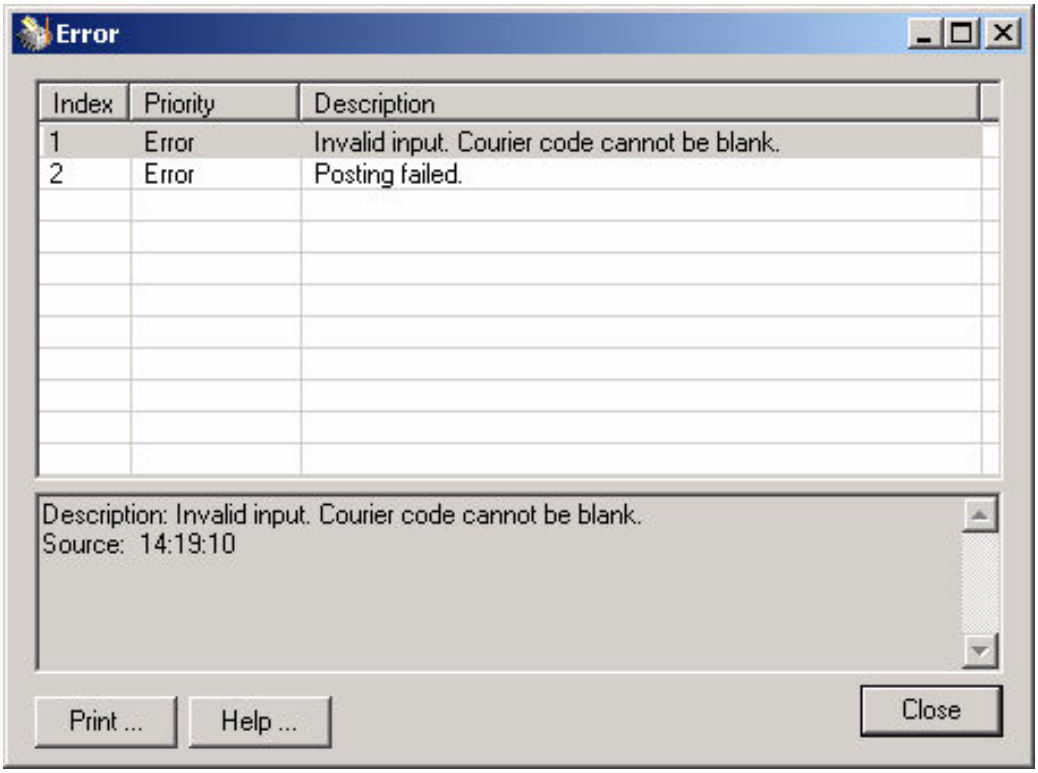
2. Open your application and move to a screen and field in which you want to automate optional fields.

In our case we will use ACCPAC O/E Order/Invoice Entry. Create a new Order and enter 'ABCCOM' into the Customer Number field.



Note: This tutorial relies on the existence of an optional field "Courier code". Your setup may be different.

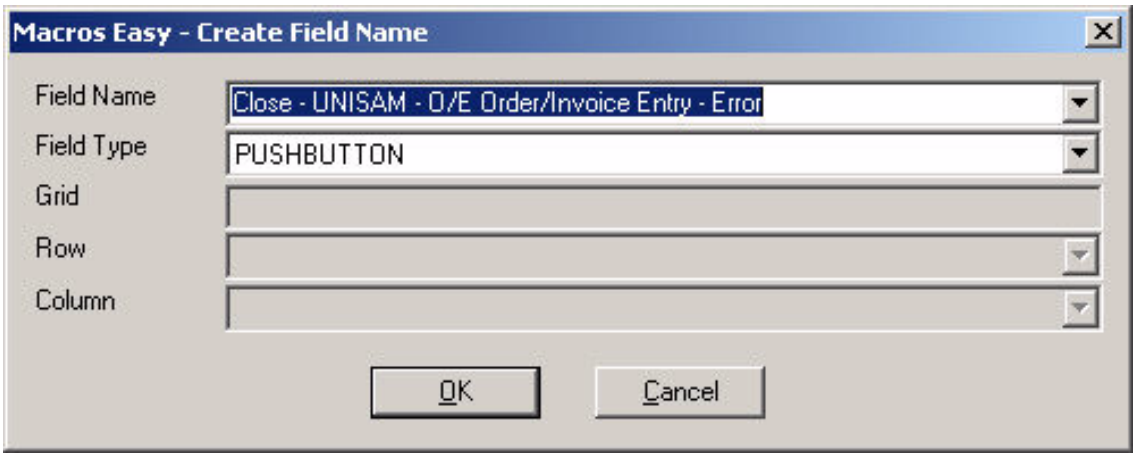
3. Press the Post button. The error message indicates our optional field, in this case "Courier code", cannot be blank.



We can use this error message as an event to Trigger our macro.

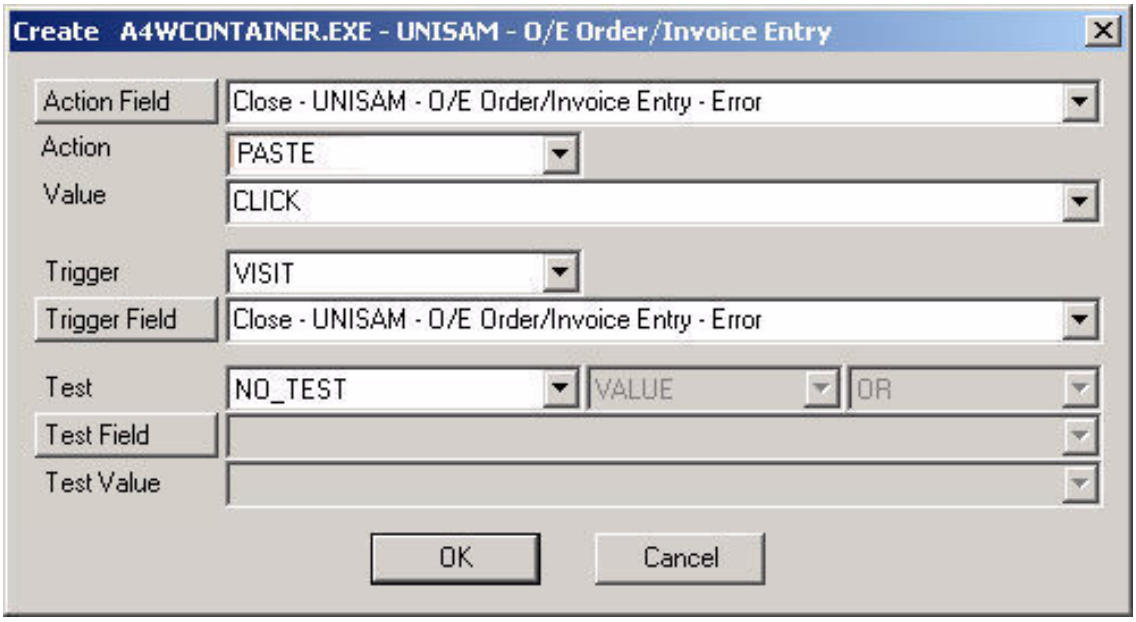
4. Press CTRL F10 to popup ME.

5. (optional) If this button has not been defined, ME will ask you to give the field a name.

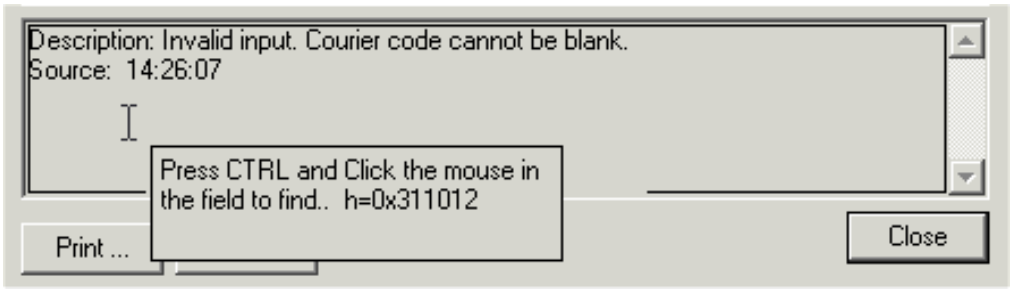


Press OK to create the new field name.

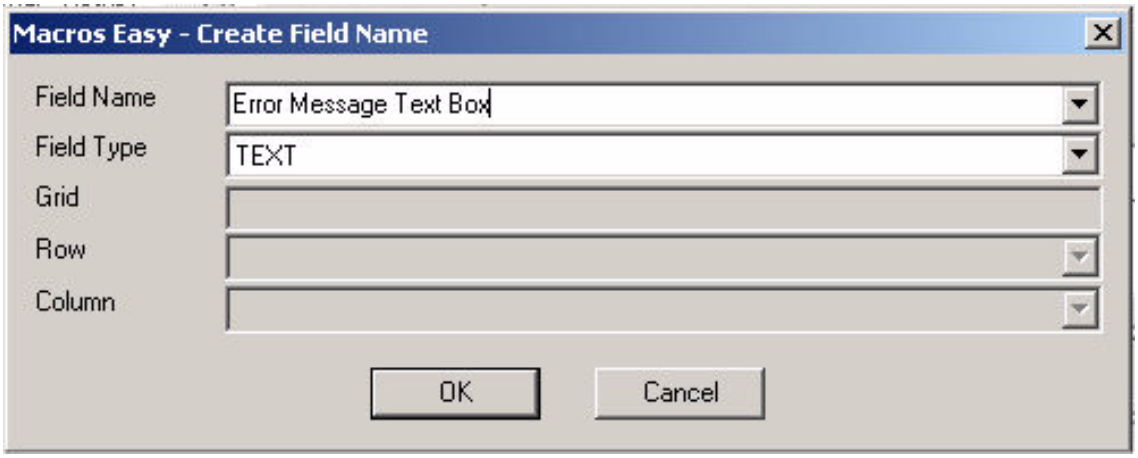
6. This will popup the Create Macro menu.



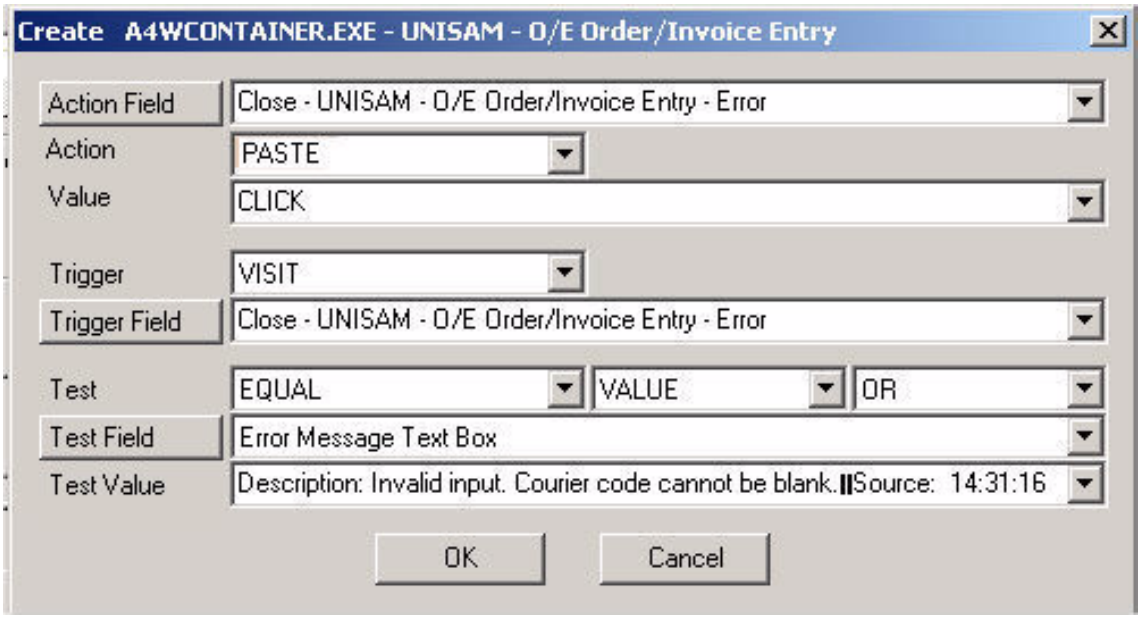
7. We want to add an Test so that this macro will only respond to this specific error message. Press the Test Field button.



8. Move the FINDER over the text of the "Invalid input" message. Press CTRL and Click the mouse.

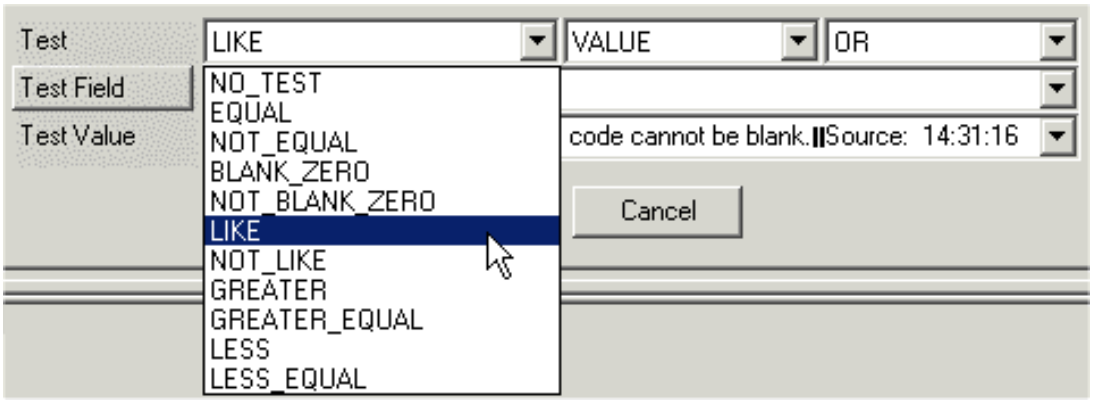


9. (optional) If this field is not defined to ME, you must give it a name. We will use 'Error Message Text Box'. Press OK to create a name for this field.

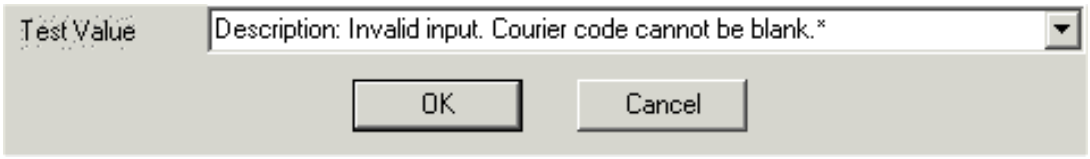


Notice that the error message has a Source time. We need to make the macro general case.

9a. Change the "Test" to LIKE. This allows us to put wildcards in our test.

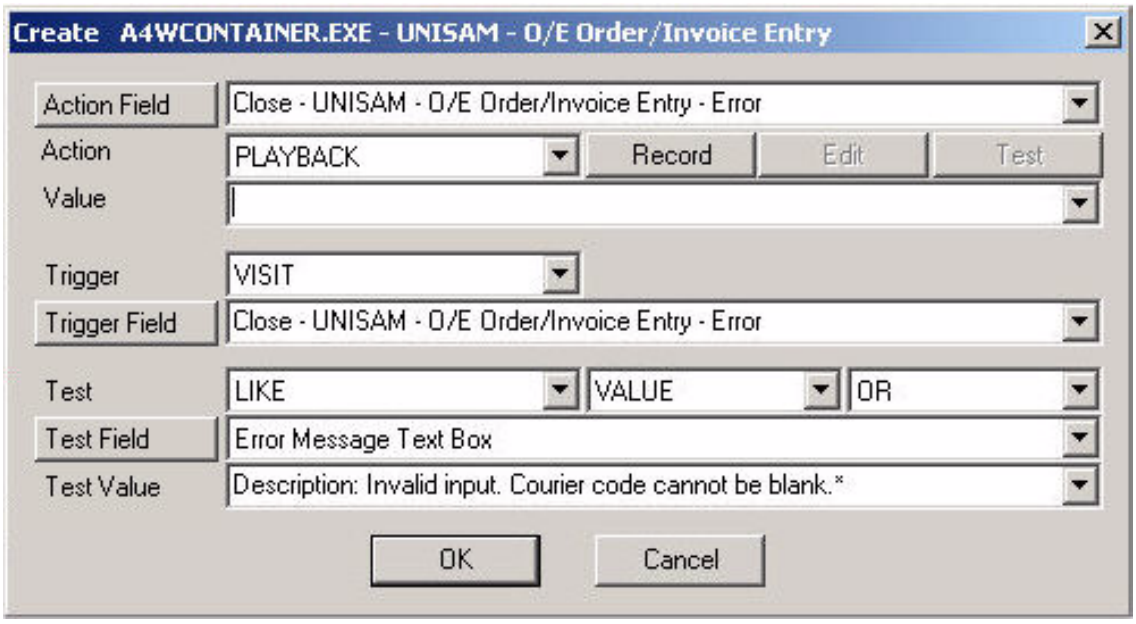


9b. Change the Test Value to replace the Source with the wildcard *.



This macro will now only run if the correct error message is displayed.

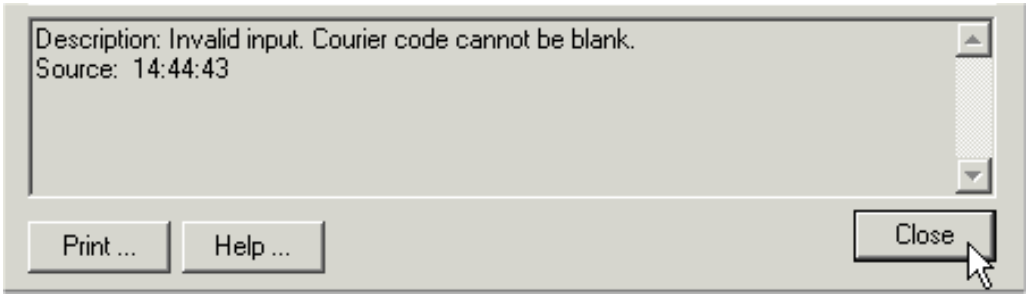
10. Change the Action to PLAYBACK.



11. Press the

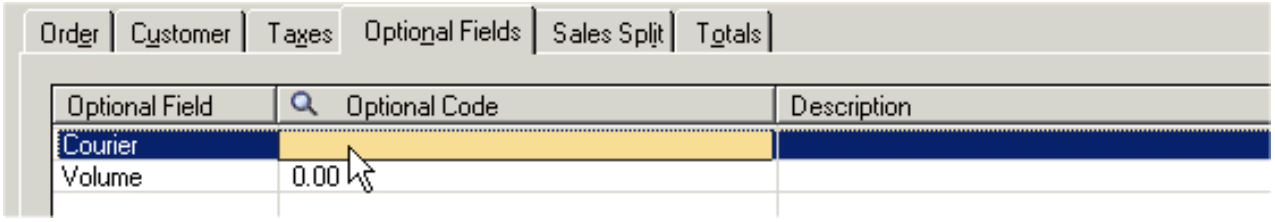
button. Check the top left corner of the screen to verify that you are recording.

12. Click the Close button on the Error Message.



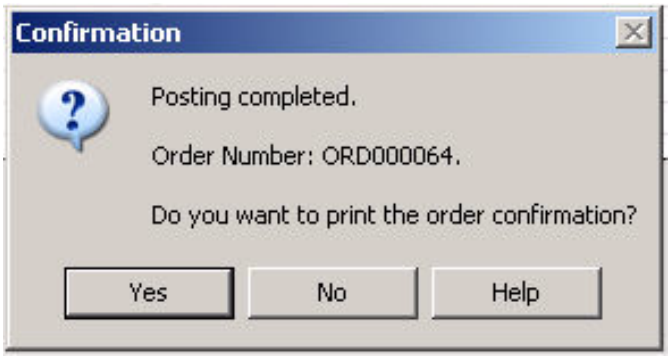
13. Click the Optional Fields tab.

14. Click on Optional Code.

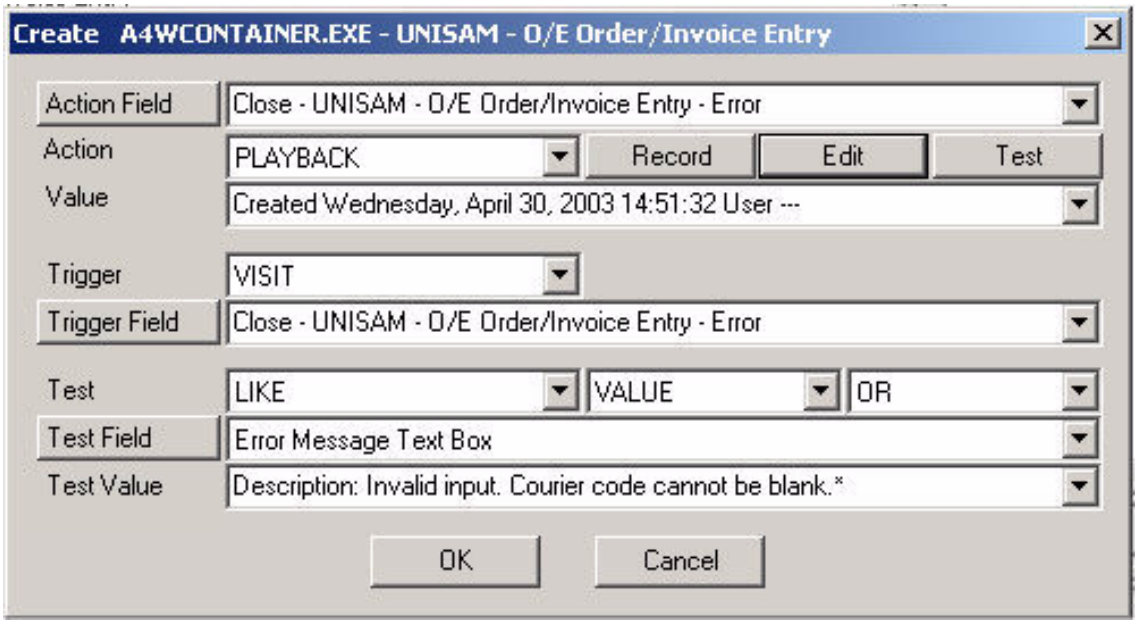


15. Enter FEDEX. This will be the default courier if no courier is entered.

16. Press the Post button.



16. **PRESS CTRL BREAK TO END RECORDING.**

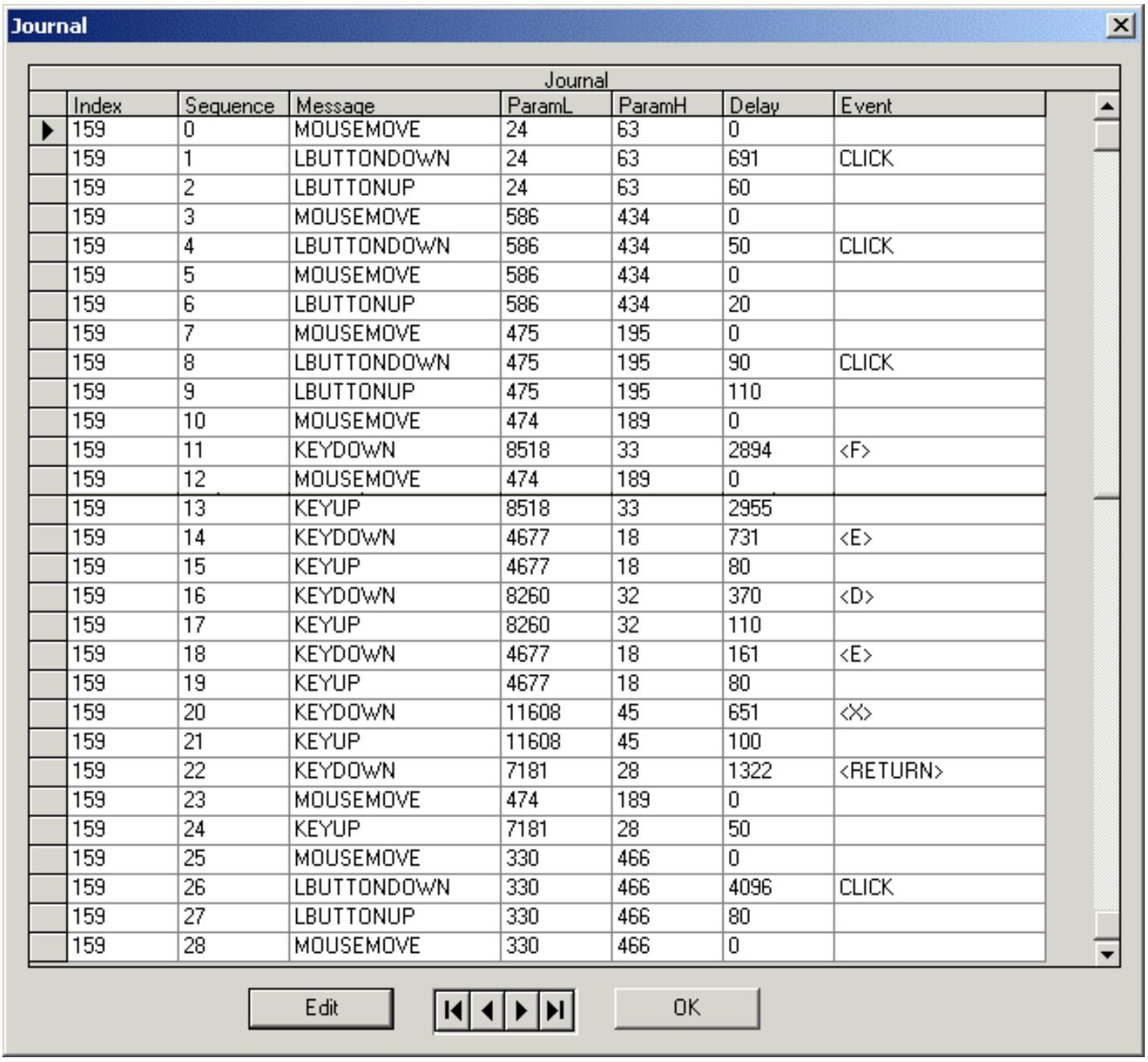


17. Press OK to save your macro. Create a new order and press POST to test.

QUESTION

Q. What does the recorded macro look like?

A. If you select the Edit button while editing the playback macro, your macro will look something like the following:



The first screen includes the CLICK on OK, Optional Fields, Optional Code, the keys 'FEDEX<RETURN>, then a click on the POST button.

Tutorial - Field Copy

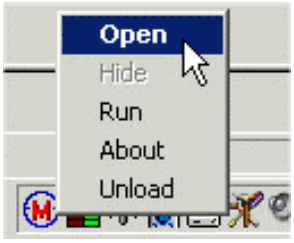
ME allows you to copy one field to another. You can copy text or button states (check boxes, radio buttons).

Note: The following example is intended only as a demonstration of what can be done. You are unlikely to want to copy the fields in question exactly as demonstrated.

1. When ME is running, a small icon appears in the system tray.

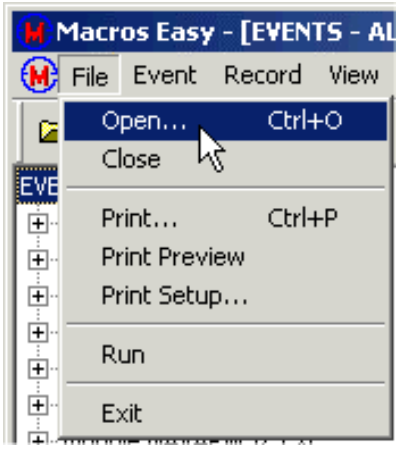
2. We are going to create a group of macros in this tutorial. Before we do, we will create a new group for these macros.

Right Click the ME icon and select Open.

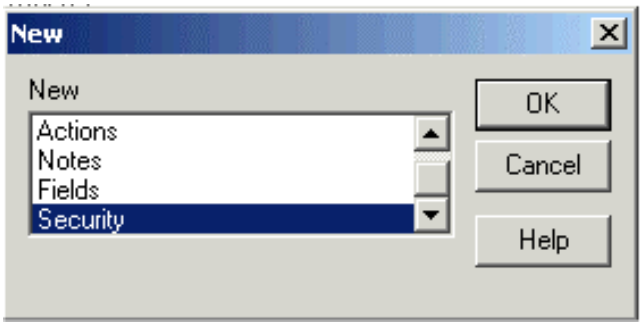


This will open the ME Main Menu.

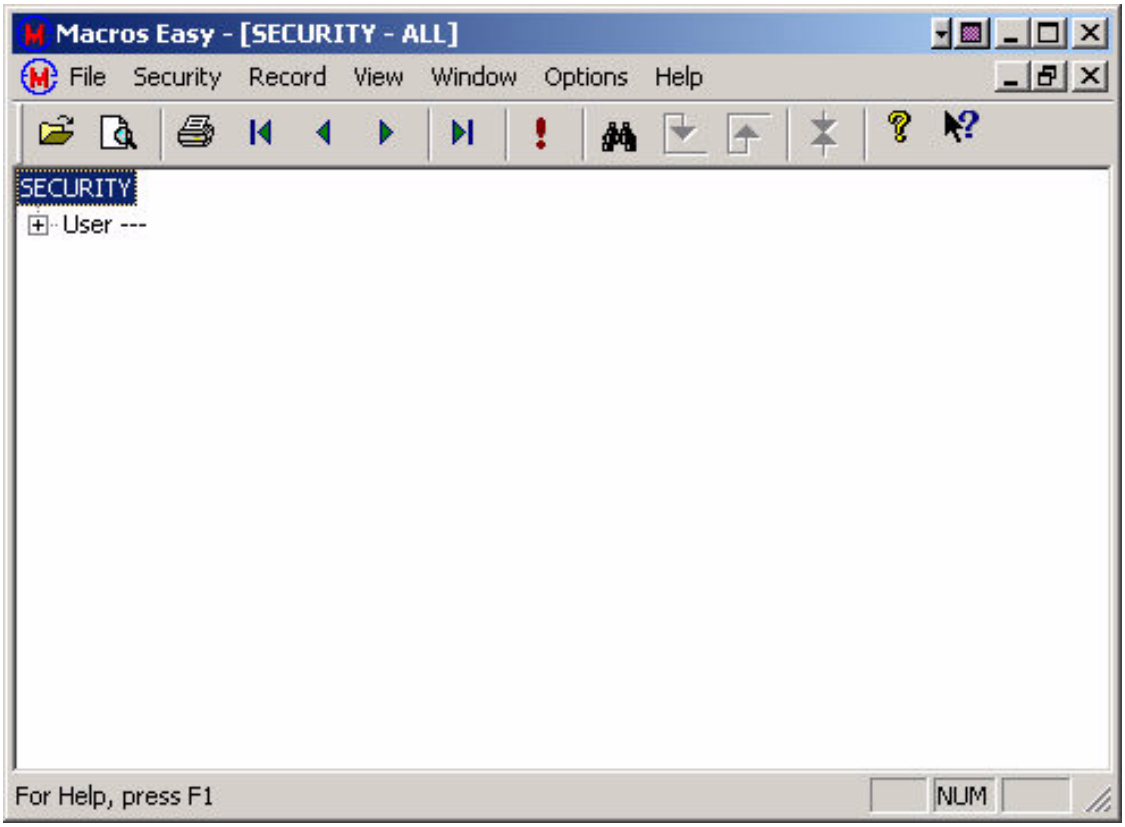
3. Select File, Open from the main menu.



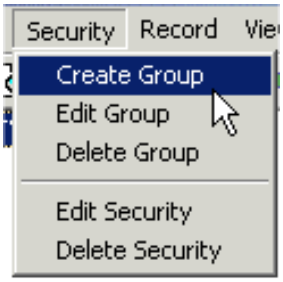
This will bring up a list of available files to open.



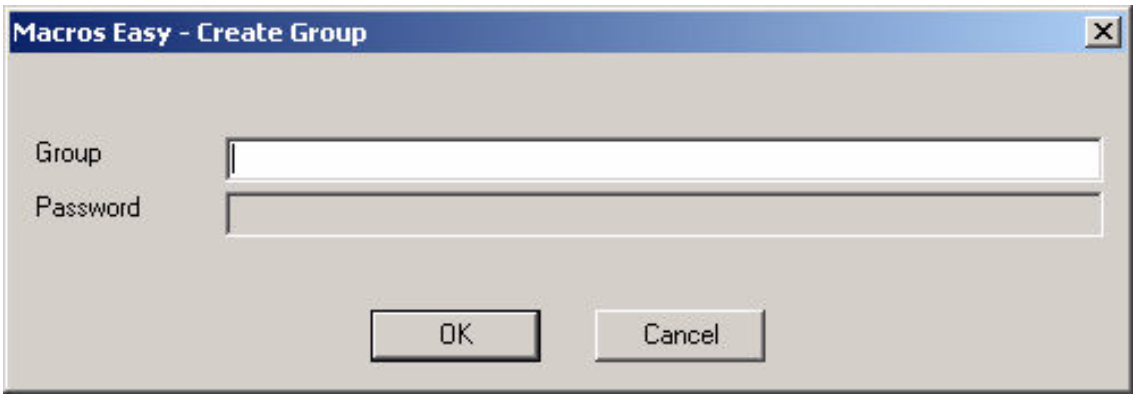
4. Select Security and press OK. This will open the Security file.



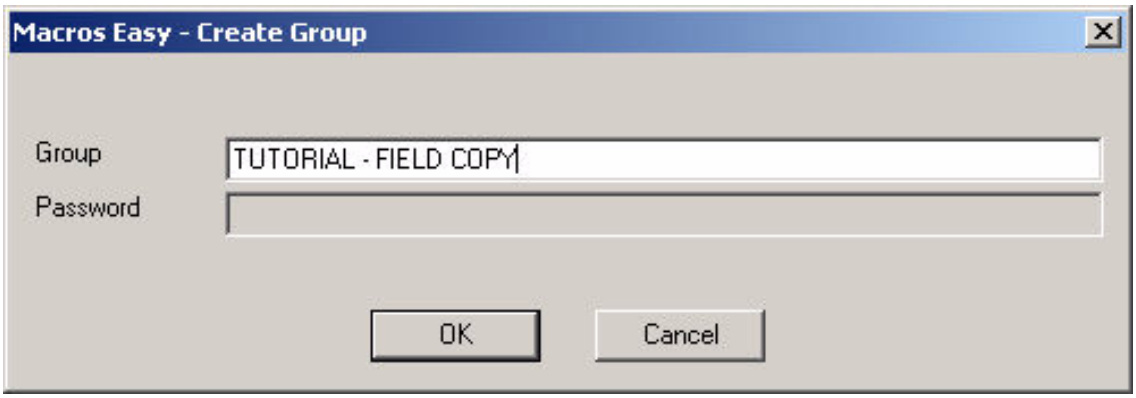
5. Select Group, Create from the main menu.

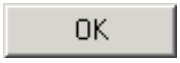


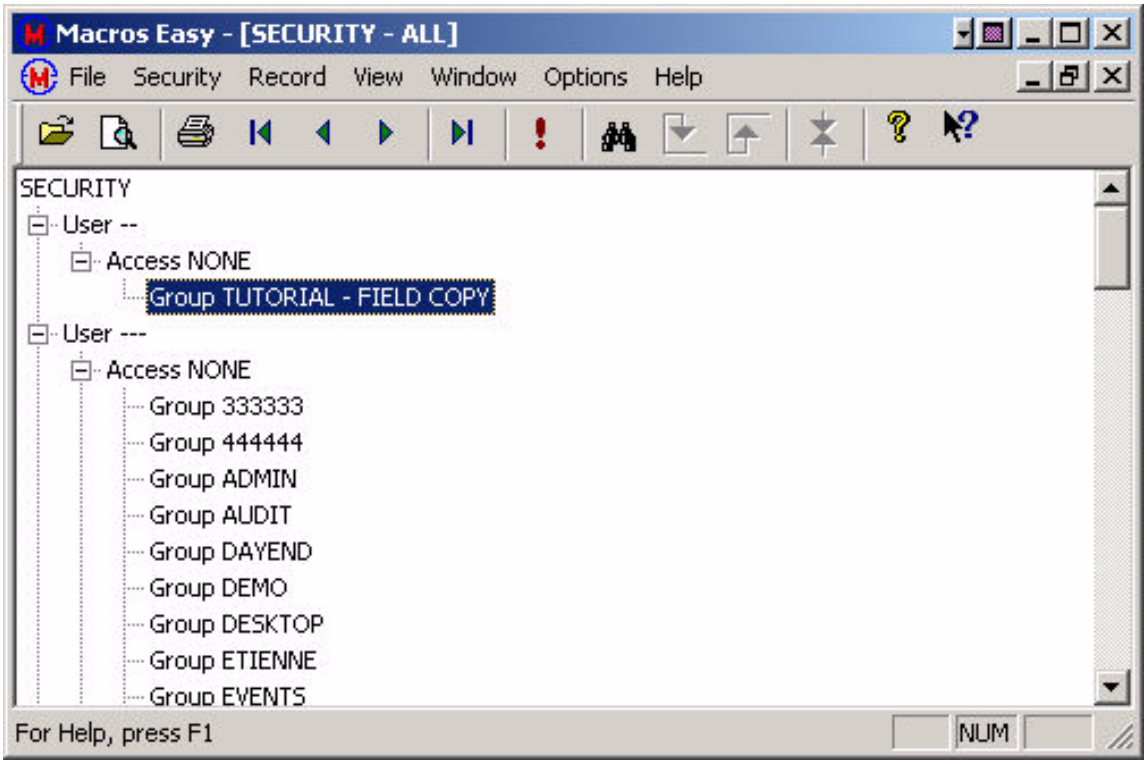
This will open the Create Group dialog.



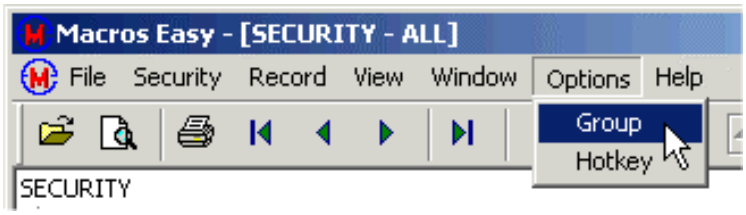
6. Type the Group Name "Tutorial - Field Copy".



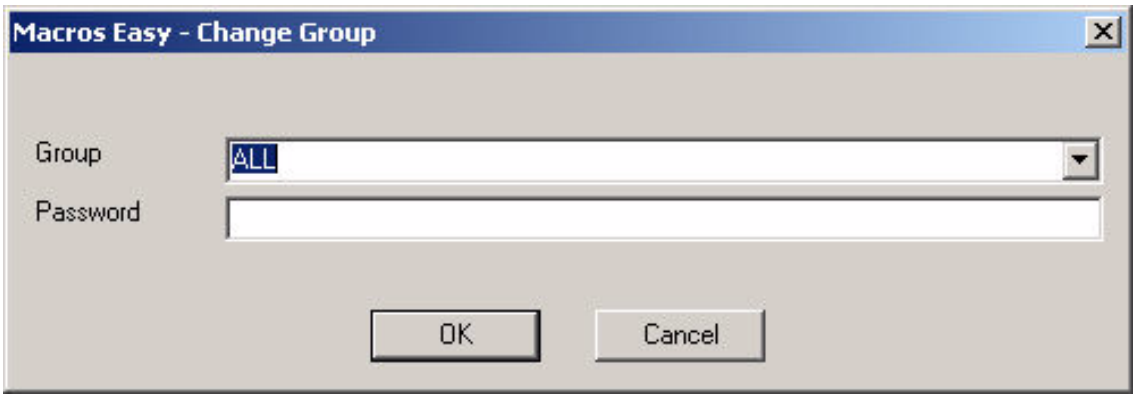
7. Press  to create a new group.



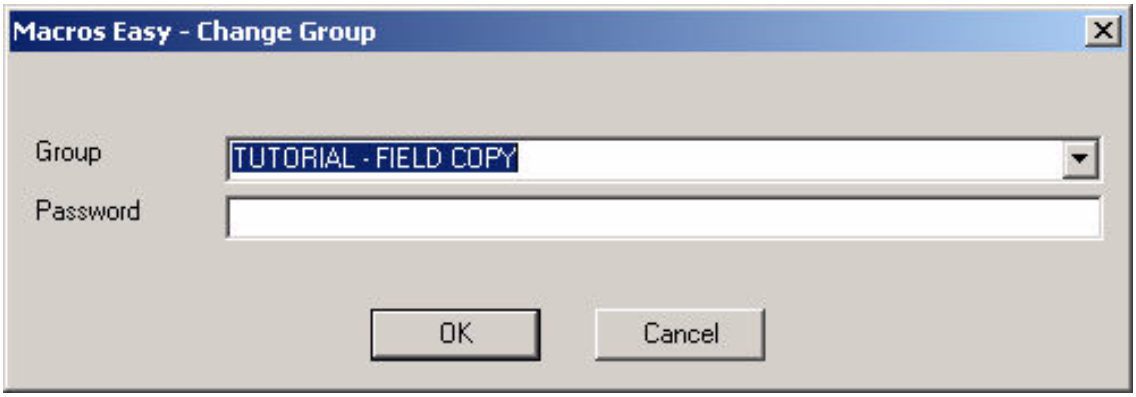
8. Select Options, Group from the main menu.



This will Open the "Change Group" dialog.



9. Select group "Tutorial - Field Copy"

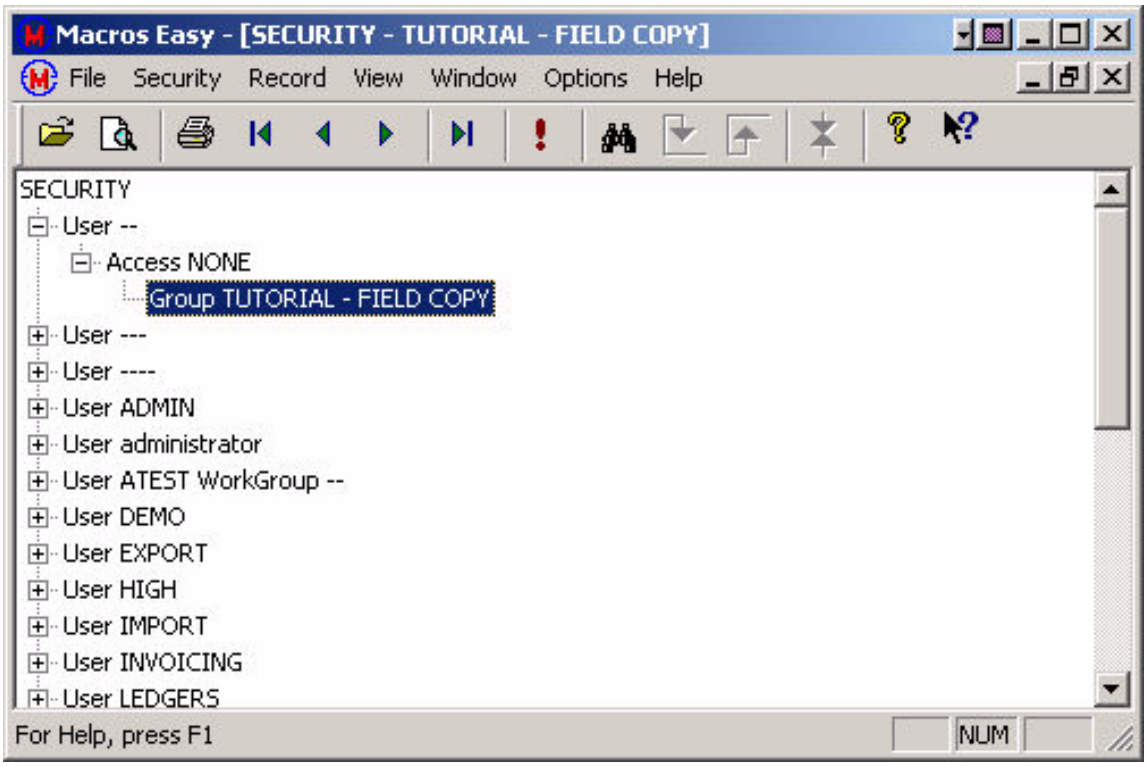


Note: The Password field is optional, and is only required to override the default group security for this user. (See Options, Group.)

10. Press

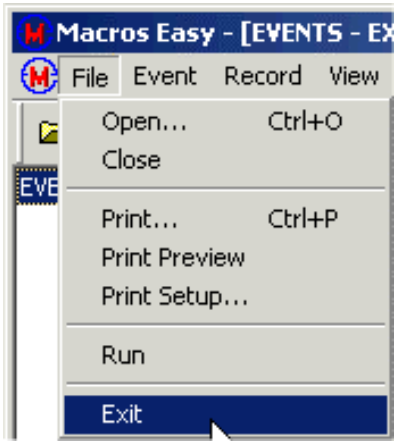
to change to this group.

From now on, any macro created will be under this group. Only macros for this group can be viewed or run.



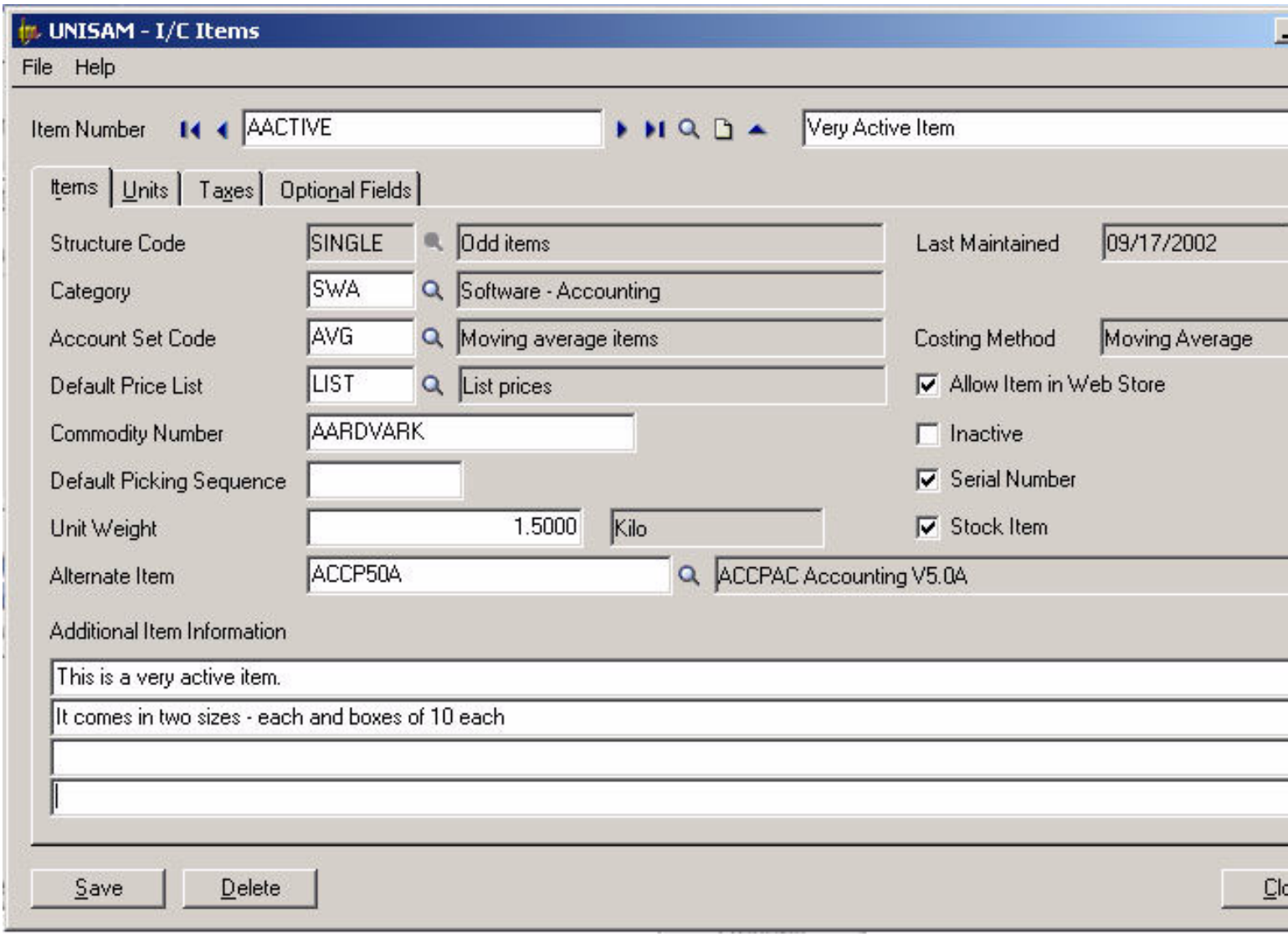
Notice that the Security file has been updated to show only the Tutorial group. Use Options, Group to change back to group ALL after this tutorial is complete.

11. Select File, Exit from the main menu to close ME. Until ME is closed, macro execution is suspended.

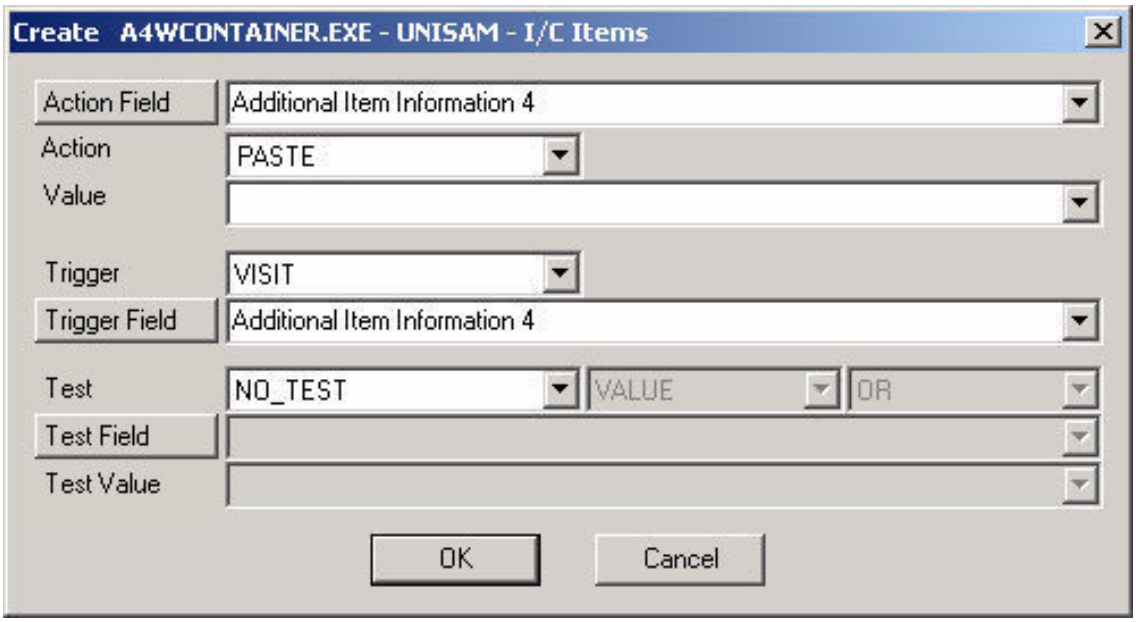


12. Open your application and move to a screen and field you want to automate.

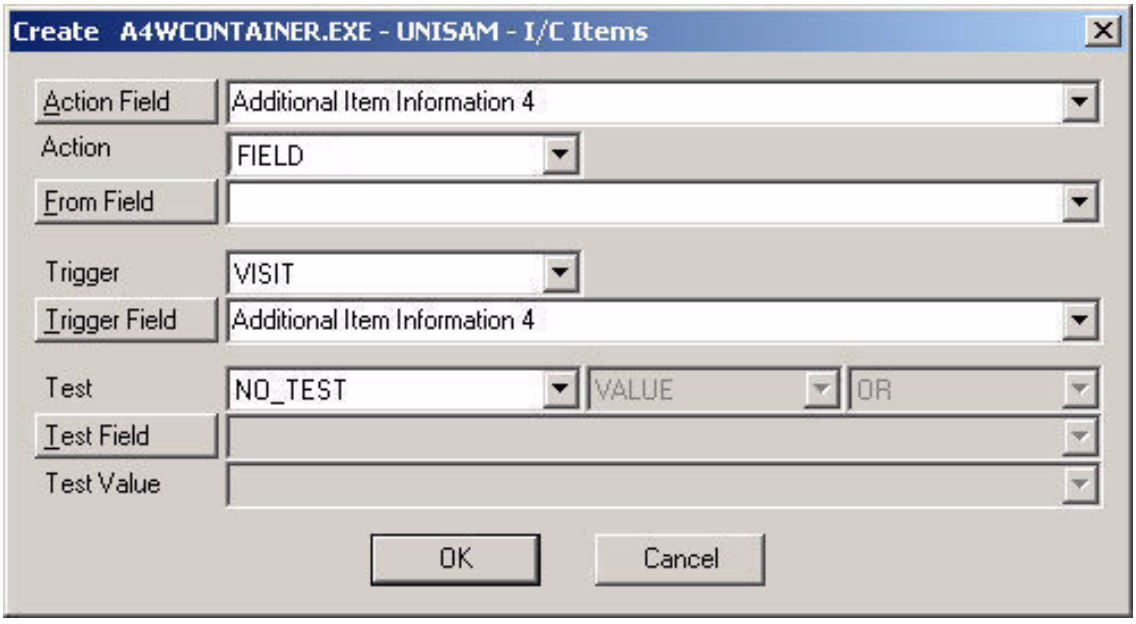
In this case we will use the I/C Items screen. Move to the last line of the Additional Information field.



13. Press CTRL F10 to popup ME.



14. Select Action FIELD.

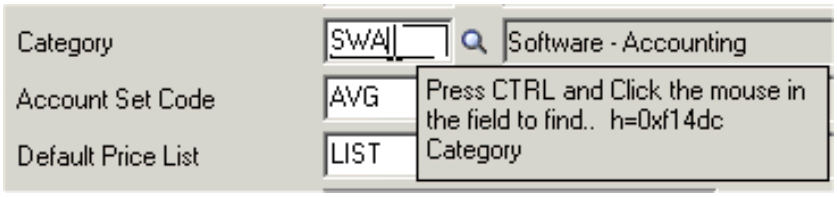


Notice that the "Value" label on ME has changed to a "From Field" button. Rather than send a value, when Action FIELD is set, ME will send the actual contents of a field on the current screen.

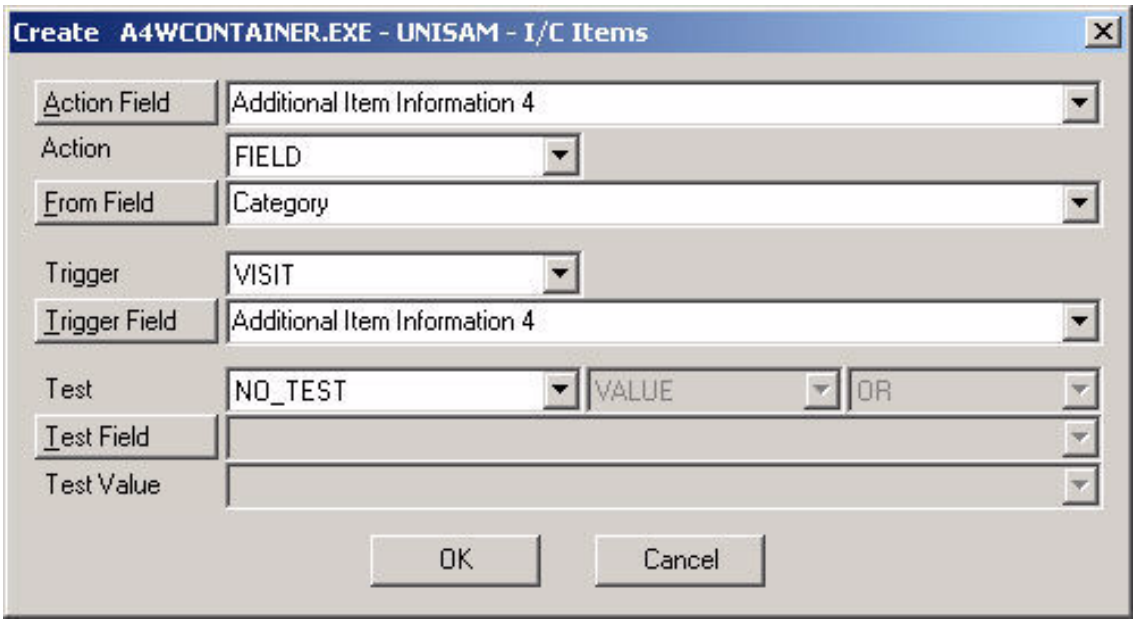
15. We are going to send the "Category" field to the "Additional Item Information 4" field.

We could use the "From Field" list box button to select the field we want. Instead, press the From Field button.

16. This will bring up the FINDER.



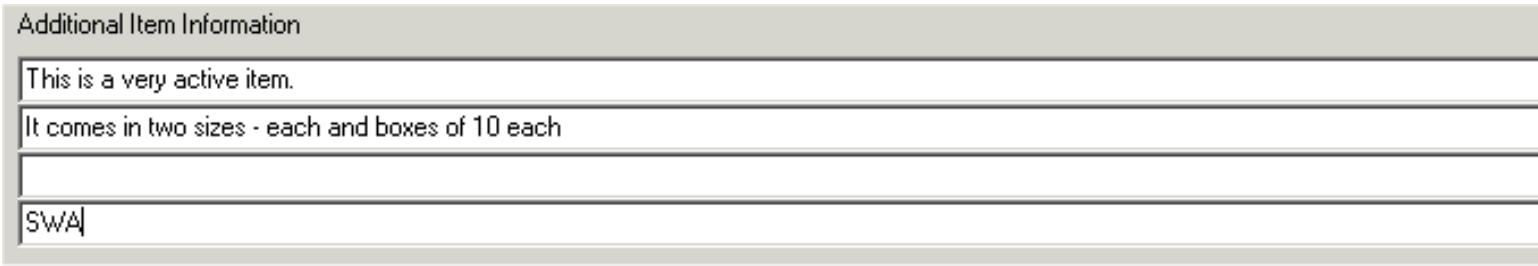
17. Press CTRL and Click the mouse in the Category field.



ME will now send the 'Category' field to the 'Additional Item Information 4' field every time we visit this field.

18. Press OK to save this macro.

20. Click on the 'Additional Item Information 4' field to test the macro.



ME has copied the 'Category' field to the 'Additional Item Information 4' field.

21. Use Options, Group to change back to group ALL after this tutorial is complete.

Note: If your macro does not VISIT the field being updated, do not assume the application has recorded the update. You must test all macros that update fields without visiting the field to make sure they work as expected. Some fields work, some don't. Sometimes you need to send a KeyMouse CLICK to the field being updated to create a visit.

QUESTION:

Q. What is the difference between the FIELD, ARCHIVE, and RETRIEVE Actions.

A. The FIELD Action allows you to copy values and button states from other fields on the SAME screen in a single macro. The ARCHIVE and RETRIEVE Actions allow you to copy values and button states between fields on DIFFERENT screens. However, this requires two macros; one to archive the value on one screen, the other to retrieve the archived value to the second screen. Co-ordination between the two screens is usually done via a PLAYBACK macro.

ARCHIVE and RETRIEVE can also be used to implement "Previous" Item Number, Item Description, etc. type macros.

Tutorial - Scheduling a Program

ME allows one macro to Schedule another macro. In this example we will use a macro to schedule the execution of a program.

What makes this example special is that the program will only be scheduled if we press a specific button on a specific program. Otherwise, the program will not be scheduled.

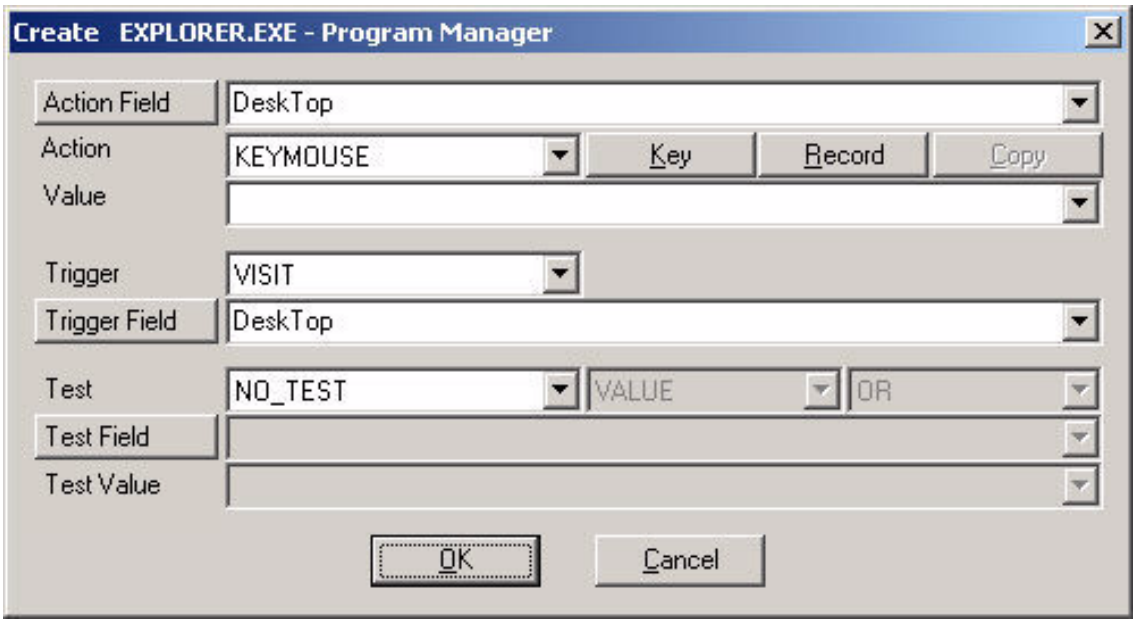
PART 1

First, we will create a run macro to run our program.

Minimize all windows and press your hotkey CTRL F10 directly from the desktop window.

The Desktop window should already be defined to ME. If not, define the window with a name "DeskTop".

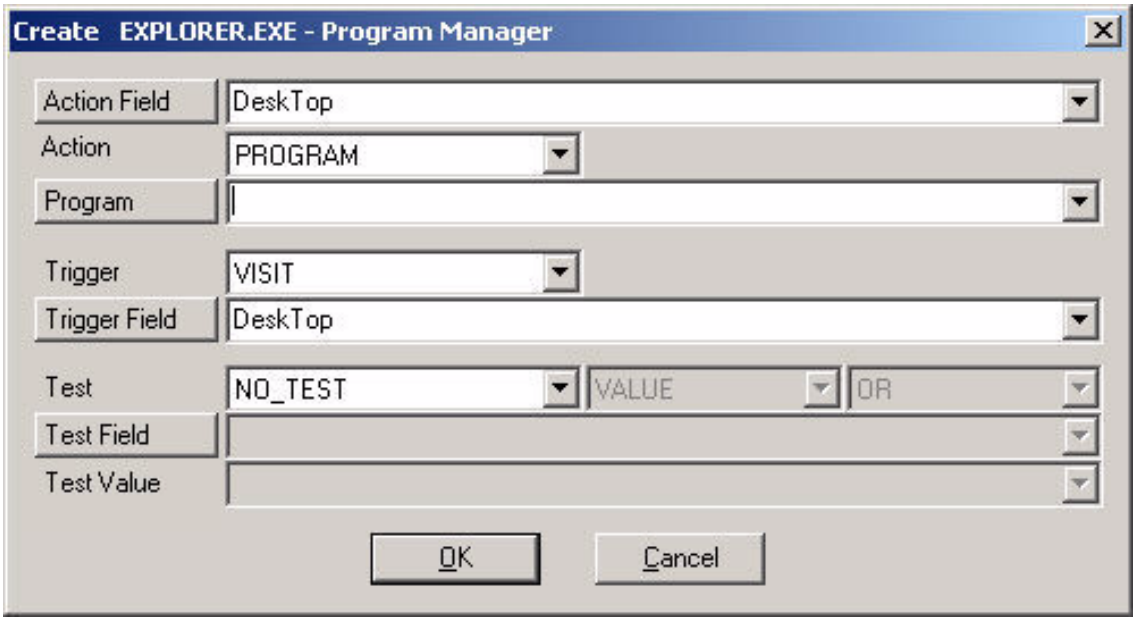
ME will then popup the Create Macro dialog for the Desktop window.

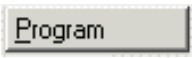


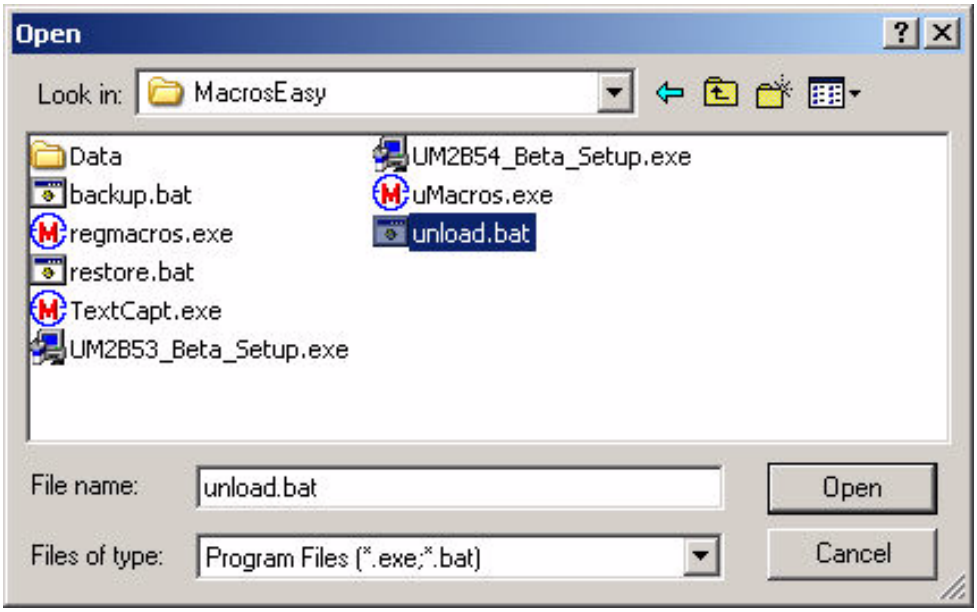
The Desktop window is always available and is a convenient place to create macros that must always run, regardless of other applications.

Note: All macros are attached to application fields. As a result, the application must be running for a macro to run. The Desktop (EXPLORER) is always running, so creating macros for the desktop ensures that a macro that starts another program will always run.

Set the Action to PROGRAM.

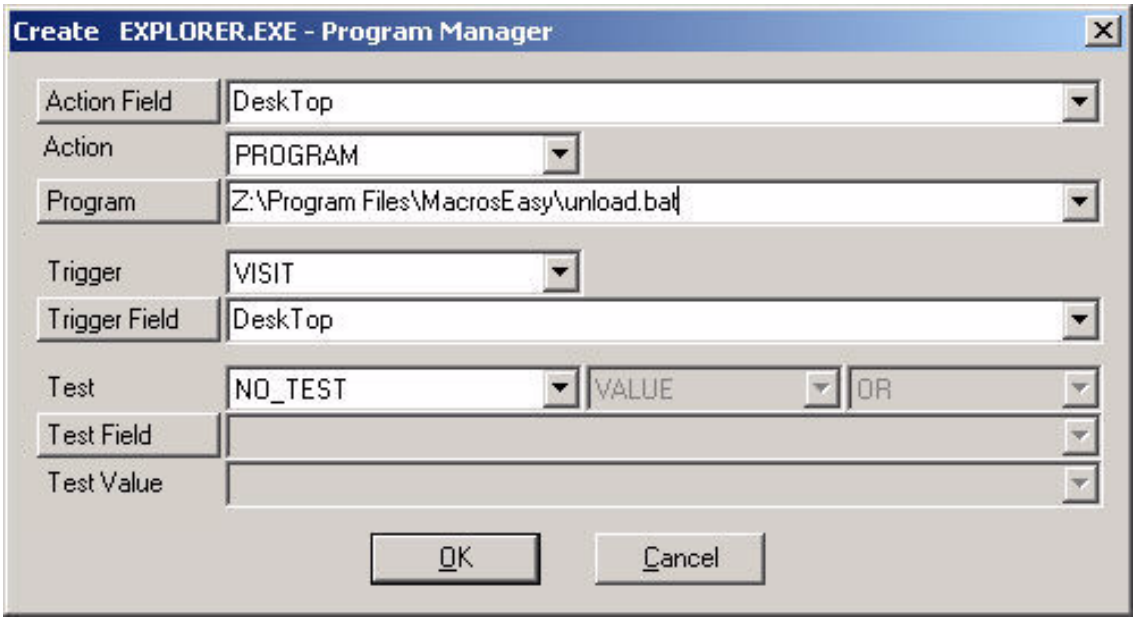


Press the  button and select a program to run.



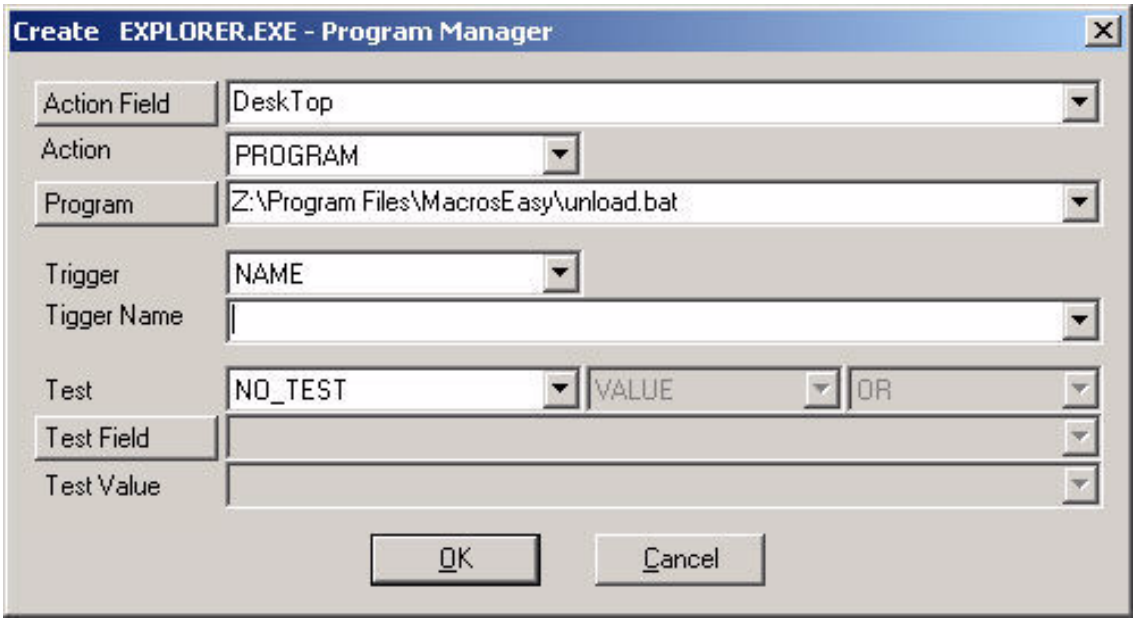
In our example we have selected the unload.bat file, which will unload ME. You should select some other program.

Press OPEN to select the program.

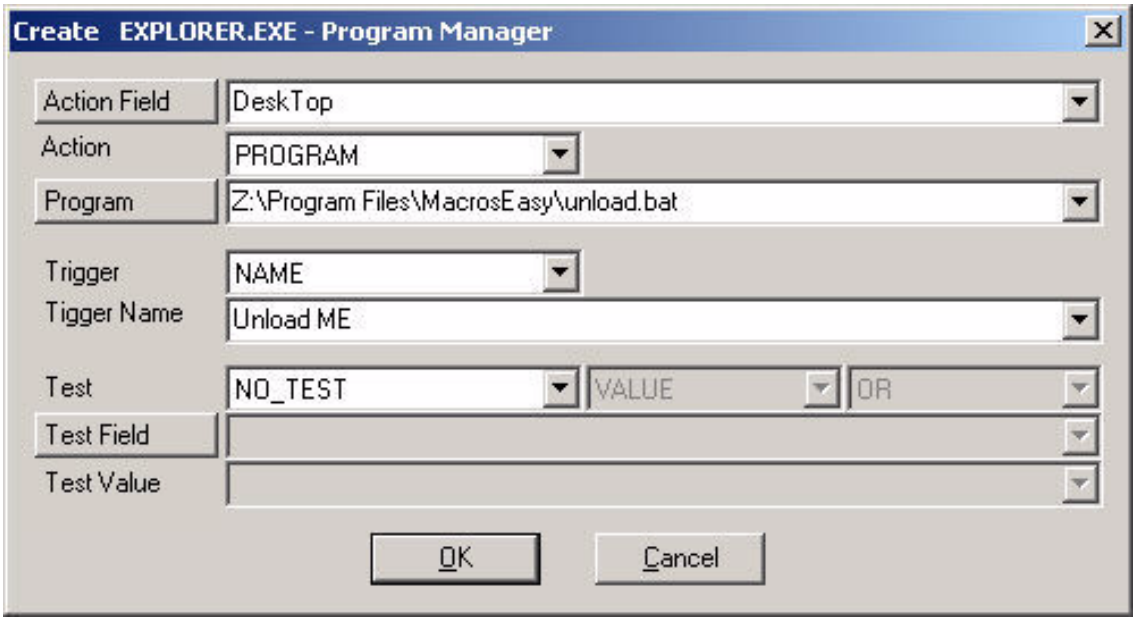


We now have a macro that will unload ME every time the user visits the desktop.

Change the Trigger to NAME.

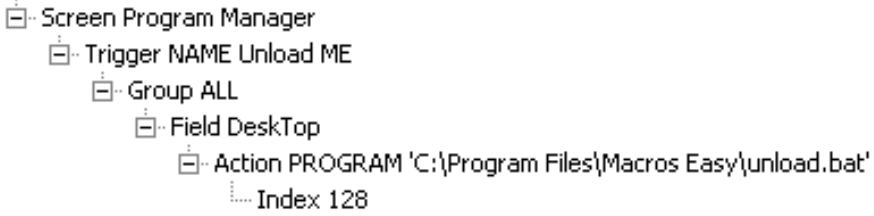


Set the Trigger Name to Unload ME



We now have a macro that could unload ME and will run on the "Unload ME" NAME Trigger. We could Trigger this name using File, Run. However, we will create a schedule to Trigger this NAME.

Press OK to save our macro. If we Open ME we can inspect this macro.



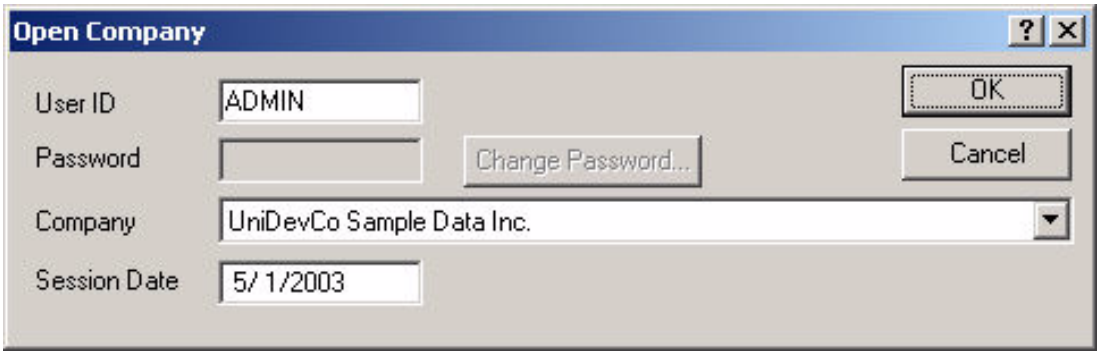
PART 2

Now we want to create a macro to schedule the running of our program.

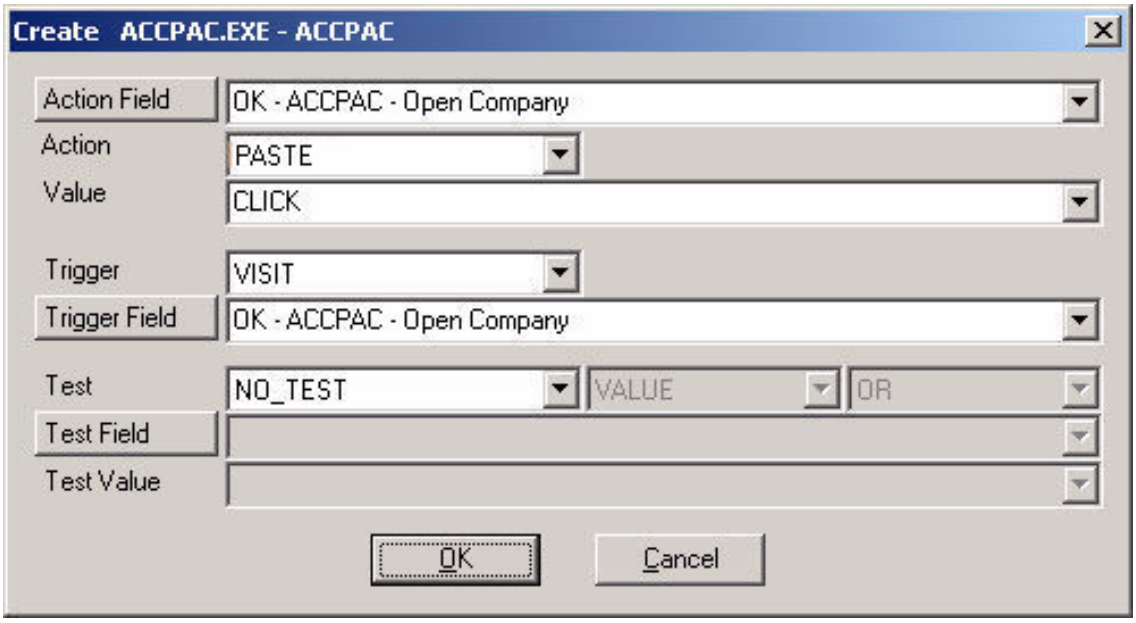
We could set the Trigger of the macro we just created to TIMER and set a time at which we want our program to run. In this case, our program would run daily, weekly, etc. as we choose. However, what we are going to do in this example is to create a macro to Schedule our program only if the user takes specific action. For example, you may have a program that should only be run after day-end and never run if day-end is missed. In our example we will look at how you could do this.

Open an application from which you want to create a schedule. For simplicity of demonstration we will use the ACCPAC "Open Company" window.

Tab to the OK button.

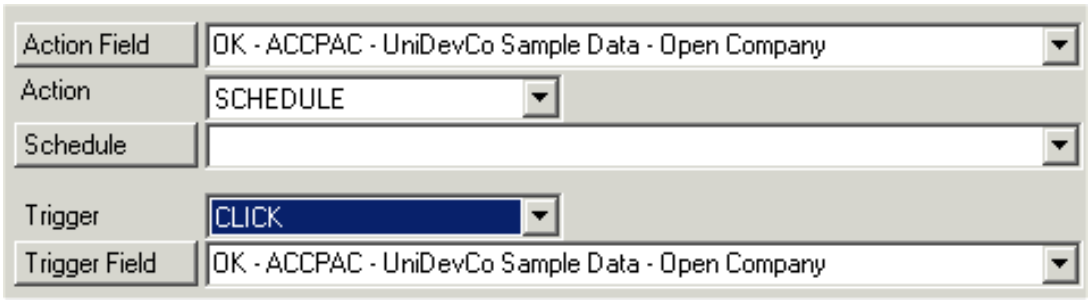


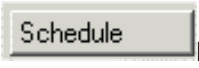
Press the hotkey CTRL F10.



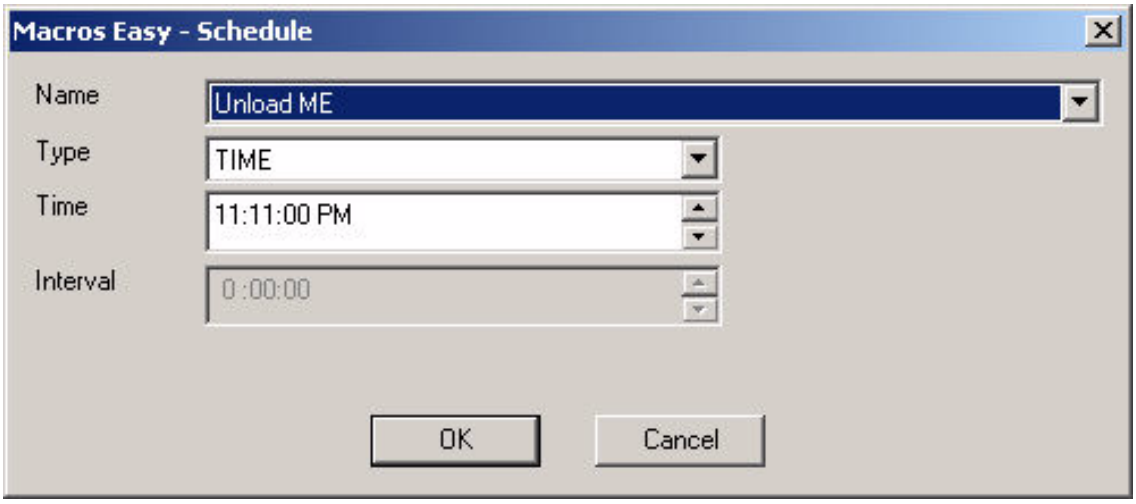
We are going to create a macro to run when the user presses the OK button.

Change the Trigger to CLICK and the Action to SCHEDULE.



Press the 

button.



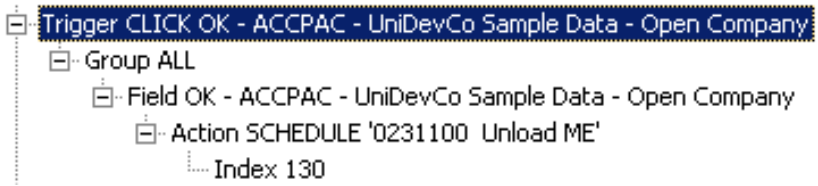
Set the Name to the macro we just created - in this example "Unload ME".

Set the time to the time at which the macro is to run - in this case 11:11PM.

Press

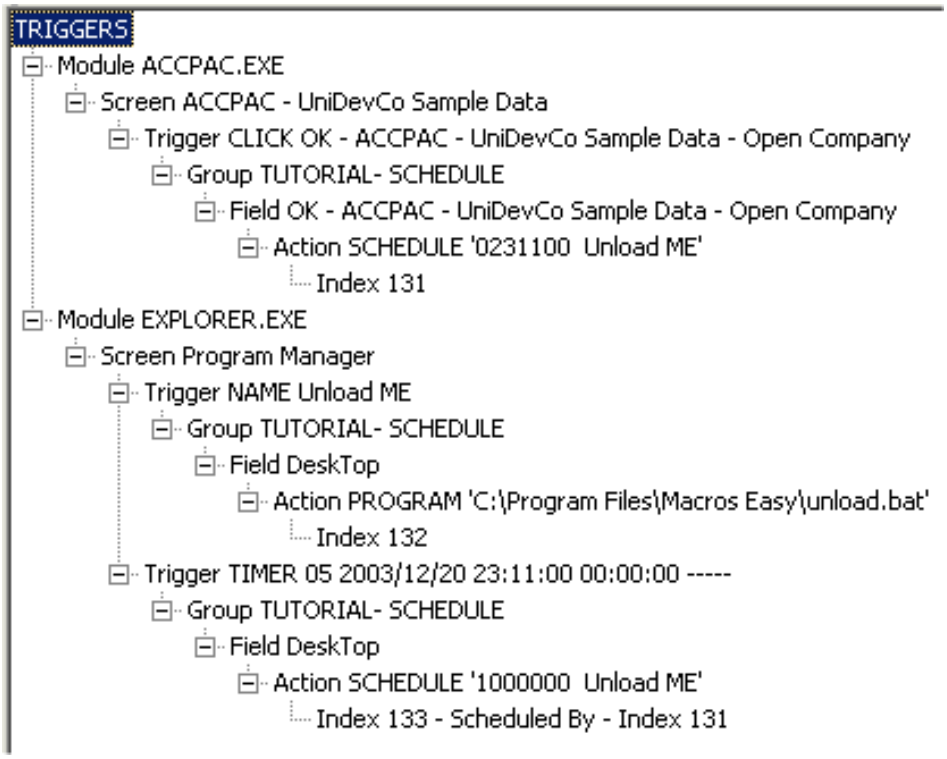
to save this schedule.

ME is now set to create a macro to schedule another macro. Press OK to save this macro then open ME to look at the result.



We now have macro to schedule another. To test this macro, close ME (to enable macros) and press the OK button in the ACCPAC Open Company window.

Open ME again and look at the new macro.



You can see that ME has automatically created a timer to run at 11:11PM, which will run the Program "Unload.bat".

This "User" type timer will only run for the user that ran the schedule macro (in our example "--" is the UserID). Even within a group, macros created by Schedule are unique by UserID.

ME automatically deletes timers created by Schedule after they have run. The original template and schedule macros are left unchanged, ready to create another timer.

Our schedule macro (index 131) and template (Index 132) will cause ME to unload itself at 11:11PM, but only on those days the user presses the OK button in the ACCPAC Open Company screen.

This example can readily be adapted to run your programs and macros based on almost any event you want to trap. You can also add Tests to both the schedule and template macros, as appropriate, to further control your macros.

Tutorial - Export

The strategy of an export is to create a macro that moves your application from one record to the next. Each time the application moves to a new record, this event will trigger an export.

The fist step is to identify the operation that will cause your application to move from one record to the next. Preferably it will be something simple like a keystroke or a mouse click. Once this has been identified, the export can be broken down into these steps:

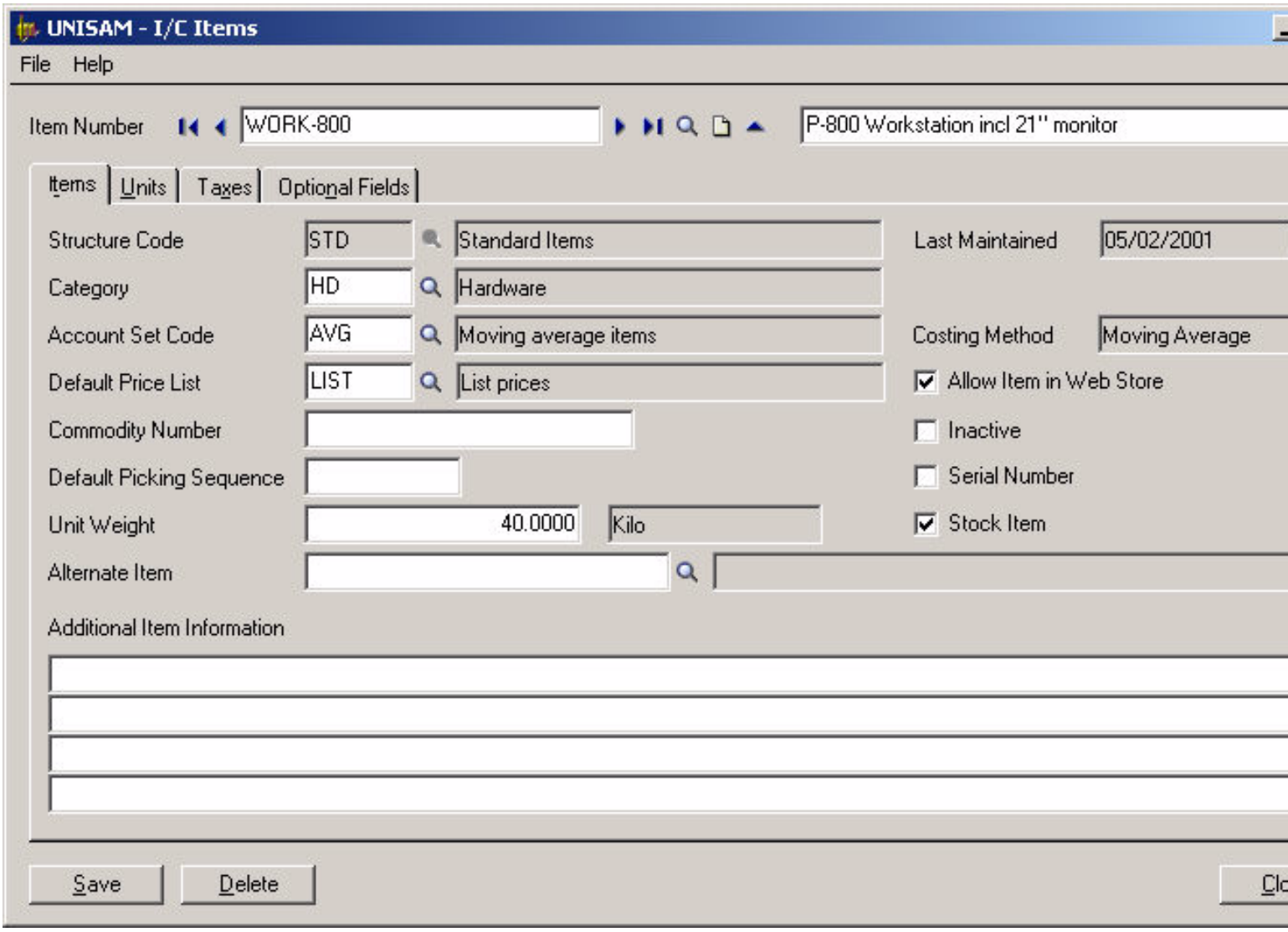
a. Opening the Export
b. Exporting fields
c. Moving to the next record
d. Field re-ordering
e. Running the Export.
f. Testing and Debugging.
g. The completed export

Note: this tutorial assumes you have already defined the underlying application fields. If not, when you perform this tutorial, you may be asked to define the fields in your application. This step in not shown in this tutorial but is covered in many of the other tutorials. (See Create Field.)

Initializing the Export

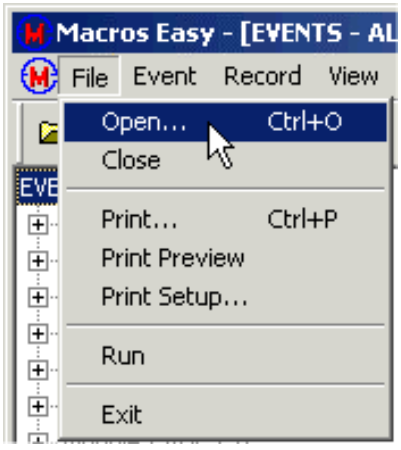
1. When ME is running, a small icon appears in the system tray.

2. Open your application and move to a screen from which you want to export. In our case we will use the ACCPAC I/C Items screen. Move to the LAST item in the database so we can detect when to end our Export.



3. Double click the ME icon on the system tray. This will open ME.

4. Select **File, Open** from the main menu.



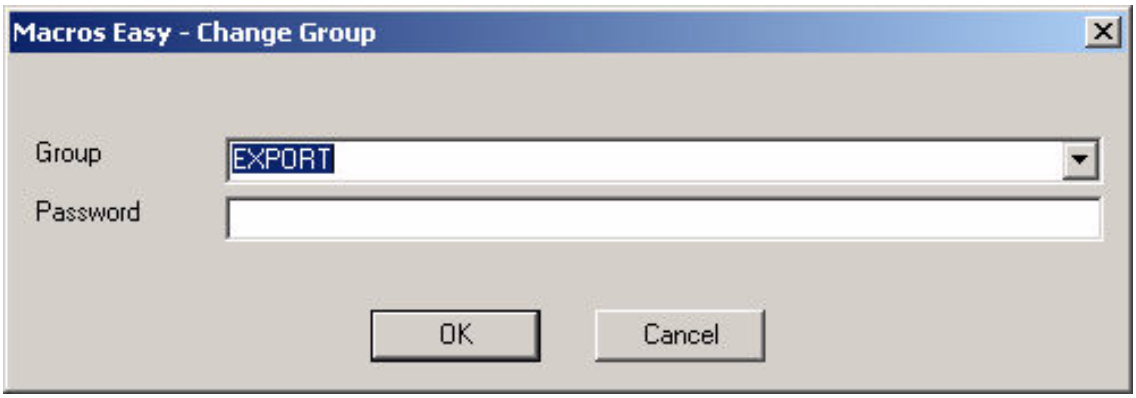
This will bring up a list of available views.

Select Triggers and press OK.

This will open the Triggers view of the database.

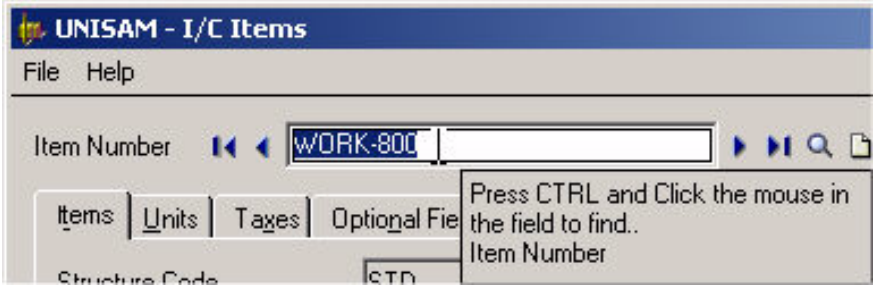
5. Select Options, Group and select an empty group.

In our example we will select group Export. (See Tutorial - Field Copy for an example of creating a new group.)



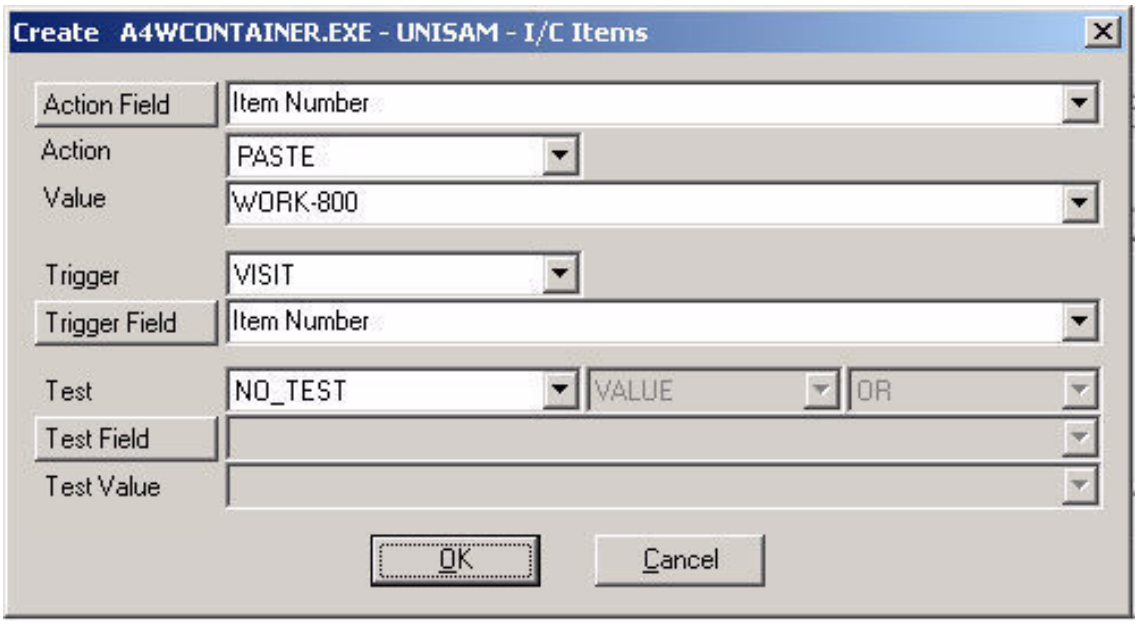
6. Select Macro, Create.

7. CTRL Click the Finder on the Item Number field.

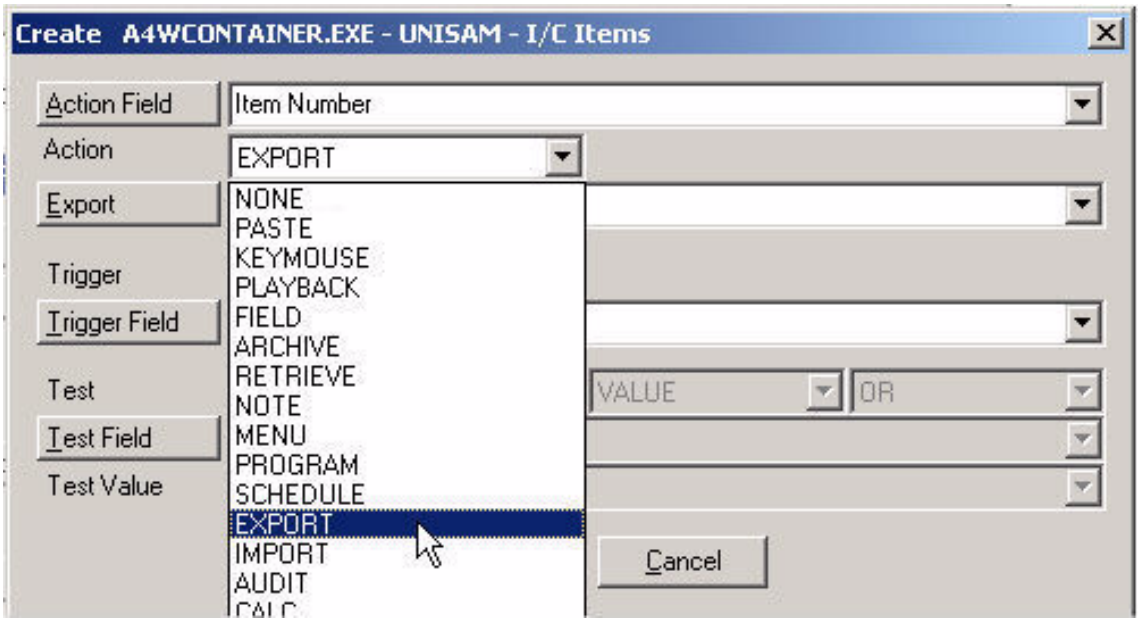


Notice that the Finder displays the name of the field you are selecting. This feature works once a field name has been created for a field.

This will open the Create Macro dialog.

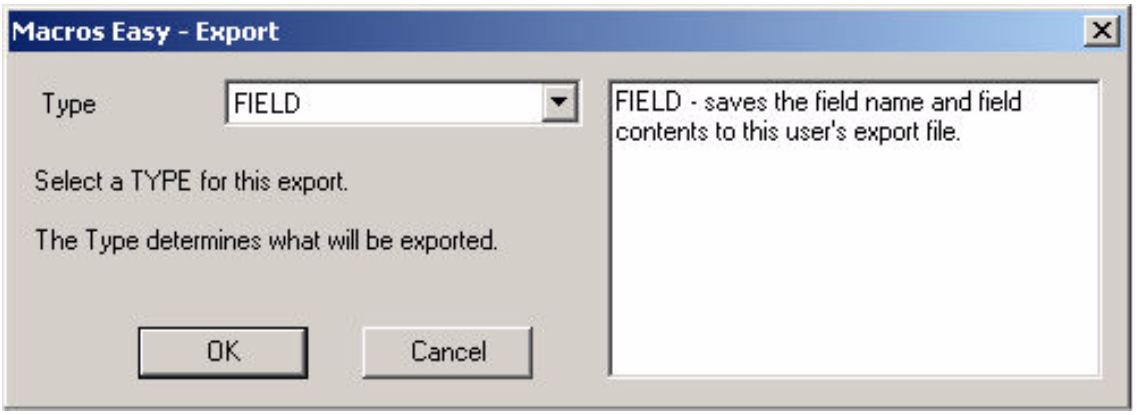


8. Select Action EXPORT.

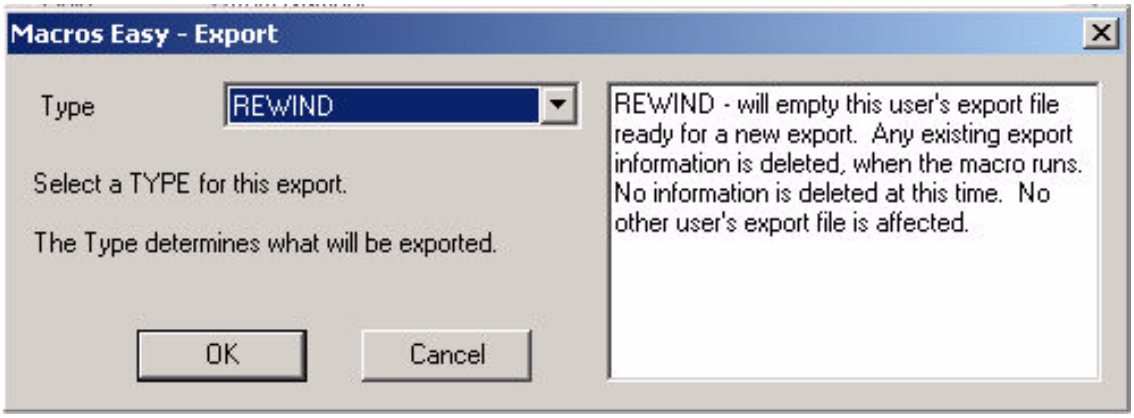


9. The Export dialog will appear. If it does not, press the

to open the dialog.

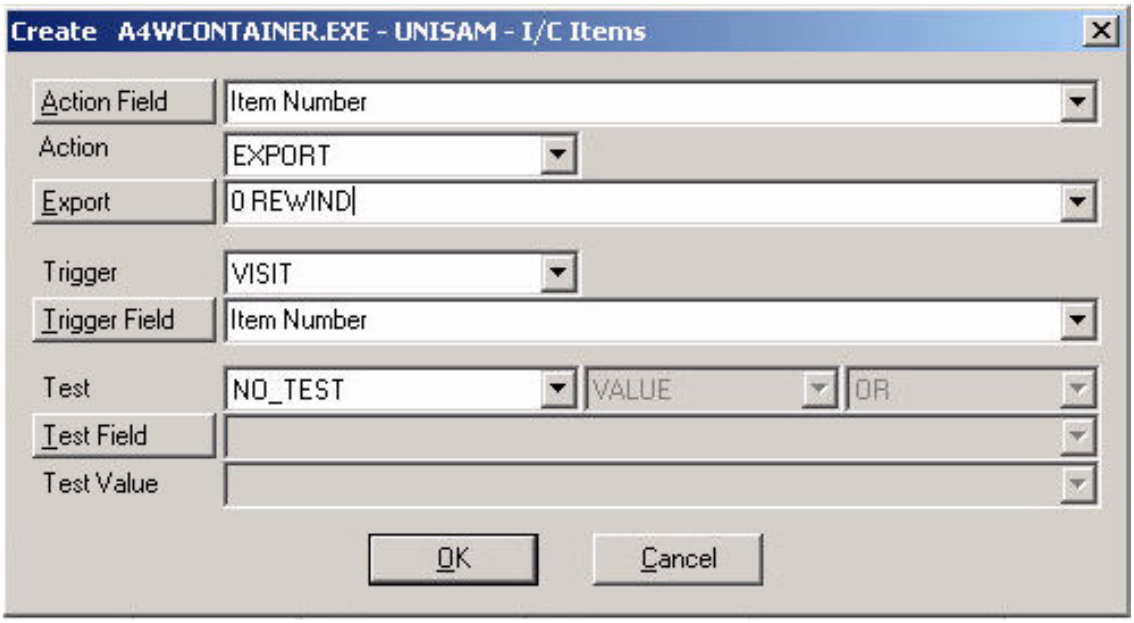


10. Select Rewind.



11. Then, press

.



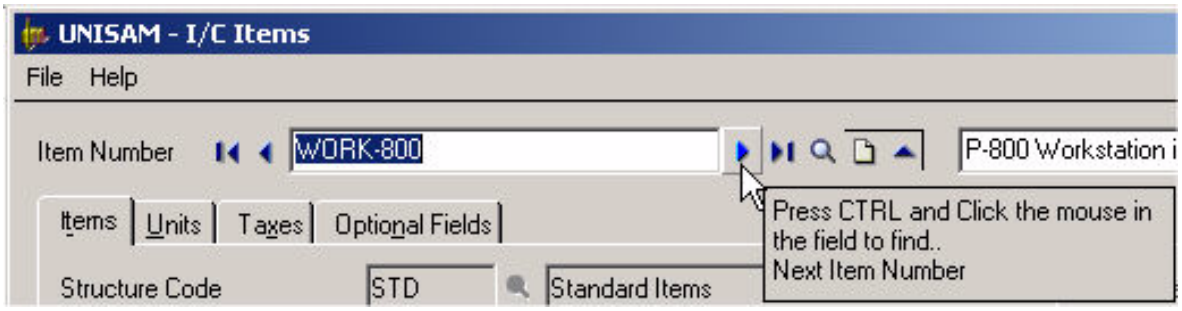
12. This macro, when it runs, will Erase (clear) our export file. Export files are named EXP_<username>.txt in the ME directory. However, before we save this macro, we need to change both the Trigger and the Test.

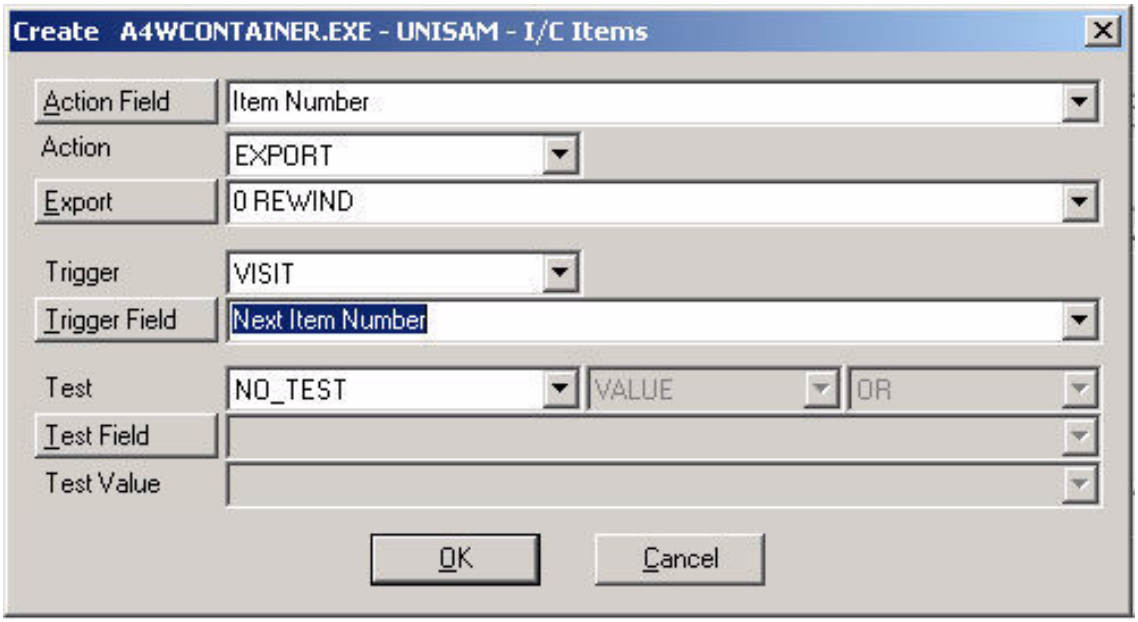
13. When exporting, we typically tie the export to the event that moves us to the next record in our application.

Press the

button to find the field we use to move to the next record.

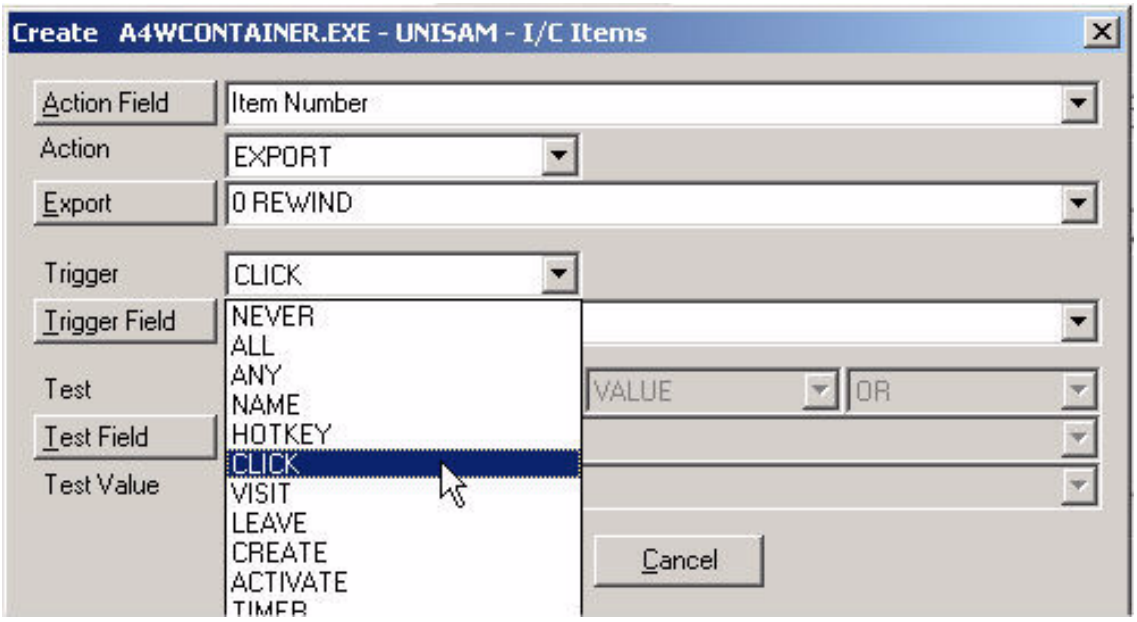
14. CTRL Click the Finder on the NEXT ITEM button.





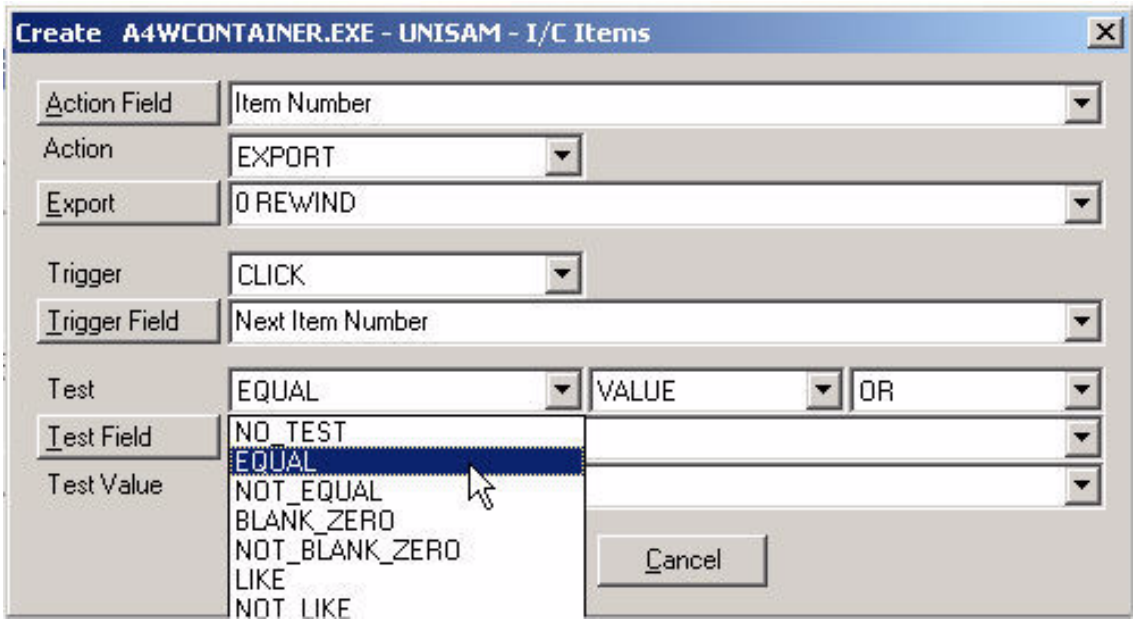
This has set the Trigger Field to 'Next Item Number'. However, we are not going to VISIT this field, we are going to CLICK it.

15. Change the Trigger to CLICK.

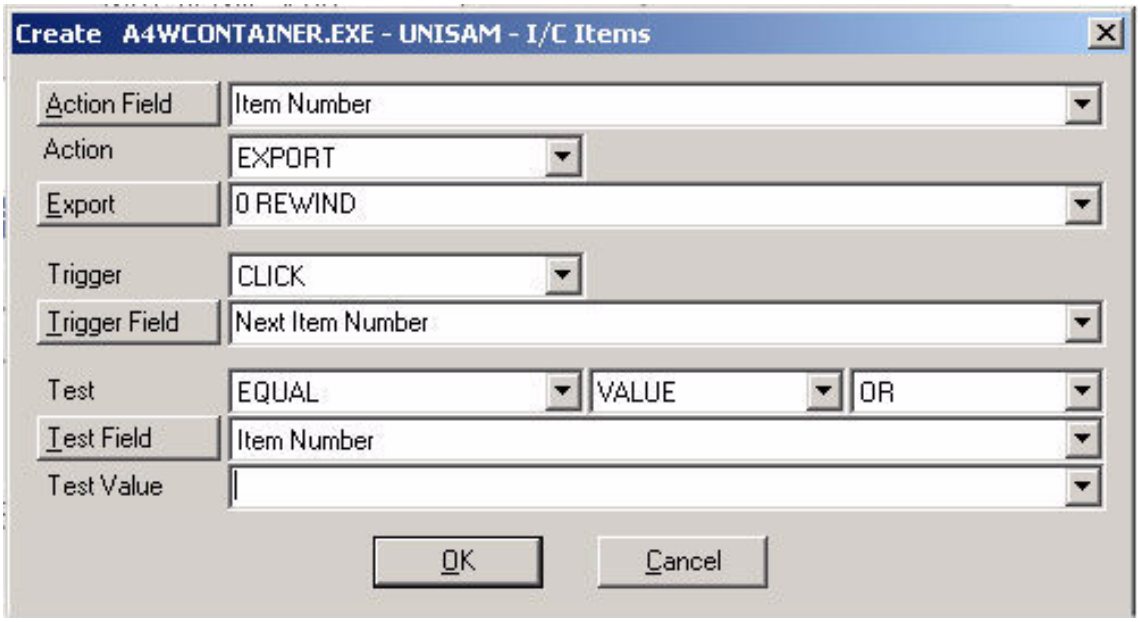


Our macro will now run whenever we click the Next Item Number button. This is not quite right because we do not want to Open the Export for every item since Opening the export removes any existing exported data. We only want to Open the Export before exporting the first item.

16. Select Test EQUAL.



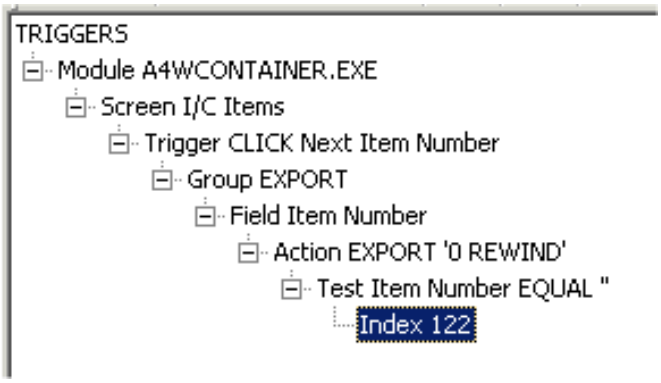
17. Set the Test Value to blanks.



18. We now have a macro that will Open (clear) our export file when we press the Next Item Number button, but only if the Item Number is blank.

19. Press

to save this macro.



This completes opening the Export file.

Exporting fields

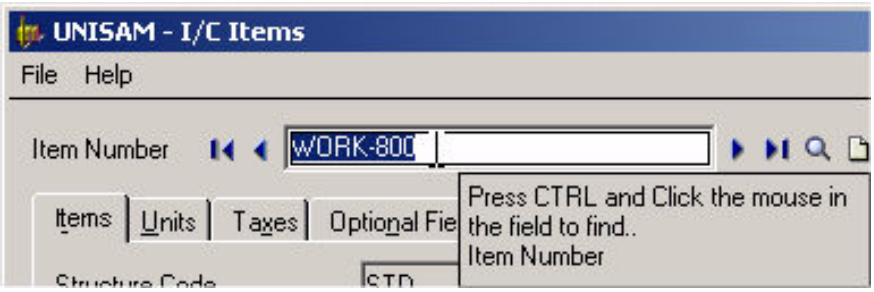
Macros to export fields are almost identical to the macro we created to open the export. There are only two differences:

- the export type is FIELD instead of OPEN.
- the Test is NOT EQUAL instead of EQUAL.

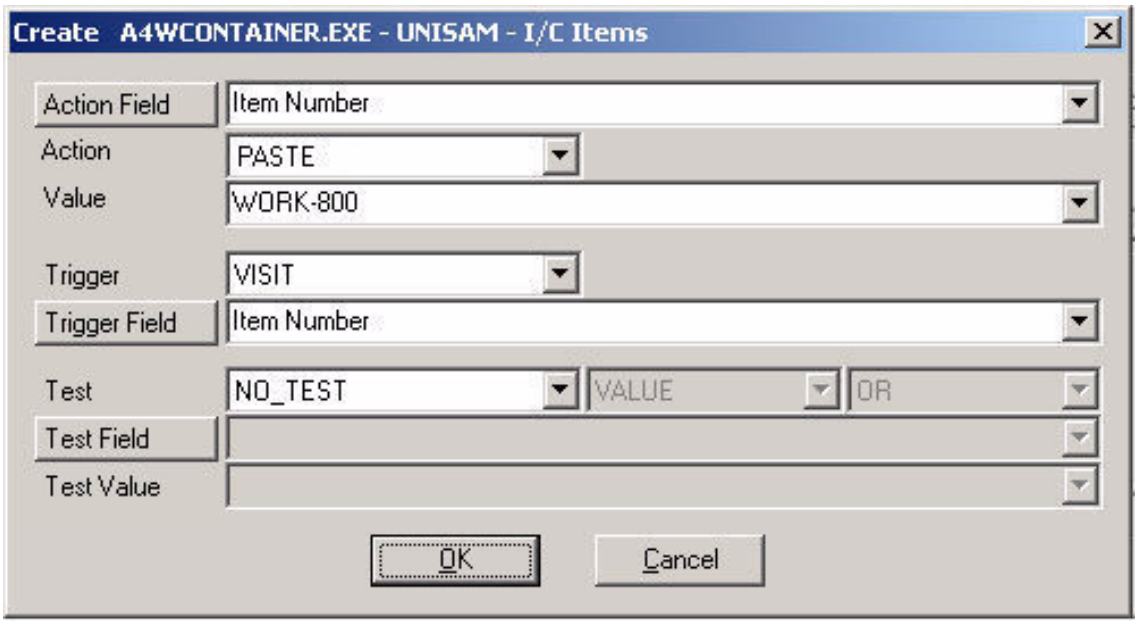
Here are the previous steps, with the changes made:

6. Select Macro, Create.

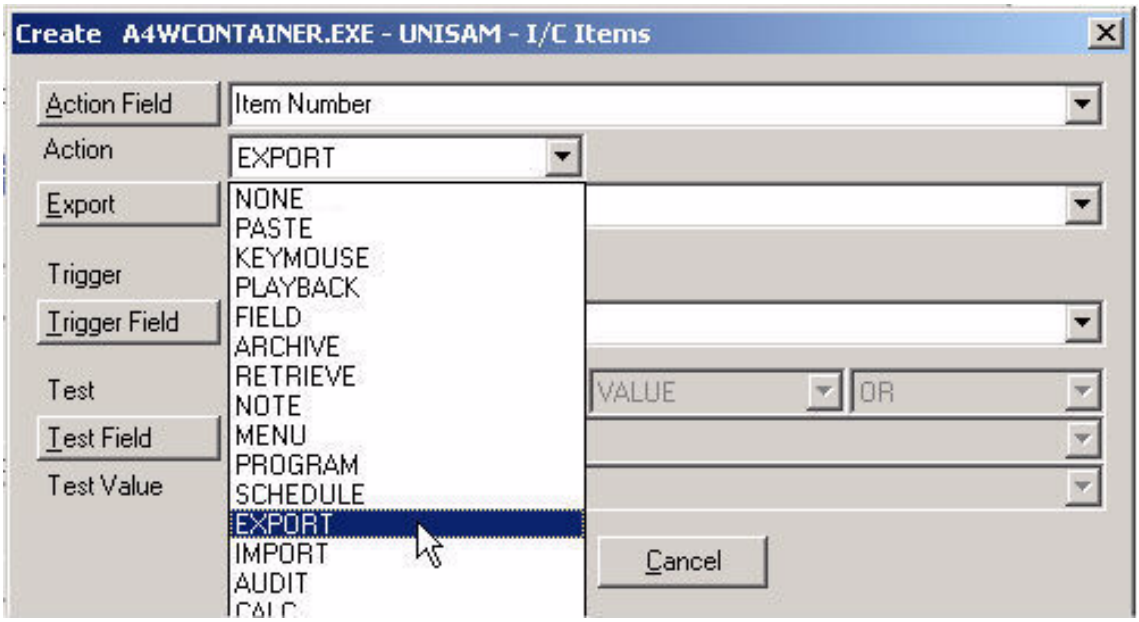
7 CTRL Click the Finder on the Item Number field.



This will open the Create Macro dialog.

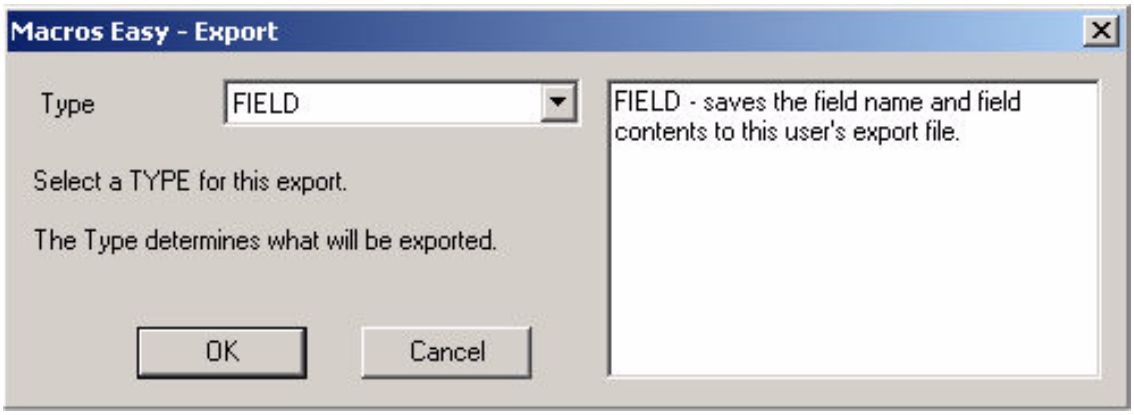


8. Select Action EXPORT.



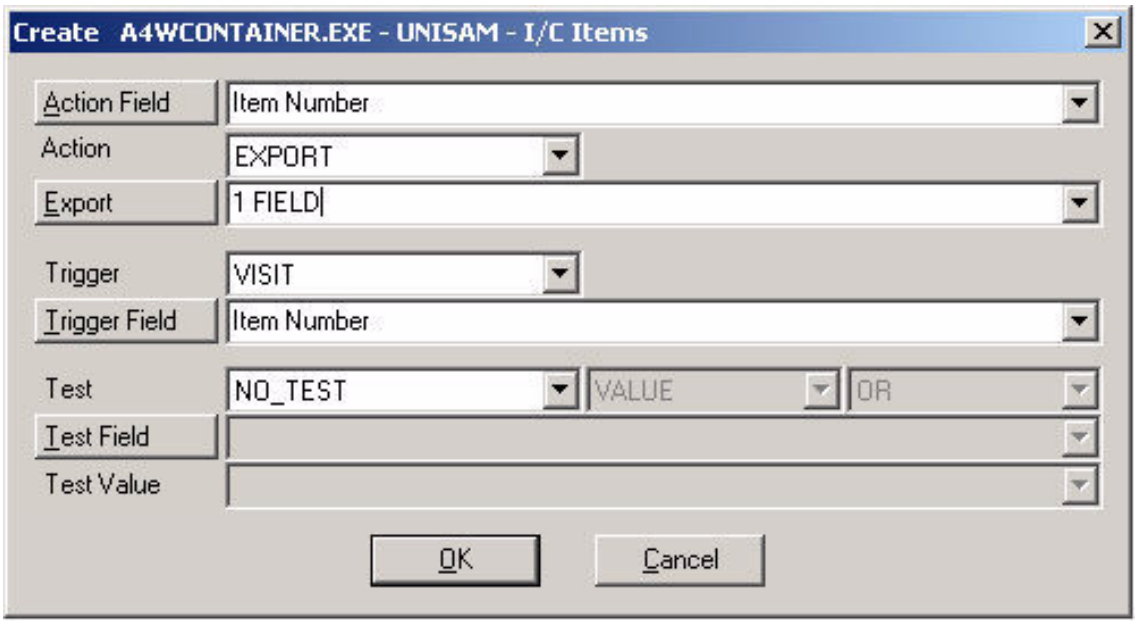
9. The Export dialog will appear. If it does not, press the to open the dialog.

10. Select Field.



11. Then, press

.



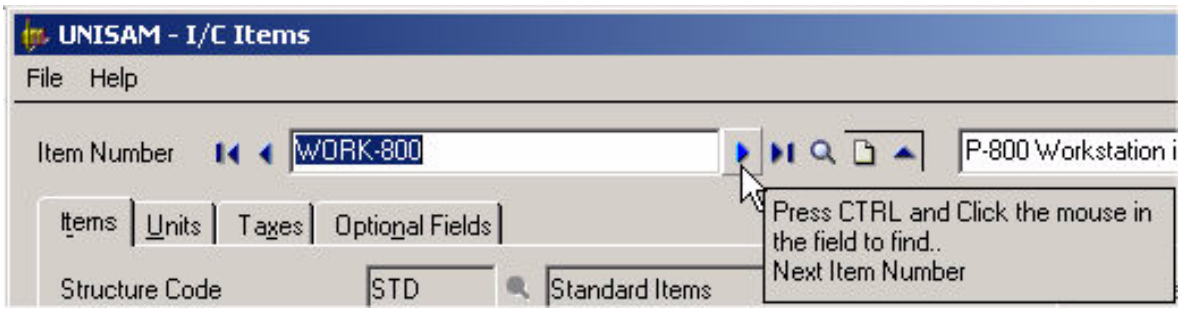
12. This macro, when it runs, will export the Item Number field. However, before we save this macro we need to change both the Trigger and the Test.

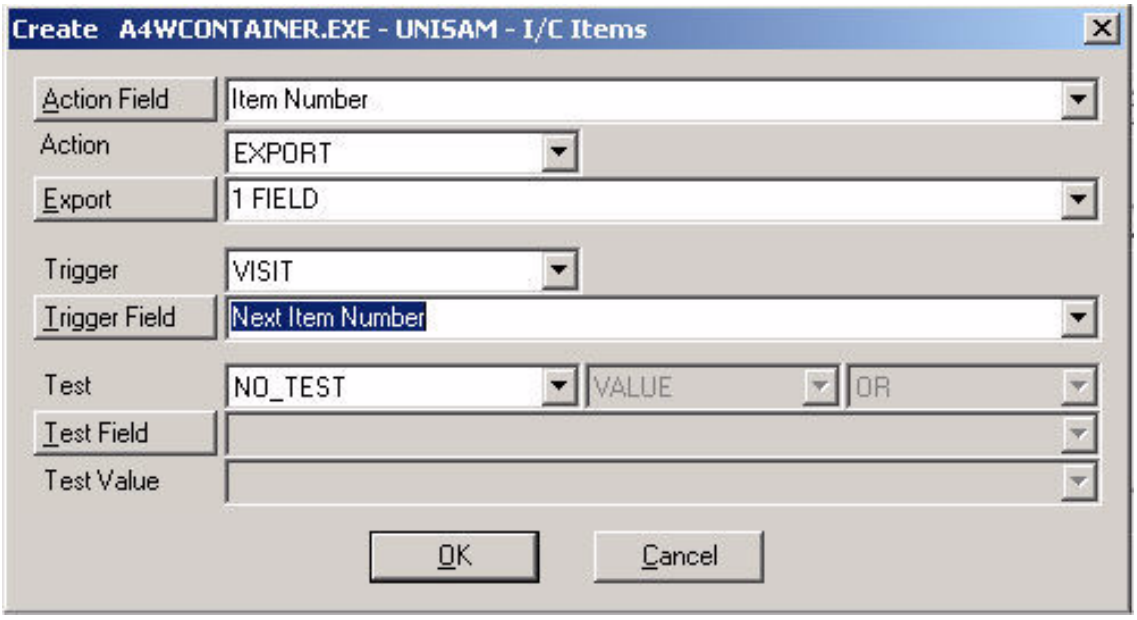
13. When exporting, we typically tie the export to the event that moves us to the next record in our application.

Press the

button to find the field we use to move to the next record.

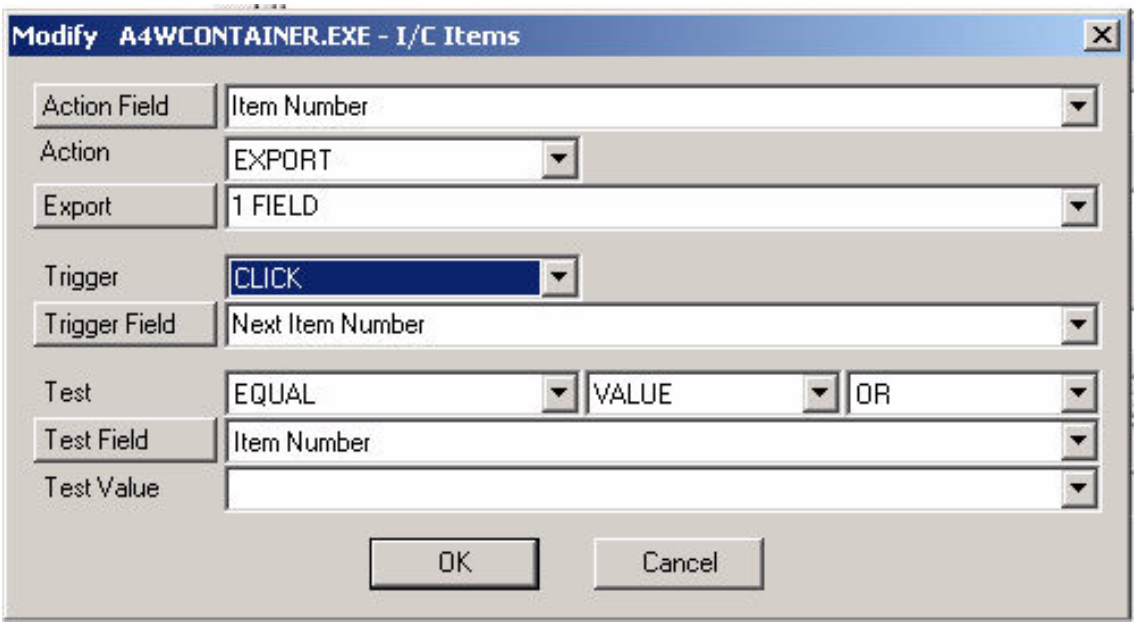
14. CTRL Click the Finder on the NEXT ITEM button.





This has set the Trigger Field to 'Next Item Number'. However, we are not going to VISIT this field, we are going to CLICK it.

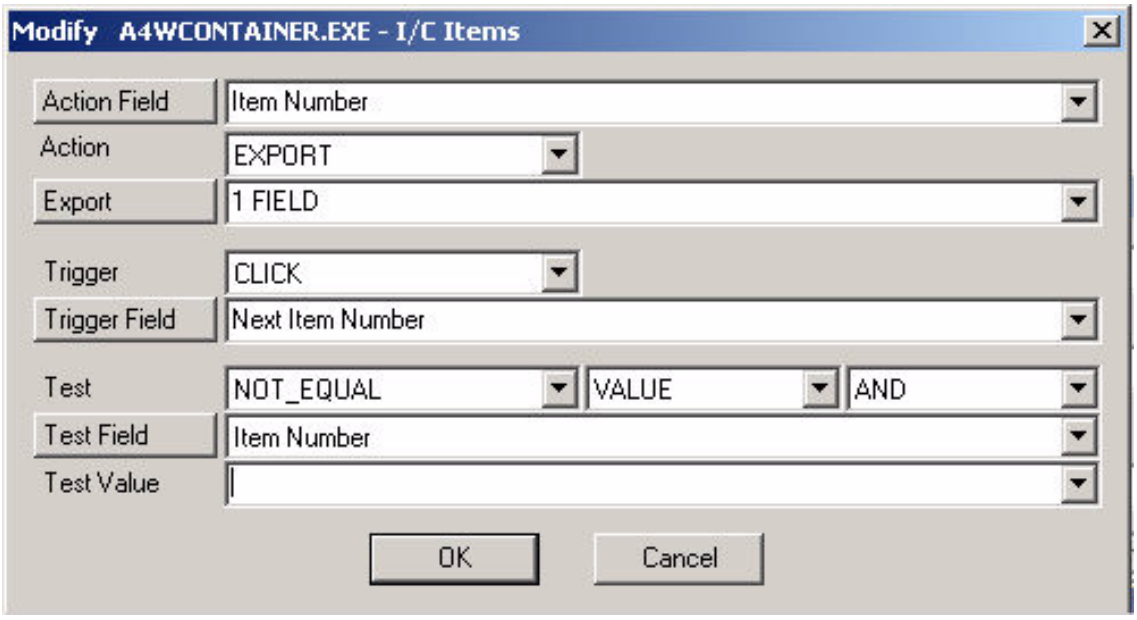
15. Change the Trigger to CLICK.



Our macro will now run whenever we click the Next Item button. This is not quite right because we only want to export data when there is an Item Number.

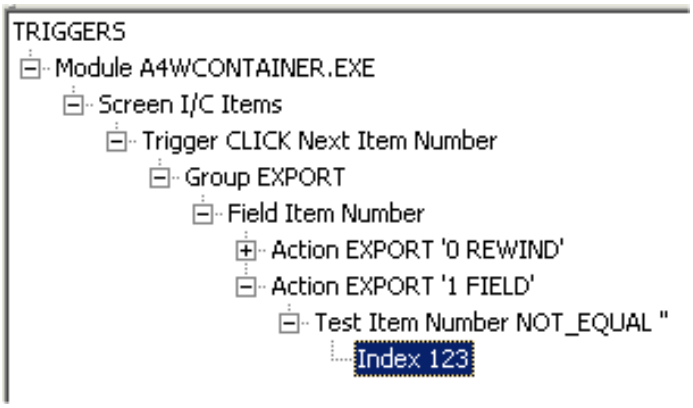
16. Select Test NOT EQUAL.

17. Set the Test Value to blanks.



18. We now have a macro that will Export the Item Number when we press the Next Item button, but only if the Item Number is not blank.

19. Press to save this macro.



20. Repeat the above process for the other fields you want to export.

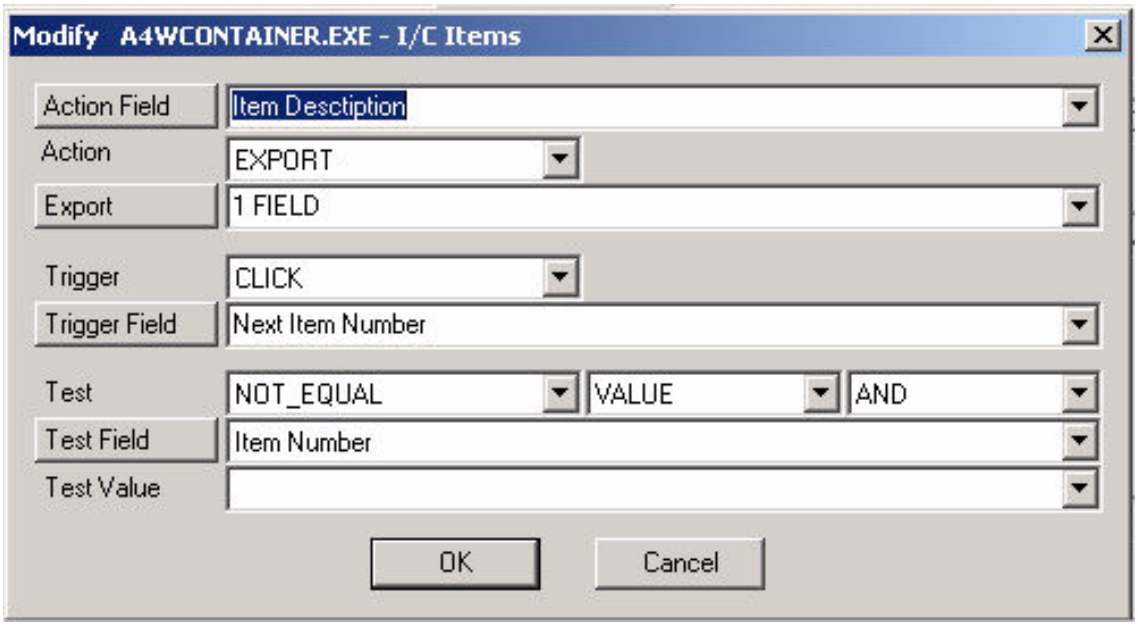
We will Export the Item Description, and the Serial Numbers status. Make the following changes:

CTRL Click the Finder on the Item Description field.

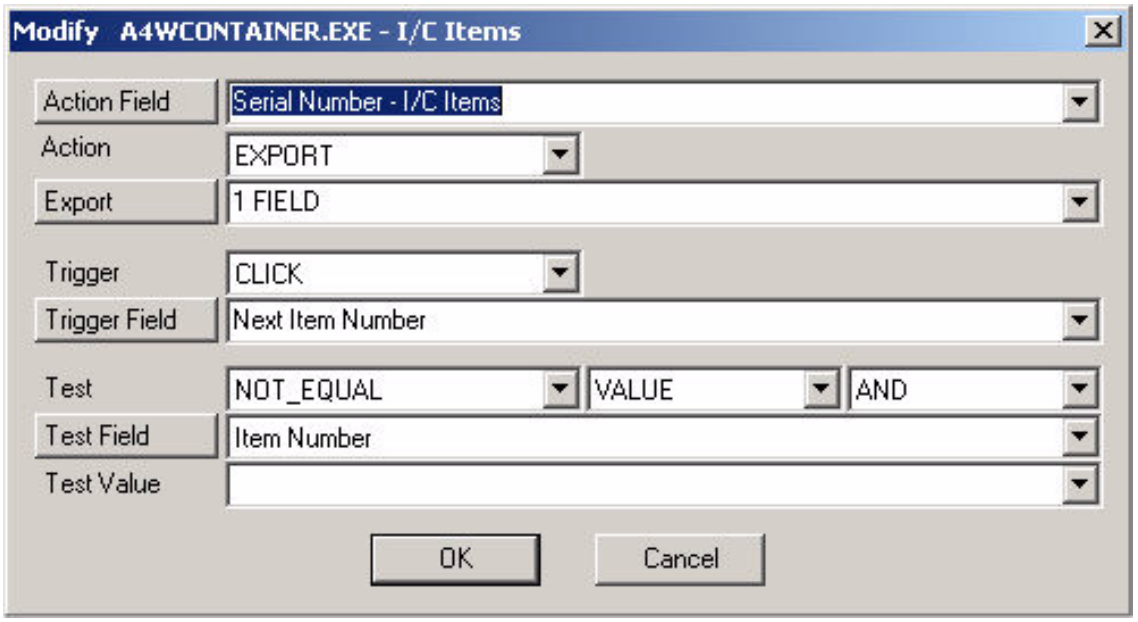
and again

CTRL Click the Finder on the Serial Numbers field.

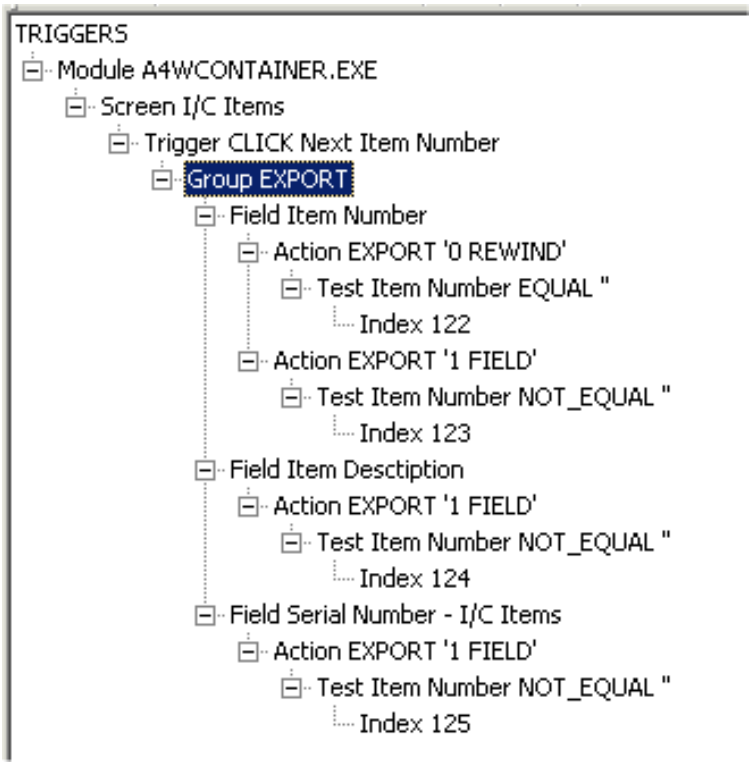
The resulting macros are:



and



Our Export View is:



This completes exporting fields.

Moving to the next record

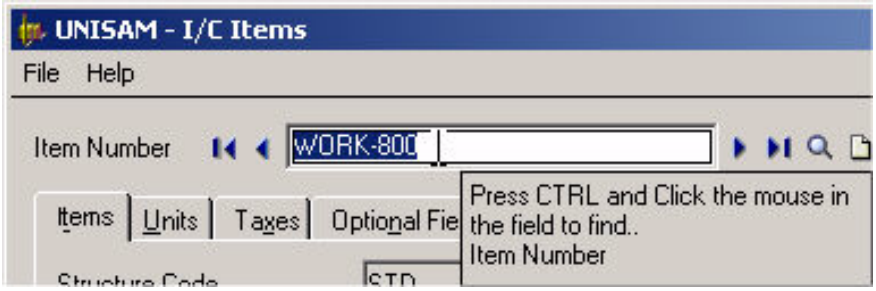
PART A

Our macros to this point will export our data fields whenever we click on the Next item button. However, the fields will not be separated by a record break at the end of each record. Instead they will all be run together on one line. To correct this we will create a macro that adds a record separator to the export file each time we move to a new record. Once again, this macro is almost identical to our previous macros.

We will use our first example with noted changes.

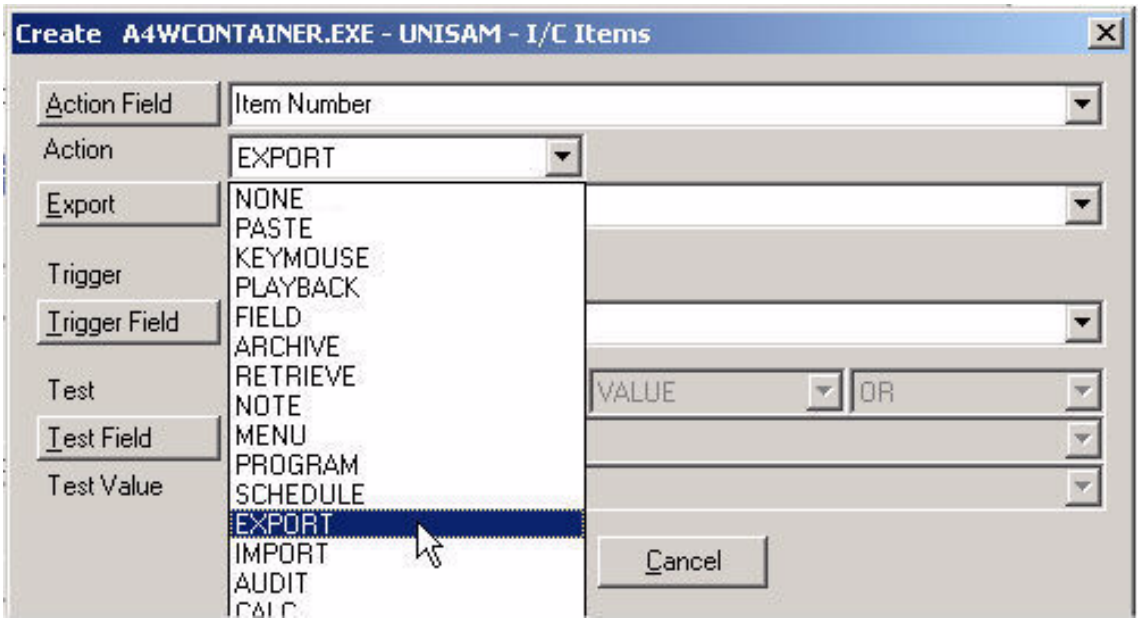
6. Select Macro, Create.

7. CTRL Click the Finder on the Item Number field.



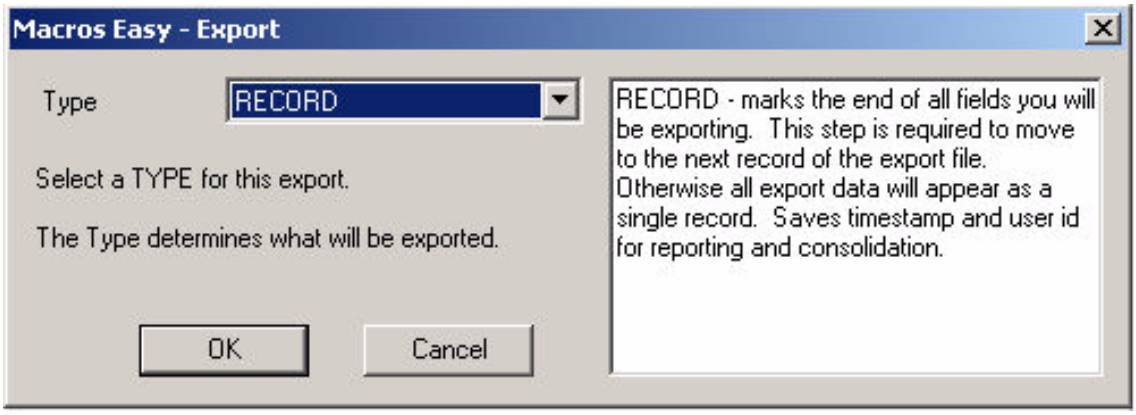
This will open the Create Macro dialog.

8. Select Action EXPORT.

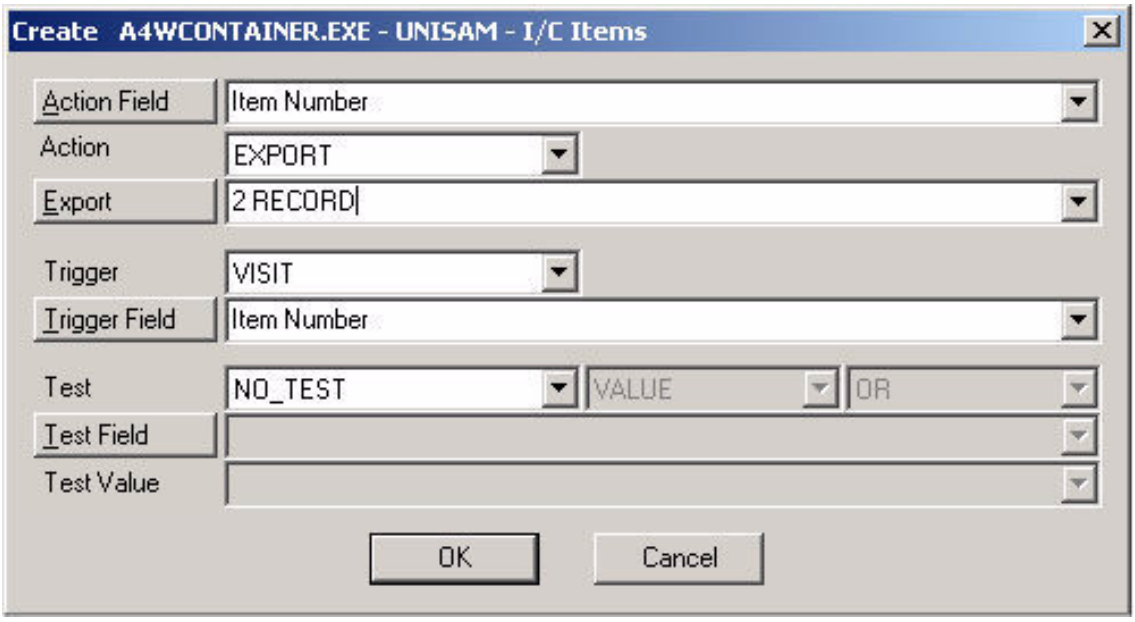


9. The Export dialog will appear. If it does not, press the Export to open the dialog.

10. Select Record.

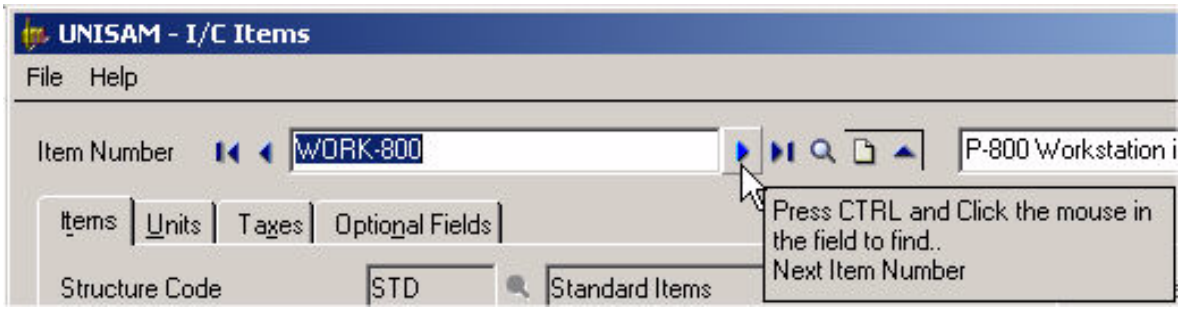


11. Then, press OK.

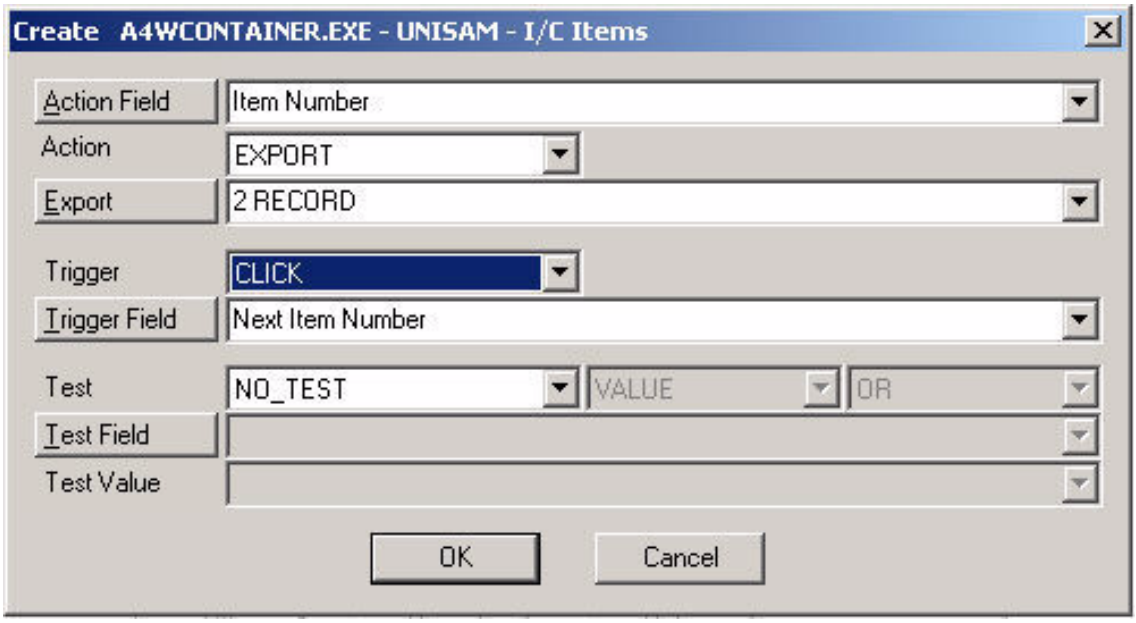


12. This macro, when it runs, will export a record separator to the Export File.

13. Press the Trigger Field button. CTRL Click the Finder on the NEXT ITEM button.



14. Change the Trigger to CLICK.



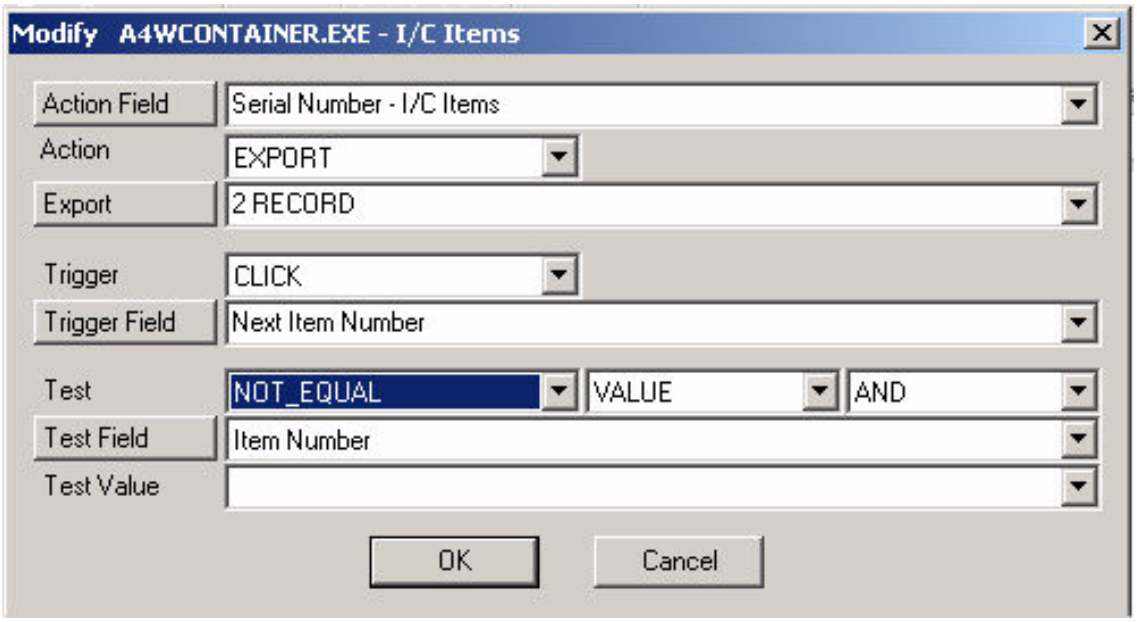
Our macro will now run whenever we click the Next Item button. This is not quite right because we only want the macro to

create an end of record when there is an Item Number.

Press the

button.

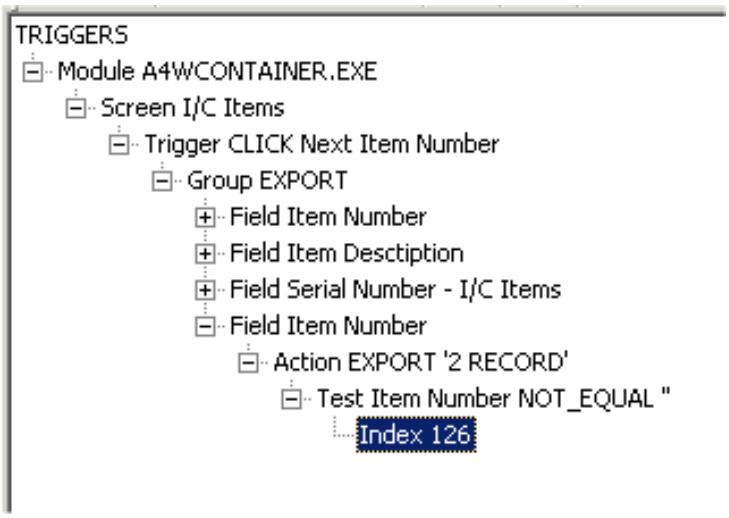
15. Select Test NOT_BLANK_ZERO. ME will automatically set up the test.



17. We now have a macro that will add a record separator to the Export file when we press the Next Item button, but only if the Item Number is not blank.

19. Press

to save this macro.



Moving to the next record

PART B

Our macros to this point will export our data fields whenever we click on the Next item button. Additionally, a record separator will be inserted between each group of field.

We could simply press the Next Item button manually and our data will be automatically exported. This could be used to

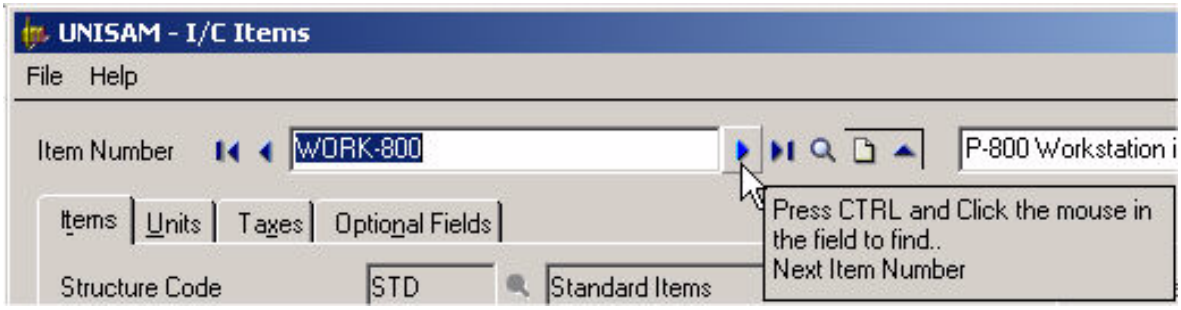
create an audit that will copy any records we visit. However, in this case we want to create a macro that will automatically visit all items.

Once again, this macro is almost identical to our previous macros.

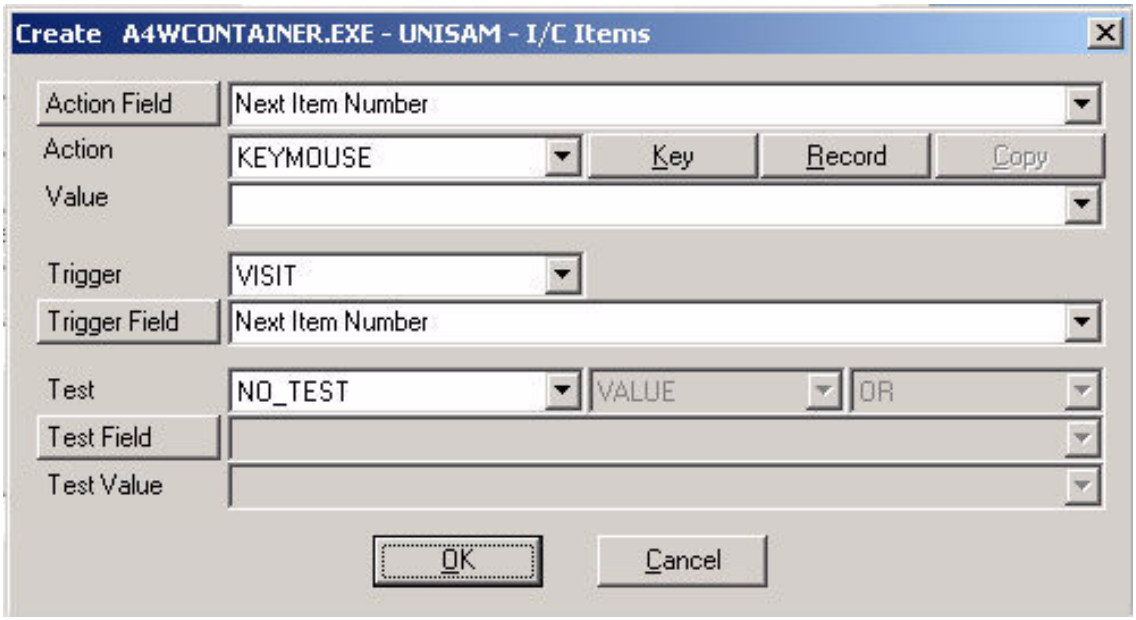
We will use our first example with noted changes.

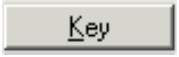
6. Select Macro, Create.

7. CTRL Click the Finder on the NEXT ITEM button.

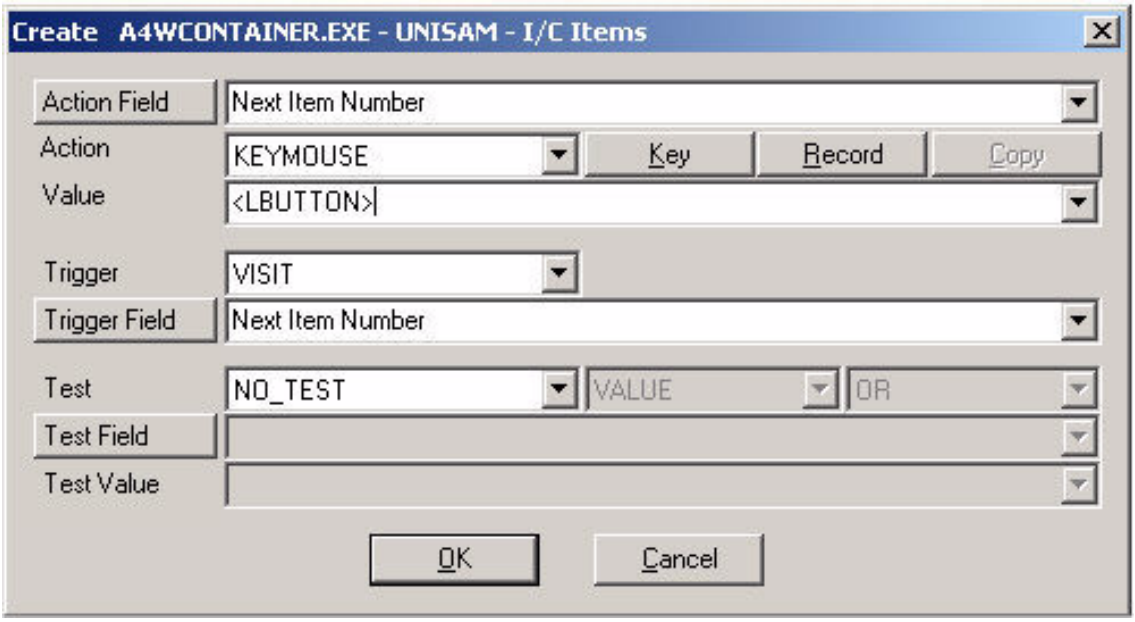


This will open the Create Macro dialog.



8. Select Action KEYMOUSE, press 

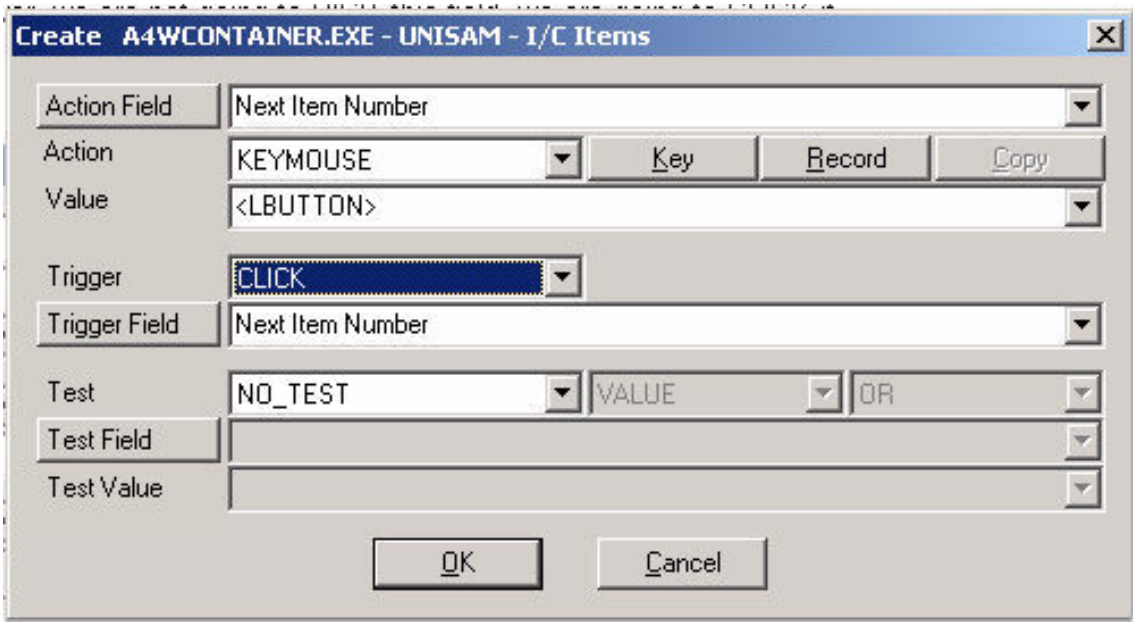
and record a Left Mouse Click.



12. This macro, when it runs, will send a click to the Next Item field, which will move us to the Next Item.

13. Our Trigger Field is already correct. However, we are not going to VISIT this field, we are going to CLICK it.

14. Change the Trigger to CLICK.

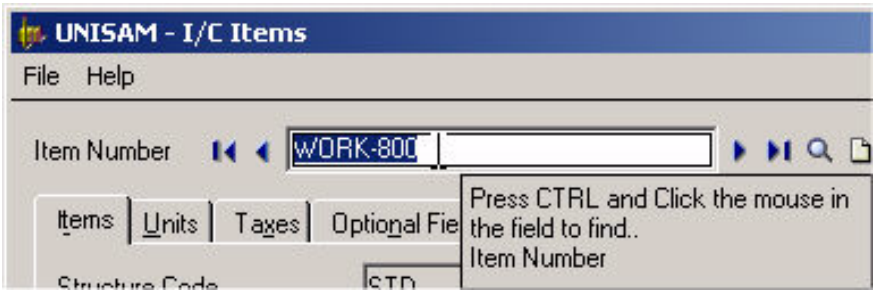


Our macro will now run whenever we click the Next Item button and will send a click to the Next Item button, which will cause our macro to run in a loop.

This is not quite right because we want our macro to end when we reach the last Item Number.

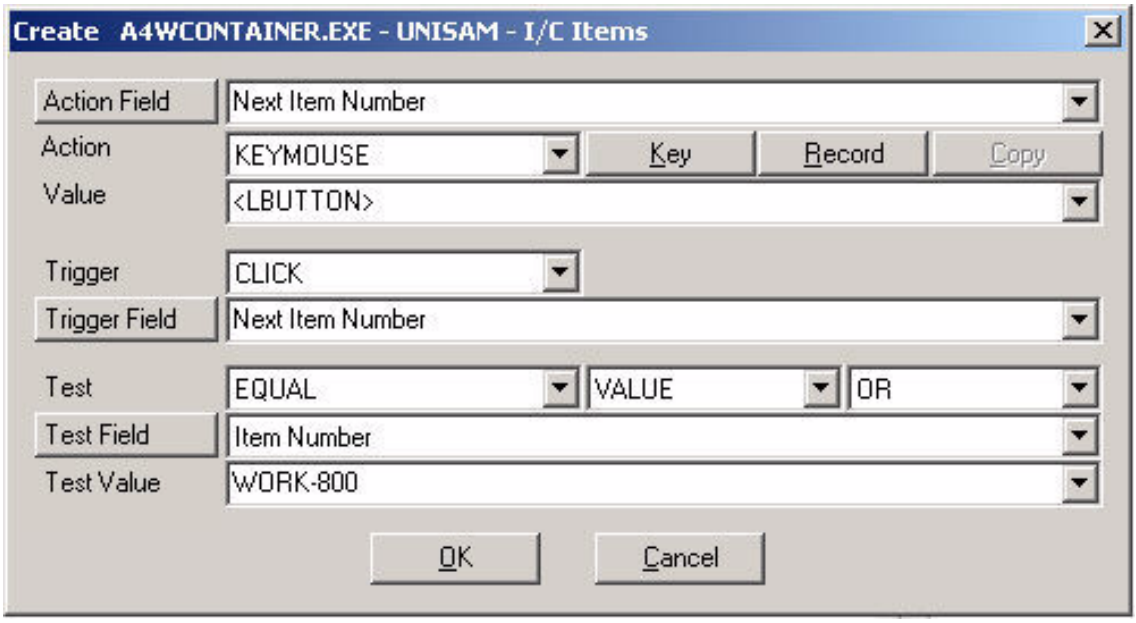
Press the Test Field button.

15. CTRL Click the Finder on the Item Number field.

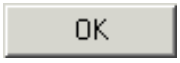


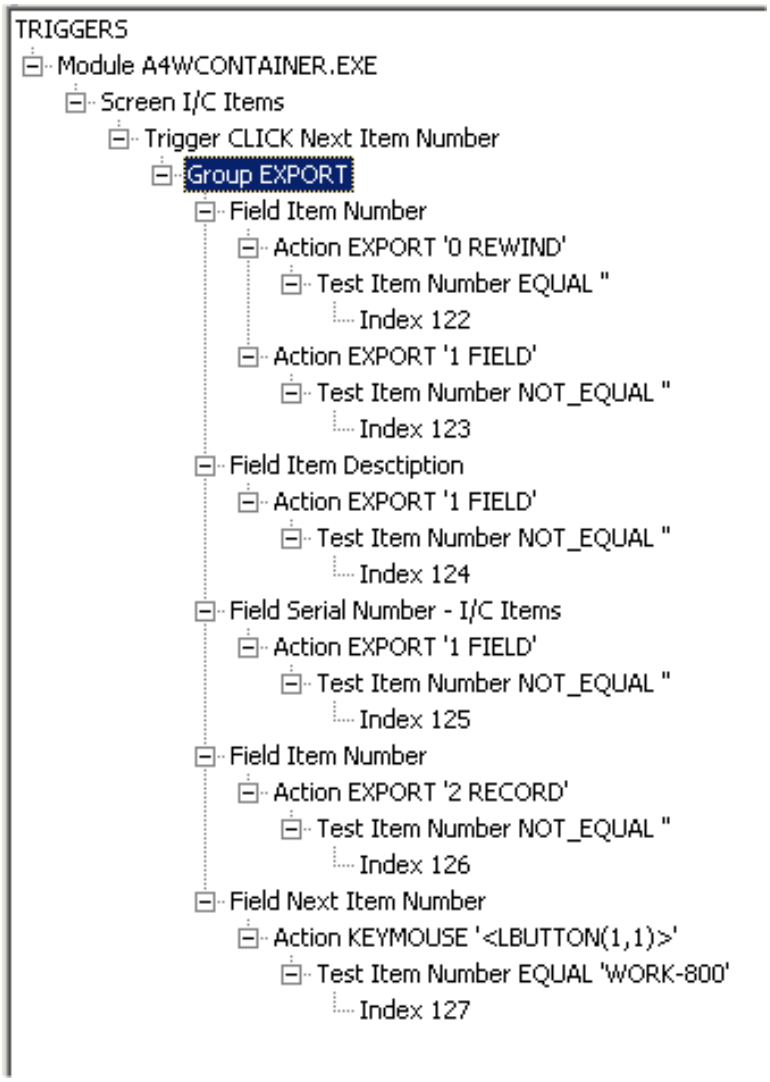
16. Select Test EQUAL.

17. Set the Test Value to WORK-800.



18. We now have a macro that will press the Next Item button until we reach the last item number.

19. Press  to save this macro.



This completes moving to the next record.

Note: It is critical that the field exports appear ahead of the record export which must appear ahead of the macro that moves to the Next item. (See Field re-ordering.)

Field re-ordering

In our example, we wanted the fields exported in the order:

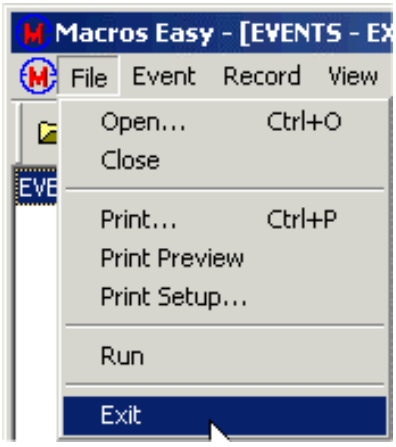
Item Number
Item Description
Serial Number

We can use the Macro, Move Up/Down menu features to change this.

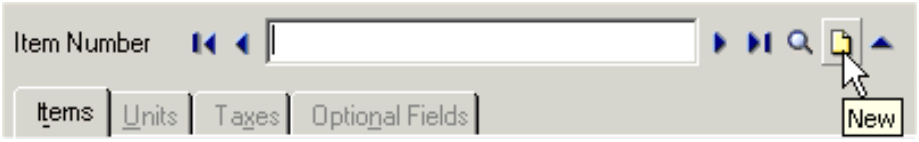
Note: It is critical that the field exports appear ahead of the record export which must appear ahead of the macro that moves to the Next item.

Running the Export

1. Before running the Export or any macros, close the ME main window. Macros are suspended until you do this.



2. To test this macro, first press the New Item button on the I/C Items screen.



3. Press the Next Item button.

The macro should now run and export your fields to the export file.

Press and hold CTRL Escape should you need to halt the export early.

The Completed Export

EXP.TXT

```
AACTIVE          Very Active Item                    1
ACCP-41A         ACCPAC Accounting V4.1A             1
ACCP-50A         ACCPAC Accounting V5.0A             1
COMP-500         Pentium 500 Computer                1
COMP-800         Pentium 800 Computer                1
COOF-41A         Corel Office V4.1A - STD Cost       0
DEMOCD           Demo Software CD - various titles   0
MAX40            Maxtor 40Gig Hard Drive             1
MSOF-30A         Microsoft Office V 3.0A             0
RWCD             Corel Office V4.1A - STD Cost       1
SAMSUNG17        Samsung 17" monitor - fifo          1
SAMSUNG21 21" Samsung Monitor - fifo cost            1
SEA40            Seagate 40 gig hard drive           1
WORK-500         P-500 Workstation incl 17" Monitor  1
WORK-800         P-800 Workstation incl 21" monitor  1
```

Tutorial Import

The strategy of an import is to create a macro that moves your application from one record to the next. Each time the application moves to a new record, this event will trigger an import.

The fist step is to identify the operation that will cause your application to move from one record to the next. Preferably it should be something simple like a keystroke or a mouse click. Once this has been identified, the import can be broken down into these steps:

a. Opening the Import
b. Importing fields
c. Moving to the next record
d. Running the Import.
e. The completed import
f. Field re-ordering
g. Testing and Debugging.

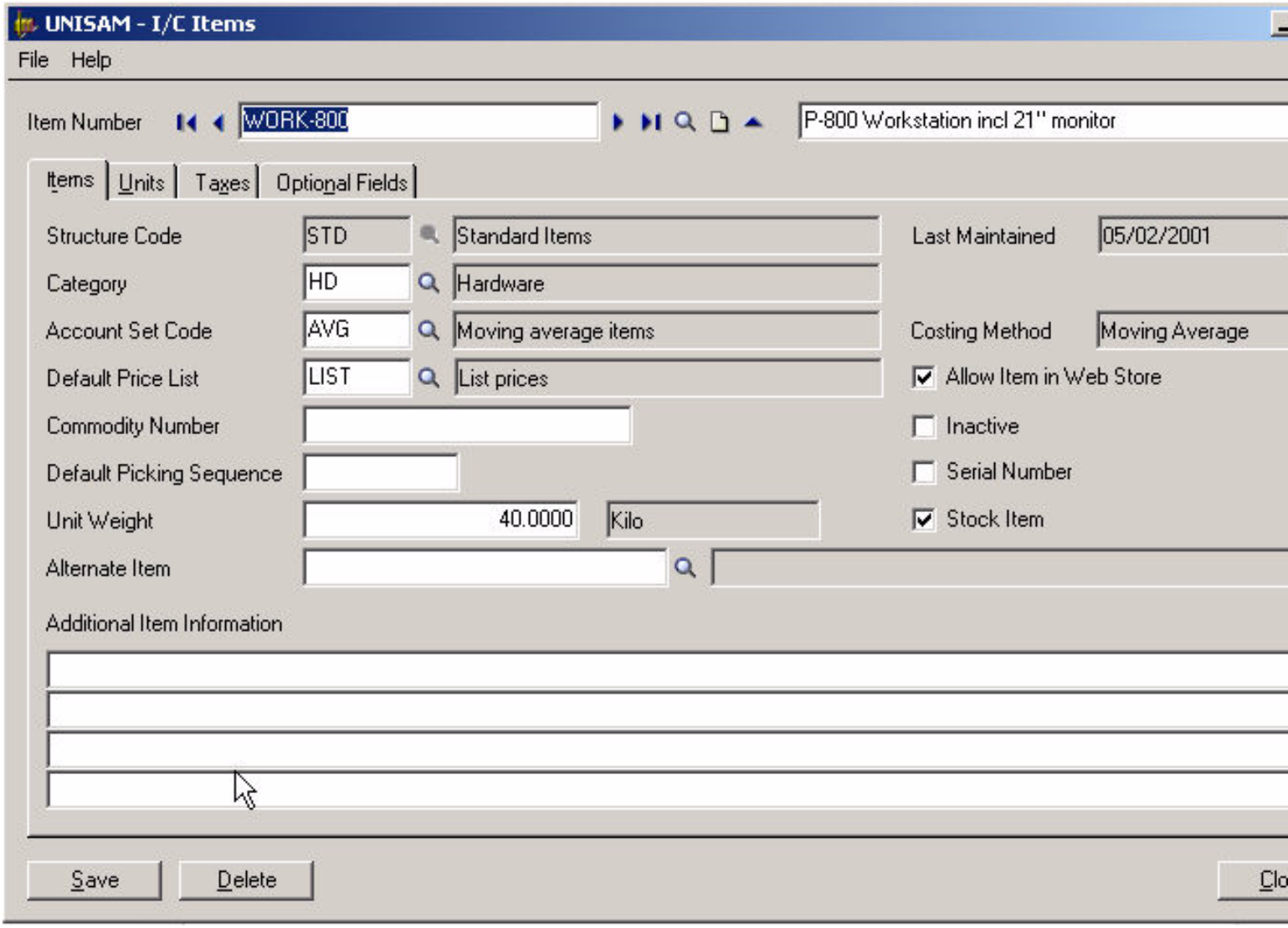
Note: This tutorial assumes you have already defined the underlying application fields. If not, when you perform this tutorial, you may be asked to define the fields in your application. This step in not shown in this tutorial, but is covered in many of the other tutorials. (See Create Field.)

Opening the Import

1. When ME is running, a small icon appears in the system tray.

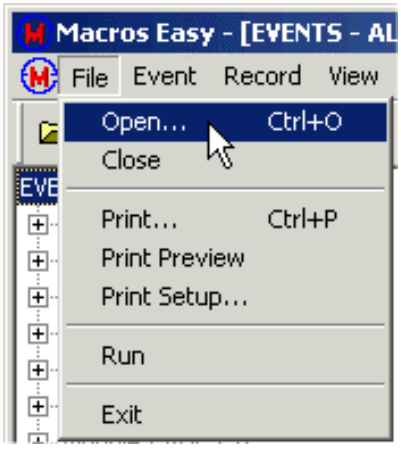
2. Open your application and move to a screen from which you want to import. In our case we will use the ACCPAC I/C Items screen. Move to the LAST item in the database so we can detect when to stop our Import.

For the purpose of this tutorial we will import into the Additional Item Information so that the results of the import can be readily observed.



3. Double click the ME icon on the system tray. This will open ME.

4. Select **File, Open** from the main menu.

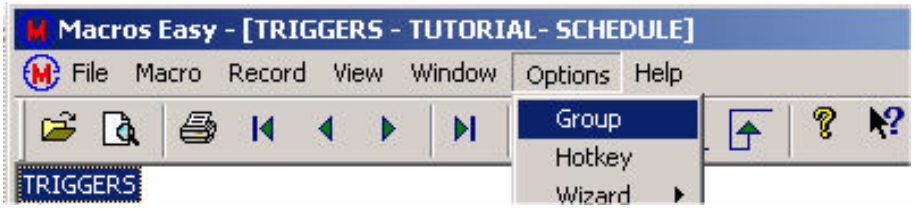


This will bring up a list of available views.

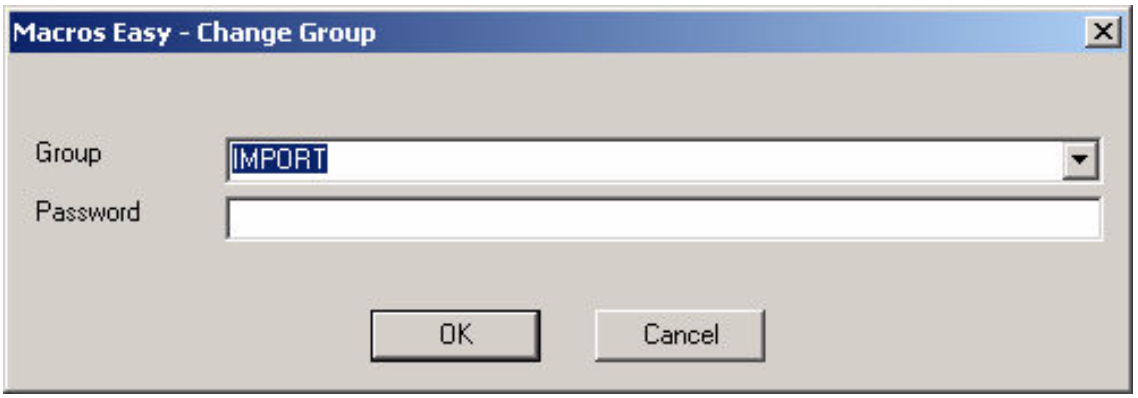
Select Triggers and press OK.

This will open the Triggers view of the database.

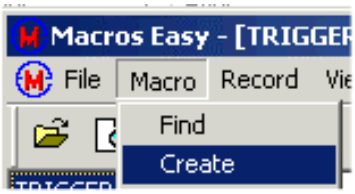
5. Select Options, Group and select an empty group.



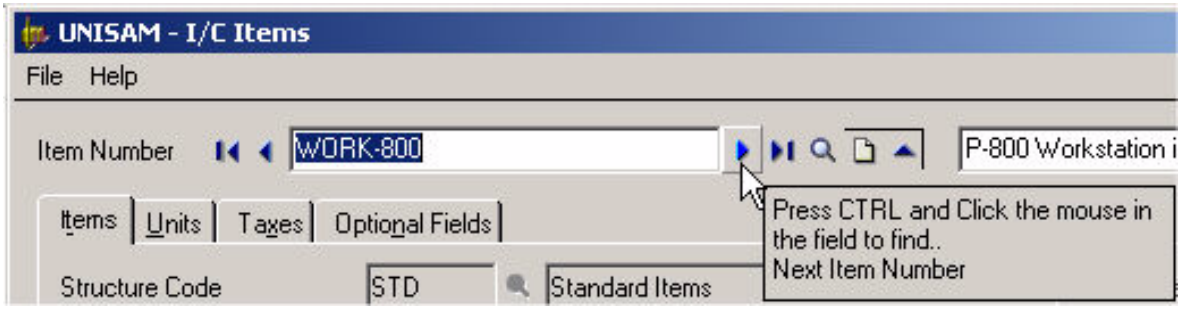
In our example we will select group Import. (See Tutorial - Field Copy for an example of creating a new group.)



6. Select Macro, Create.

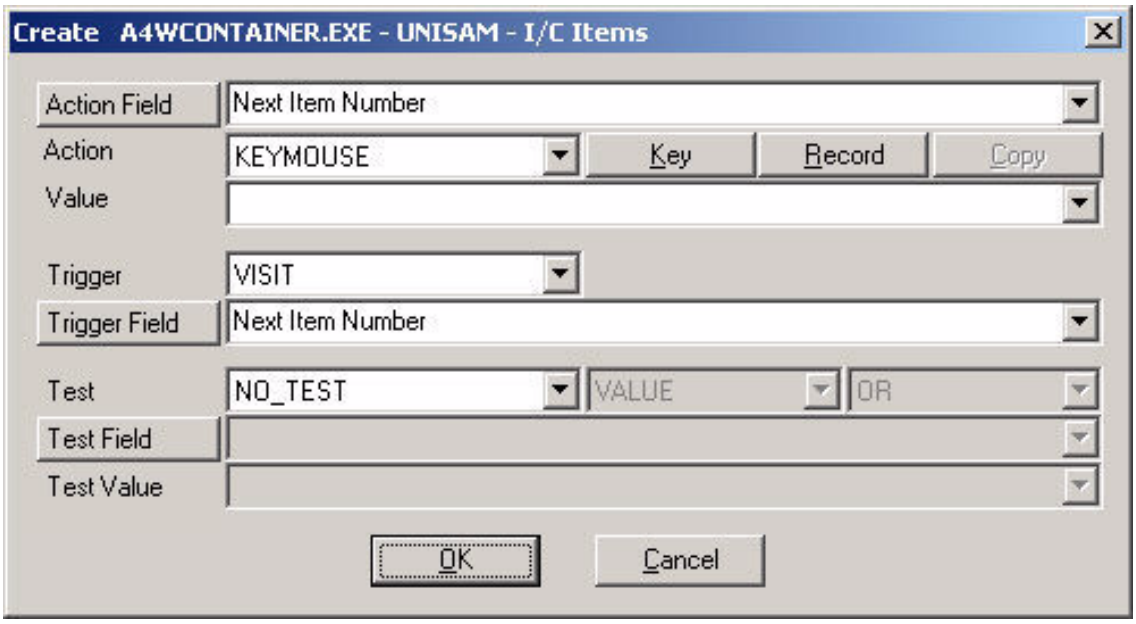


7 CTRL Click the Finder on the Next Item Number field.

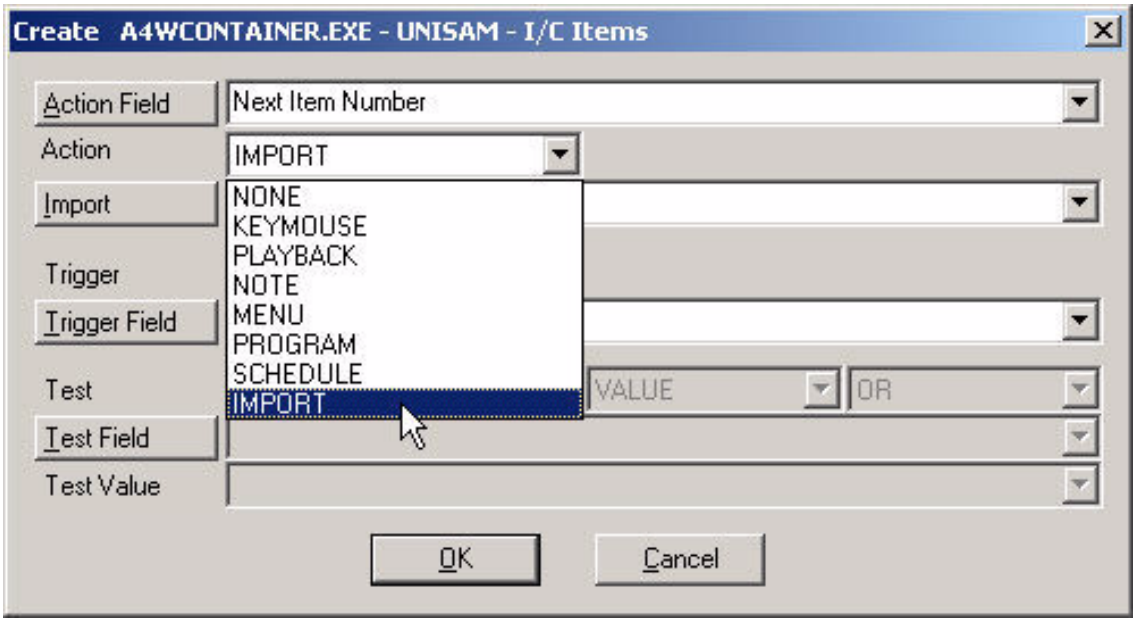


Notice that the Finder displays the name of the field you are selecting. This feature works once a field name has been created for a field.

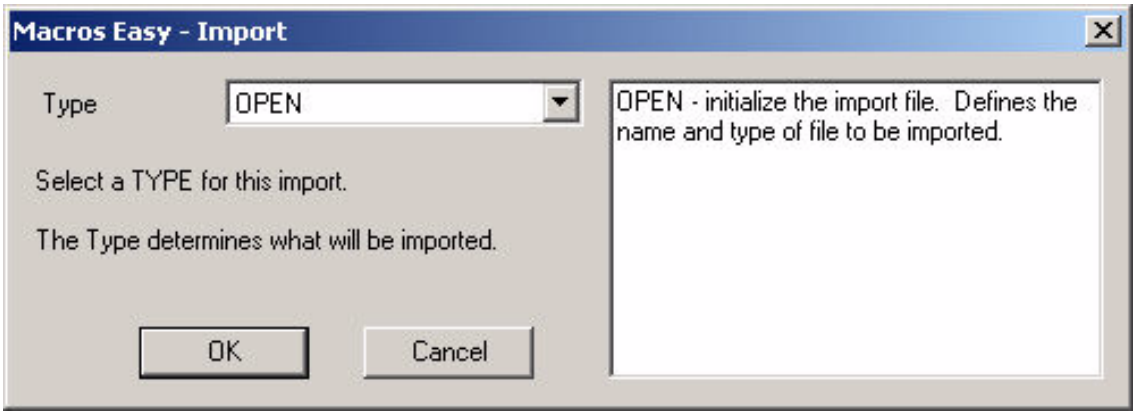
This will open the Create Macro dialog.



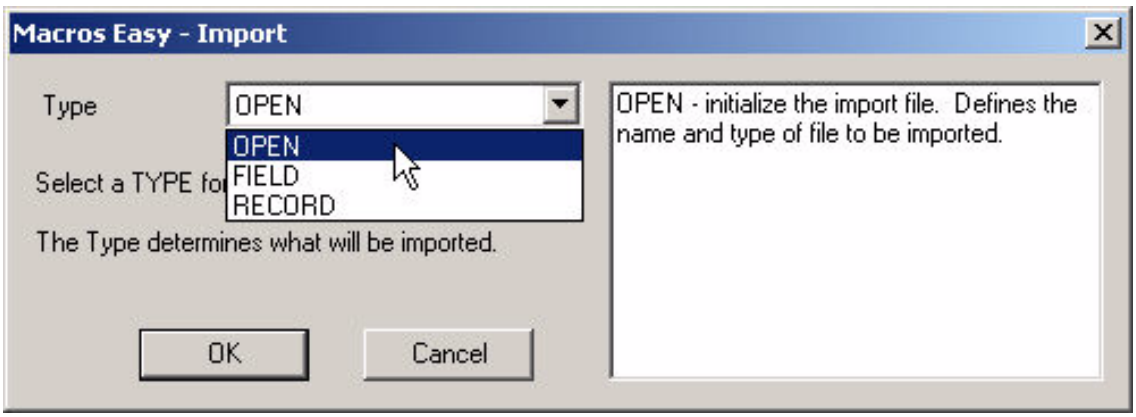
8. Select Action IMPORT.



9. The Import dialog will appear. If it does not, press the button to open the dialog.

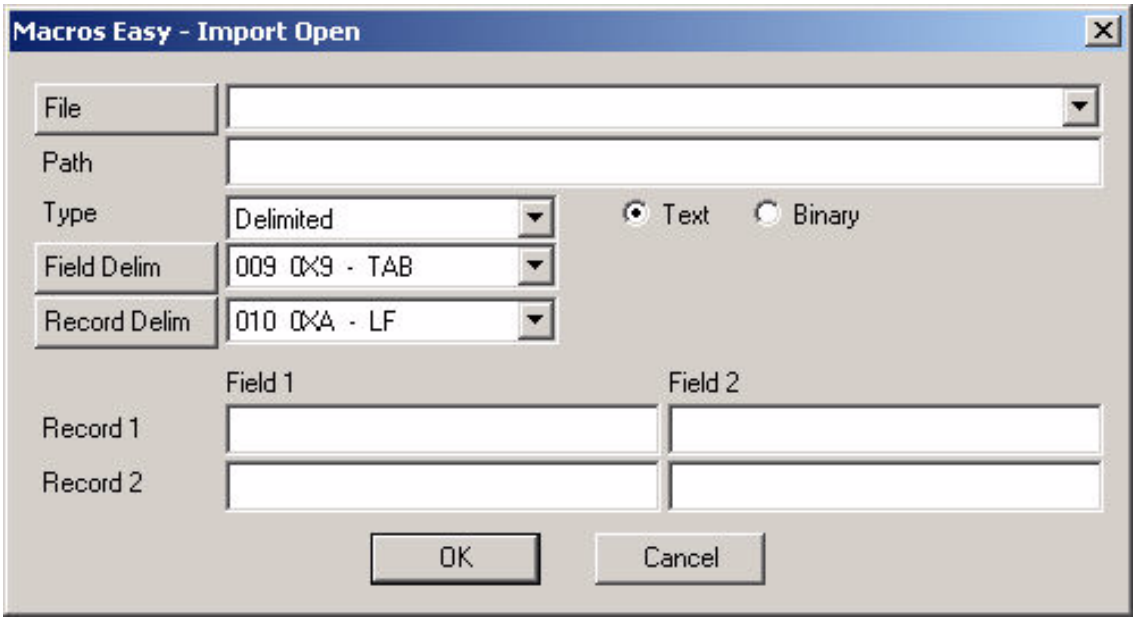


10. Select Open.

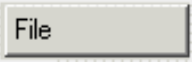


11. Then press

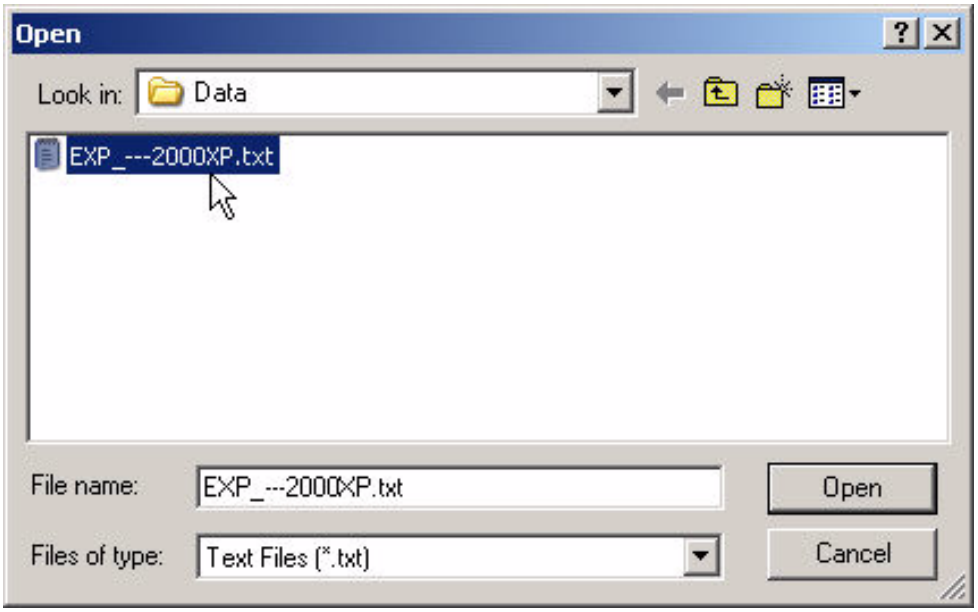
.



This will open the Import Open dialog. It defines the file we are importing.

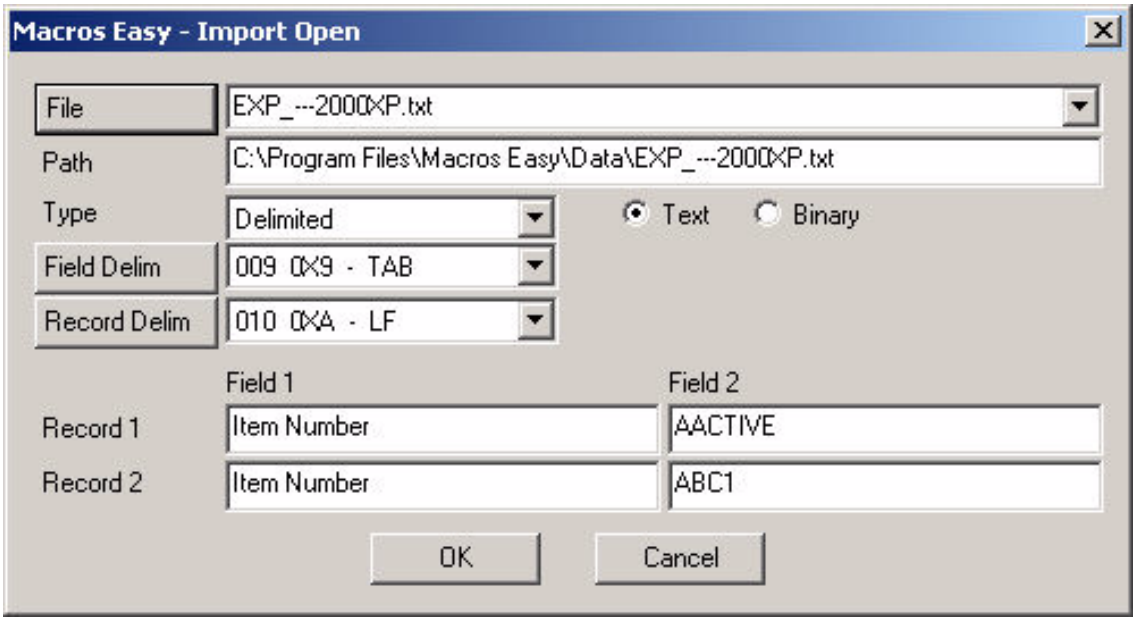
12. Press 

button to browse for the file to import. In our case we will use the file we created in the Export Tutorial - EXP.TXT.

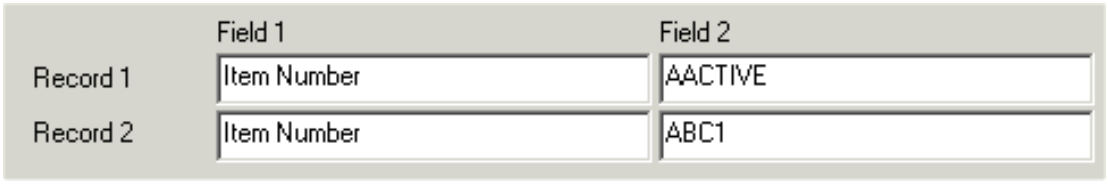


13. Press

.



Import has opened the file and is displaying a sample of the data to be imported in the Record - Field fields.



This menu is used to tell ME how to read the Import file. Once Import is correctly displaying a sample of the data you want to import, press

.

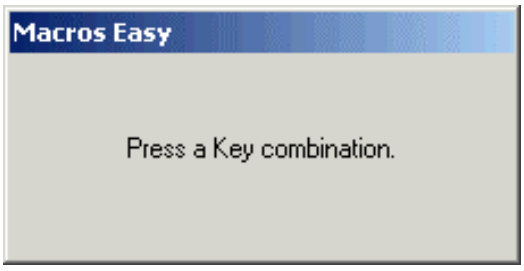
POINT 14 is a discussion of how to change field delimiters as might be required if your data is not displaying correctly. You may skip this and proceed directly to POINT 15.

14. Changing field delimiters.

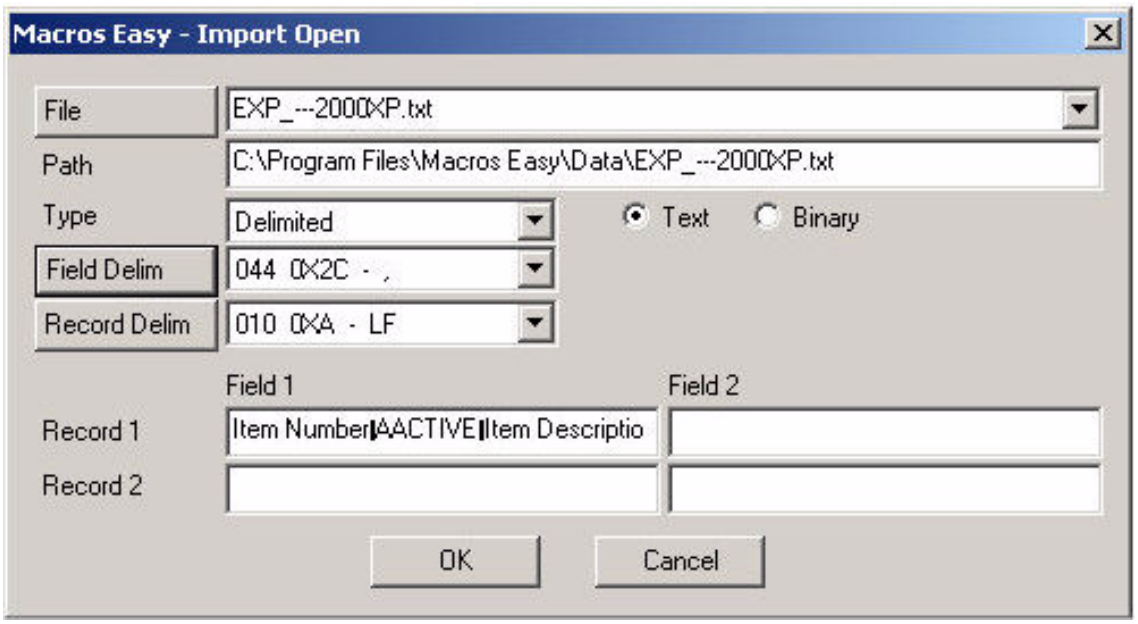
Note the Field Delim button. This lets you change the field delimiters in a delimited file.

ME uses <TAB> as a field delimiter because it avoids the complications of commas/quotes in CSV (comma separated values) files.

If you are importing a CSV file, you can select a COMMA from the combo box or simply press Field Delim.



Press COMMA - ",".



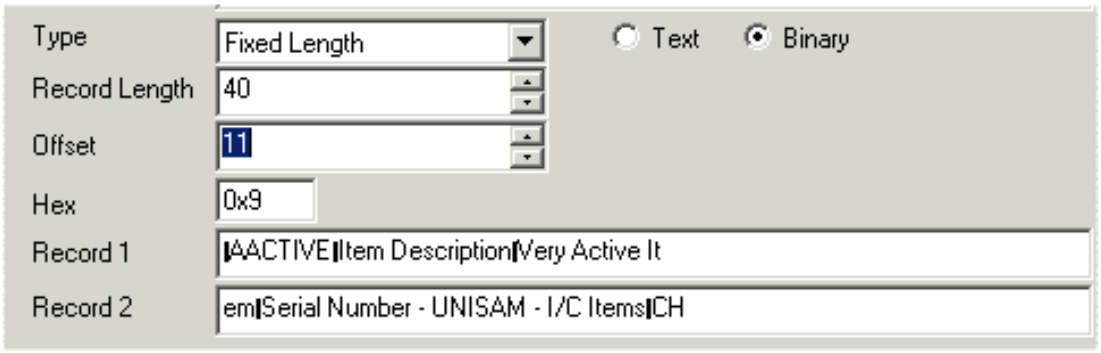
Notice that the Field Delimiter has been changed to 044 0X2C - ,.

This displays the field delimiter in DECIMAL, HEX, and TEXT.

Note, however, that the Record/Field section of the dialog no longer displays our data correctly.

This is an indication that we have either the wrong field or record delimiter, or that our file Type may be wrong. Our import file may not be a delimited file, rather a fixed length file.

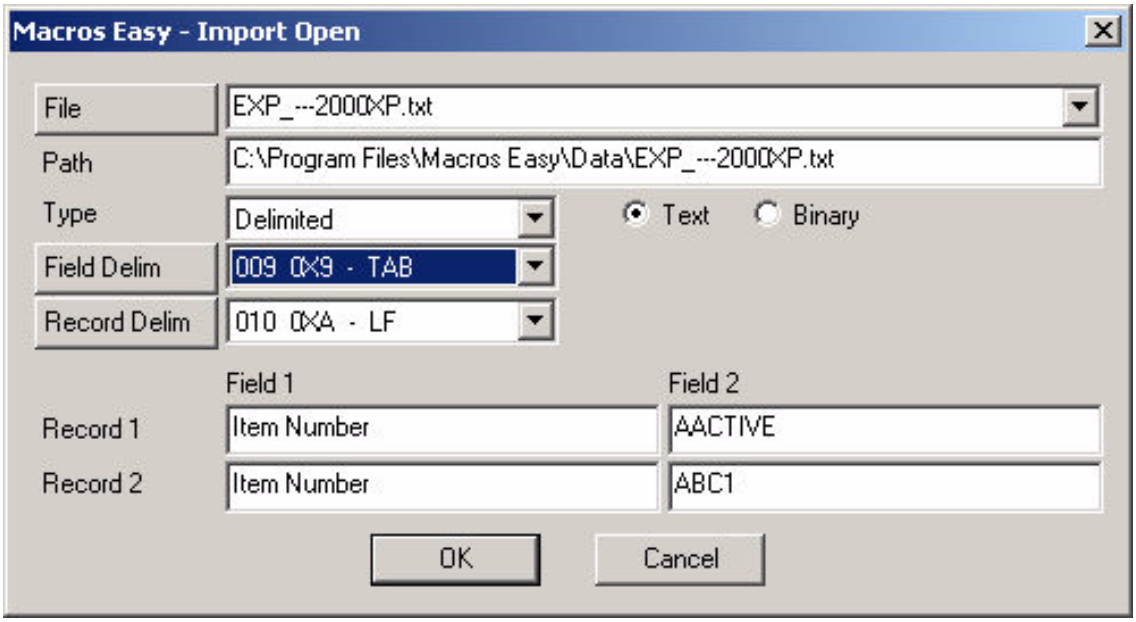
One way to discover the field and record delimiters is to open the file as Fixed Length then use the Offset value to move through the file



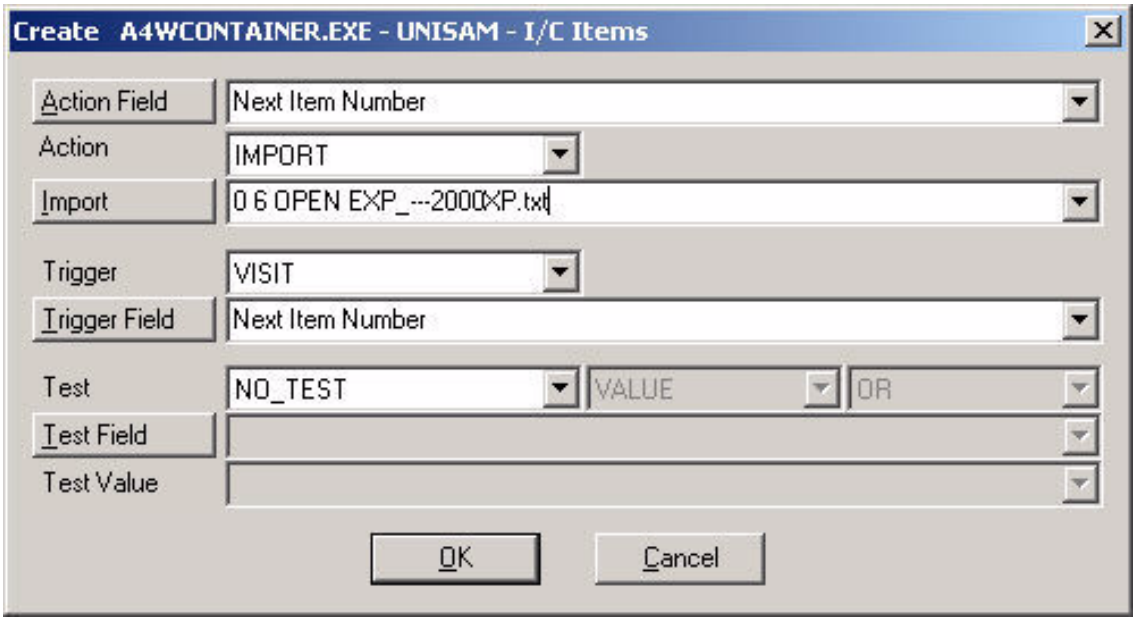
We can see in this example that the value of Hex for the unprintable character immediately ahead of "AACTIVE" is 0x09. This is the value of <TAB>, our standard ME delimiter.

Trial and error may be required to discover the correct combination of delimiters and lengths for your file.

Please reset the field delimiter to <TAB> before continuing if you are importing a ME file.



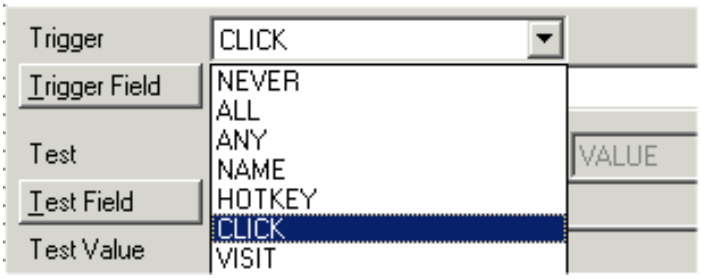
15. This macro, when it runs, will Open (rewind) our import file EXP.TXT.



However, before we save this macro, we need to change both the Trigger and the Test.

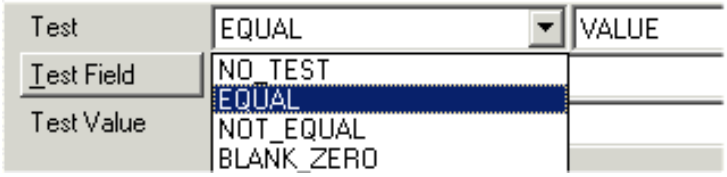
When importing, we typically tie the import to the event that moves us to the next record in our application. In our case, this is a click on Next Item.

16. Change the Trigger Field to CLICK.

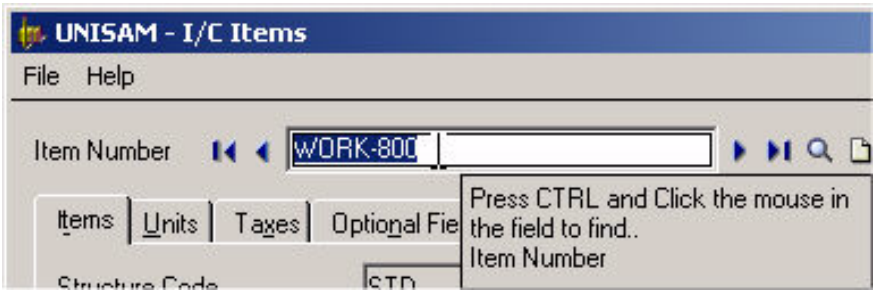


Our macro will now run whenever we click the Next Item button. This is not quite right, because we do not want to Open the Import for every item since Opening the import removes any existing imported data. We only want to Open the Import before importing the first item.

17. Select Test EQUAL.



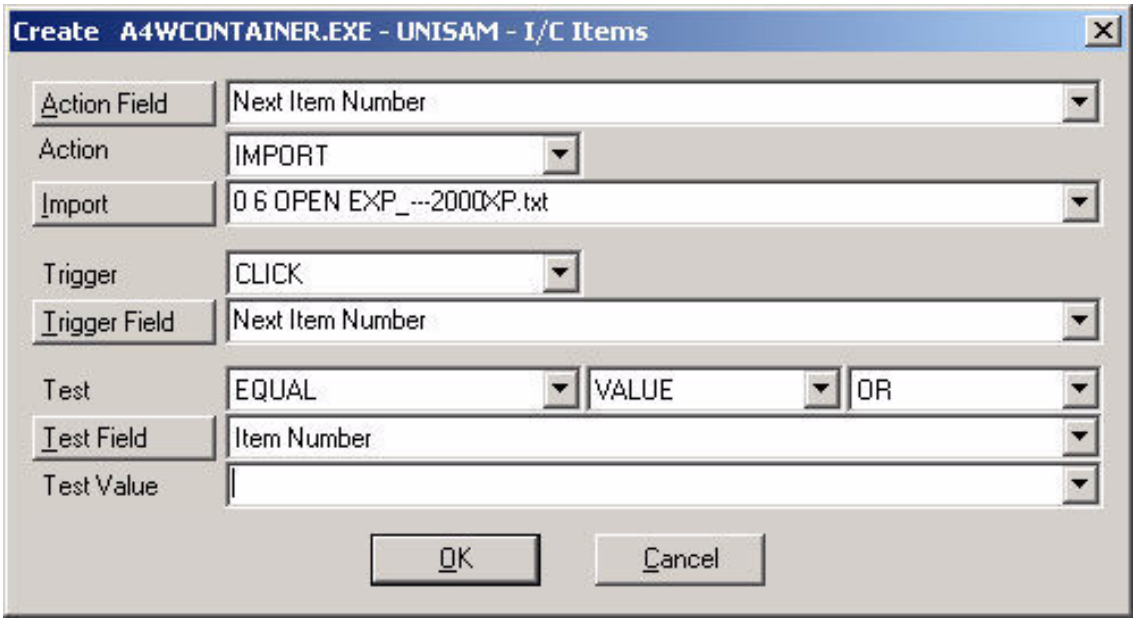
18. Press the button.

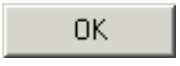


CTRL Click the Finder on the Item Number field.

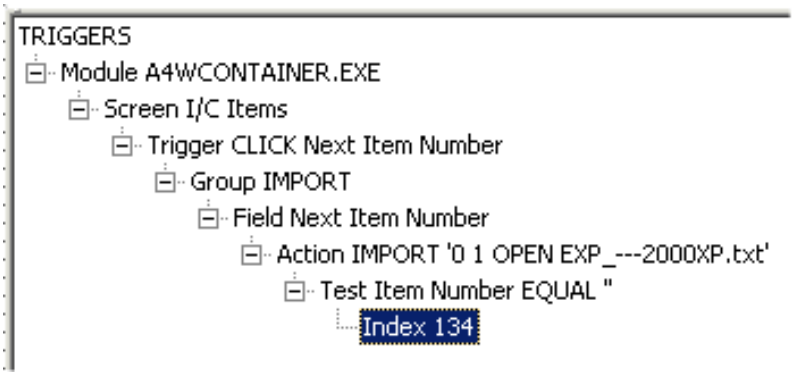
19. Set the Test Value to blank.

20. We now have a macro that will Open (rewind) our import file when we press the Next Item button, but only if the Item Number is blank.



21. Press 

to save this macro.



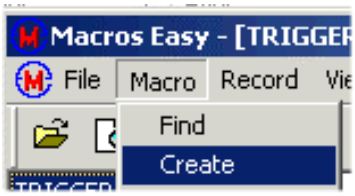
This macro will open (rewind) the import file whenever we click on the Next Item Number when the Item Number is blank.

This completes opening the Import file.

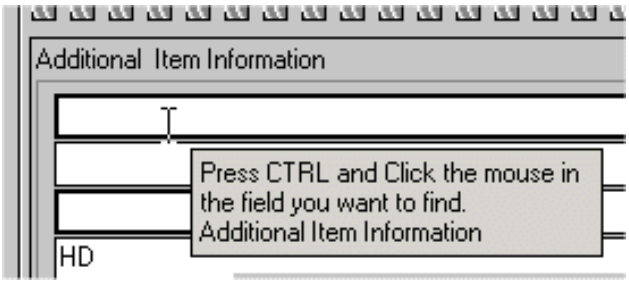
Importing fields

You can import data into different fields than it was exported from, and in a different order. This is controlled by Import Field type macros.

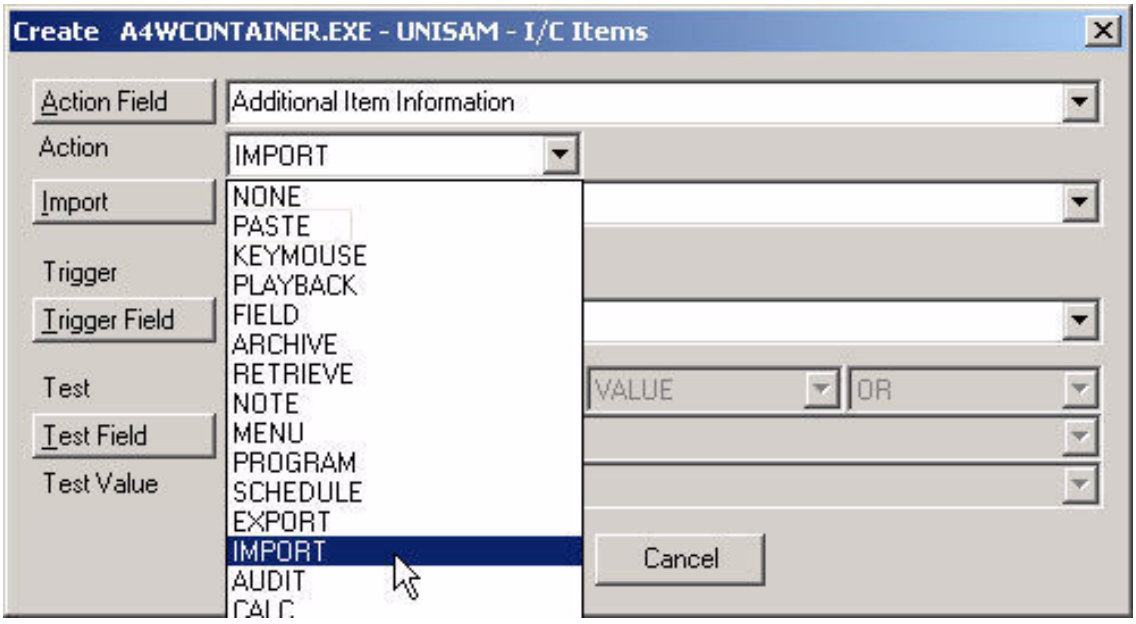
1. Select Macro, Create.



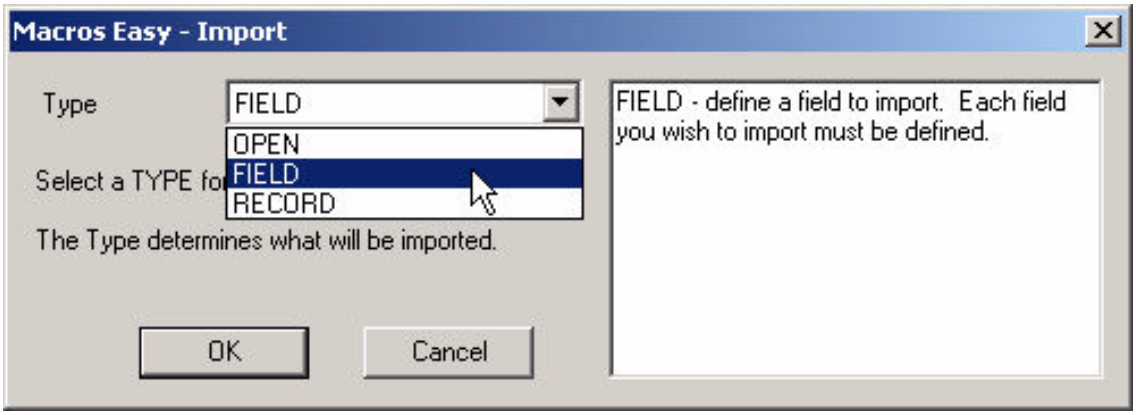
2. CTRL Click the Finder in the Additional Information field.



3. Select Action IMPORT.



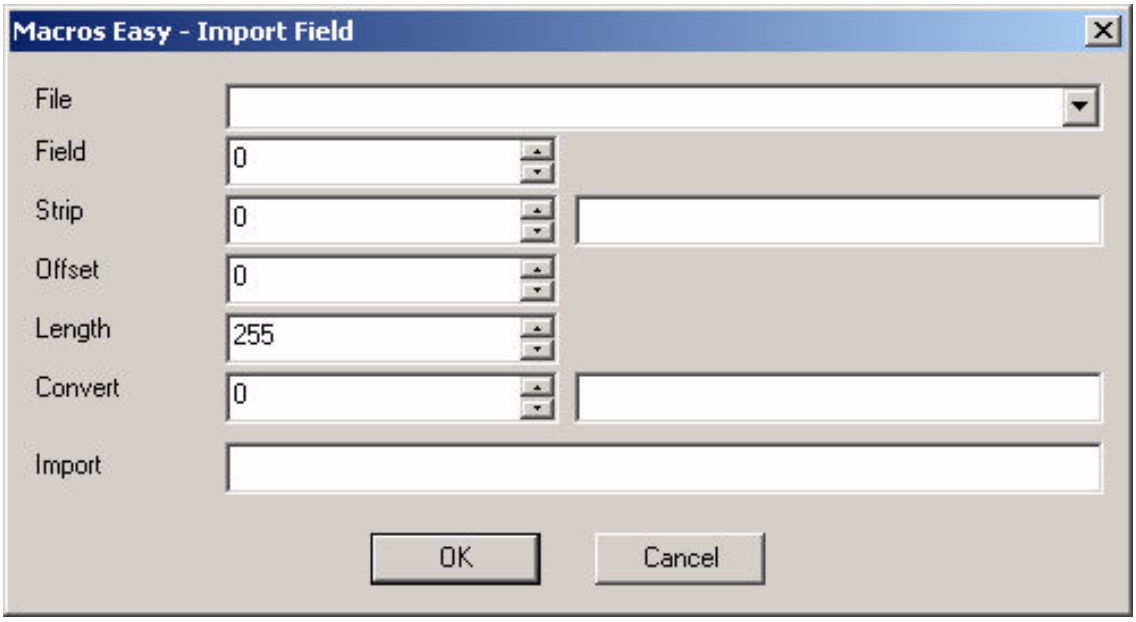
4. Select Import FIELD.



Press

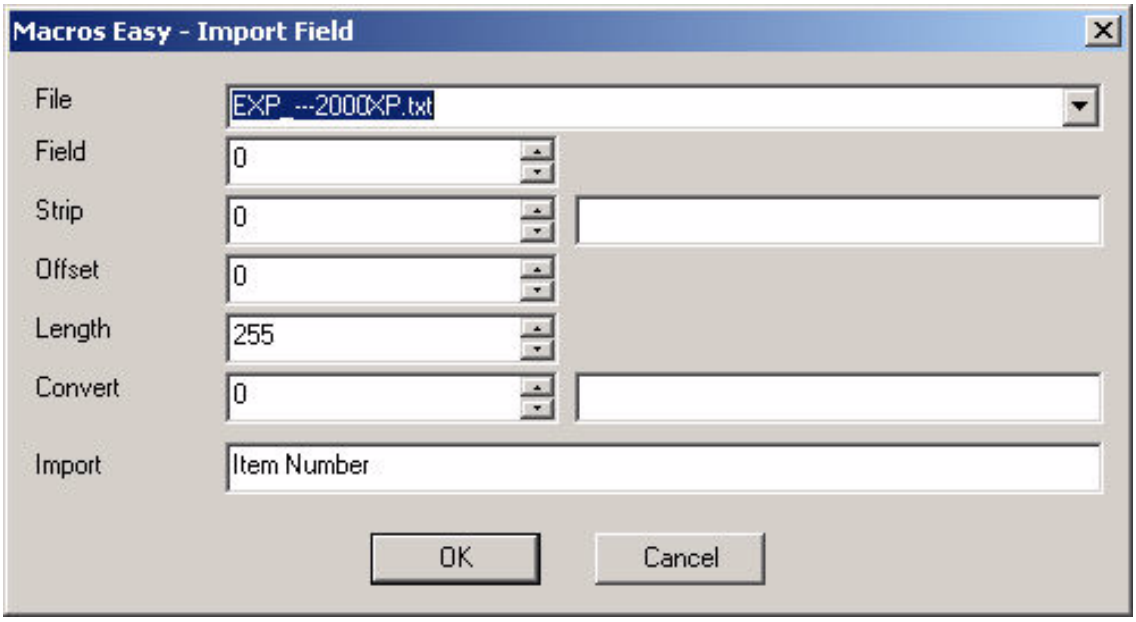
.

5. This will open the Import Field dialog.



6. Select the import file we opened from the drop-down list.

7. Import will fill in default values for this field.



Notice the Import field shows the first data field from our Import file - This is not the "Item Number" field, it is the actual text "Item Number", which was the name of the field exported.

This is a SAMPLE of the data that would be imported by this macro. No Importing takes places at this time.

8. Press the UP arrow on the Field field.

This tells import to skip 1 field. Notice the Import field now shows the second data field from our Import file - the Item Description. In this way our import is independent of the order of the fields on our screen and the fields in our import file.

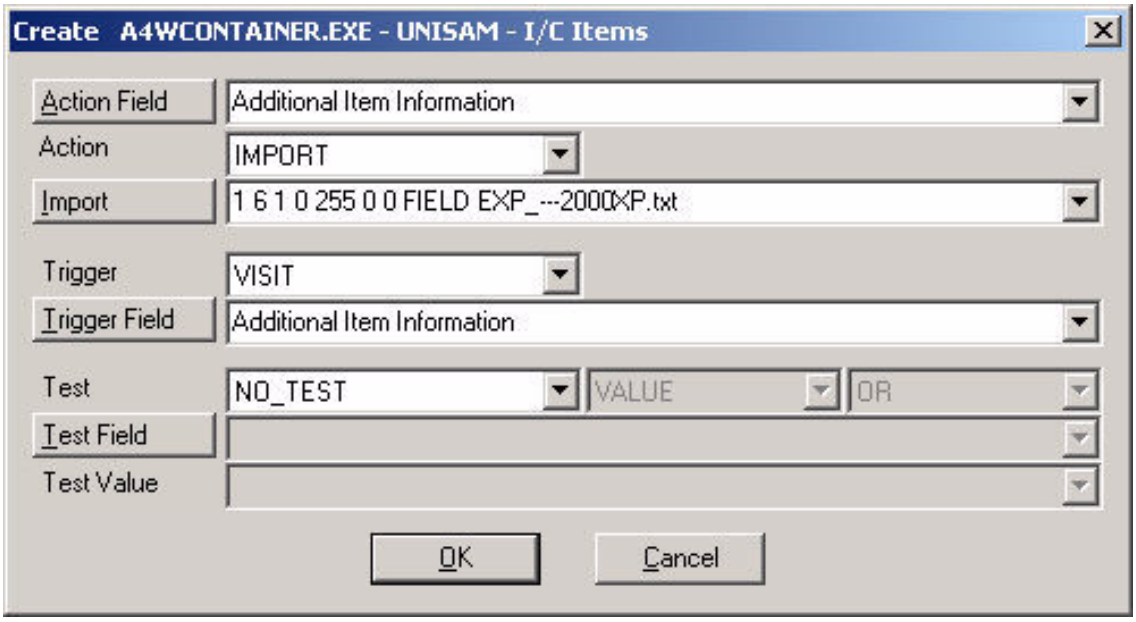
Our SAMPLE import is now showing the new data that will be imported; the actual Item Number.

9. The STRIP, LENGTH and CONVERT functions can be used to remove quotes, field masks, and right justify data, as well as data type conversions in Fixed Length files. We will not use these features in this tutorial.

The STRIP function is most often used in CSV files to remove the double quotes surrounding text fields.

10. Press

.

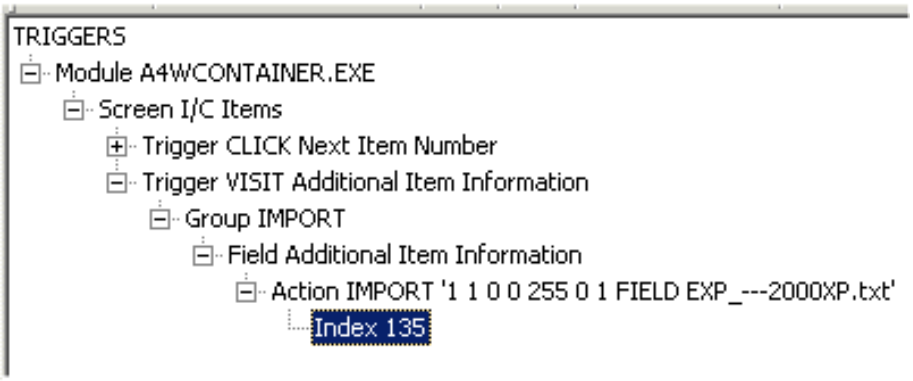


11. This macro, when it runs, will import the Item Number when we visit the Additional Item Information field.

Note: Whenever you are creating a macro to change a field, it is more reliable to update the field as part of a VISIT. Some applications do not require a visit, some do. If you do not visit the field you need to test the macro to make sure the application program records the changes correctly.

12. Press

to save this macro.



13. Repeat the above process for the other fields you want to import.

This completes importing fields.

Moving to the next record

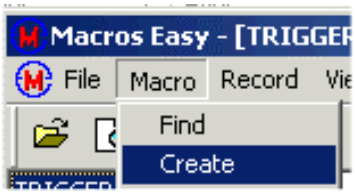
PART A

Our macros to this point will import our data fields, whenever we visit the Additional Item Information. However, the data fields will not move. The same data will be imported over and over.

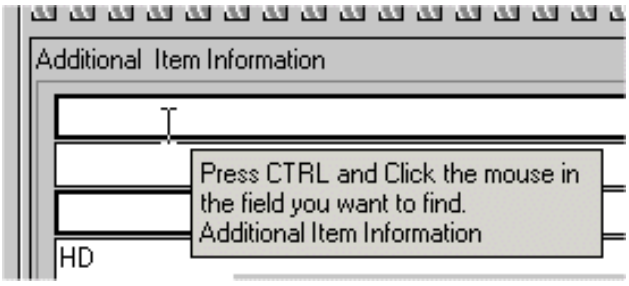
To correct this we will create a macro that tells Import to move to the next import record after we have imported all our fields.

This macro is almost identical to our previous macros.

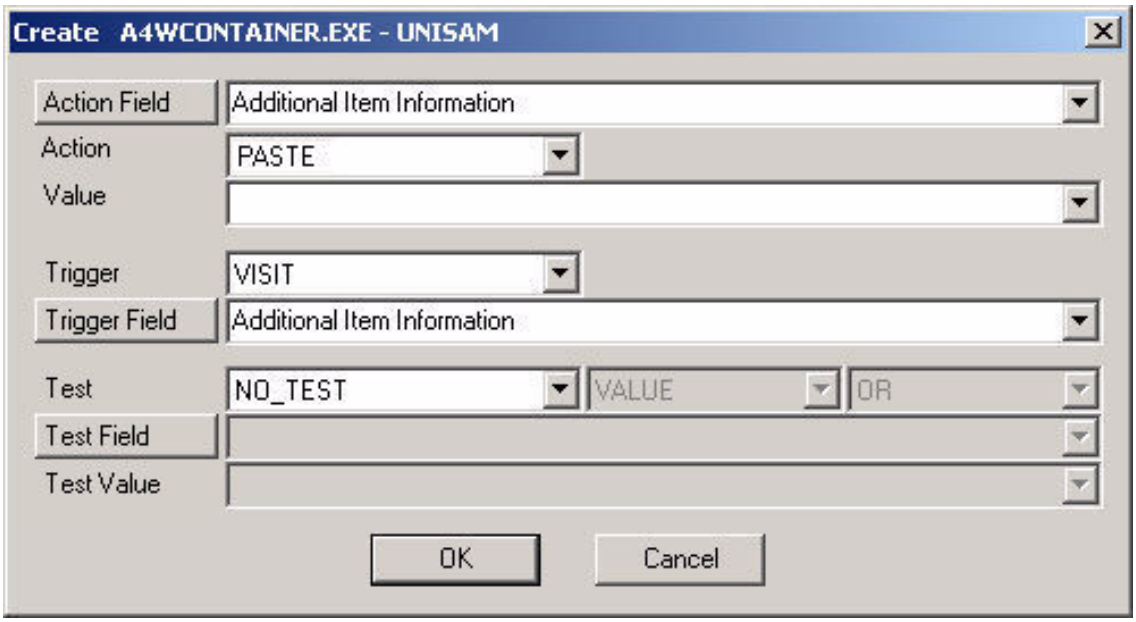
1. Select Macro, Create.



2. CTRL Click the Finder on the last field you are going to visit as part of your import. In our case it is the Additional Item Information Field.



This will open the Create Macro dialog.



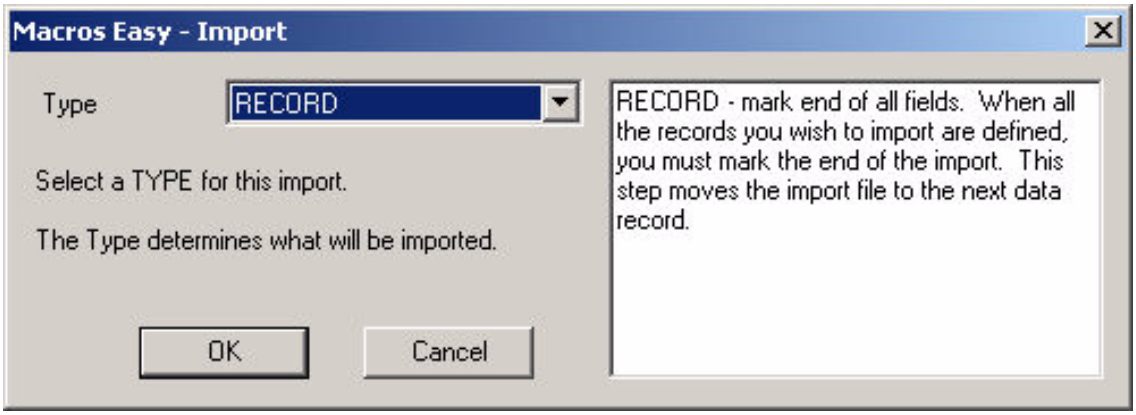
3. Select Action IMPORT.

4. The Import dialog will appear. If it does not, press the

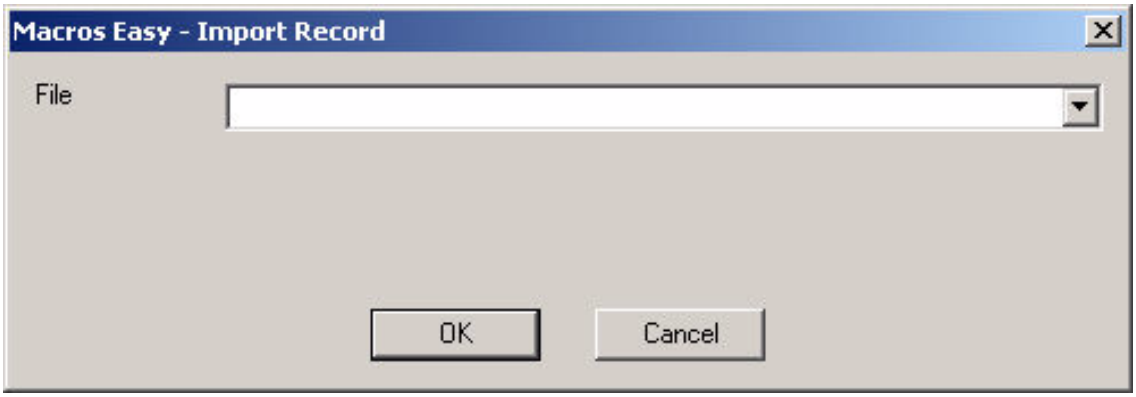
to open the dialog.

5. Select Record, then press

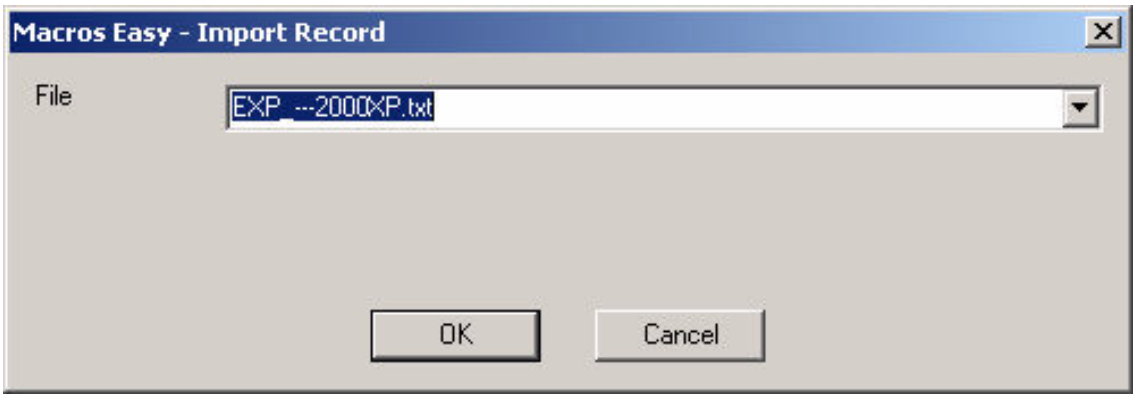
.



6. This will open the Import Record dialog.



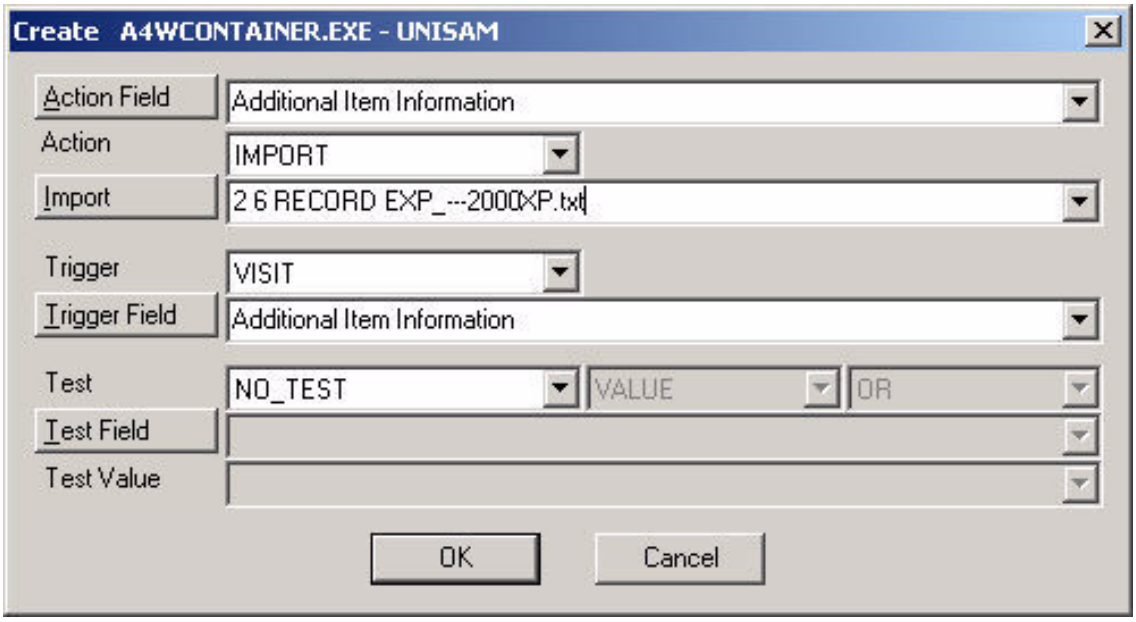
7. Select the import file from the drop-down list.



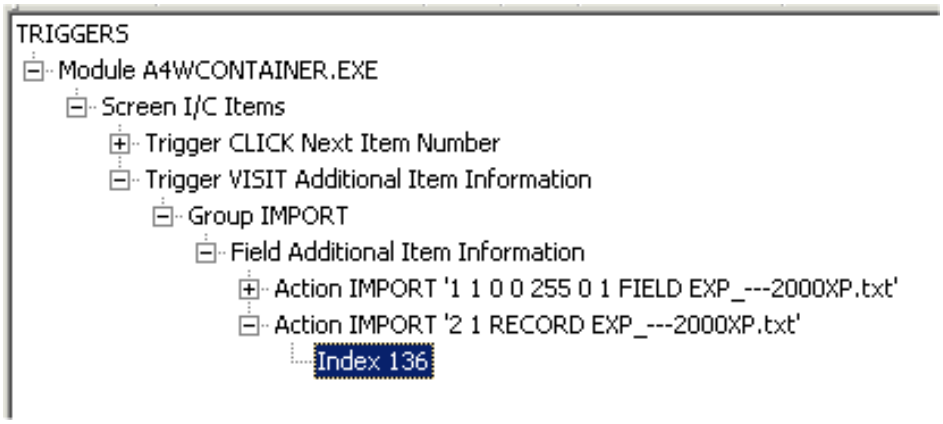
Press

.

8. We have now created a macro to move to the next import record.



9. Press to save this macro.



It is important that the RECORD import is after the FIELD import else the first import record will be missed.

Moving to the next record

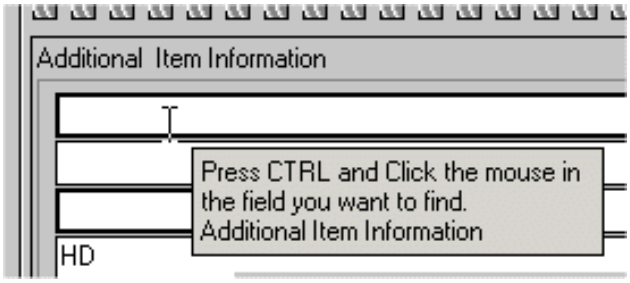
PART B

Our macros to this point will import our data fields and then automatically move to the next import record.

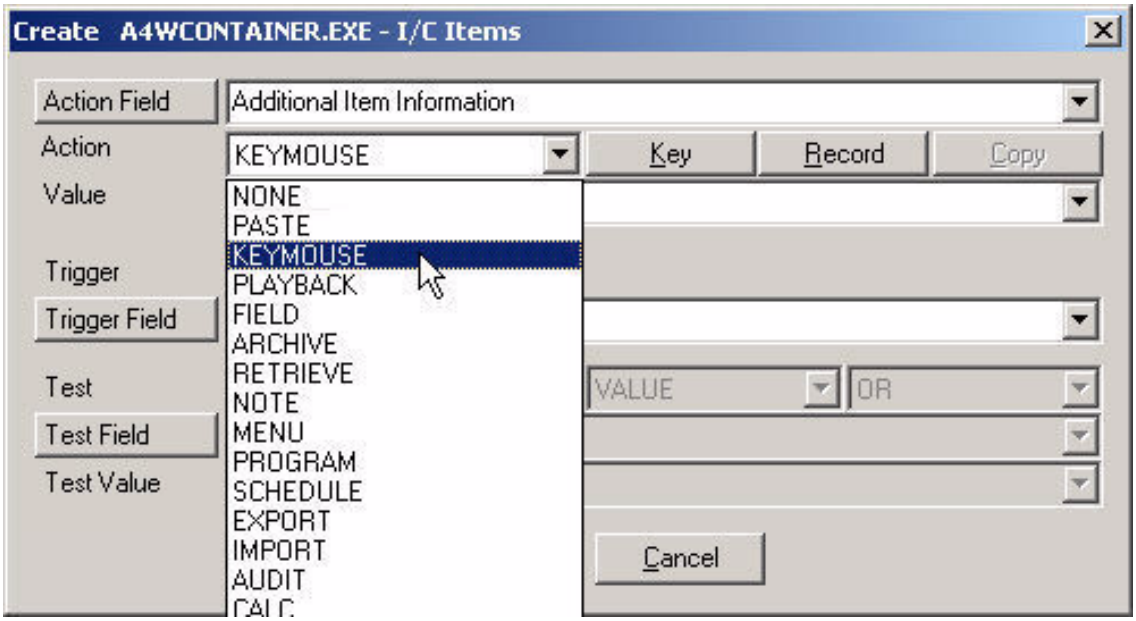
We now want to create a macro that will automatically update all items.

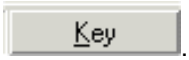
1. Select Macro, Create.

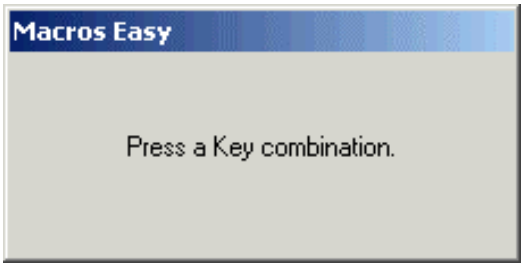
2. CTRL Click the Finder in the Additional Information field.



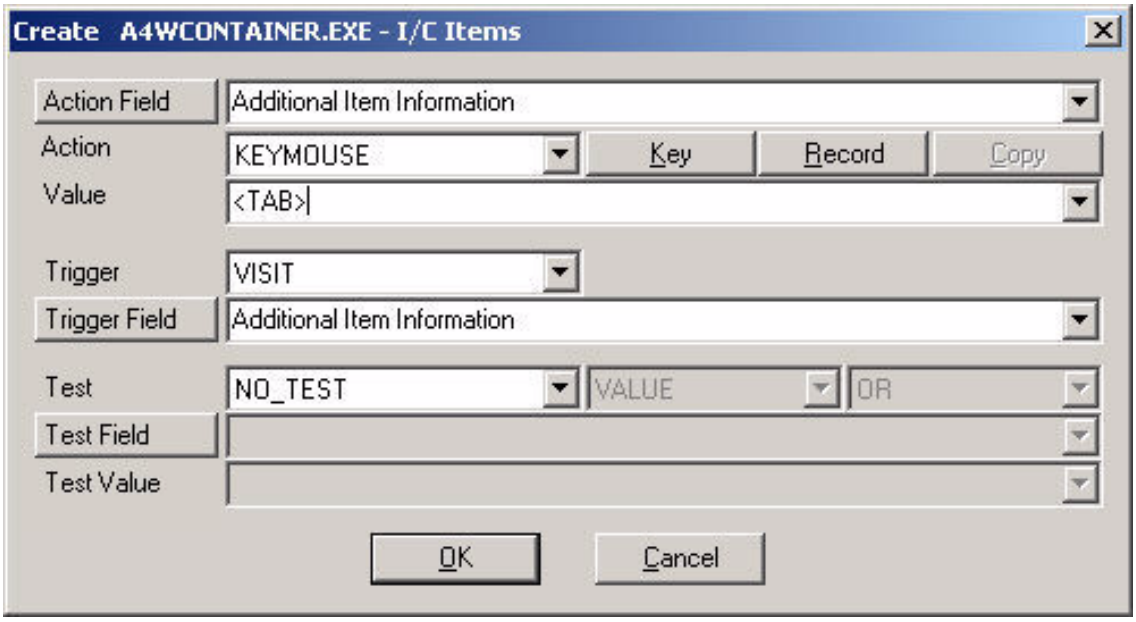
3. Select Action KEYMOUSE.



4. Press  . This will call the KeyMouse Dialog.

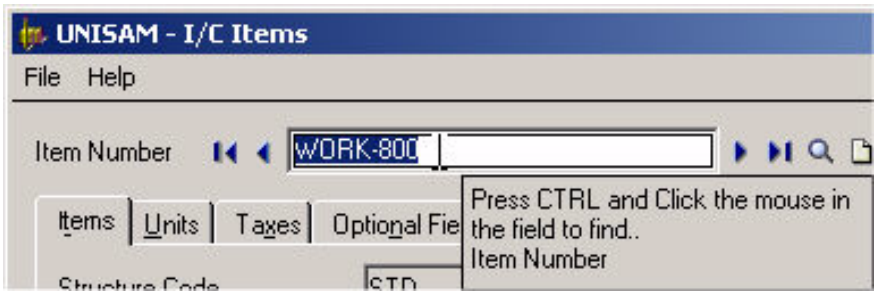


5. Press TAB.

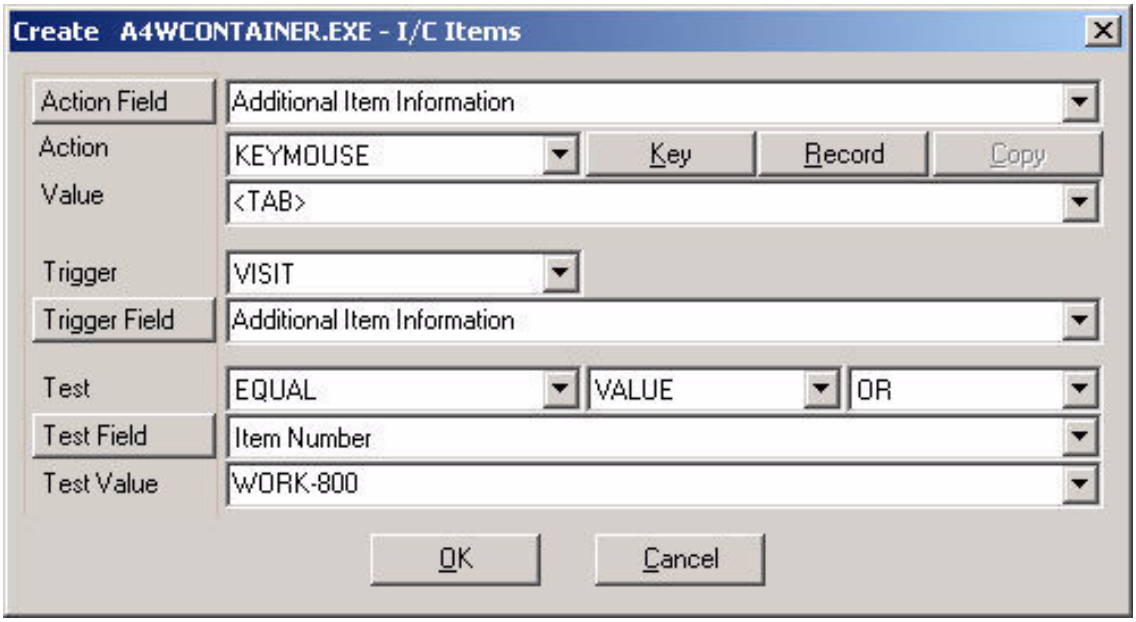


6. We now have a macro that will send a KEYMOUSE to the Additional Item Information.

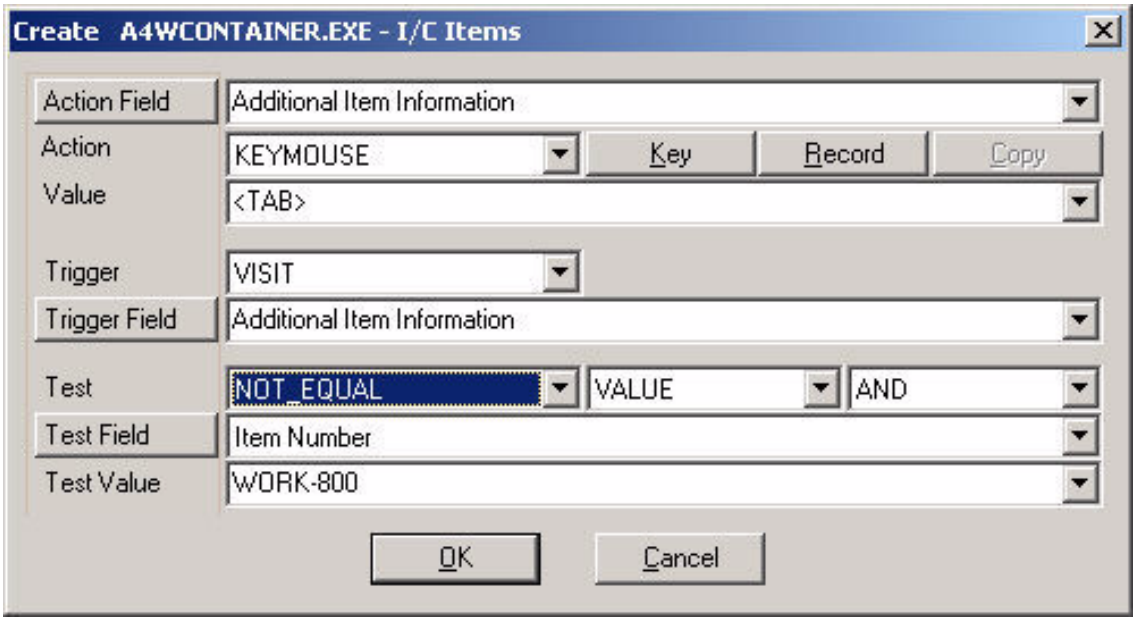
9. Press the Test Field button.



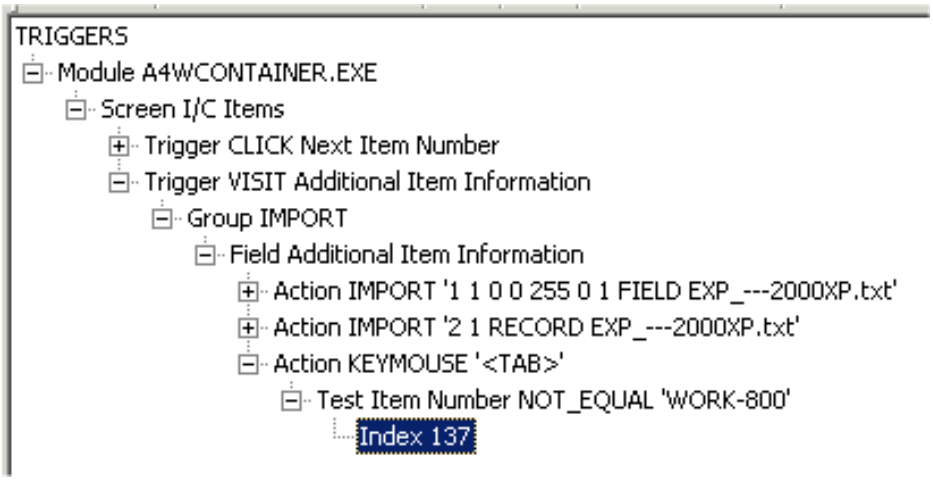
10. CTRL Click the Finder on the Item Number field.



11. Change the Test to NOT_EQUAL.



12. Press to save this macro.



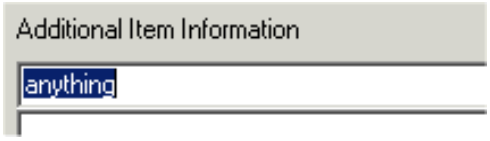
13. The macro we just created will Trigger a LEAVE event if we are not at the last item in the database. We can use this to move through the database.

Moving to the next record

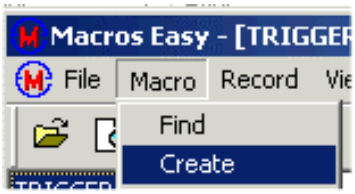
PART C

Now we need to create a macro to press the Next Item button.

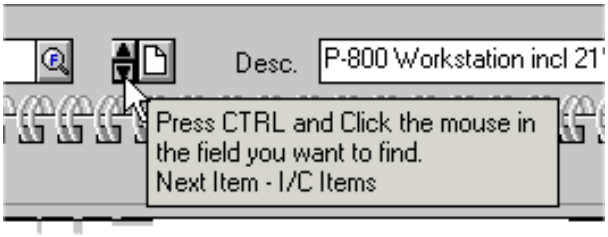
1. Type something into the Additional Item Information field to force an update



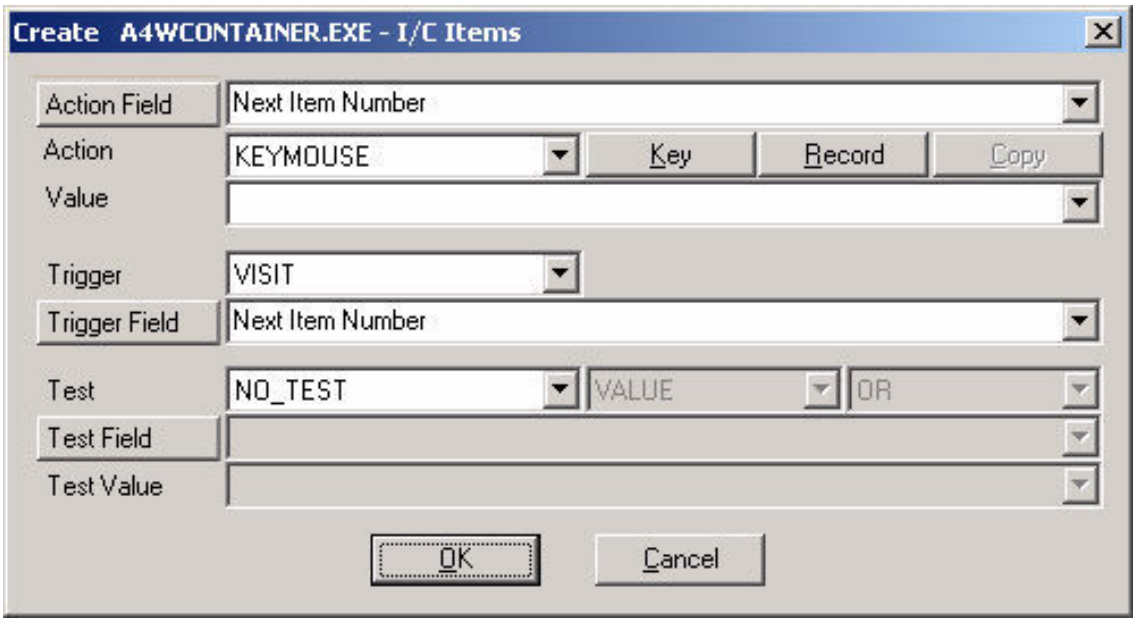
2. Select Macro, Create.



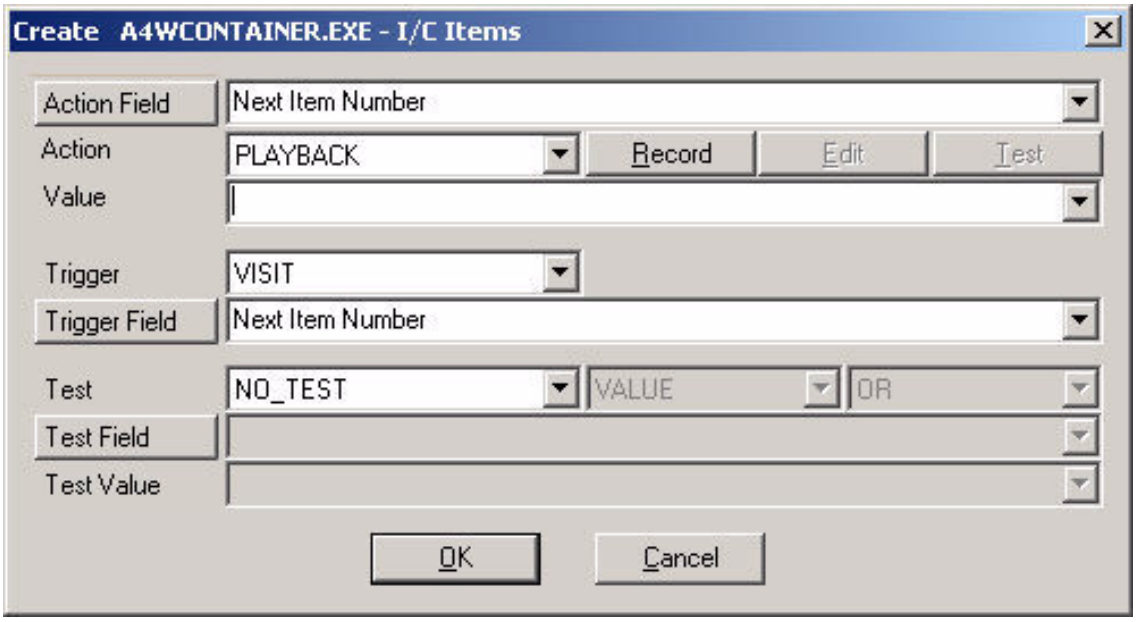
3. CTRL Click the Finder on the NEXT ITEM button.



4. This will open the Create Macro dialog.

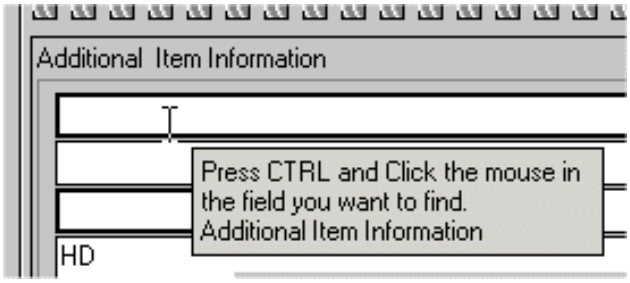


5. Change the Action to PLAYBACK.

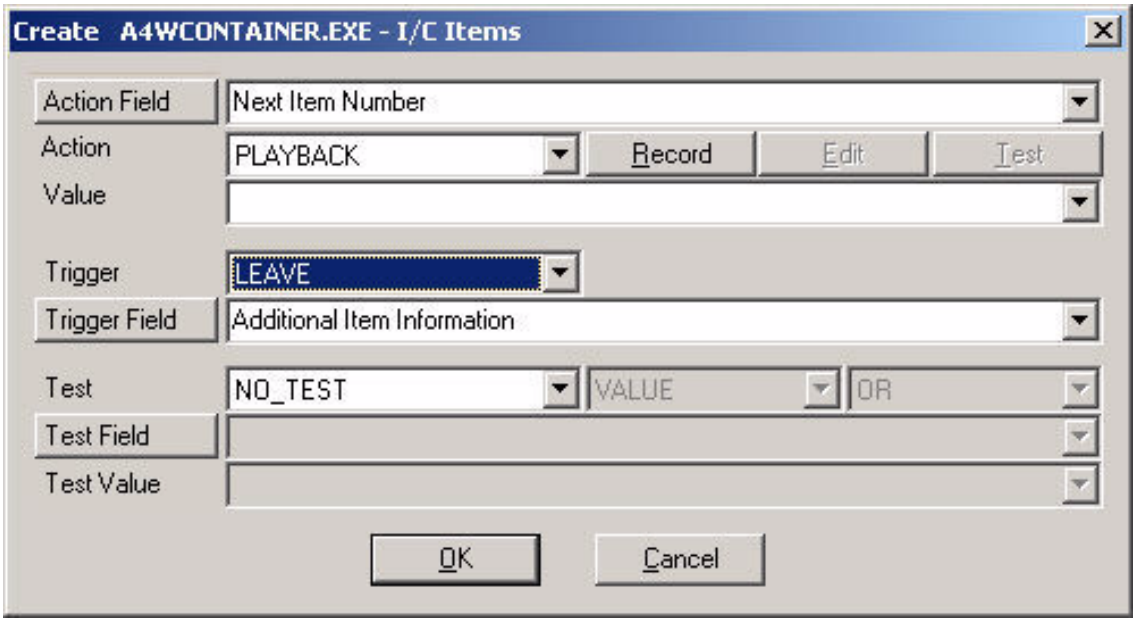


6. Press Trigger Field.

7. CTRL Click the Finder in the Additional Information field.



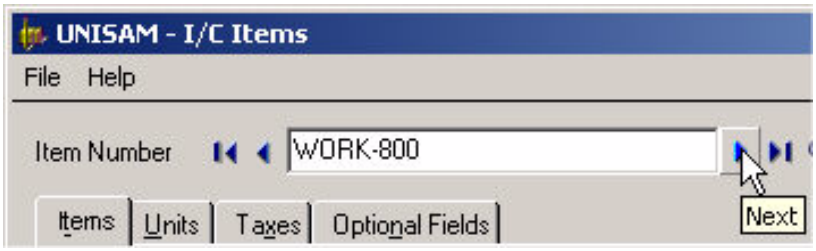
8. Change the Trigger to LEAVE.



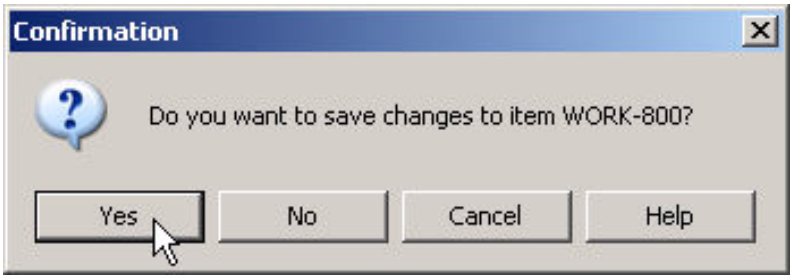
9. Now we need to record a PLAYBACK macro to move to the next field. Press Record. The ME dialog will disappear and you are now recording a PlayBack macro.

Notice the top left corner of the screen which confirms you are recording.

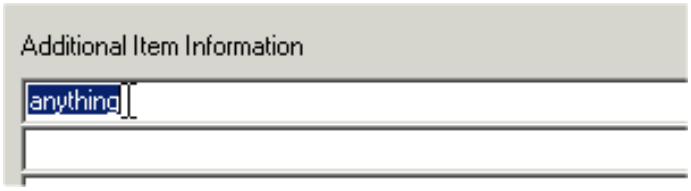
10. Left Click on the Next Item Number field.



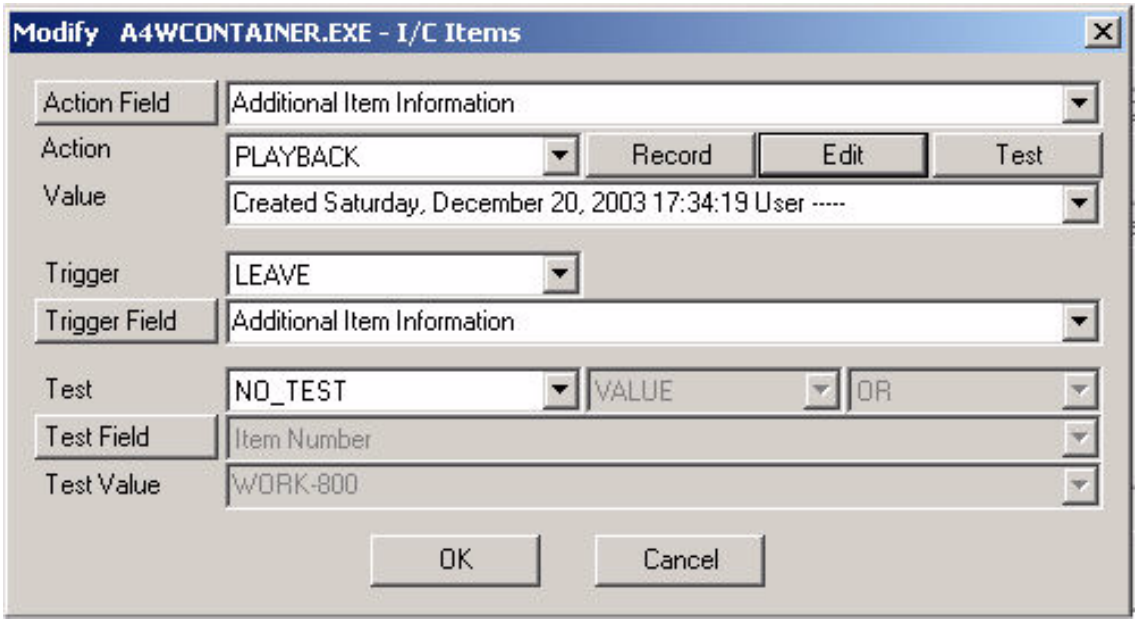
12. Answer Yes to save the changes.



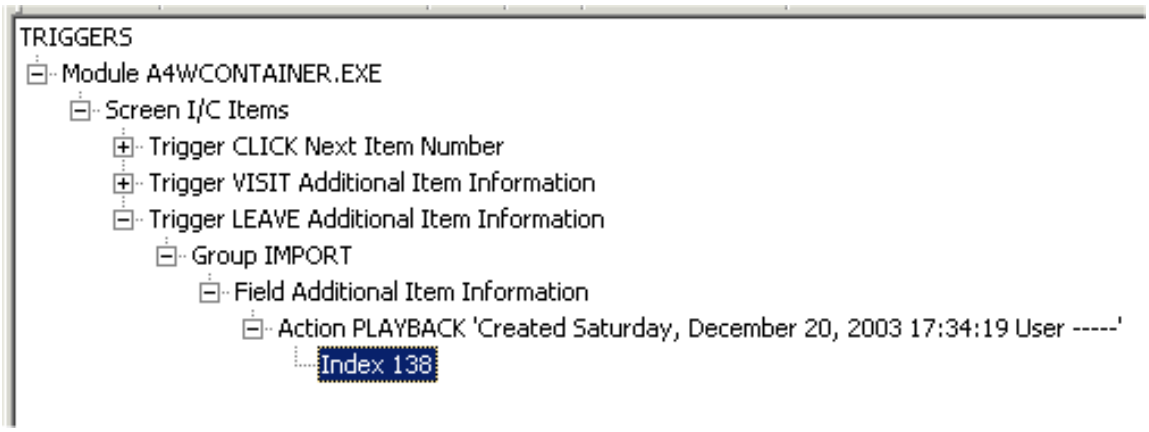
13. Click in the Additional Item Information field.



14. Press CTRL BREAK to end recording.



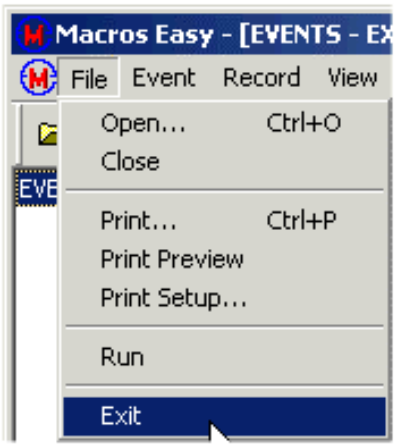
15. Press OK to save this macro.



This completes moving to the next record.

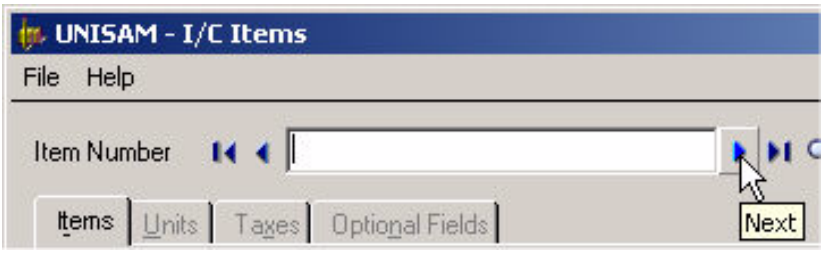
Running the Import

1. Before running the Import, or any macros, close the ME main window. Macros are suspended until you do this.



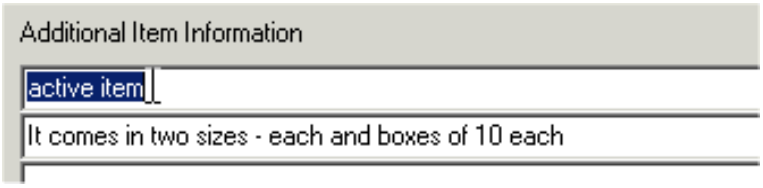
2. To test this macro, first press the New Item button on the I/C Items screen.

3. Press the Next Item button to move to the first item number.



4. We are now at the first item in the database, ready to start our Import.

5. Left Click the mouse in the Additional Item Information field to create a VISIT Trigger.



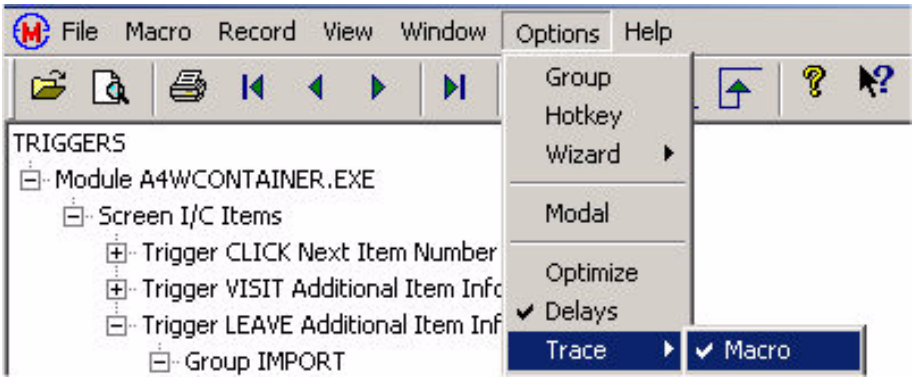
6. Our Import should proceed automatically from this point on and stop at the last item number.

Press and hold CTRL Escape should you need to halt the import early.

This completes running the import.

Testing and Debugging

1. Before running the Import, select Options, Trace, Macro.

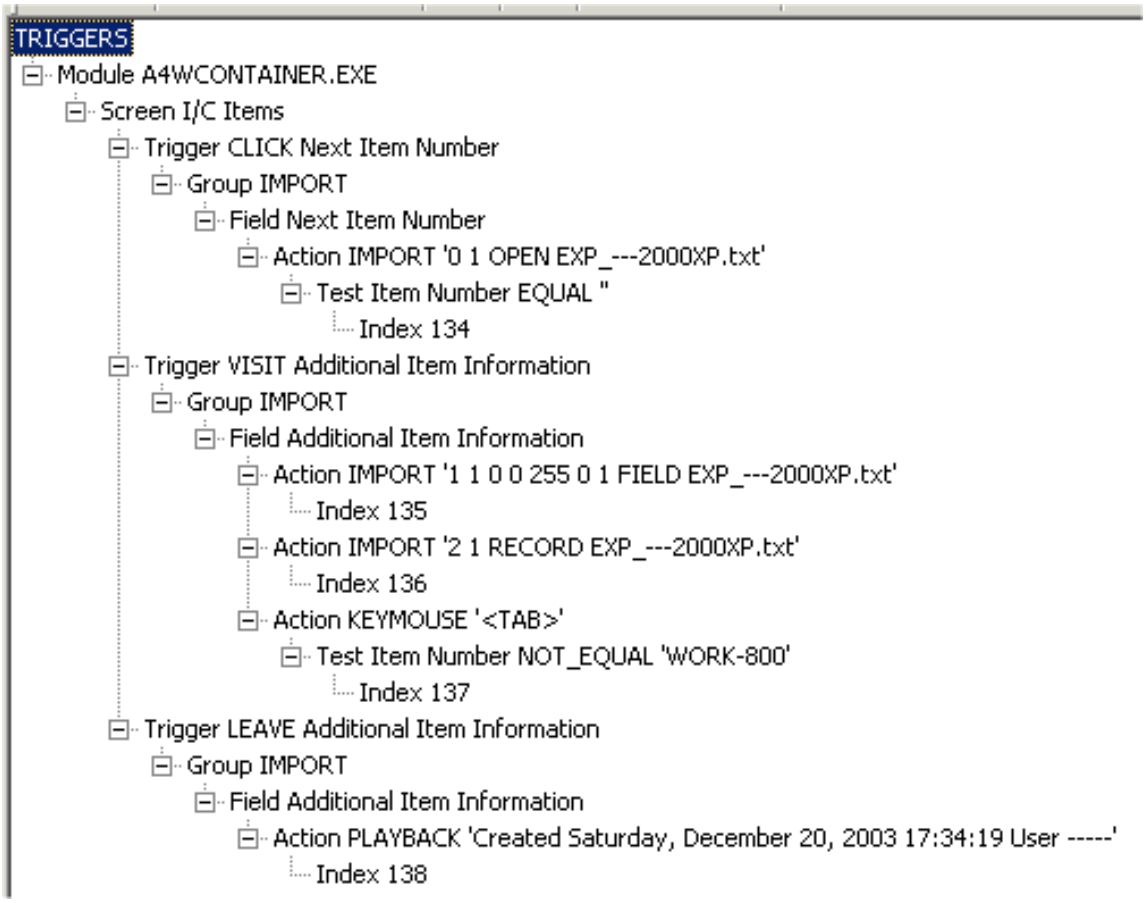


This will trace the import to the log file UM_<username><machine name>.log.

2. Remember to select the New Item button to clear the Item Number field so our import file will be repositioned to the beginning of the file.

3. Looking at the log file you will see the events and macros running and can make adjustments as required.

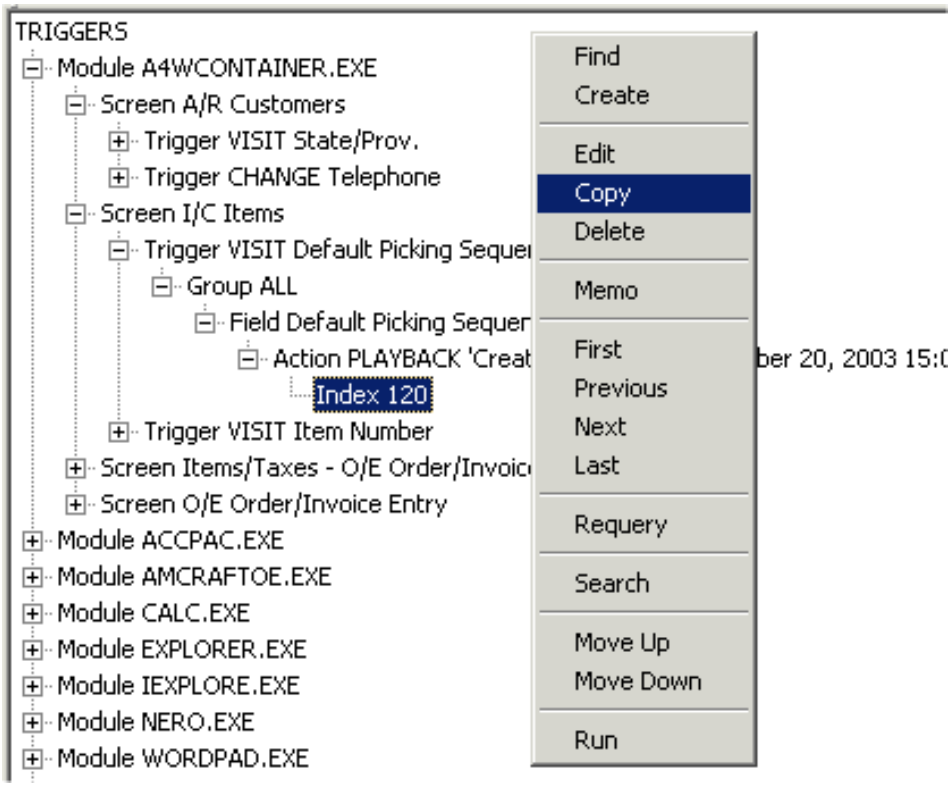
4. Our macros are as follows:


TRIGGERS
Module A4WCONTAINER.EXE
Screen I/C Items
Trigger CLICK Next Item Number
Group IMPORT
Field Next Item Number
Action IMPORT '0 1 OPEN EXP_---2000XP.txt'
Test Item Number EQUAL ''
Index 134
Trigger VISIT Additional Item Information
Group IMPORT
Field Additional Item Information
Action IMPORT '1 1 0 0 255 0 1 FIELD EXP_---2000XP.txt'
Index 135
Action IMPORT '2 1 RECORD EXP_---2000XP.txt'
Index 136
Action KEYMOUSE '<TAB>'
Test Item Number NOT_EQUAL 'WORK-800'
Index 137
Trigger LEAVE Additional Item Information
Group IMPORT
Field Additional Item Information
Action PLAYBACK 'Created Saturday, December 20, 2003 17:34:19 User -----'
Index 138

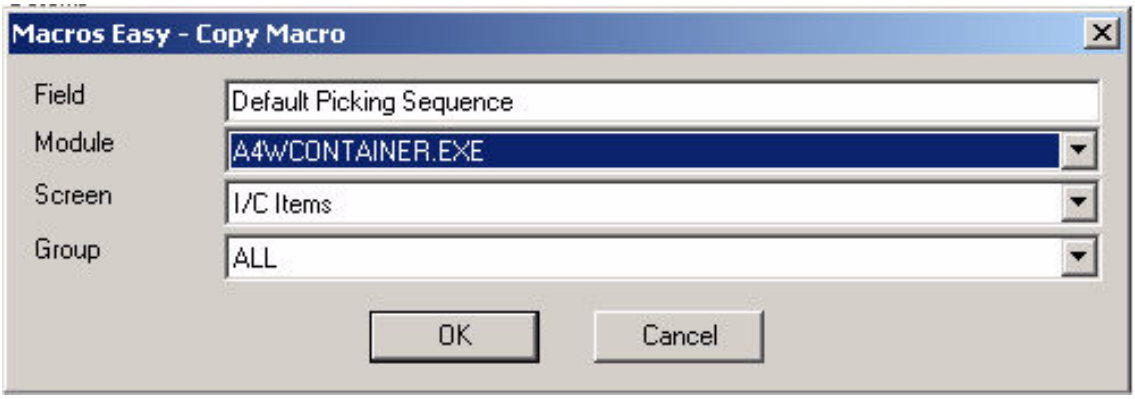
Tutorial - Copying a PlayBack macro to a KeyMouse macro

This tutorial assumes you are familiar with the use of ME and have created a Playback macro that you now wish to copy into a KeyMouse macro.

1. Open either the Actions or Trigger view and RIGHT CLICK the PLAYBACK macro you wish to copy.

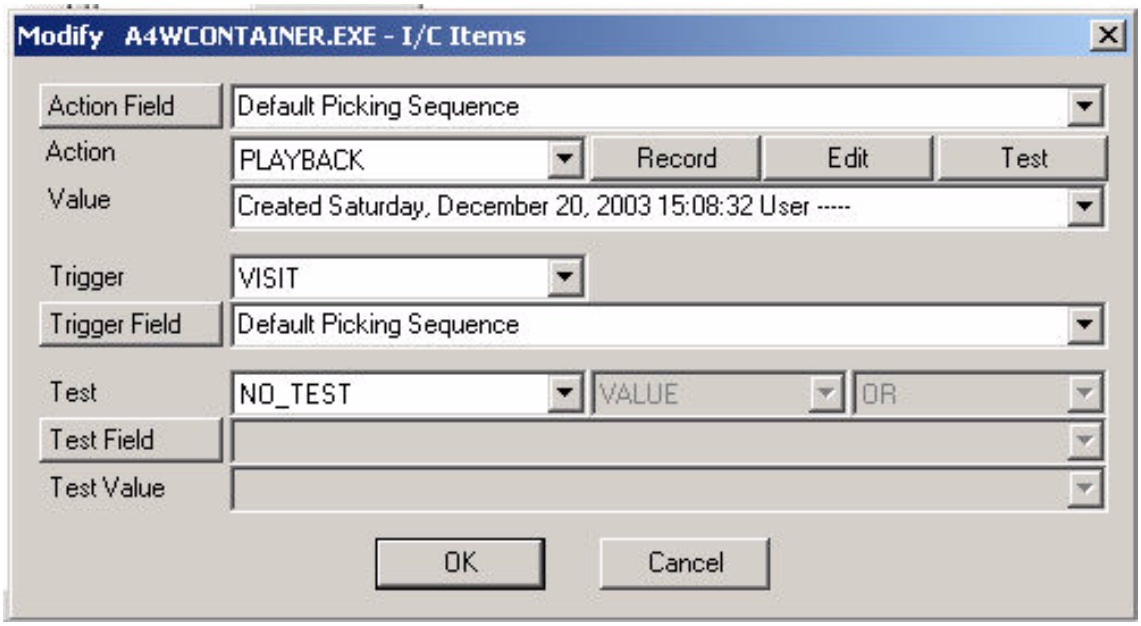


2. Select COPY.

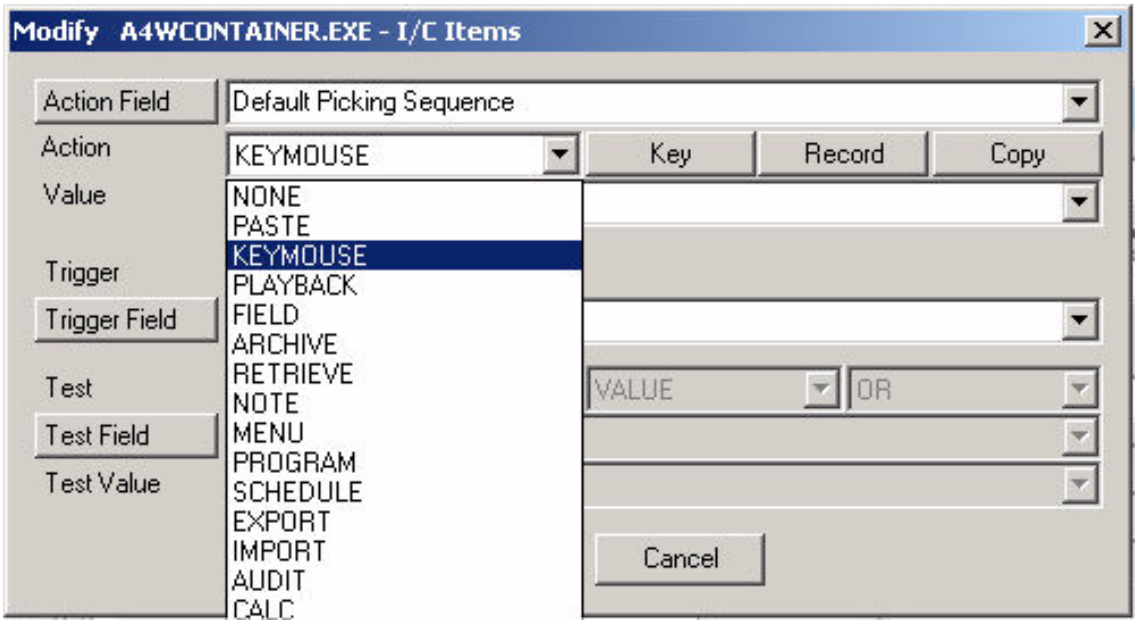


3. Press

.

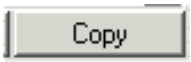


4. Change the Action from PLAYBACK to KEYMOUSE.



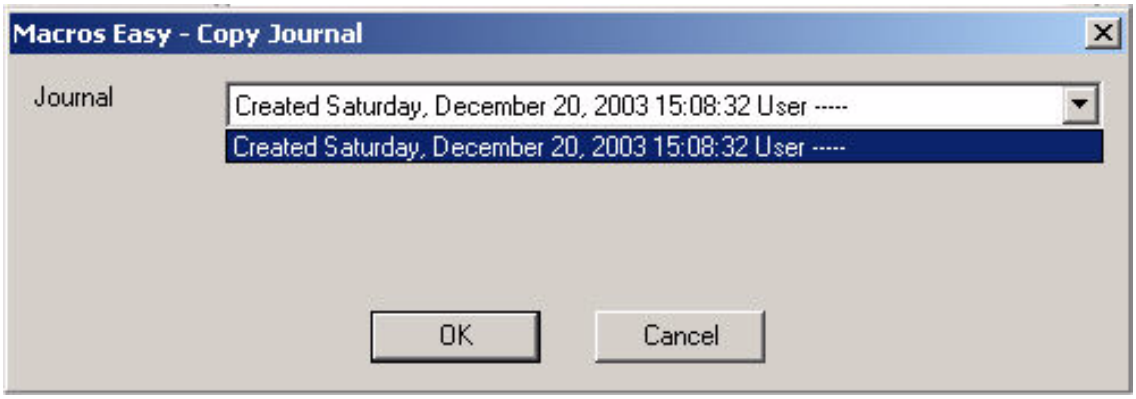
5. We now have a new KeyMouse macro, with a blank Send field.

We are ready to copy the journal.

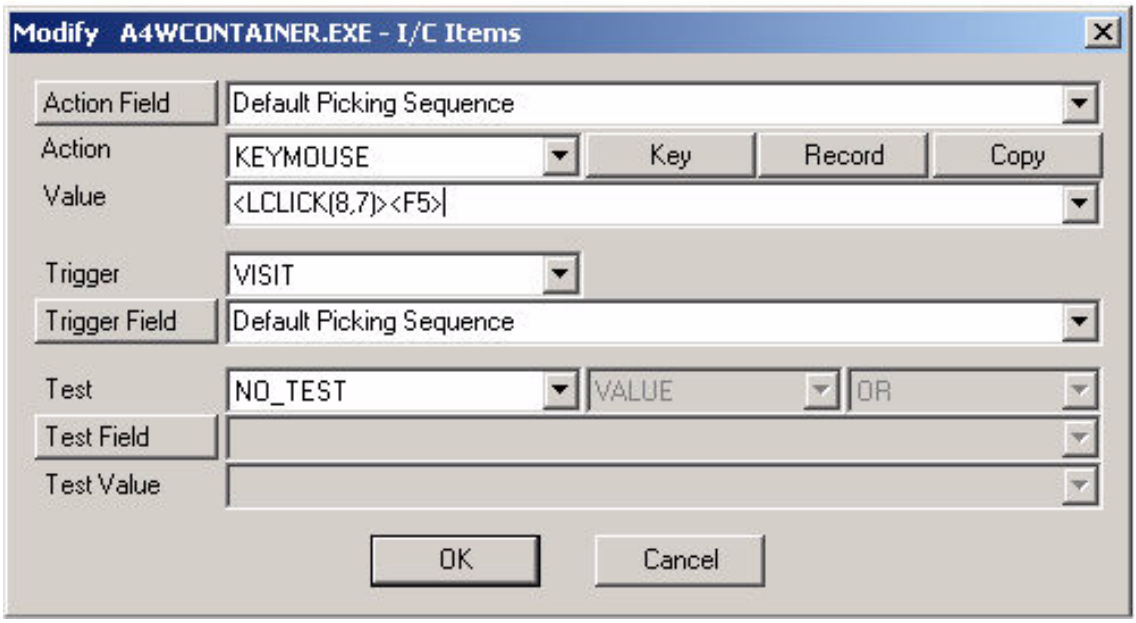
6. Press the 

button.

7. Select the journal you wish to copy.



8 Press OK to begin copying.



You can see that the journal has been copied into the SEND field. This macro has not yet been saved.

9. Press OK to save this new macro.

After you have copied the Journal, inspect the result and remove any steps that work with other fields.

LIMITATIONS:

1. Playback macros can be unlimited in size, while a KeyMouse macro is limited to 255 displayed characters. Any excess journal is truncated.

2. Playback macros can work with multiple fields in multiple screens. A KeyMouse macro can only work with a single field and screen. Steps in the PlayBack macro that work with other fields may not work correctly once converted.

3. Journal information such as mouse moves and delays is not converted.

Note: In a KeyMouse macro, events that occur on the Mouse release are referred to as CLICK. Events that occur on the mouse press are referred to as BUTTON. In a Journal, both these events are referred to as BUTTON, and the journal message determines if it was a press or release event.

This completes the tutorial.

Tutorial - Grids

ACCPAC for Windows version 5 (A4W5) Grids are supported by ME. This tutorial shows how to create macros for these grids.

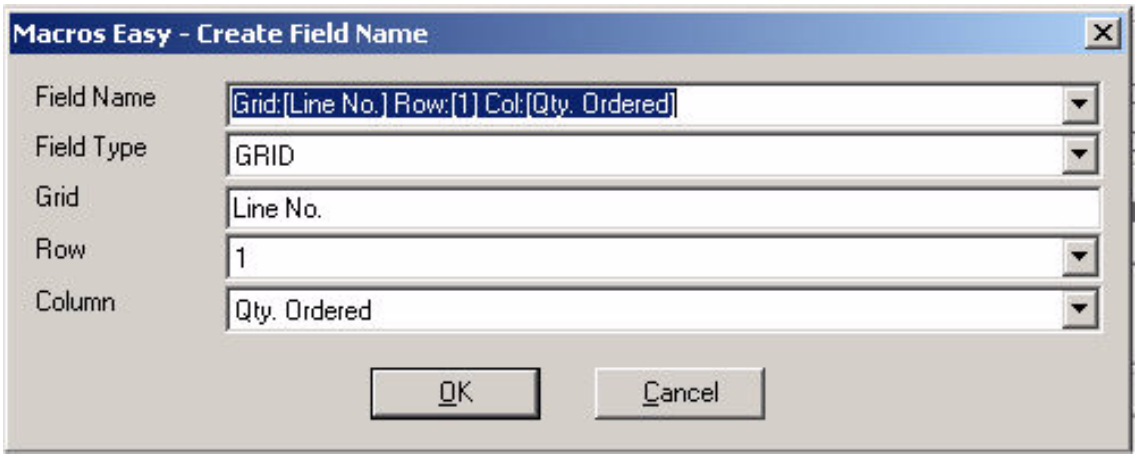
Other Grids have limited support. See ReadMe - Data Grids and Tutorial - Optional Fields for information on automating other grid types.

In this example we are going to copy the Quantity Ordered to the Quantity Shipped in ACCPAC Order Entry.

1. When ME is running a small icon appears in the system tray.

2. Move to the Quantity Ordered field in Order Entry.

3. Press the ME Hotkey <Ctrl F10>.



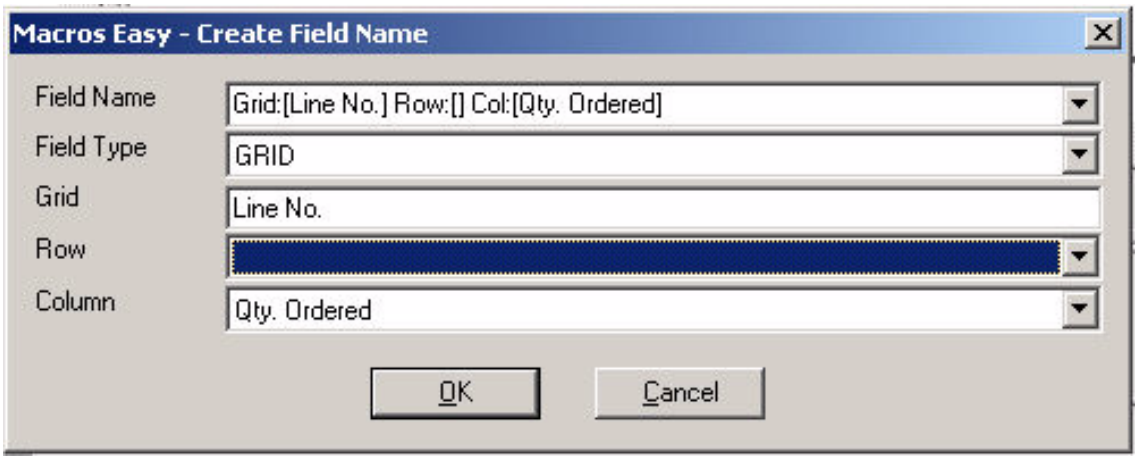
4. The first time ME sees this field it is going to ask you to define it. Notice that the Grid, Row and Column fields are enabled in Grids.

The Grid field allows you to change the name for the grid. Normally the name is the same as the first column, but you can change this. Use the same grid name for all fields in the grid to avoid confusion.

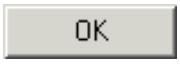
The row and column fields have special meaning.

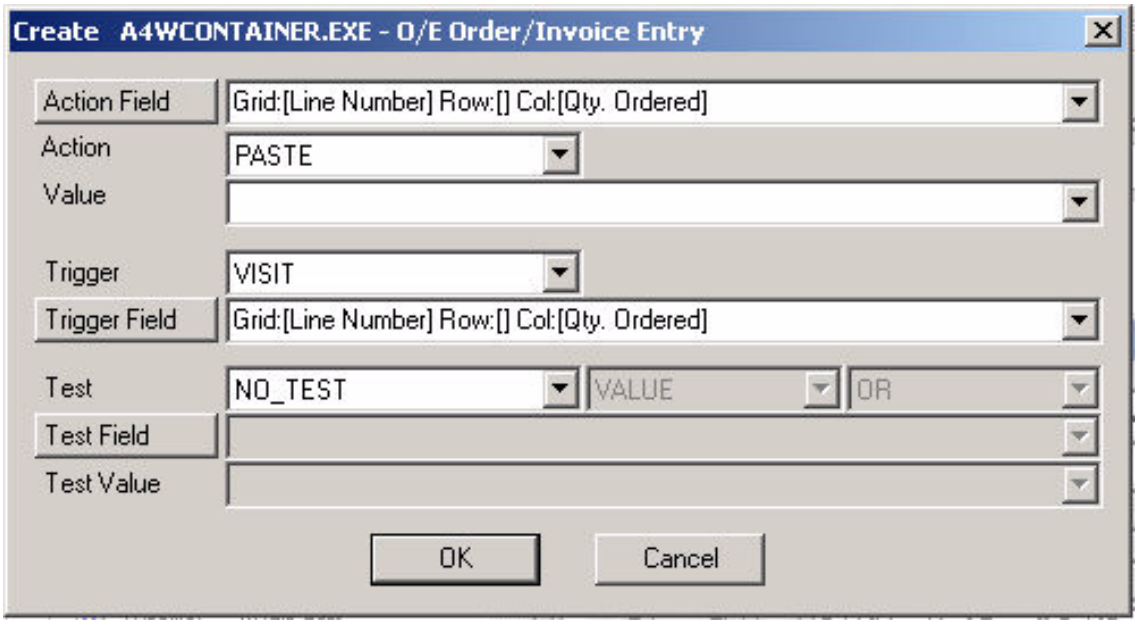
A macro for a specific row and column will run only in that row and column. However if the column is left blank, then the macro will run in the **current** column. If the row is left blank the macro will run in the **current** row. The current row or column is the one that has the focus.

5. In our case we want a macro that only runs in the Qty Ordered column but in any row so set the Row to BLANK.

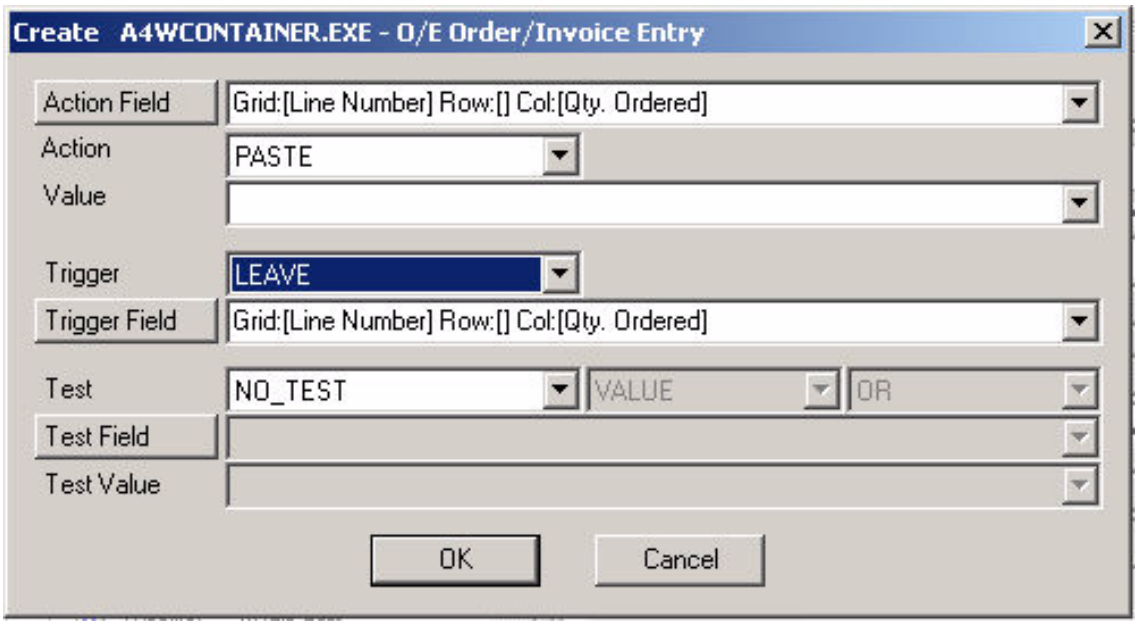


6. Notice that the field name has changed to reflect a blank row. This allows you to have several field names for the same grid location depending on the type of macro you want to create.

7. Press  to save this field name.

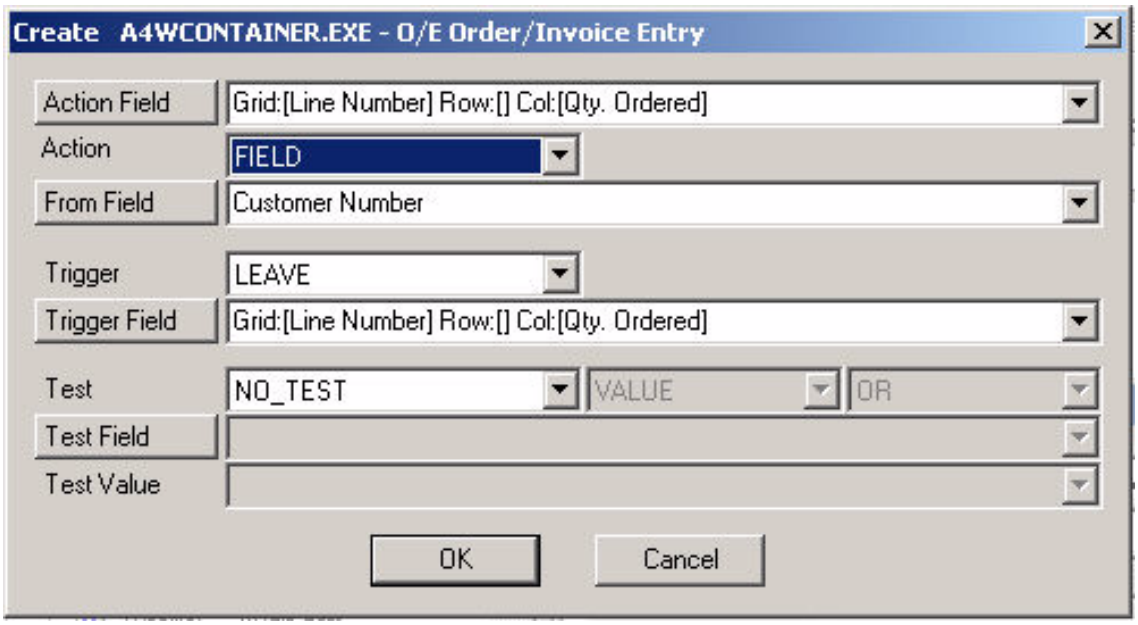


8. We need to make some changes to this macro. First change the Trigger to LEAVE.



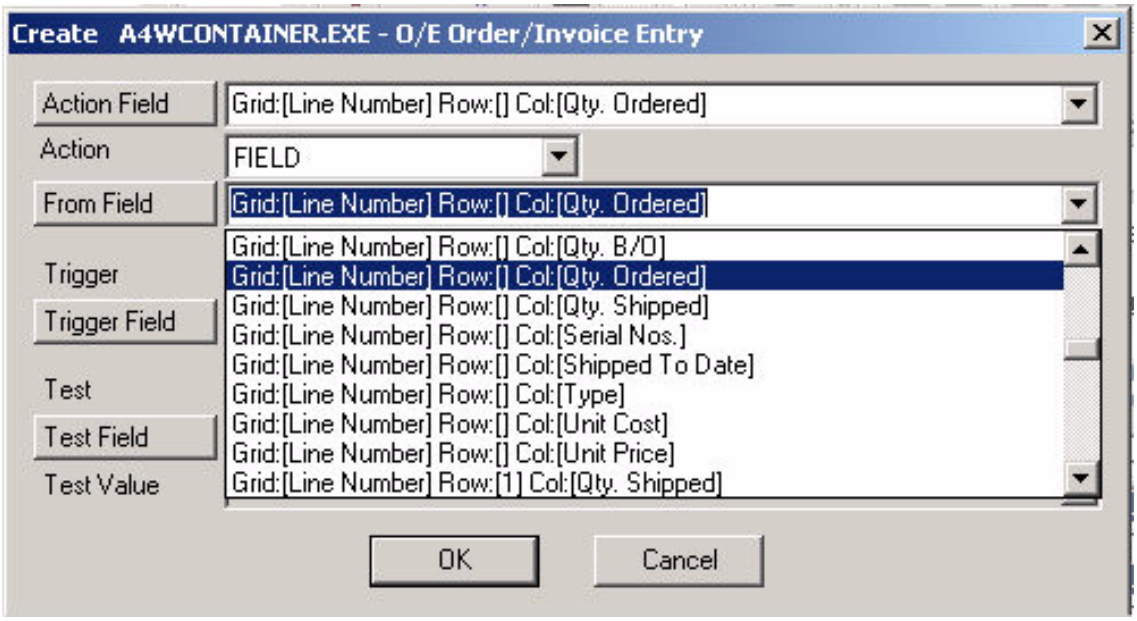
Now our macro will run when we leave the Qty Ordered field which would be normal after we have entered a value into the field.

9. Next change the Action to FIELD.



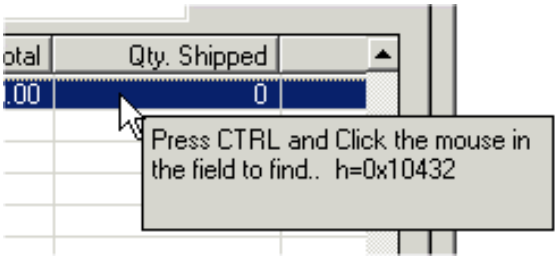
This macro will copy the Customer Number to the Quantity Ordered. This is not what we want.

10. Change the From Field selection to Qty Ordered.

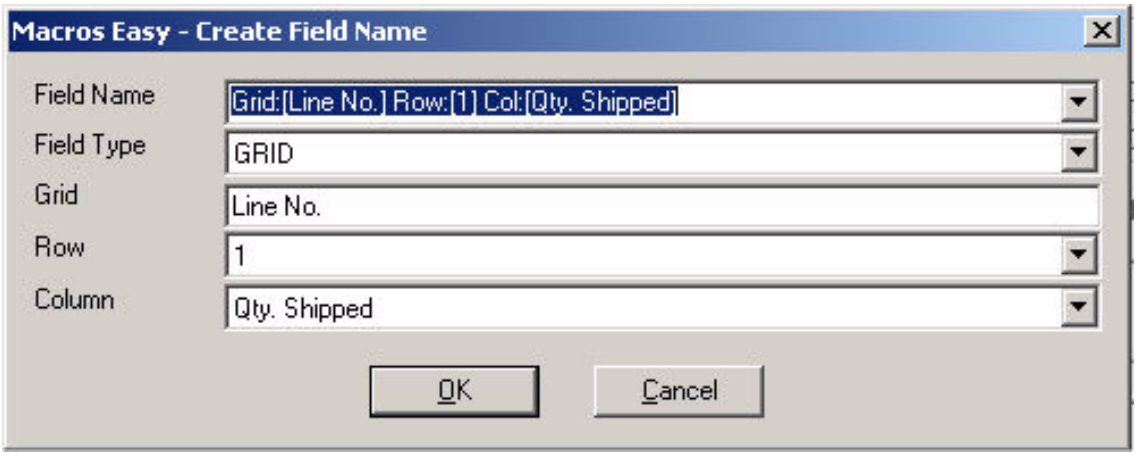


This will now send the Qty Ordered field to the Qty Ordered field. We still need to make one more change.

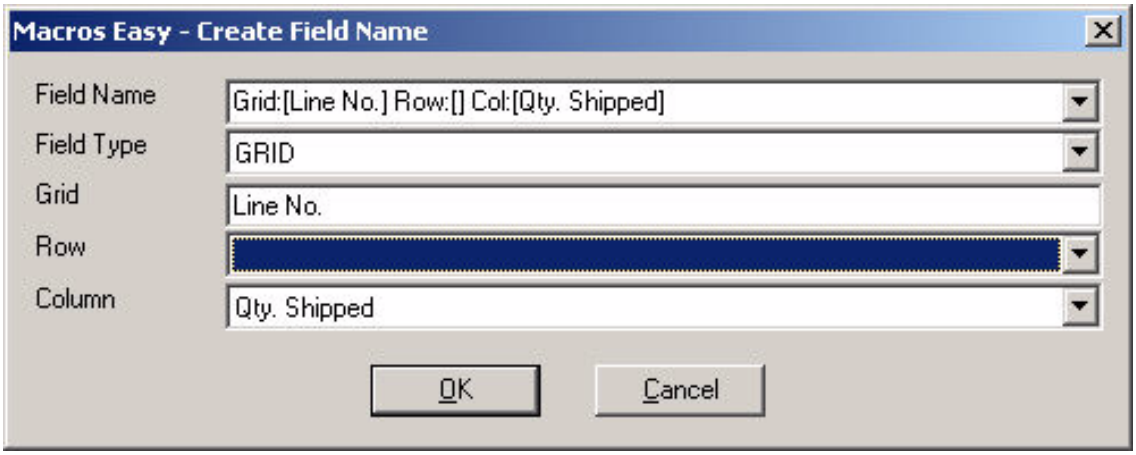
11. Press the Action Field button to change the field we are going to send the Qty Ordered to. This will bring up the Finder.



12. Press CTRL and Click the mouse in the Qty Shipped field.

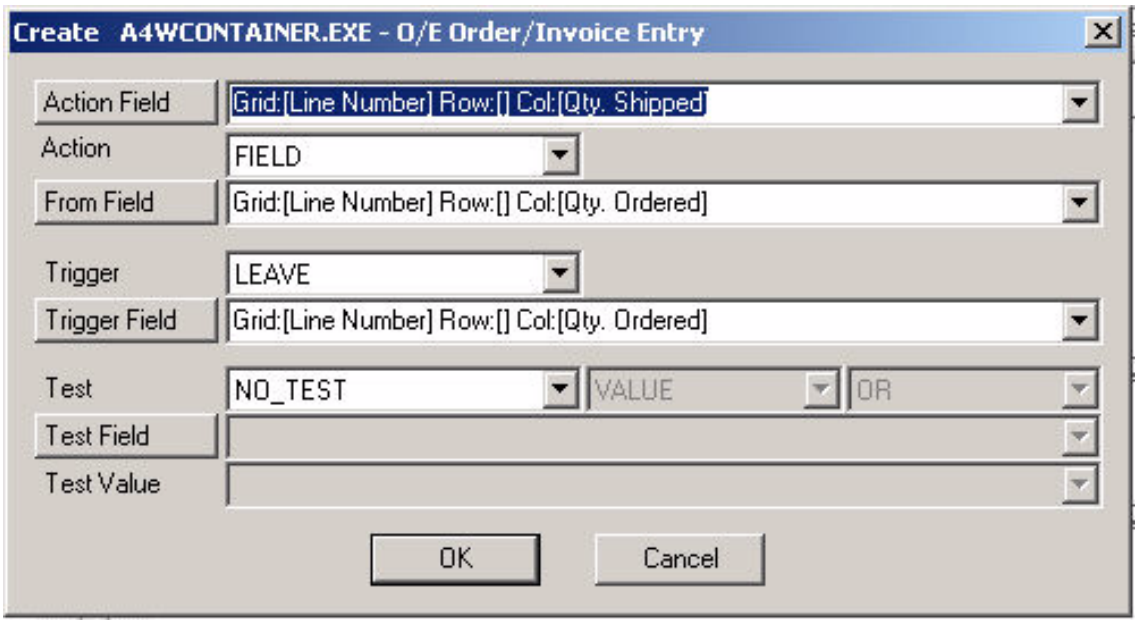


13. The first time ME sees this field it will create a field name. Change the Row to BLANK.



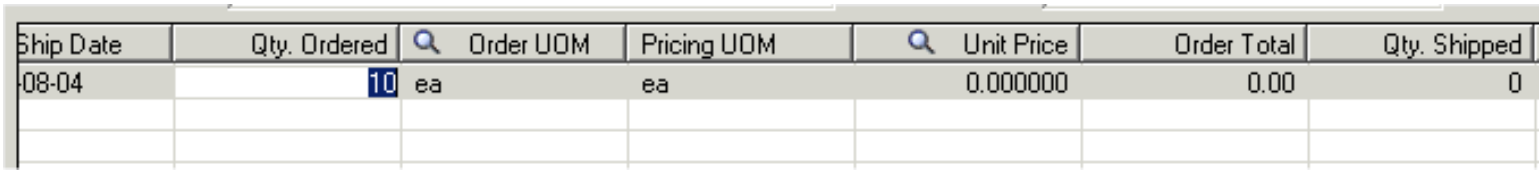
14. Press to create a field name for the Qty Shipped field. Similar to the Qty Ordered this field name will also work in the current row.

ME will return to the Create macro dialog.



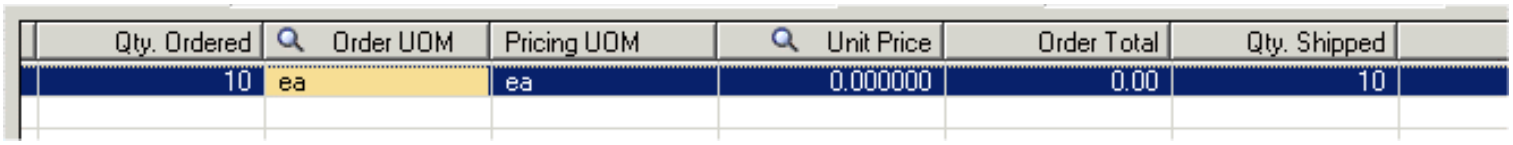
15. We now have a macro that will copy the Qty Ordered to the Qty Shipped after we entered a value into the Qty Ordered. Press to save this macro.

16. To test our new macro, type a quantity into the Qty Ordered field.



Ship Date	Qty. Ordered	Order UOM	Pricing UOM	Unit Price	Order Total	Qty. Shipped
-08-04	10	ea	ea	0.000000	0.00	0

17. Press ENTER (or TAB) to save this value and leave the Qty Ordered field.



Qty. Ordered	Order UOM	Pricing UOM	Unit Price	Order Total	Qty. Shipped
10	ea	ea	0.000000	0.00	10

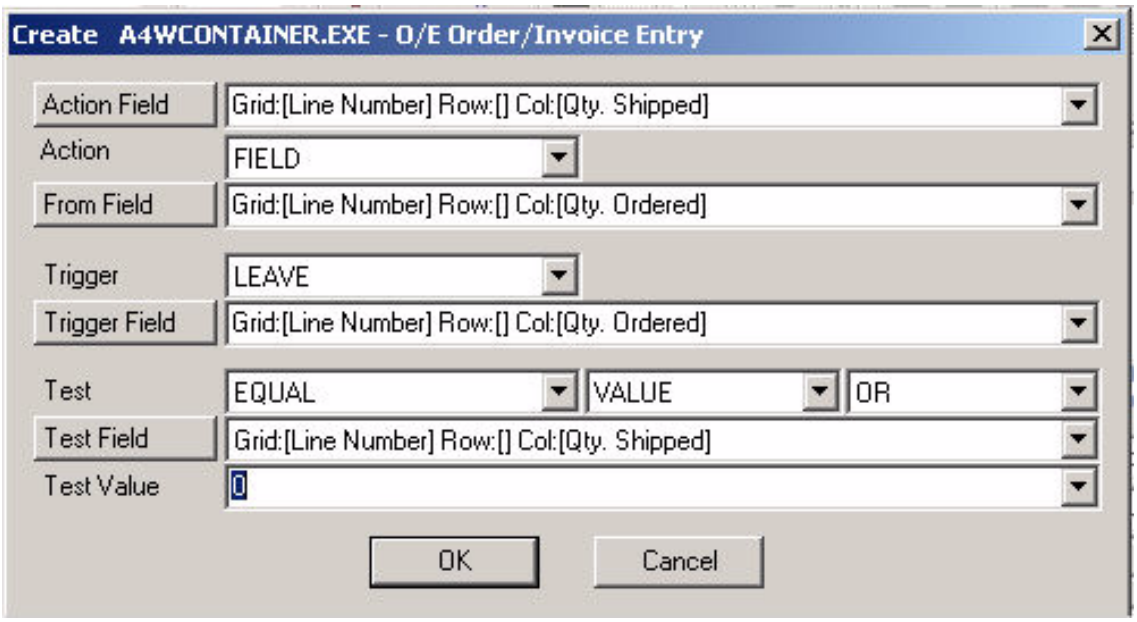
18. Notice the ME has copied the Qty Ordered into the Qty Shipped.

When this macro runs you may notice the focus actually moves to the Qty Shipped field to enter the value. This is somewhat different than normal ME macros.

In Grids data entry fields are temporary fields. They do not actually exist until you enter data into them. Therefore ME must move the focus to create the data entry field for the Qty Shipped before the Qty Shipped field can be changed.

This may seem a little strange the first time you see the macro run. However no keystrokes are lost. If you pressed two TABs for example you would have correctly ended up in the Pricing UOM field after the macro ran.

19. The reader is left to make further modifications to this macro. One possible change is to include a test so that the macro only runs if the Qty Shipped is zero.



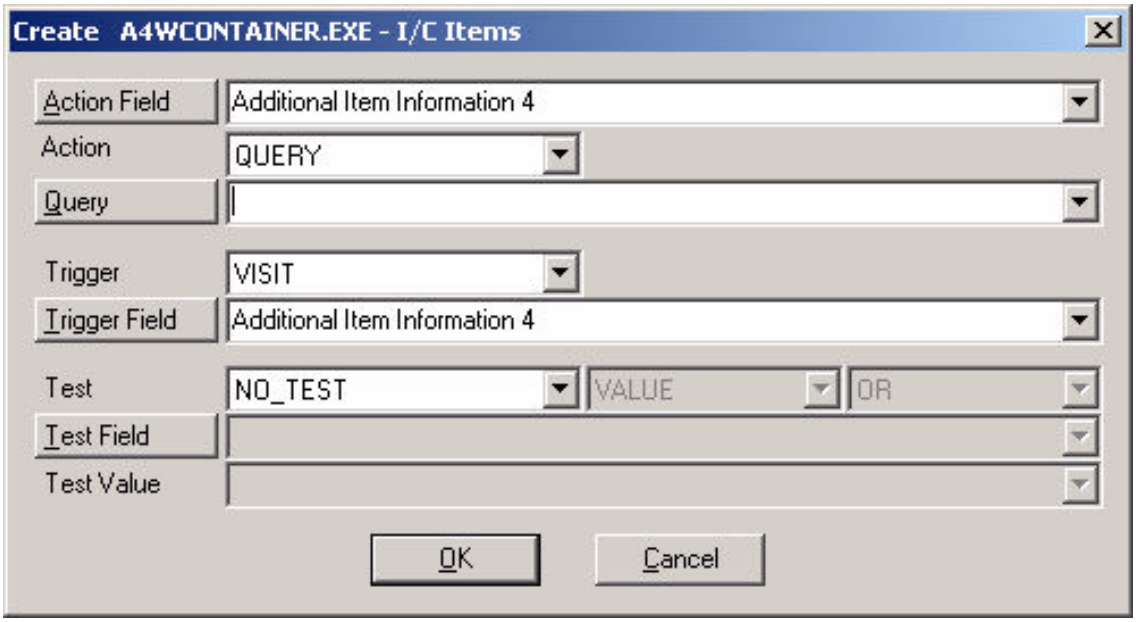
20. For example the above macro will only move the Qty Ordered to the Qty Shipped if the Qty Shipped is zero.

21. This completes our tutorial on grids.

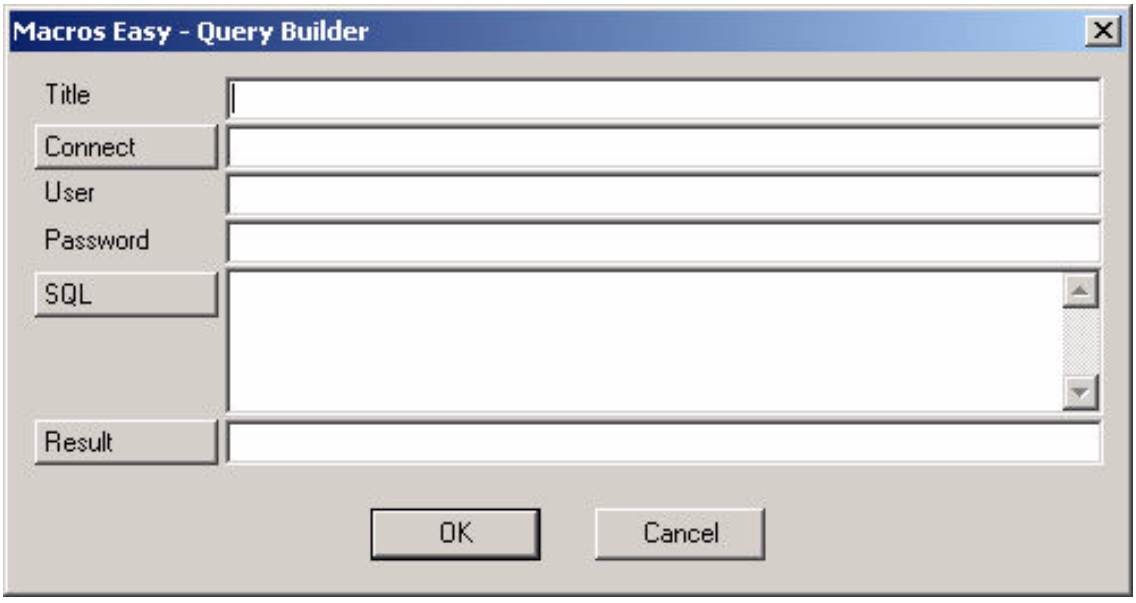
Tutorial - ODBC Lookup

ME allows you to lookup values from ODBC Data Sources and inserts them into your application.

1. Create a macro on a field (CTRL F10), and select Action QUERY.

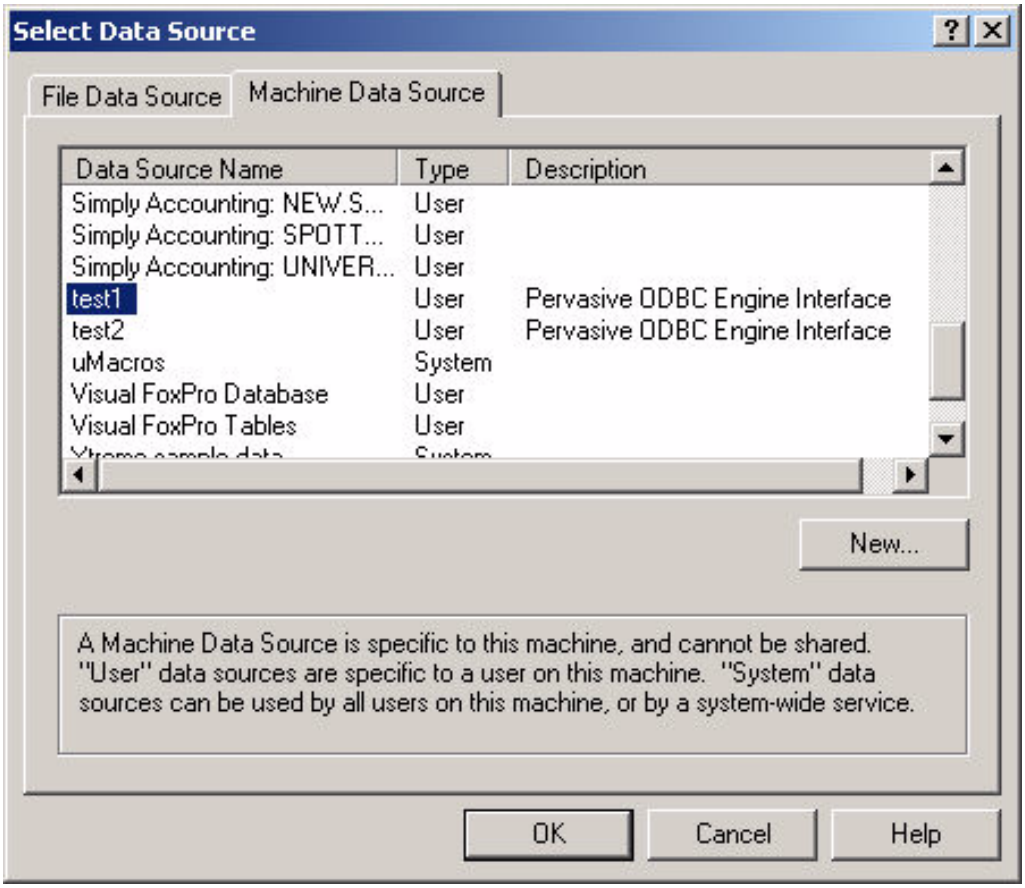


2. Press to bring up the Query Builder.

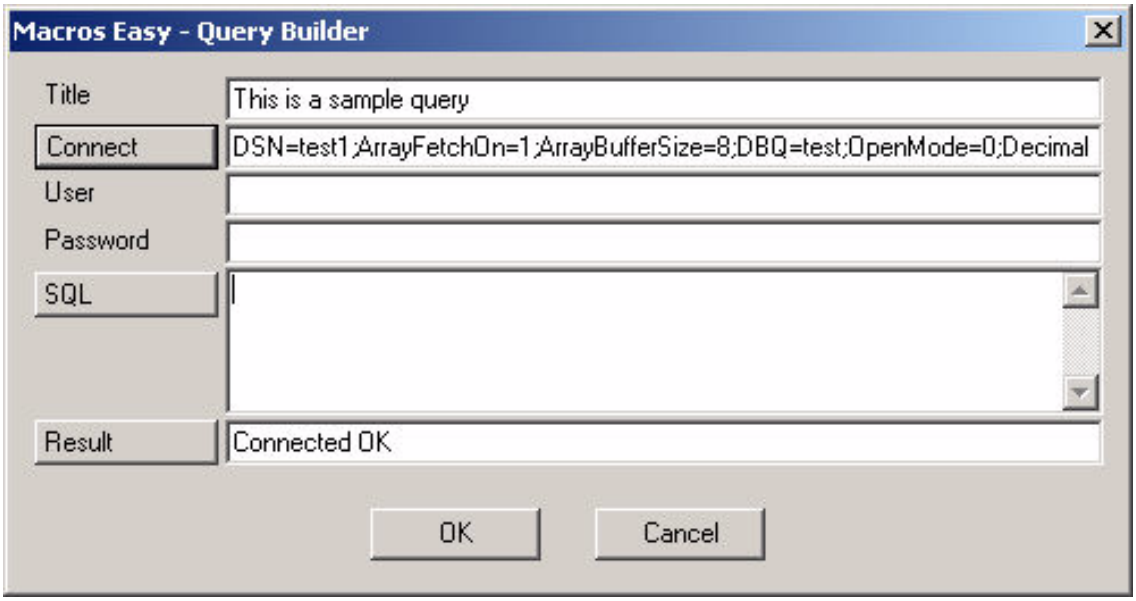


3. Type in a title.

4. Press the button.



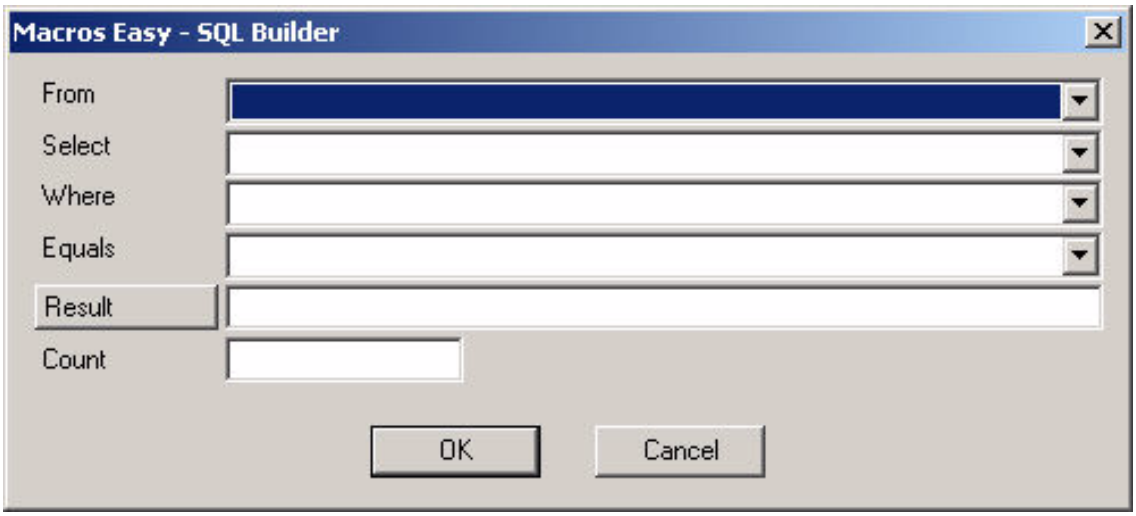
5. This will call the ODBC Administrator. Select the ODBC Data Source (Data Base) you want to read. If no Data Source exists, contact your System Administrator to have one set up. We will select 'test1'.



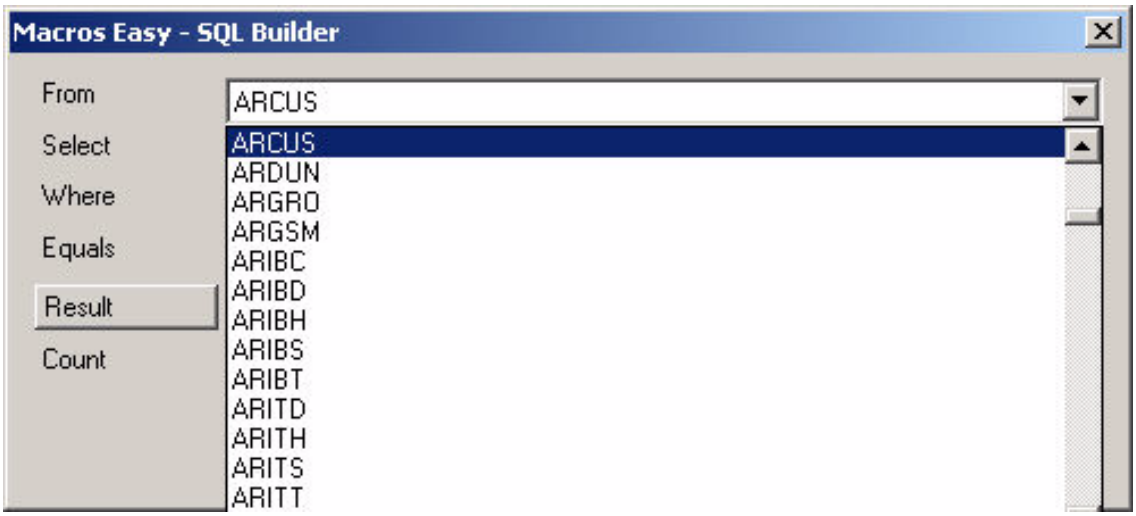
6. The 'Result' field will confirm that you connected to the database. If you are not able to connect, you may need to supply a User ID and Password.

7. Once you are connected, press the

button.

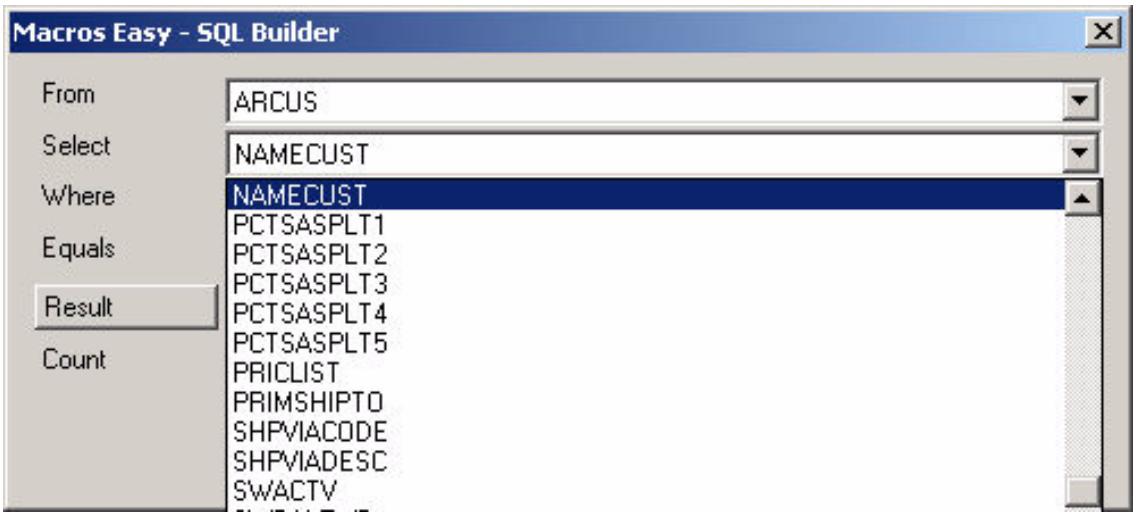


8. Choose a 'From' Table. This is the name of the table in the database you want to lookup.



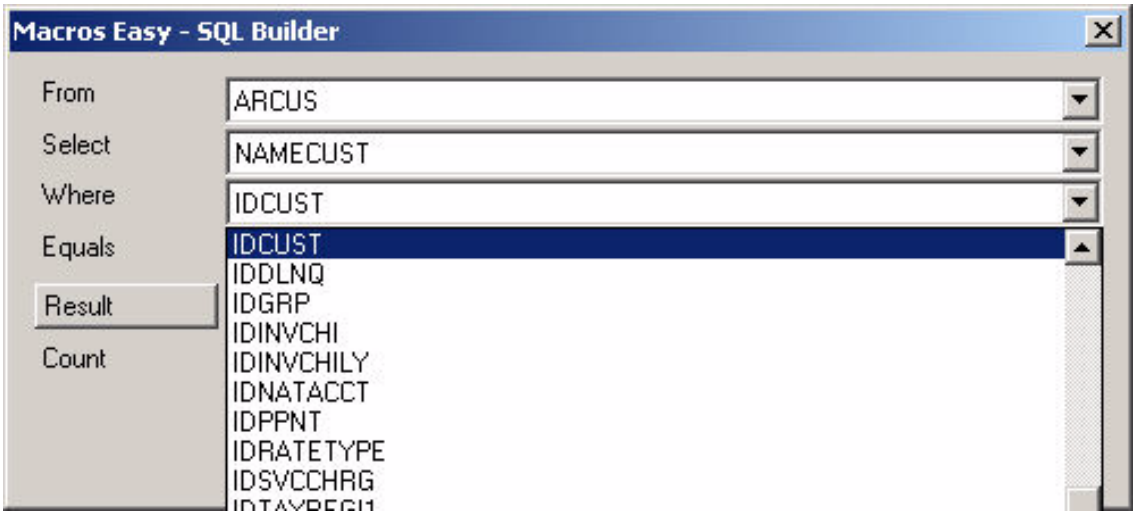
We will use 'ARCUS', which contains AR Customer information.

9. Choose a 'Select' field. This is the name of the column in the database you want to lookup.



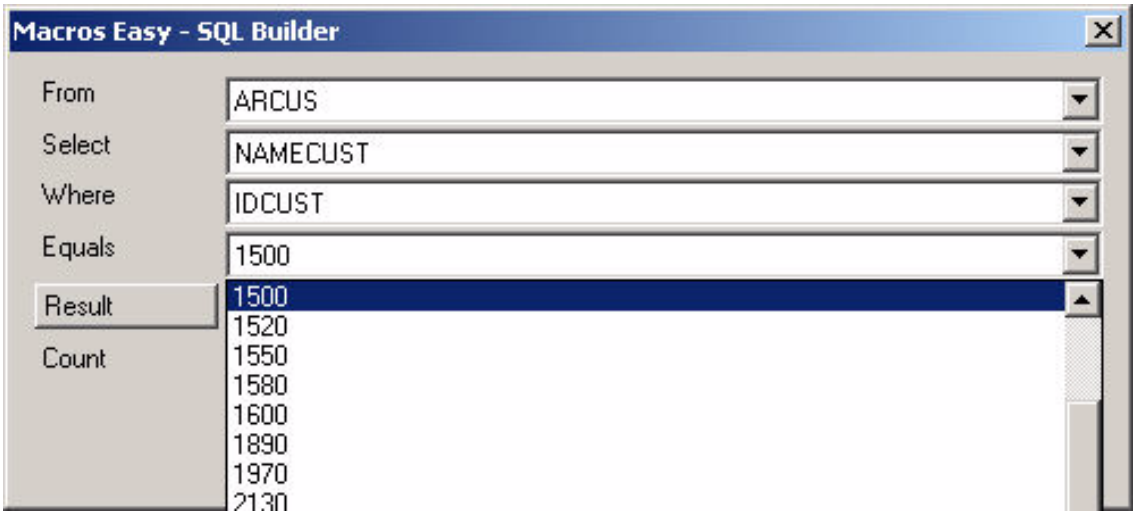
We will choose 'NAMECUST', which is the AR Customer Name.

10. Choose a 'Where' field. This is the name of the column that we will use to lookup the information.

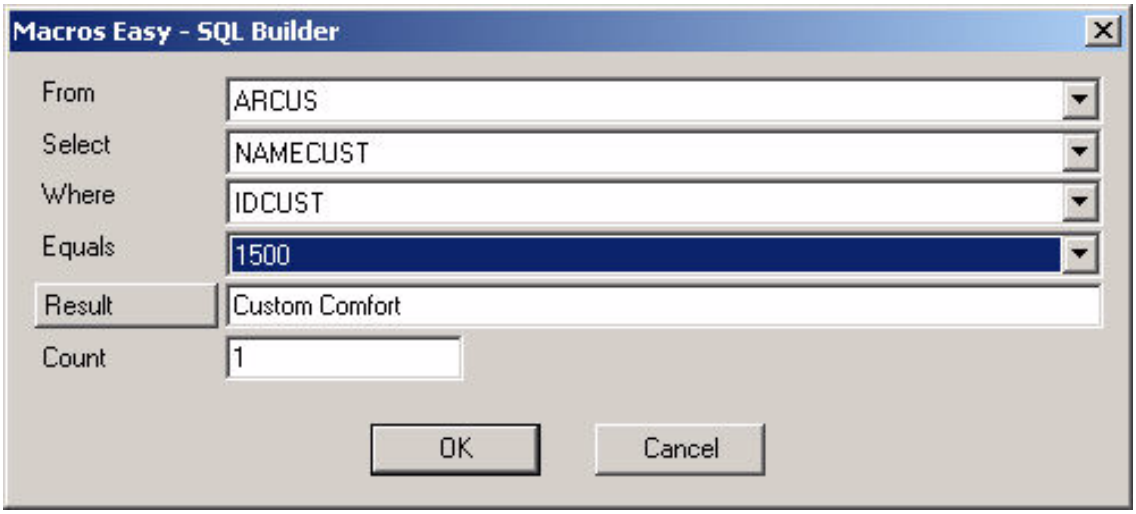


We will choose the 'IDCUST' field, which is the Customer Number. We are now set to lookup the Customer Name, based on the Customer Number.

11. Select an 'Equals' value. This is the value that the 'Where' field must equal.

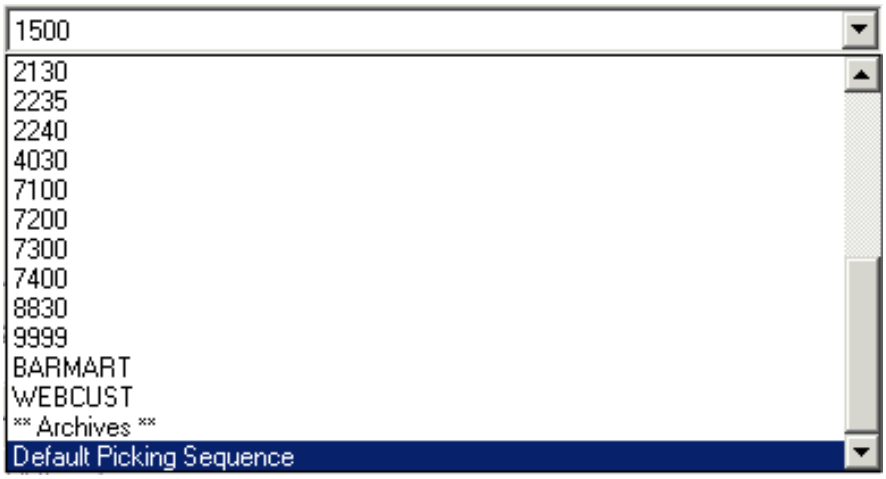


12. We will choose Customer Number 1500.



Note: Archive values can be used for 'Equals'. A list of Archives is added to the list of possible values in the Equals field.

Archives can be used to create SQL that changes on the fly, depending on the value you save in the Archive, using another macro.

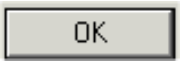


13. ME has performed our query, and returned a result.

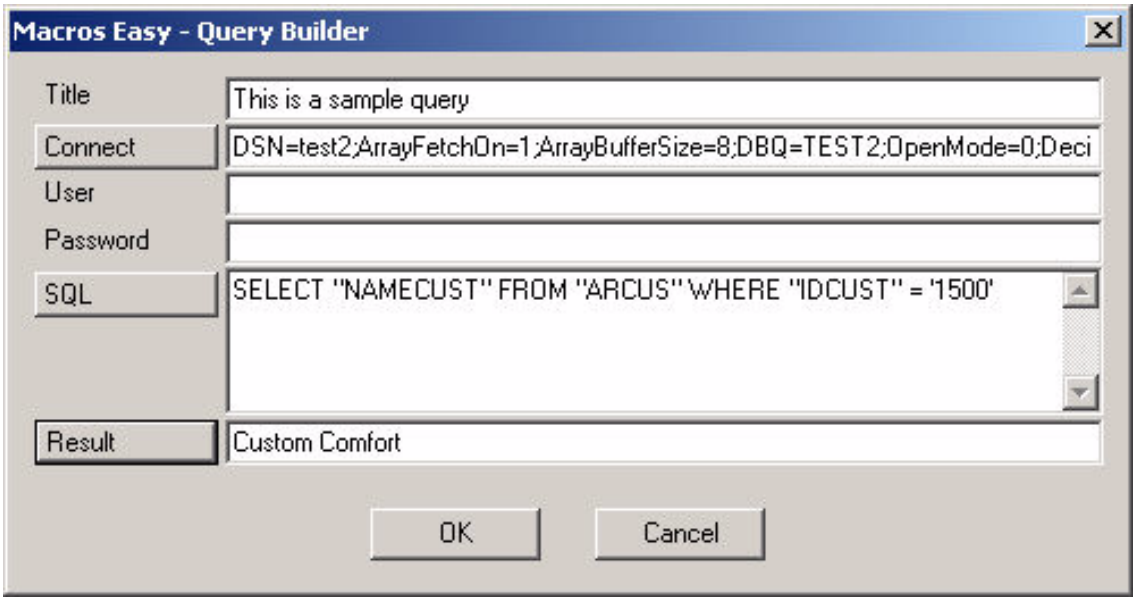
The Customer Name returned was 'Custom Comfort'. Pressing the

button will re-run the query. Each time a query macro runs, the query value is recalculated.

The 'Count' field tells you the number of results returned. Any count other than 1 indicates your query is not unique, and the results of your query may be misleading. You may need to refine your query.

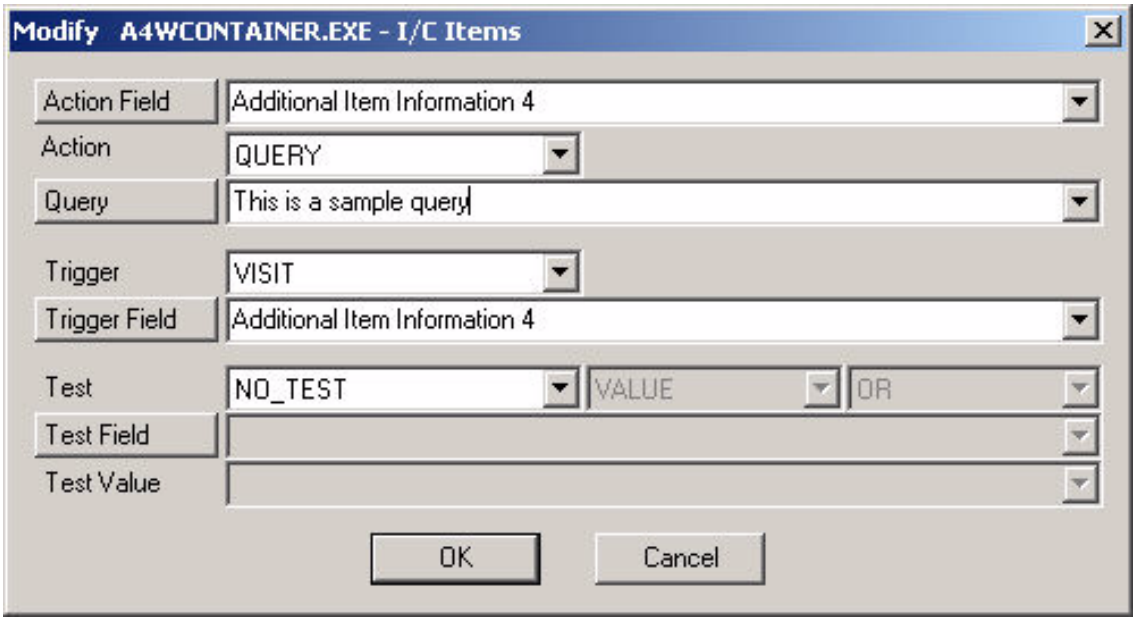
14. Press 

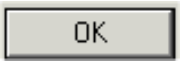
to return the results to the Query Builder.

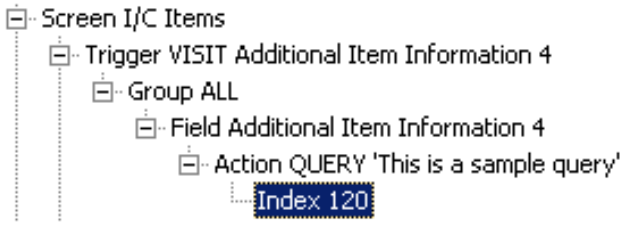


15. The SQL builder has built the SQL statement to perform our query. SQL is the standard language of databases. You can also cut and paste SQL from most database programs such as Crystal Reports into ME. These queries can be as complicated as you wish, so long as the SQL is less than 2000 characters.

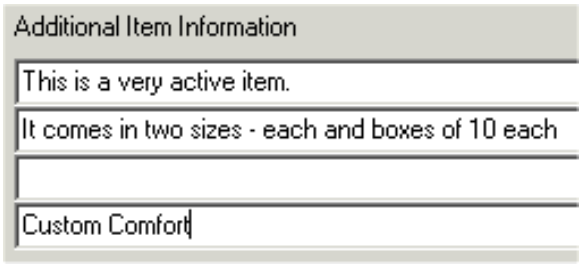
16. Press to return the results to ME.



17. Press  to save our new macro.



18. Close ME and test the query macro.



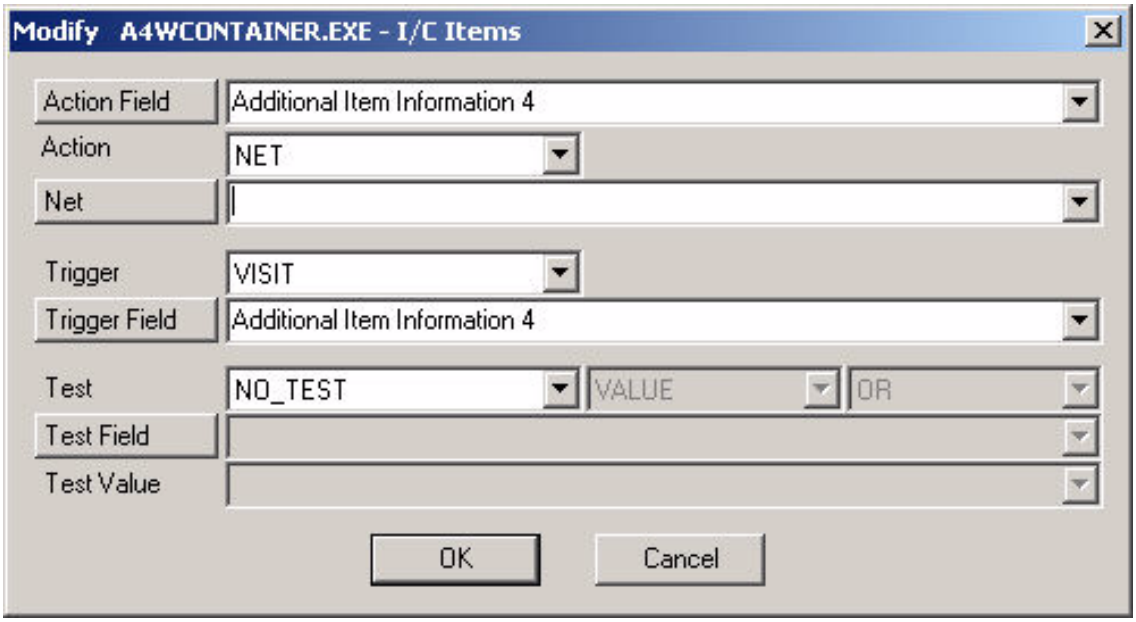
19. The macro has performed the database lookup and entered the result into our application. Each time the macro runs, the most recent information is retrieved.

This completes our Query tutorial.

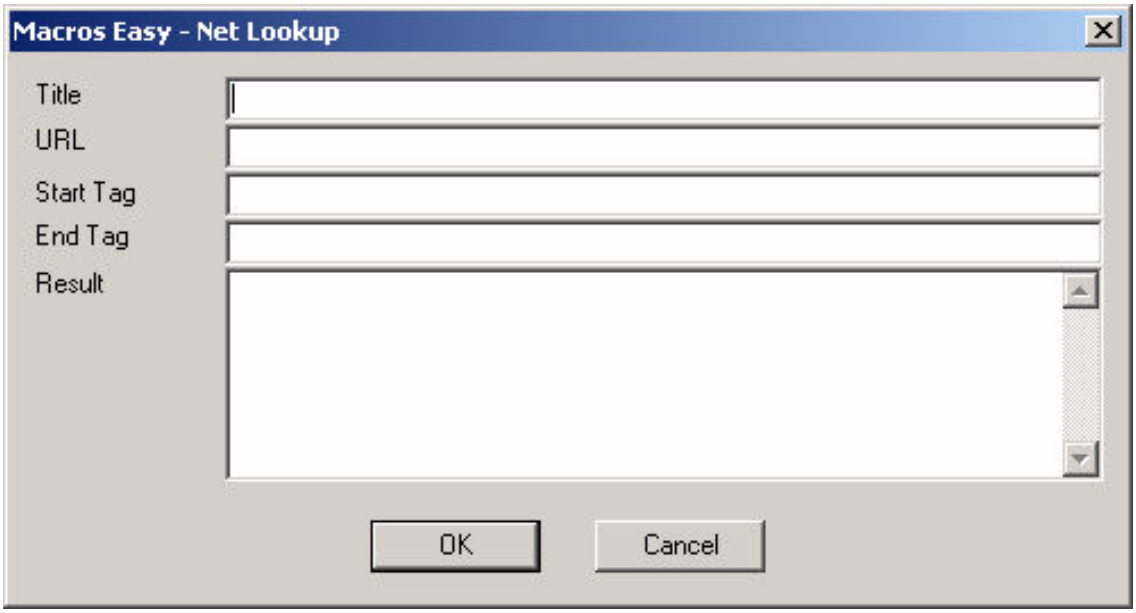
Tutorial - Internet Lookup

ME allows you to lookup values on the Internet and Intranet and insert them into your application. Typically for performance reasons these will be HTML or XML values, because of the time required to lookup values in large files.

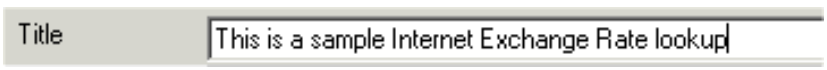
1. Create a macro on a field (CTRL F10), and select Action NET.



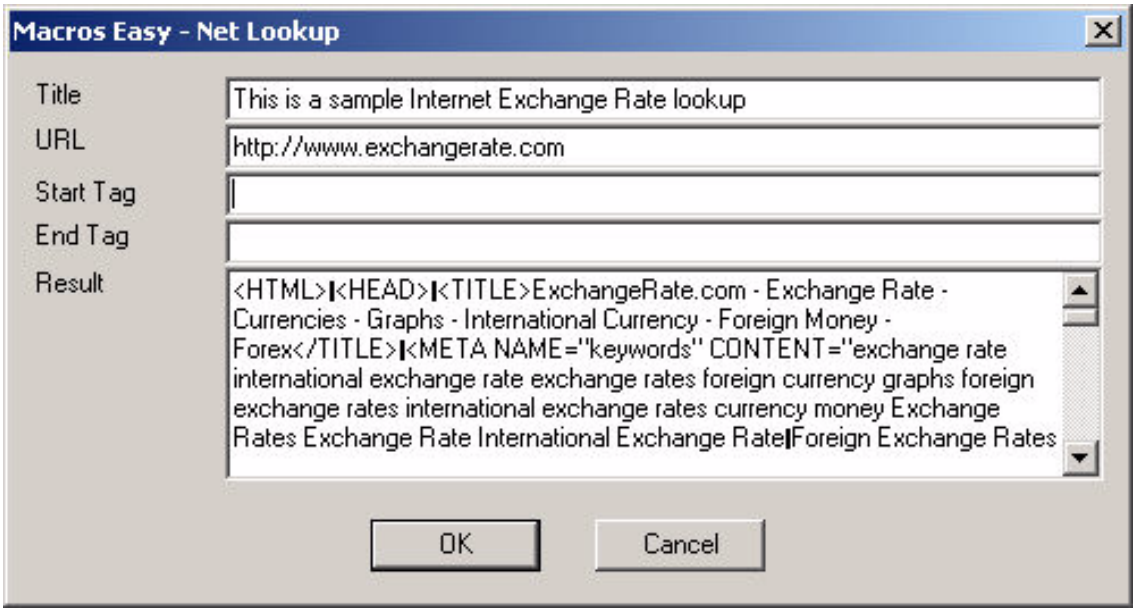
2. Press the button to bring up the Net Lookup builder.



3. Enter a title for this lookup.

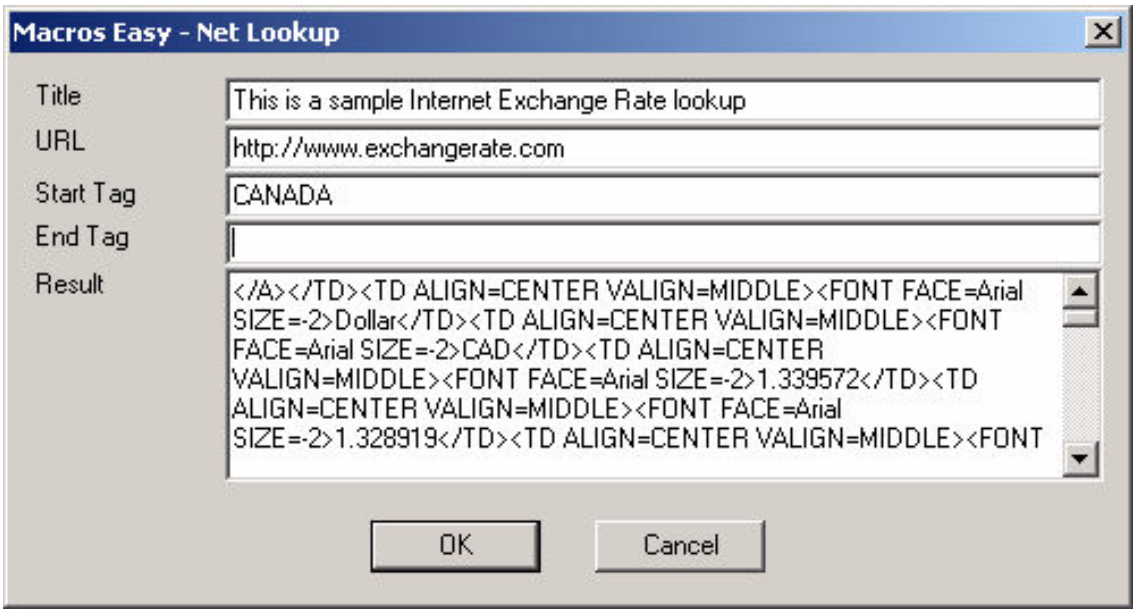


4. Enter the full internet address of the information you want to lookup. You can cut and paste this from your Browser. We will use a free exchange rate lookup service.

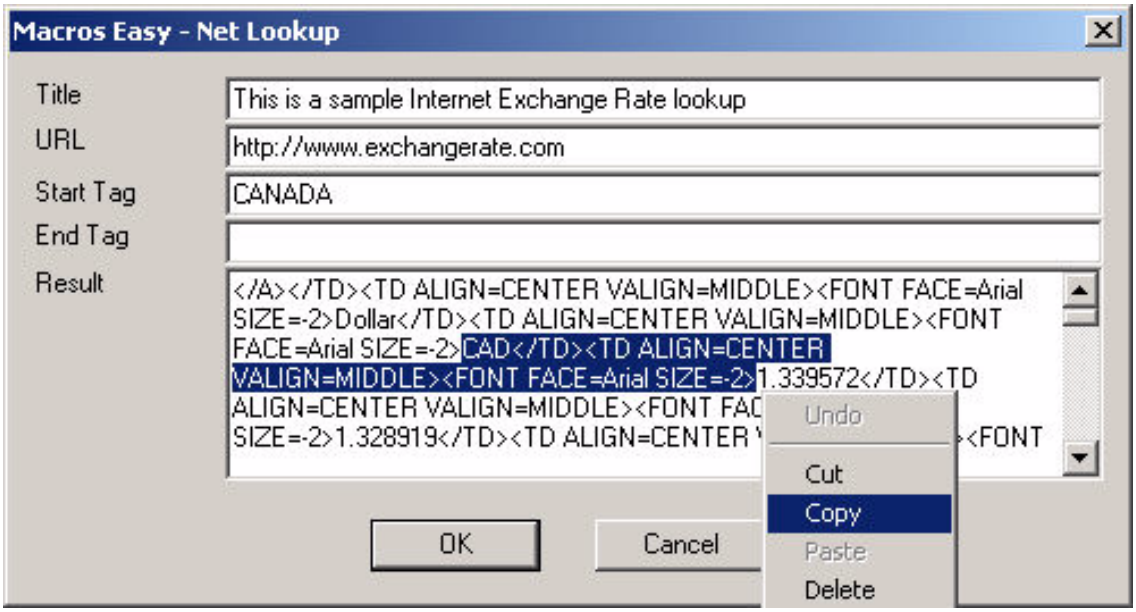


5. ME has returned the HTML for this site. Now we need to tell ME how to find the information we want.

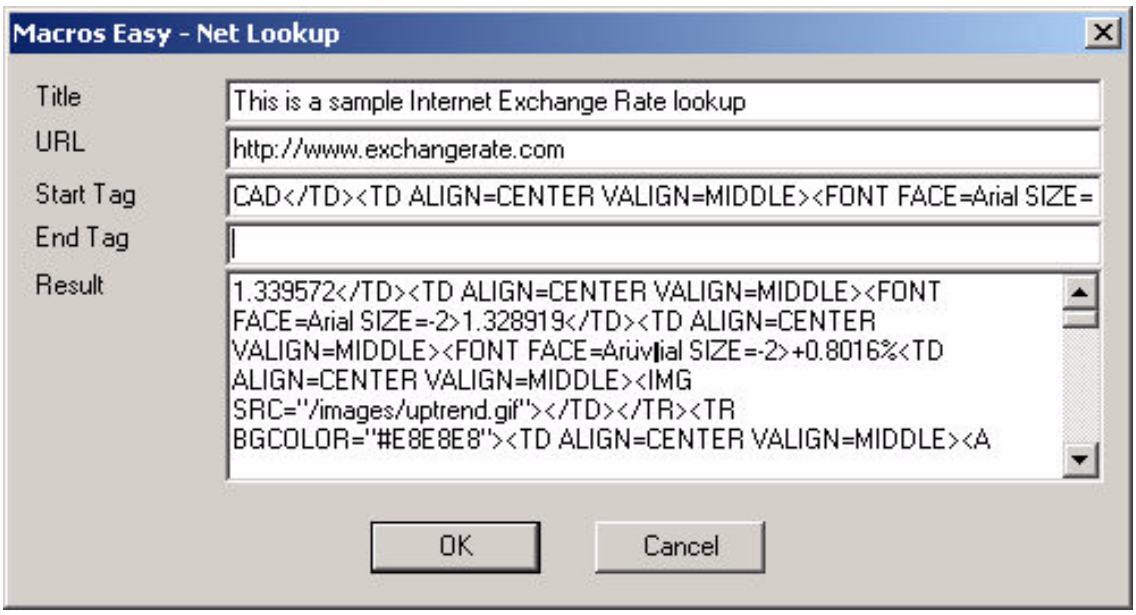
6. In this case we want to lookup the exchange rate for CANADA. Enter 'CANADA' into the start tag, and move to any other field. ME will search the HTML for the Start Tag.



7. ME found 'CANADA', and shows us all the text following the Start Tag. In this case we can see the exchange rate '1.339572'. Copy the text immediately ahead of the value you want. Make sure there is something unique ('CAD' in this case) in the text being copied. Use the mouse right click.

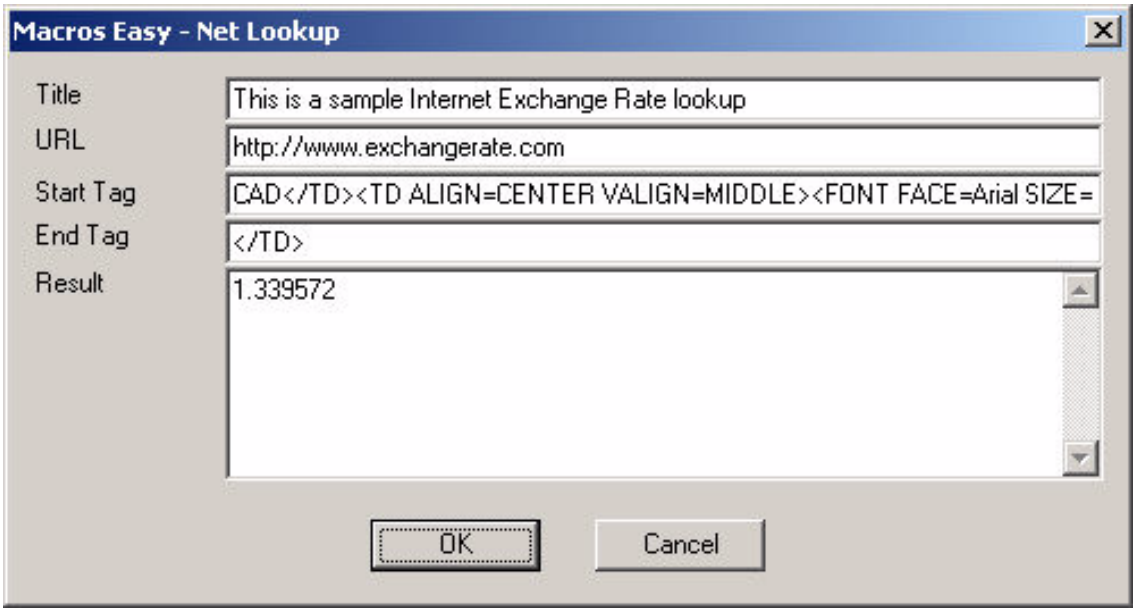


8. Paste this value as a new Start Tag, and move to another field.

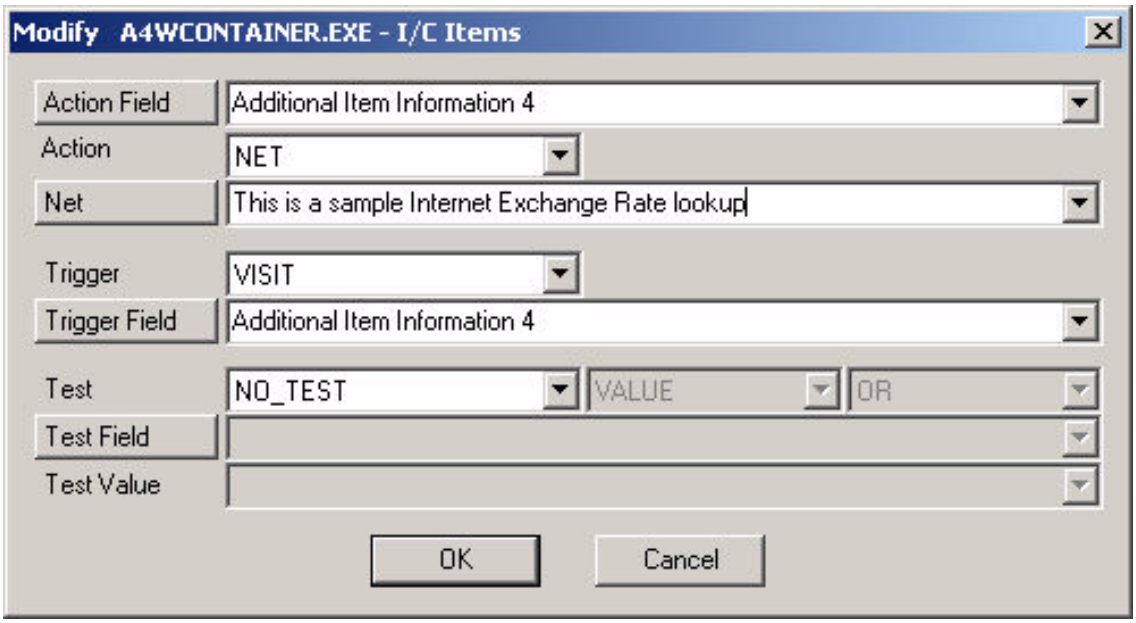


9. ME has searched the HTML, and returned the CAD exchange rate.

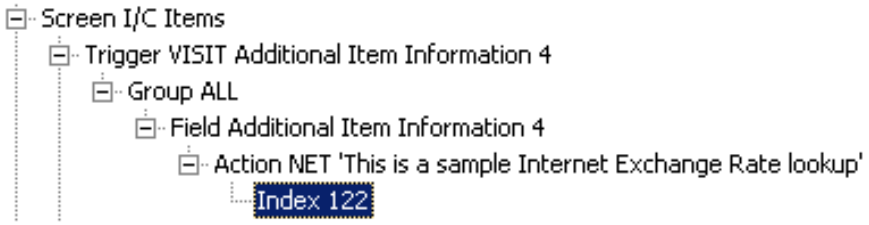
10. We now need to enter an End Tag, to isolate the exchange rate. Enter '</TD>' as the End Tag, and move to another field.



11. ME has now isolated the CAD exchange rate from the Internet. Press to return this lookup to ME.

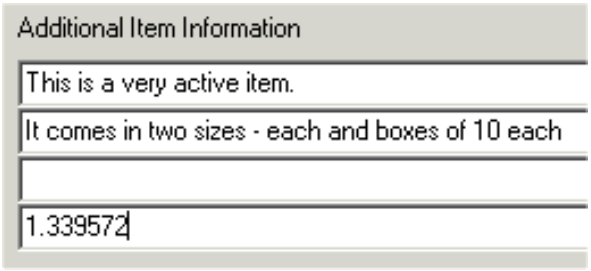


12. Press to save this new Internet lookup.



13. Each time this macro runs, it will lookup the CAD exchange rate from the Internet, and return the value to your application.

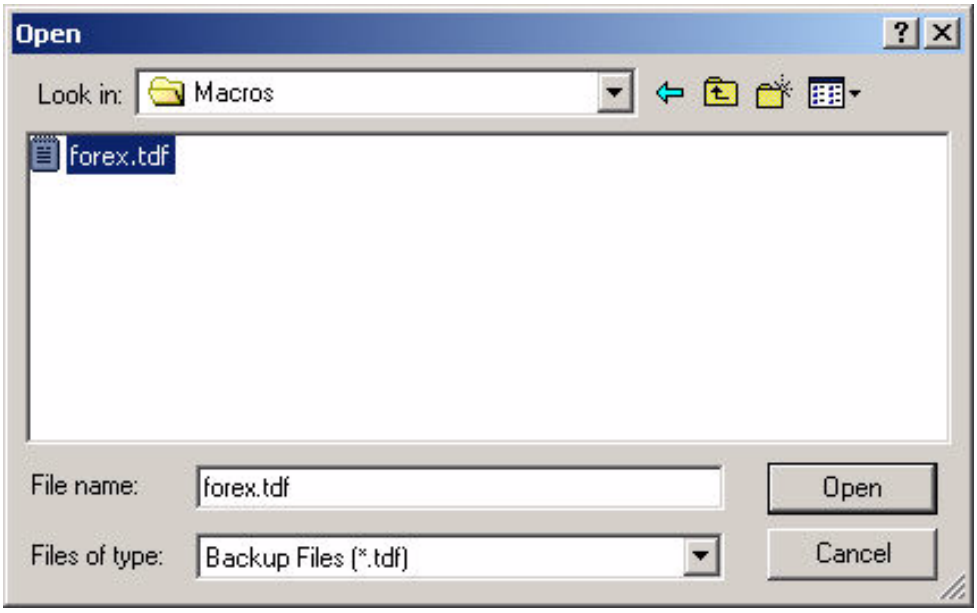
14. Test your macro to confirm it works.



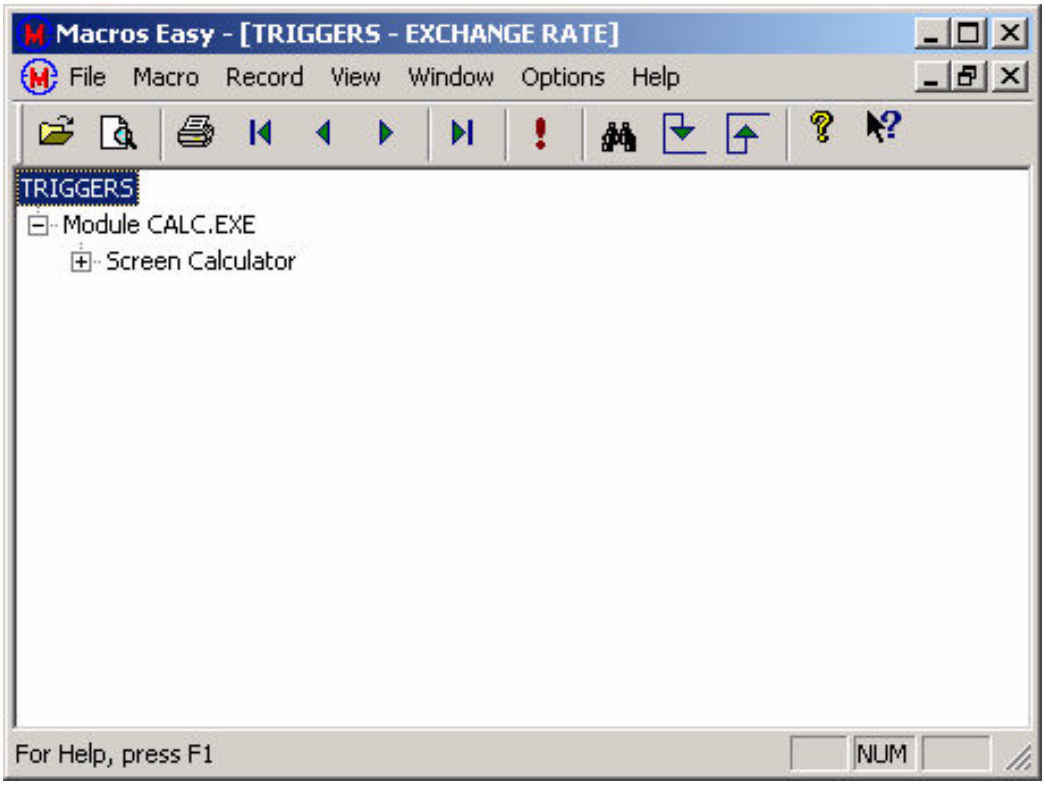
15 This completes our Internet Lookup tutorial.

Tutorial - Exchange Rate Calculator

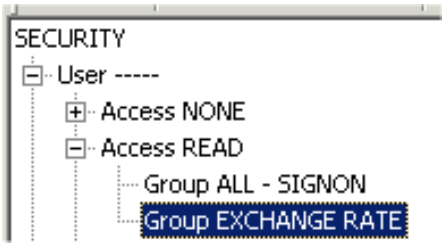
1. There is an exchange rate macro for the Windows calculator that you can use. Open ME, and close any open views. Select File, Restore, and select "Program Files\Macros Easy\Macros\foreex.tdf".



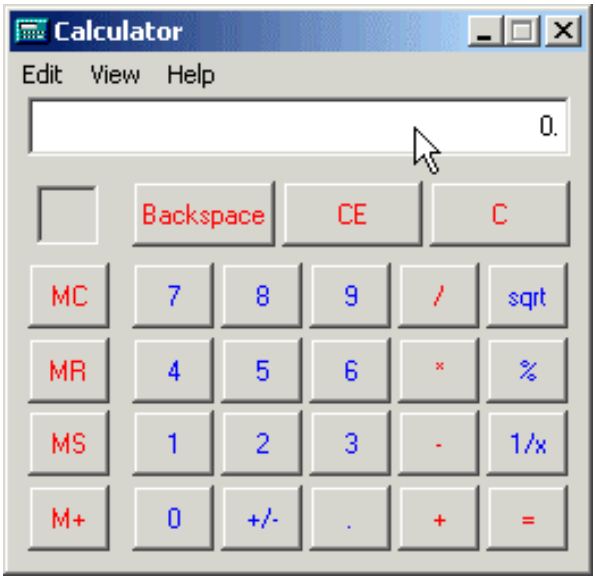
2. This will create a series of macros and a menu in group "Exchange Rate".



3. Make sure you have security access to the Exchange Rate Group.

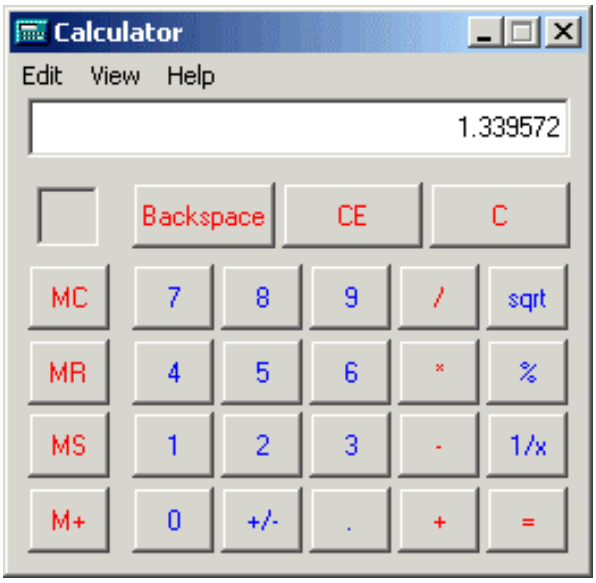


4. CLICK the result window in the Windows, Accessories, Calculator.



5. This will being up an exchange rate menu.

6. Select the rate you want to use, and Press OK (or double click the selection).



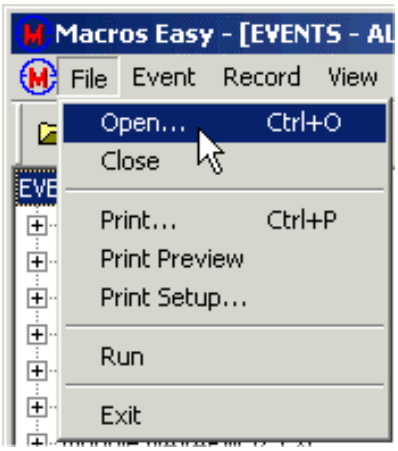
7. ME will lookup the value from the Internet and return the current exchange rate. The exchagne rate calculator is also enabled for ACCPAC. You can modify the exchange rate macros to suit your requirements.

Views

Actions View

The Actions view is the default view automatically opened when you open ME. You can also open this view manually.

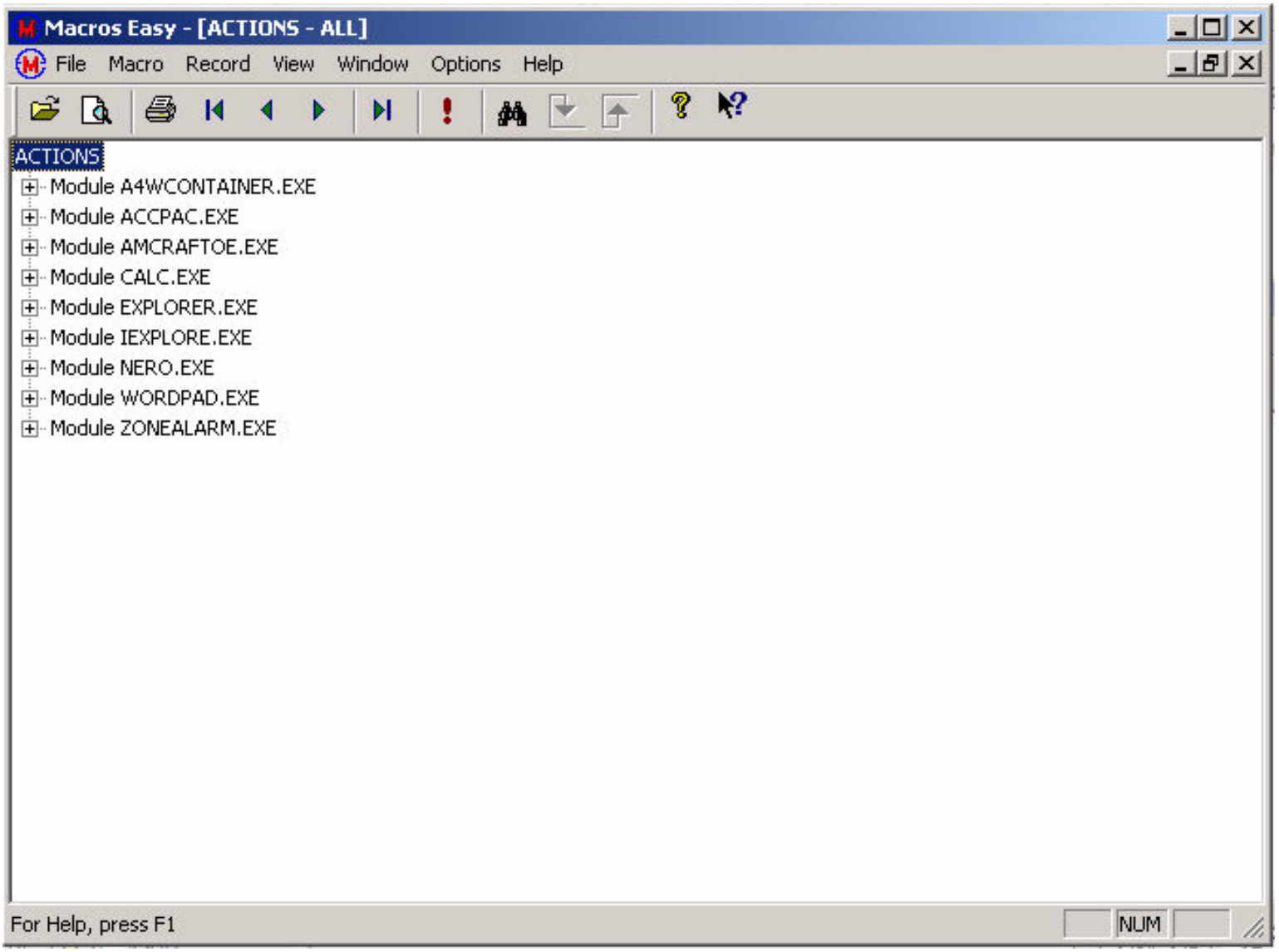
Select **File, Open** from the main menu.



This will bring up a list of available views.

Select Actions and press OK.

This will open a new window and load the Actions View of the database.



Depending on the size of your database it may take a couple of seconds to load your table. While the table is loading:

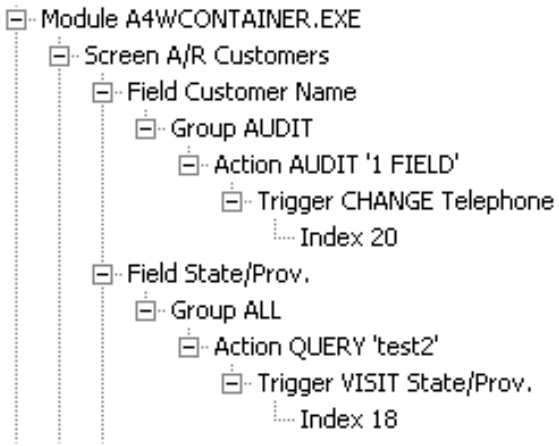
will appear in the main title. This is done in the background to minimize delays. You can still work with the visible portions of the database while the rest is loading.

Macros are defined specific to modules (applications) and specific forms (screens). Each field on each screen can have one or more macros.

Using the window

The Actions window shows all the programs that have macros (within your group).

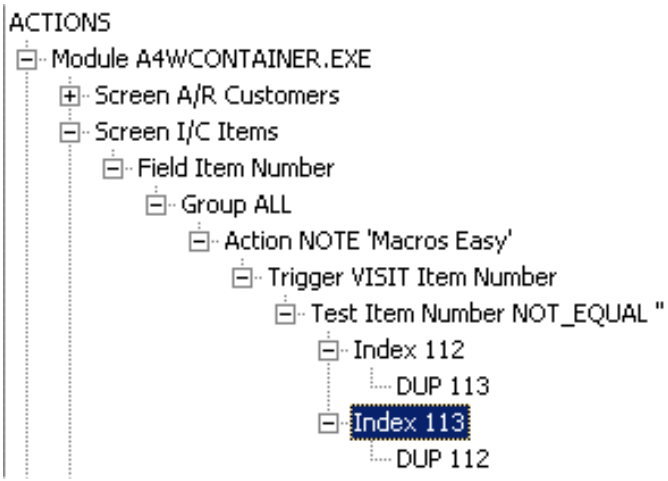
If you click on the "+" graphic to expand a program:

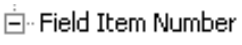


This will show the screens that have macros for module A4WCONTAINER.EXE (ACCPAC for Windows).

This process can be repeated until the macro is fully expanded:

Note: Double clicking on an item will automatically fully expand or collapse the item without having to repeat for each sub item.



This shows a fully expanded macro for 

. The macro is read as follows:

This is a macro for the "Item Number" field on screen "I/C Items", in "A4WCONTAINER.EXE".

This macro is for Group "ALL".

The Action will occur on the "Item Number" field. The popup Note named "Macros Easy" will be displayed.

The macro will run on the Trigger "VISIT" in the "Item Number". The macro will run when the user moves to the "Item Number" field.

The macro has AND/OR conditions defined, which will limit when the macro will run depending on the contents of "Item Number" field and the "Commodity" field.

Fully expanded, each macro has an Index. This is the number used by ME to uniquely identify each macro for editing and modification.

Under the Index number is optionally a "DUP" entry. This cross-references macros that are duplicates of other macros. Duplicates are not errors - but they may be.

When a macro is fully expanded double clicking on an Index --- either the Index number or a duplicate Index number will bring up the Macro Edit dialog for that index..

You can also select an Index and then edit that macro using the main menu.

In the example shown Macros Index 112 and 113 are duplicates. One of the duplicates should be deleted.

In the example shown Index 113 has been selected in preparation for deleting the duplicate macro.

Macro Fields

Module

The name of the program (application) the macro will run in.

Screen

The name of the screen (top-level window) the macro will run in.

Field

The name of the field this macro will run in.

Group

The user group that this macro will run in.

Action

The Action to be performed. The characters, button state, or data to be sent to a field.

Trigger

The Trigger and Field that will run the macro. This can be any field on this screen.

And, Or

And/Or conditions that will apply to any Test. (See below - Multiple Macros per Field.)

Test

The condition to test for in an IF statement. The **TestField** is the field to be tested, and the **TestValue** is the value to be tested. The value to be tested can be either text or states, depending on whether the field being tested is an Edit field or a Button.

Index

The Index field uniquely identifies each macro and links a macro to any recorded KeyMouse macros.

Memo

A user-defined text field normally used to document a macro. This field allows you to create a user-defined name for your macro.

Dup

The field lists duplicate macros.

Double Clicking the “Index” or "Dup" field will display the Modify Macros dialog to allow editing of a macro.

Macro Menu

Macros can be maintained via the Macro Menu and Record Menu. Right clicking a macro will display the Macro Popup menu which combines the Macro Menu with the Record Menu.

Order of Execution

Whenever there is user input likely to update a field ME evaluates all Triggers that have occurred since the last user input.

Macros that satisfy the Triggers and Tests for this screen are marked ready to run.

Macros for Trigger "ALL" are executed first then all remaining macros are executed in the order in which each specific Trigger occurred.

By assigning macros to specific Triggers you can control the order in which macros are executed.

The Triggers View shows the order of execution.

Multiple Macros per Field

Multiple macros are allowed for each field according to the following rules:

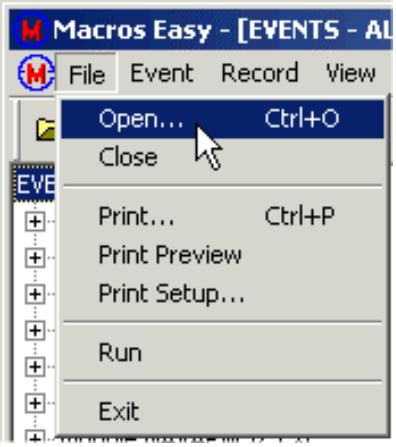
1. Only one DEFAULT macro is allowed per field. The default macro has Trigger=ALL and Test=NO_TEST. The default macro will run only if no other macros for this field are ready to run.

2. Multiple macros for a field which differ only in their "Send" value may overwrite each other and are flagged as DUPs.

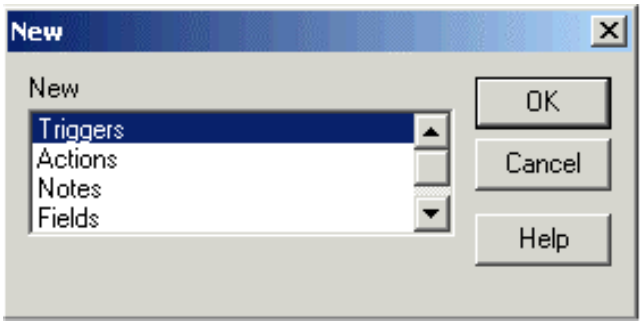
3. If multiple macros exist for a field which differ only in their TestField or TestValues this will create AND/OR conditions. (See And/Or Conditions.)

Triggers View

Select **File, Open** from the main menu.

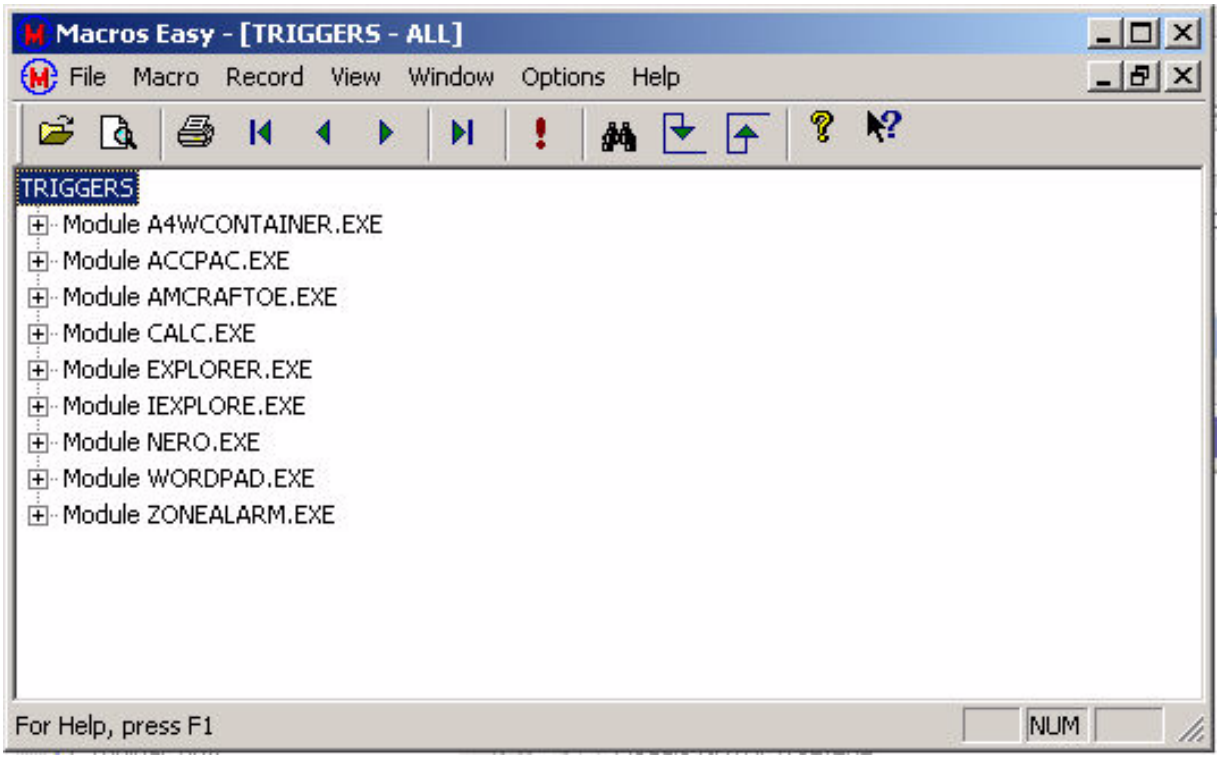


This will bring up a list of available views.



Select Triggers and press OK.

This will open a new window and load the Macros database table in Module, Screen and Trigger sequence.



Depending on the size of your database it may take a couple of seconds to load your table. While the table is loading:

will appear in the main title. This is done in the background to minimize delays. You can still work with the visible portions of the database while the rest is loading.

For details on the use of this view and the meaning of the fields, See Actions.

Changing the Order of Execution

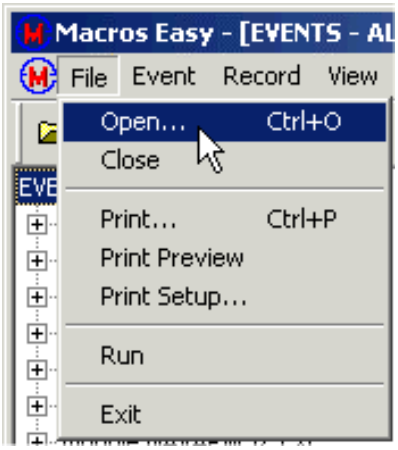
The Triggers View shows the order of execution for multiple macros for a single Trigger.

Normally the order of macro execution is the same as the order in which Trigger events occur. When multiple macros exist for the same Trigger they are normally run in Index sequence.

If you need to change the order of multiple macros for a single Trigger to something other than index sequence the Macro menu Move Up/Down functions can be used to change this. (See Order of Execution.)

Fields View

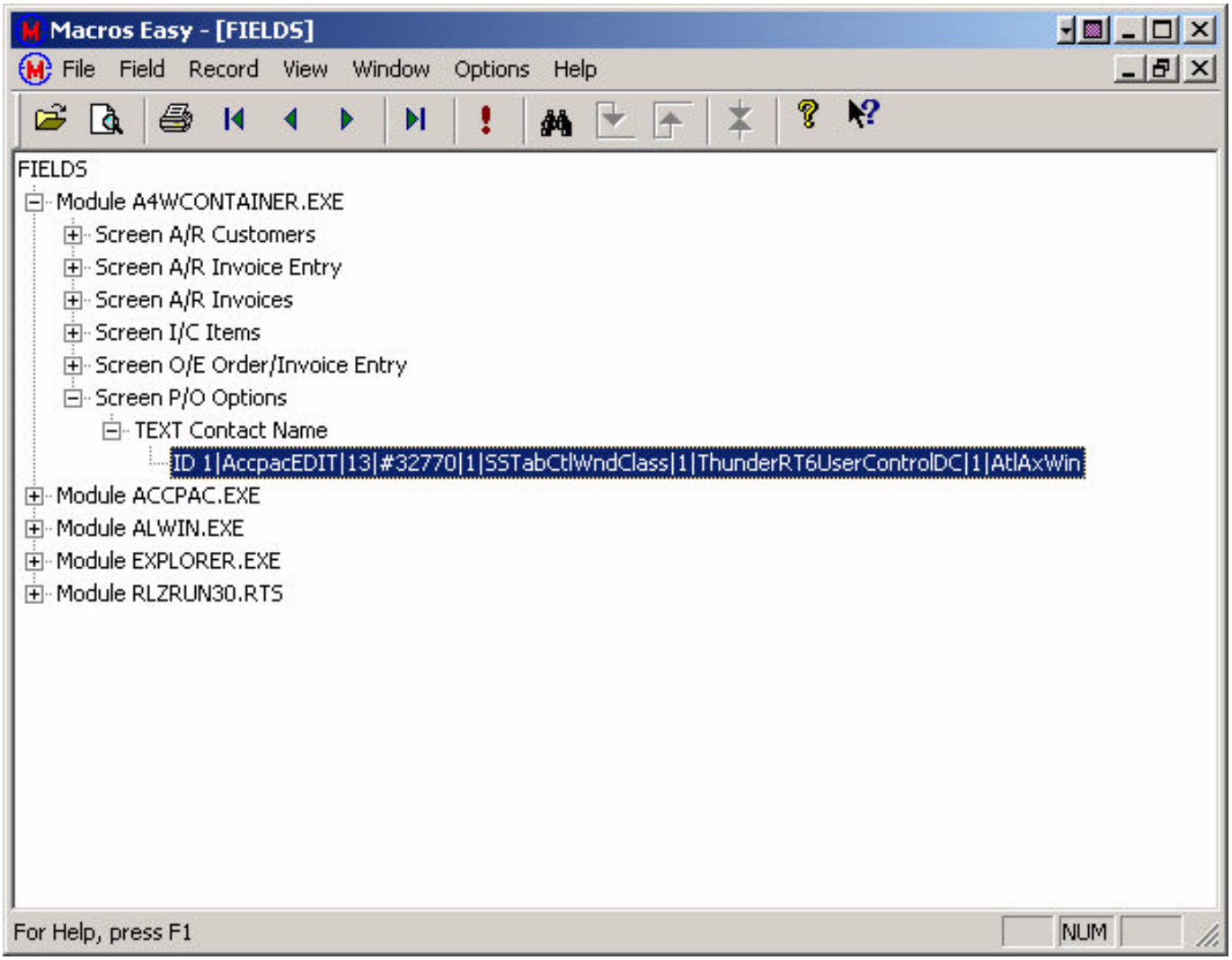
Select **File, Open** from the main menu.



This will bring up a list of available views.

Select Fields and press OK.

This will open a new window and load the Fields View.



Depending on the size of your database, it may take a couple of seconds to load your table. While the table is loading:

will appear in the main title. This is done in the background to minimize delays. You can still work with the visible portions of the database while the rest is loading.

The Fields window is similar in use to the Macro window.

Fields

Module

The name of the program (application) the field is defined in.

Screen

The name of the screen (top-level window) the field is defined in.

Name

The user (application) defined name of the field and the field **Type** (e.g.: text, button).

ID

A composite system identifier for the field to relate field names to physical fields.

Fields Maintenance

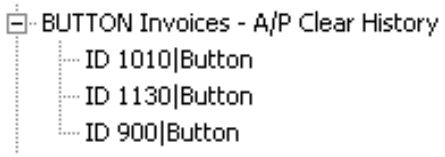
Maintenance of the Fields table is done via the Field Menu, Record Menu and Field Popup.

Multiple Field ID's per Name

Some applications use multiple physical screen fields to represent a single logical screen field. This is often done transparently, unknown to the user. For ME to work as expected these fields should typically be given the same name.

It may be necessary when creating new field names to select multiple application screen options to locate all the physical fields associated with a single logical field.

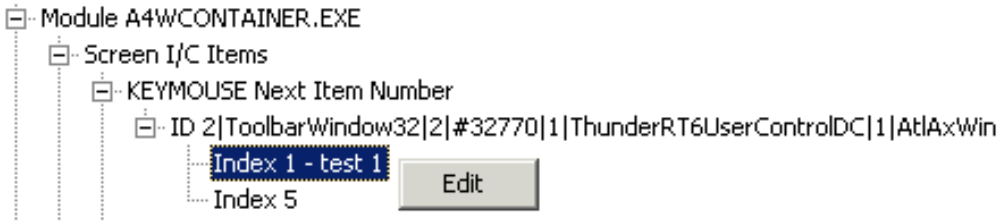
If the same field appears in two different locations on the same screen you may wish to give each occurrence a different name to allow each copy of the field to have different macros.



Here is an example of multiple field Id's per name. In this example there are three physical buttons used to represent the "Invoices - A/P Clear History" depending on the screen options the user has selected.

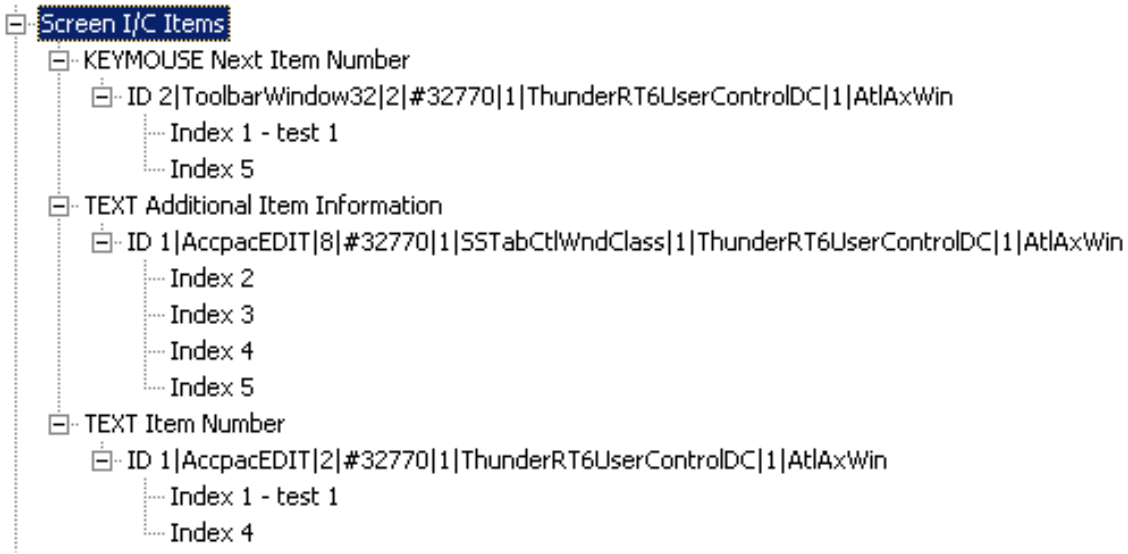
ME uses this feature to allow a single macro to refer to multiple physical fields.

Editing Field Macros



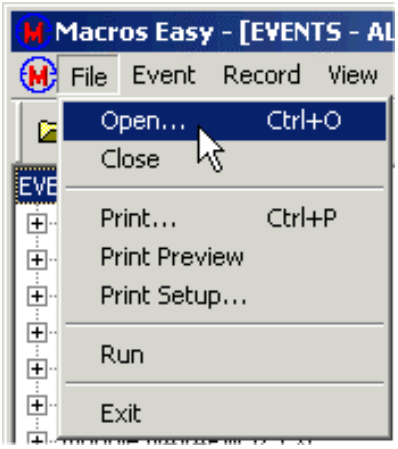
When the Fields View is fully expanded, the Indexes of the macros that use each field are displayed under the Field ID. Right-clicking or double-clicking the index allows you to directly edit the macros that uses the field, without returning to the Actions or Triggers view.

Since multiple macros might use a single filed, and a single macro might use multiple fields, it is possible to see multiple Indexes listed for a single field, as in the above example. It is also possible to see the same Index listed for multiple fields, as in the following example:


Screen I/C Items
KEYMOUSE Next Item Number
ID 2|ToolbarWindow32|2|#32770|1|ThunderRT6UserControlDC|1|AtlAxWin
Index 1 - test 1
Index 5
TEXT Additional Item Information
ID 1|AccpacEDIT|8|#32770|1|SSTabCtlWndClass|1|ThunderRT6UserControlDC|1|AtlAxWin
Index 2
Index 3
Index 4
Index 5
TEXT Item Number
ID 1|AccpacEDIT|2|#32770|1|ThunderRT6UserControlDC|1|AtlAxWin
Index 1 - test 1
Index 4

Notes View

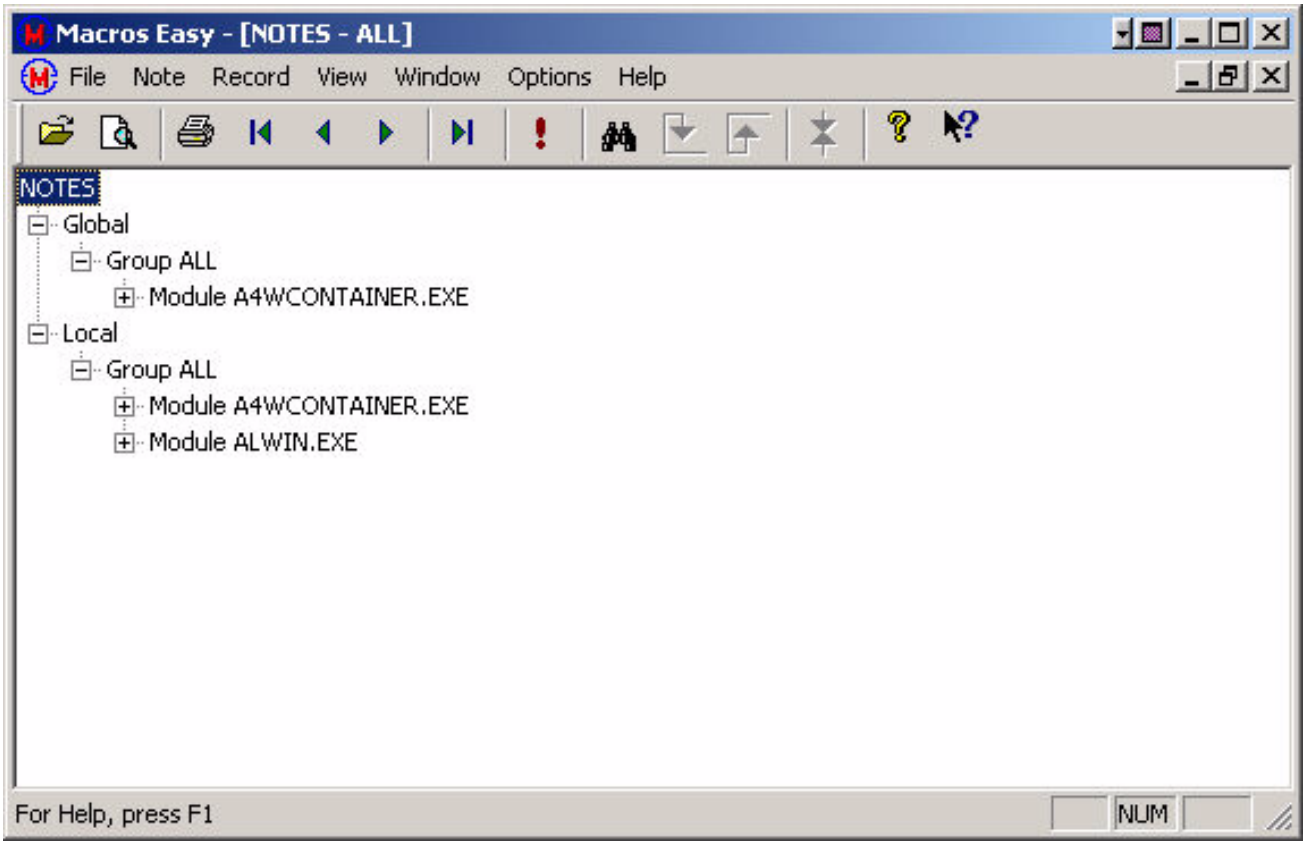
Select **File, Open** from the main menu.



This will bring up a list of available views.

Select Notes and press OK.

This will open a new window and load the Notes View of the database.



Depending on the size of your database it may take a couple of seconds to load your table. While the table is loading:

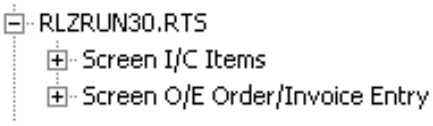
will appear in the main title. This is done in the background to minimize delays. You can still work with the visible portions of the database while the rest is loading.

Notes are a special class of note in that a single note can create a note over a range of screens and applications. You create a note on a single field and then by selecting the "scope" of the note, this note will work on other screens and applications.

Using the window

The Notes window shows all the programs that have notes (within your group).

If you click on the "+" graphic to expand a program,



This will show the screens that have notes for module RLZRUN30.RTS.

This process can be repeated until the note is fully expanded:

Note: Double clicking on an item will automatically fully expand or collapse the item without having to repeat for each sub item.

When a note is fully expanded double clicking on an Index will bring up the Note Edit dialog for that index..

You can also select a Note and then edit that note using the main menu.

Note Fields

Scope

Whether this note will appear in other screens or applications.

Group

The user group that this note will run in.

Module

The name of the program (application) the note will run in.

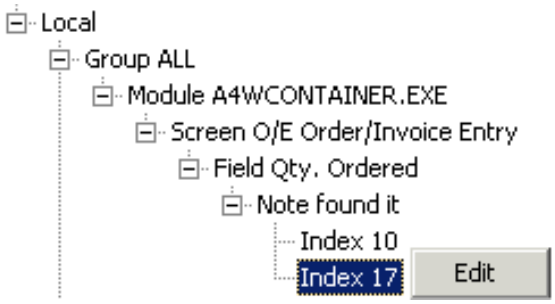
Screen

The name of the screen (top-level window) the note will run in.

Title

Notes are stored by title and more than one macro can share the same note. Changing the note once changes all macros using the same note title. The title appears as the heading of each note.

Editing Note Macros

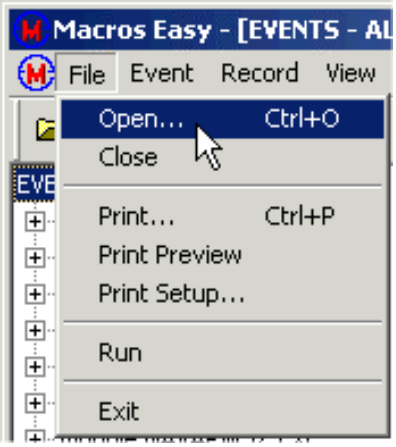


When the Notes view is fully expanded, each note displays the Indexes of the macros linked to the note. Double-clicking, or right-clicking the macro Index allows you to directly edit the macros associated with each note, without having to go to the Actions or Triggers view.

Since each note can be called by multiple macros, it is possible that a single note will have multiple macros associated with it, as is the case in the above example.

Security View

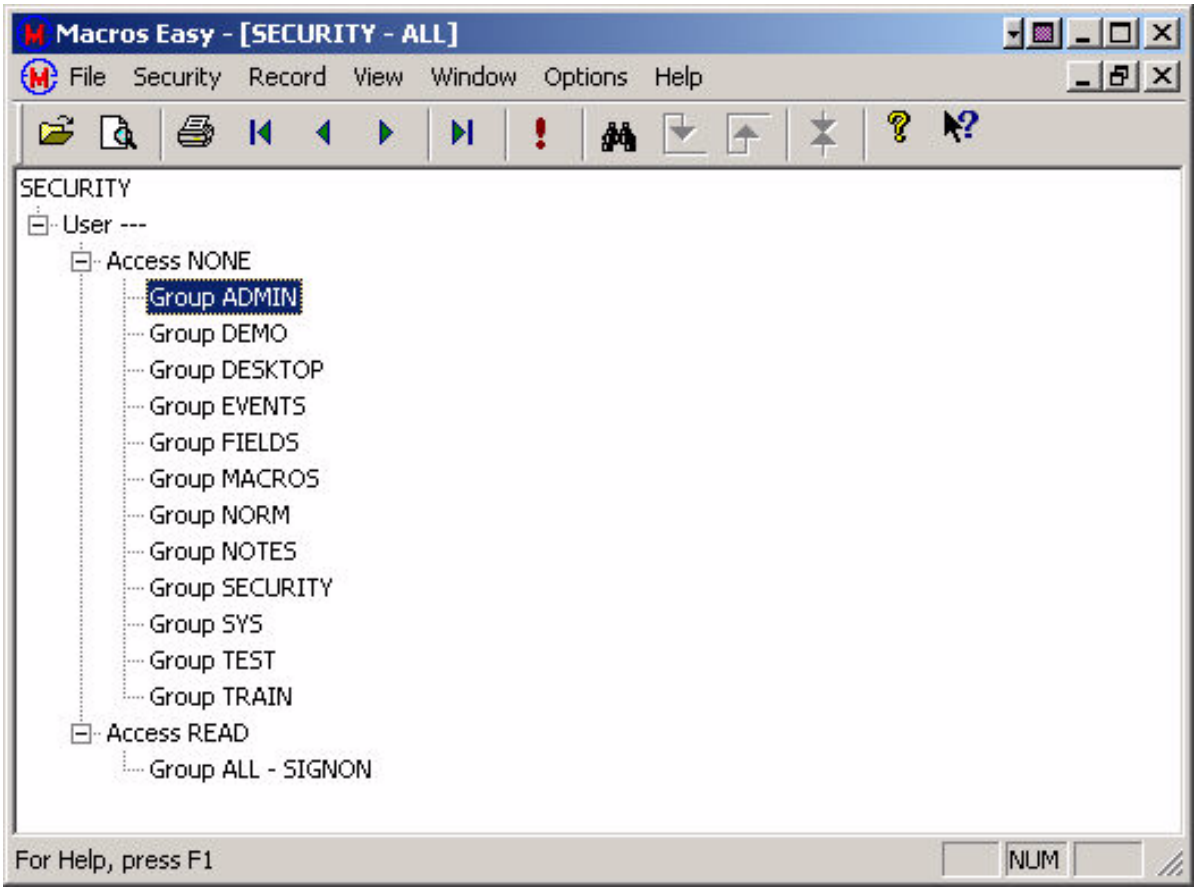
Select **File, Open** from the main menu.



This will bring up a list of available views.

Select Security and press OK.

This will open the Security view of the database.



Depending on the size of your database it may take a couple of seconds to load your table. While the table is loading:

will appear in the main title. This is done in the background to minimize delays. You can still work with the visible portions of the database while the rest is loading.

Security Fields

UserID

The user this security record is associated with.

Access

The security level for a UserID, Group combination.

Group

The groups with security records for this user.

Signon

The user is signed on to a specific group.

Access levels

When security is turned on (see Activation) the following apply:

NONE

The user cannot access that group.

READ

The user can change to that group and run macros.

UPDATE

The user can change to that group, run macros and create/edit macros.

DELETE

The user can change to that group, run macros, create/edit macros and fields, delete macros and fields, and modify group passwords.

SYSTEM

The user can do anything including adding/modifying/deleting groups and changing passwords.

The system password can only be set by activating ME. This turns on security.

Actions

ME supports the following Actions:

"Actions" change fields, or save the value of fields.

None

No action will be taken. This can be used to temporarily turn off a macro for testing purposes. Unlike using Trigger Never to turn off a macro this does not change the execution sequence of a macro.

Paste

Paste is the preferred Action to update a field. It is fully automatic and only runs when a field needs updating. Not all fields work with Paste.

KeyMouse

Sends keystrokes and mouse clicks to a field. KeyMouse macros can be used to update fields or to trigger other macros. KeyMouse macros work with any fields that accept keyboard/mouse input.

See KeyMouse.

Playback

Plays back a recorded macro composed of keystrokes and mouse actions. These "PlayBack" macros are the same as the macros most users are familiar with.

See Playback.

Field

Sends the contents of a screen field or the state of a button to another screen field. Both fields must be in the same screen.

Pressing the

button will bring up the Finder to search for the field.

Archive

Saves the contents of a field or the state of a button to a user-defined name. Each user can have an "unlimited" number of archives. Take care when using this Action as it works opposite to the other Actions. Archive does not

change the macro field it saves it to a name of your choosing. This Action does not update any screen field values, except when used with Retrieve.

Retrieve

Retrieves the contents of an archive. Can set the value of a field, or the state of a button even for fields that are not in the same screen. Can be used to pass values or to save the "LAST" value of a field, to prime the field for the next iteration.

Note

Pops up the contents of the Send field as a note, alongside the macro field. Used to notify the user.

Pressing the

button will bring up the Notes dialog.

Menu

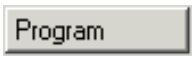
Constructs a popup menu to allow a user to select a list of macros.

Pressing the

button will bring up the Menu dialog.

Program

Runs a program. The "Send" field contains the executable file name, including any command line arguments. ME does not wait for execution to end.

Pressing the 

button will bring up a File Browse dialog to search for the program.

Schedule

Allows a macro to run other macros at scheduled times. This allows macros to run programs at future times based on current Triggers.

Pressing the

button will bring up the Schedule dialog.

Export

Captures field data and button states and writes this to a text file.

Pressing the

button will bring up the Export dialog.

Import

Reads text and binary files, formats the data and enters it into your application.

Pressing the

button will bring up the Import dialog.

Audit

Captures field data and button states and writes this to a text file. Similar to Export but multi-user.

Pressing the

button will bring up the Audit dialog.

Calc

Calculator style arithmetic on a field for field types that support Paste.

Query

Database lookup/query for ODBC style databases.

Pressing the

button will bring up the Query dialog.

Net

Internet and Intranet data lookup/query.

Pressing the

button will bring up the Net dialog.

KeyMouse

Sends keystrokes and mouse clicks to a field. Can be used to update fields or to trigger events for other macros. KeyMouse macros work with any fields that accept keyboard/mouse input.

The list of supported key and mouse commands is in Appendix A.

Text can be typed directly in "Value" to be turned to keystrokes. Key combinations and mouse clicks are enclosed in '<>' characters as are the '<' and '>' characters. Mouse Left Clicks may optionally have an (x,y) co-ordinate.

Three buttons are available to assist in entering keys and mouse clicks.

Calls the Key Finder, and add a key combination to "Send". Mouse buttons and shift key combinations are allowed. **Note**: LButton commands created with the Key Finder generate Hotkey events on the MouseDown rather than MouseUp.

Records any subsequent keystrokes and mouse clicks, and adds them to "Send". Recording ends when you press CTRL BREAK. **Note**: LCLICK commands created with Record generate Hotkey events on the MouseUp, which is the windows standard.

Note: Keep in mind that a KeyMouse macro like a Paste macro can ONLY send keys/clicks to a single field. Another macro must be created to send to another field.

In our example above a Left Mouse click in location 1,1 (field relative), followed by the keys 1234567 followed by RETURN will be sent to the field. No keystrokes or mouse clicks can be sent to any field other than the macro field.

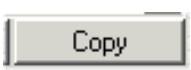
The following example is probably in error:

In the above the user expected the <TAB> key to move them to the next field and 789 to be entered in this new field.

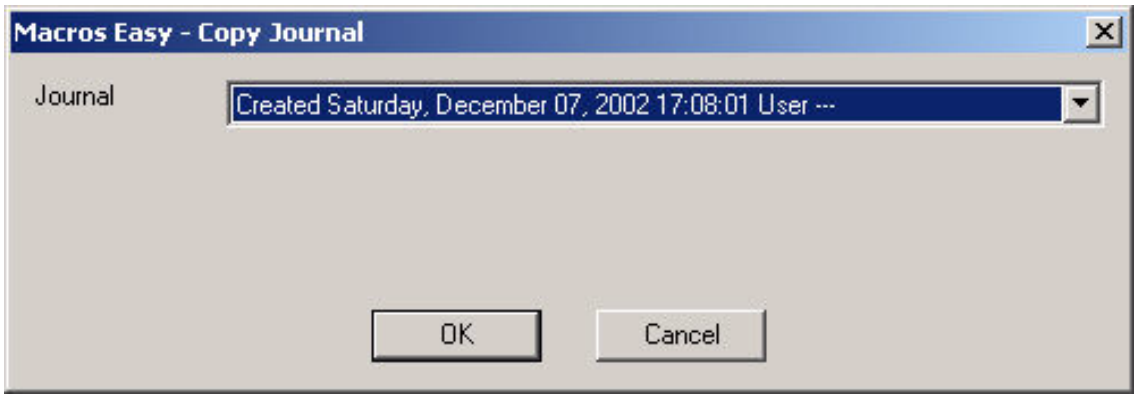
However while the <TAB> did move them to the next field; the 789 was still sent to the original macro field.

A command such as <LCLICK(-10,10)> is also likely in error because the X location (-10) is outside the field. ME will send the mouse click to location (-1,10) (field relative) but your application may not process it. (It may -- until tested in your application the result is not known.) Even if the click does move the focus to another field any subsequent characters will still be sent to the original field.

After you have recorded the KeyMouse macro inspect the result and remove any steps that work with other fields.



Displays a list of available journals to copy. Only journals for the same macro field may be copied.



Select the journal you wish to copy and press

The journal will be then converted to a KeyMouse macro.

PlayBack Journal

Journal

Event	Message	Param	Delay	Sequence	Index	Msg
	MOUSEMOVE	245,347	41	0	3315	512
	LBUTTONDOWN	245,347	560	1	3315	513
<LBUTTON>	LBUTTONUP	245,347	0	2	3315	514
	MOUSEMOVE	214,13	210	3	3315	512
	LBUTTONDOWN	214,13	892	4	3315	513
<LBUTTON>	LBUTTONUP	214,13	0	5	3315	514
	MOUSEMOVE	214,13	661	6	3315	512

Copied KeyMouse macro

After you have copied the Journal, inspect the result and remove any steps that work with other fields.

LIMITATIONS:

1. Playback macros can be unlimited in size, while a KeyMouse macro is limited to 255 displayed characters. Any excess journal is truncated.

2. Playback macros can work with multiple fields in multiple screens. A KeyMouse macro can only work with a single field and screen. Steps in the PlayBack macro that work with other fields may not work correctly once converted.

3. Journal information such as mouse moves and delays is not converted.

Note: In a KeyMouse macro events that occur on the Mouse release are referred to as CLICK. Events that occur on the mouse press are referred to as BUTTON. In a Journal both these events are referred to as BUTTON, and the journal message determines if it was a press or release event.

See - Tutorial - Copying a PlayBack macro to a KeyMouse macro.

PlayBack
Playback

Plays back a recorded macro composed of keystrokes and mouse actions. These "PlayBack" macros are the same as the macros most users are familiar with.

Pressing the

button allows you to record a new macro. Pressing CTRL BREAK ends recording. (See Journal Record/Replay.)

Playback macros can send keys and mouse actions to any field, in any screen. The only requirement is that the macro field must exist for the playback macro to start. Once the macro is started, the macro field can be closed.

Playback macros can be turned into KeyMouse macros using the KeyMouse COPY function (see above).

A KeyMouse macro can only work on a single field. If your Playback macro works with multiple fields to convert it to KeyMouse macros you would need to create multiple KeyMouse macros joined by a sequence of Triggers.

The reason to use KeyMouse macros is that they can be targeted at a specific field and event so that if exceptions occur in your application they can be correctly handled.

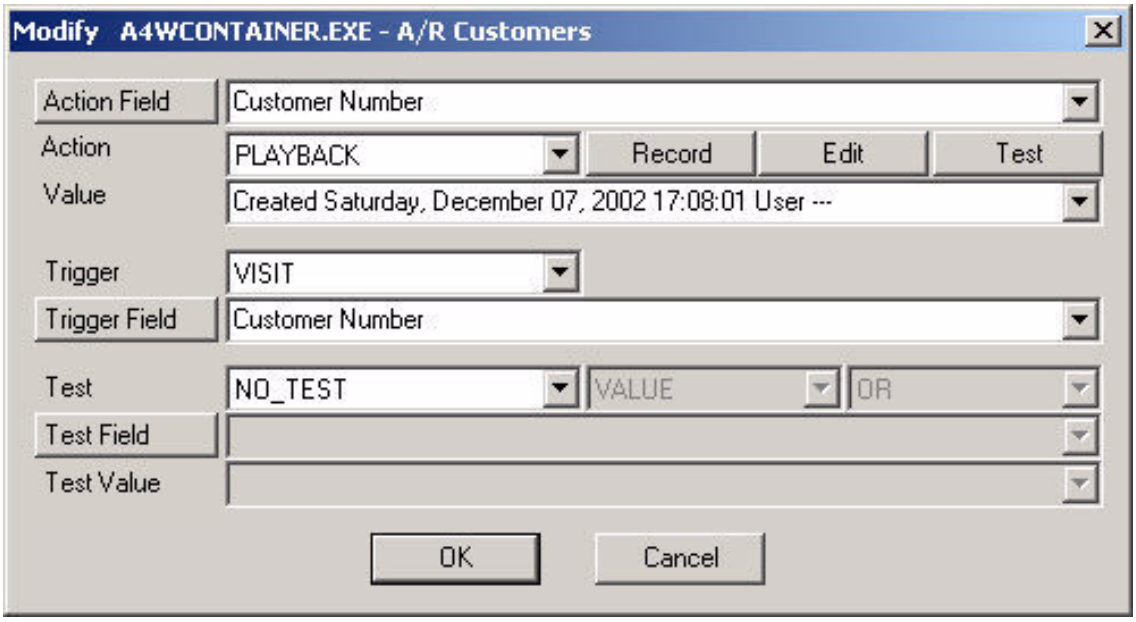
The reason to use PlayBack macros is that they are a simple means to create a macro that works with multiple fields without having to create a sequence of Triggers. Unfortunately Playback macros are poorly suited to handling exceptions.

The reason to use Paste macros is that they can update fields without Triggering other macros. They do not move the mouse or change the input focus. Windows does not see them as keyboard/mouse action. KeyMouse and Playback macros are "seen" by Windows.

ME gives you a choice of Paste, KeyMouse and Playback macros to handle the widest possible set of situations you are likely to encounter in your application.

Create/Modify a PlayBack Macro

Selecting Action Playback allows you to record keystroke and mouse events to be replayed as macros. These macros can drive other macros exactly as if they were entered by the user.

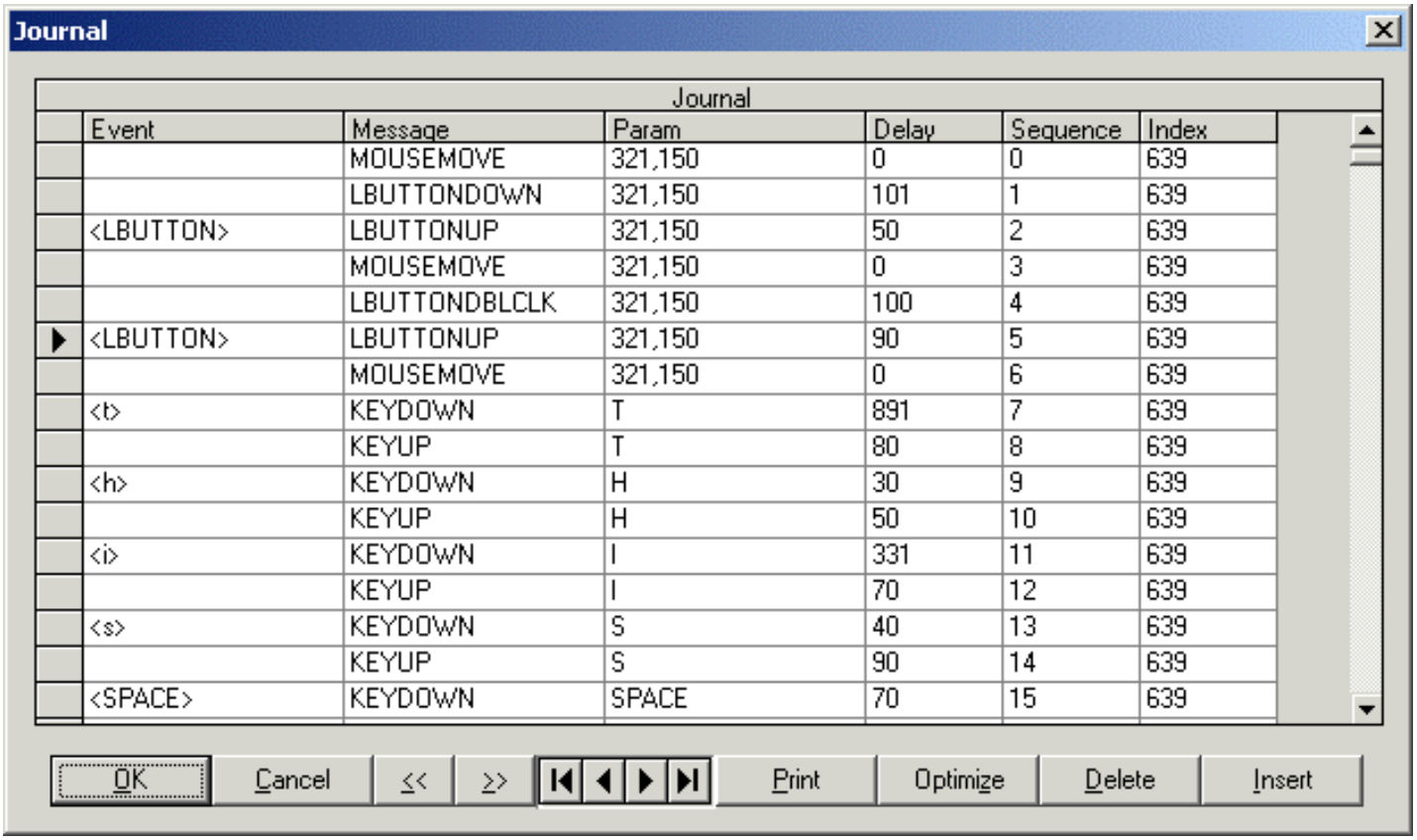


The Record button starts recording relative to the field you popped up in. If you are editing a macro the finder will be called to locate the field. This MUST BE the same field as appears in the "Name" field. Mouse events are recorded relative to this field so that if the screen is moved the macros will continue to work correctly.

The Edit button is used to maintain the macro journal. It is recommended you select Options, Optimize to keep the macro size to a minimum.

The Test button replays a macro duplicating the action of the macro when Triggered by an event. This allows you to test a macro and re-record the macro if required.

Journal Edit



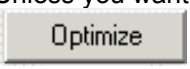
A Journal is a recording of the mouse and keystroke events entered by the user. What a user might see as a single event, pressing a key, Windows sees as at least two events a "keydown" and a "keyup".

ME maintains both points of view to allow for full control of all aspects of the journal. This level of control can be required to automate applications sensitive to overlapping/combined events such as a concurrent mouse click and key-press combination.

Editing the Journal

A detailed explanation of the Journal fields/controls follows this section. This section provides a brief explanation of how to edit the journal and should be used in conjunction with the more detailed sections that follow.

To read/modify the journal, proceed as follows:

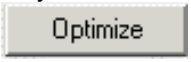
1. Unless you want to preserve the original timing and mouse action of the original recording it is recommended you use the 

button to remove unnecessary detail from the macro. Otherwise the macros can be very long and hard to read.

2. Use the

buttons to move through the events to see if they match what you want to do. Use the

or

functions to remove/add events. 

the macro when completed, and re-check the events.

3. Once the events are correct check the Messages to make sure they appear correct as well. This step may appear complicated at first but the Messages will quickly make sense once you start reading the Messages.

Confirm that Double-Clicks and Shift keys are pressed when you expect them. Check the end of the macro for KeyUp messages to make sure a key hasn't been held down in error right through to the end of the macro. While this is normal for a Shift key (or ALT/MENU or CONTROL), it can indicate an error for other keys.

If there are errors return to step 2 to make corrections.

4. Inspect the Delays to see if you want to change the timing of your macro. Depending on whether you have Options, Delay set you may have to enter negative or positive values.

5. Press

to complete editing the macro. You will be returned to the macro create/modify menu to allow you to

your journal.

Fields

Event

The keystrokes and mouse actions made by the user from the user's point of view.

Message

Keystrokes and mouse actions made by the user from the Windows point of view..

Param

The X,Y co-ordinates of the mouse or the scancode value of the key pressed.

Delay

The number of milliseconds to delay before sending this message.

The Delay field is the only field that can be modified directly. Change this value to allow for applications that are unable to keep up with the macro.

When Options, Delay is reset you must enter a NEGATIVE delay value to have the macro delay. Delays are normally ignored when Options, Delay is reset.

Sequence

The order in which the journal events will replay.

Controls

The OK button closes the Journal Editing dialog.

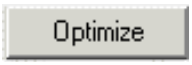
The Cancel button restores the Journal removing and editing changes and closes the Journal Editing dialog.

The Next/Previous Event buttons allow you to move from one event to the next.

The navigate button allows you to move through the journal one record at a time or jump to the first or last

records.

The Print button shows a Print Preview of the Journal and allows it to be printed to the printer.



Optimize removes unneeded keystrokes and mouse actions from the macro journal. The first time you edit a macro optimization can take some time depending on the number of items that are removed from the macro.

The Delete button deletes the current Journal record.

Journal records are typically deleted to remove mouse CLICK events from the start of a macro which were used to set the focus while recording but would have undesired effects during replay.

You may also delete journal records to remove keystrokes events pressed in error while recording.

ME only allows you to delete selected journal entries. Typically these are entries with "Events". This prevents you from leaving Windows in an "undefined" state. Once these "event" journal entries are deleted other entries may then be deleted.

For example: the mouse click immediately ahead of a Double Click cannot be deleted as this may invalidate the double click for some applications. You must first delete the double click then you can delete the initial mouse click.

Expert Mode: Press <ALT CTRL SHIFT> when the focus is in the datagrid to override ME and enable the Delete Button. This allows you to delete any Message in the Journal, and assumes you know the Windows implications. THIS IS ENTIRELY AT YOUR OWN RISK AND MAY CAUSE YOUR MACRO TO PERFORM UNEXPECTEDLY. Optimize your macros afterwards to minimize this possibility. Optimization will try and correct editing errors made in expert mode.

The Insert button restarts journal recording and will insert all keystrokes and mouse moves entered from that point onwards until recording is stopped.

You will be returned to the Create/Modify Macro menu once recording is completed. You should then re-edit the macro and optimize it and check the results.

Journal Recording/Replay

When recording or replay is active, a small message appears in the top left corner of the screen:

Press CTRL BREAK to end recording normally.

Press CTRL ESCAPE to stop recording. The macro will be saved to this point, equivalent to pressing CTRL BREAK.

Press CTRL ESCAPE to stop macro replay.

During journal replay when Options, Test is selected the key/mouse actions being replayed are written to the user log file (UM_<username>.log).

The message fields match the Journal, and are read as:

yyyy/mm/dd-hh:mm:ss Replay:1 i:115 s:16 LBUTTONDOWN l:190 h:33 d:81 e:CLICK

Replay depth = 1
Journal index = 115
Journal sequence =16
Message = LBUTTONDOWN
ParamL = 190 (message dependent)
ParamH = 33 (message dependent)
Delay = 81 (ms)
Event = CLICK (mouse click)

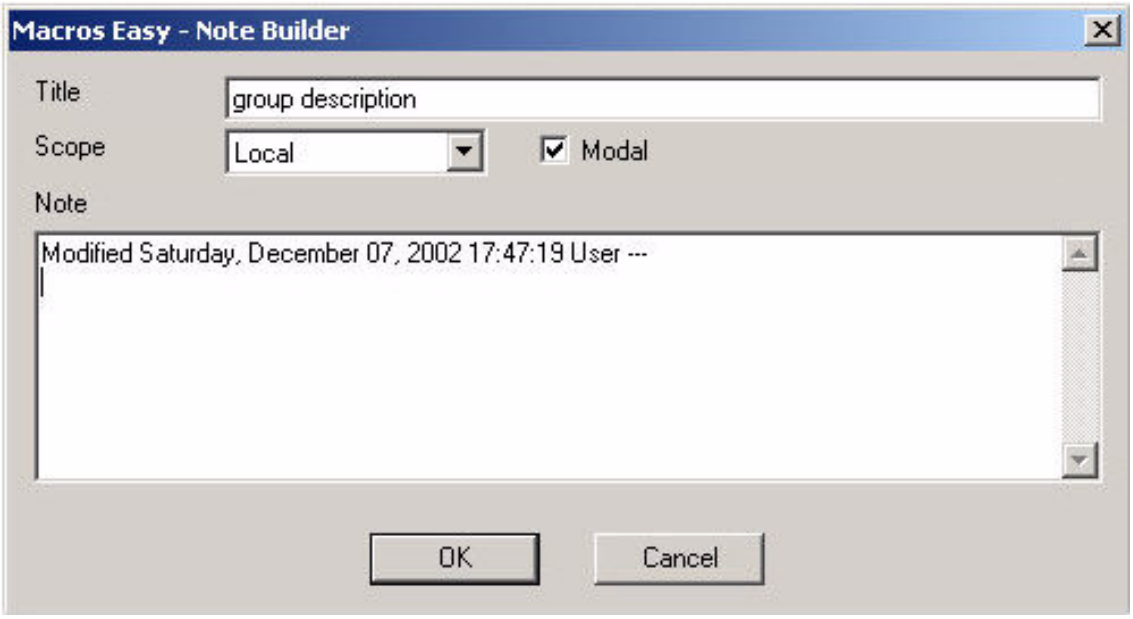
Notes

Notes Create/Edit

The Notes dialog allows you to create and edit notes.

Select Action NOTE then press the

button.



Fields

Title

The title appears as the heading of each note.

Scope

Notes can be Local or Global. A Local note only pops up on the field in which it was defined. A Global note on pops up on the field in which it was defined but in any screen or module.

Modal

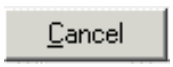
Modal notes get the keyboard focus when they pop-up. Otherwise, the application keeps the keyboard focus.

Body

The message (body) of the note.

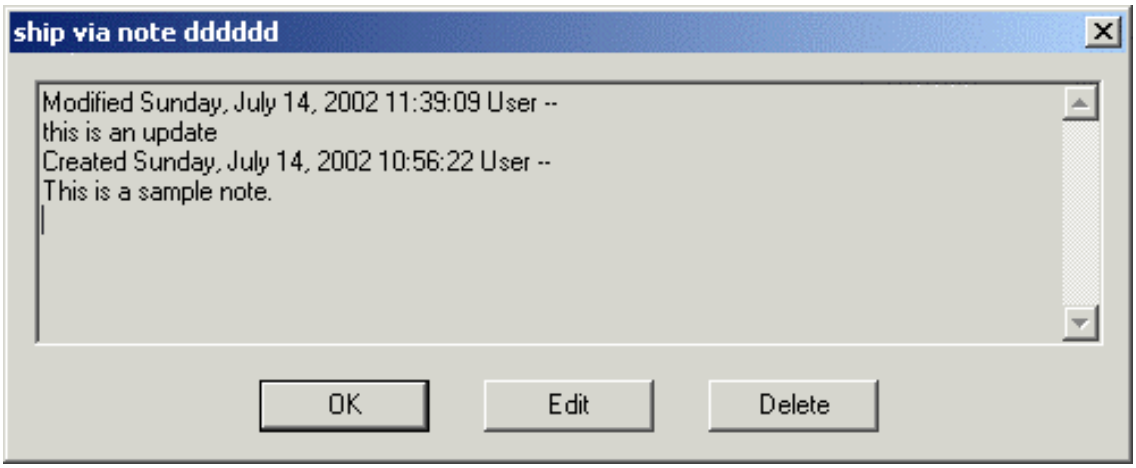
Controls

Save the note.



Discard changes to the note.

Note



This is a popup note.

Notes can be Edited. Changes to the note are appended. The original note cannot be changed via this menu.

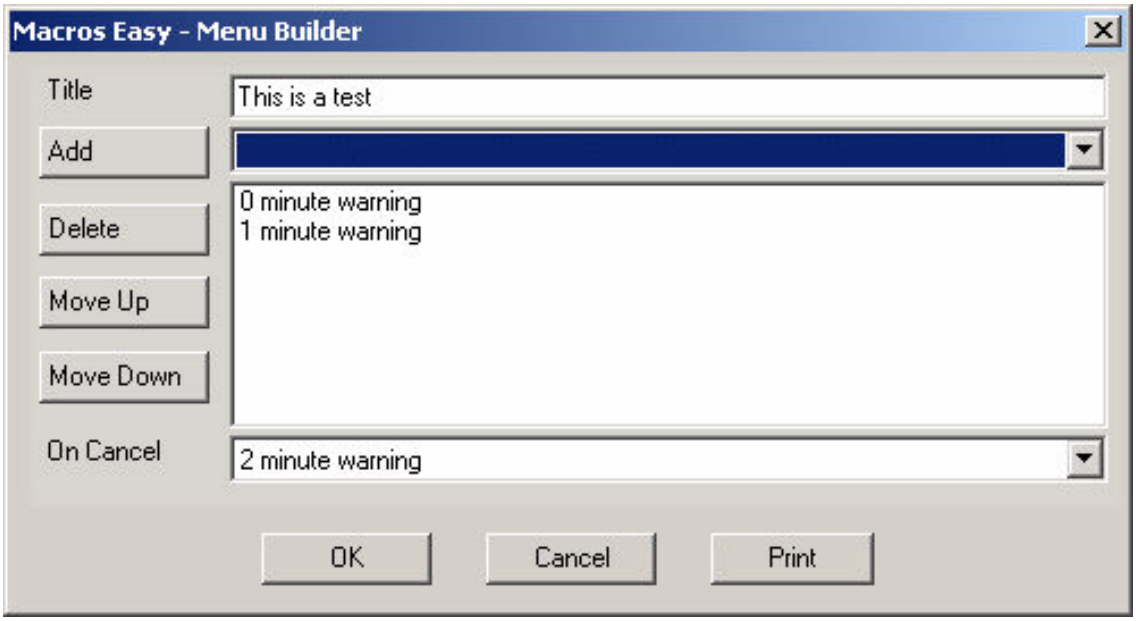
Notes can also be Deleted with appropriate security.

Menu Edit

The Menu Edit dialog allows you to build a menu from one or more Named Triggers. When a macro runs and displays the menu the menu allows the user to select the Trigger Name to run.

Selected Action MENU then press the

button.



Title

The title that will appear on the menu.

Add

Use the COMBO BOX to select a new Trigger NAME to add to the menu.

Delete

Deletes the selected Item from the sample menu.

Move Up

Moves the selected item up in the sample menu.

Move Down

Moves the selected item down in the sample menu.

On Cancel

The Trigger Name to run if the user selects CANCEL from the menu when the macro runs. Leave blank if no action is required.

OK

Save the menu.

Cancel

Discard changes to the menu.

Print

Print the current menu.

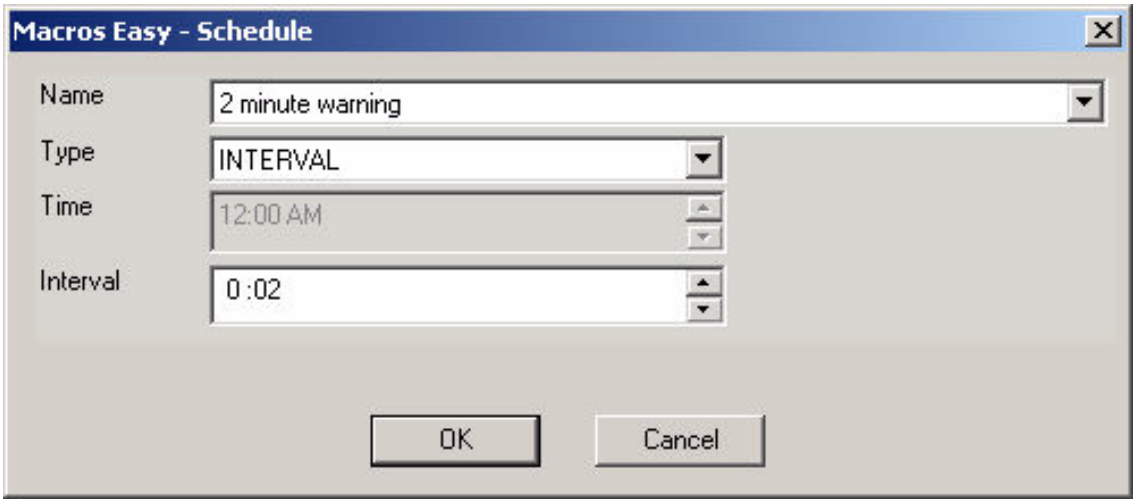
Schedule

A Name Trigger can be created according to a schedule. This will run all macros with the same Name Trigger.

Schedules are created by selecting the SCHEDULE Action.

Pressing the

will bring up the Schedule Dialog to allow you to create a schedule to run a NAME Trigger.



Name

The Trigger you want to schedule. Only macros with NAME Triggers can be scheduled.

Type

The type of timer being defined.

Time

The time of day to run the program.

Interval

The length of time to wait before running the program.

A Schedule macro is a combination of a NAME Trigger and a Timer.

The advantage of a schedule macro is that it able to control macros between unrelated events, such as across modules. For example pressing a button in one module might schedule a "Day End" Trigger to run at midnight.

When a Schedule runs it creates a temporary timer macro to run the NAME Trigger at a future time (24 hours max). This macro is created against the Desktop window to ensure it will run.

When the timer comes true all macros that satisfy the Name Trigger will run. Macros for modules that are not running can never satisfy the Name Trigger so your Name Trigger must RUN any modules it requires.

Note:

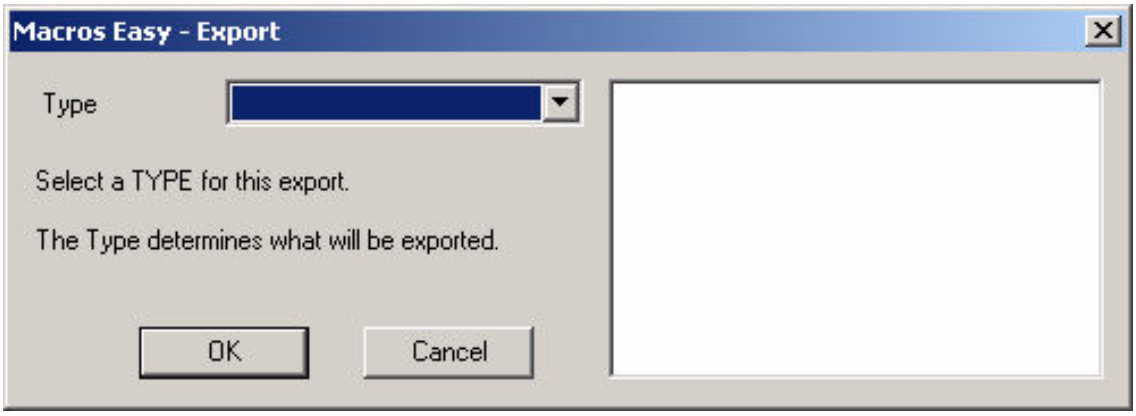
For Time type schedules if the time of day has already passed the macro will be scheduled for the following day.

For example a TIME value of 9AM will result in the macro being run at 9AM. If the schedule macro runs and creates a new macro at 6PM on Oct 10. The new macro will be scheduled to run at 9AM on Oct 11.

However if the schedule macro ran at 7AM on Oct 10, then the new macro would be scheduled to run at 9AM on Oct 10.

Export

Selected from Macro, Create Action EXPORT pressing the Export button.



REWIND

Empties the export file in preparation for a new export. All exports are to the file EXP-<user name>.txt.

FIELD

Writes the macro field name and contents to the export file followed by an end of field marker.

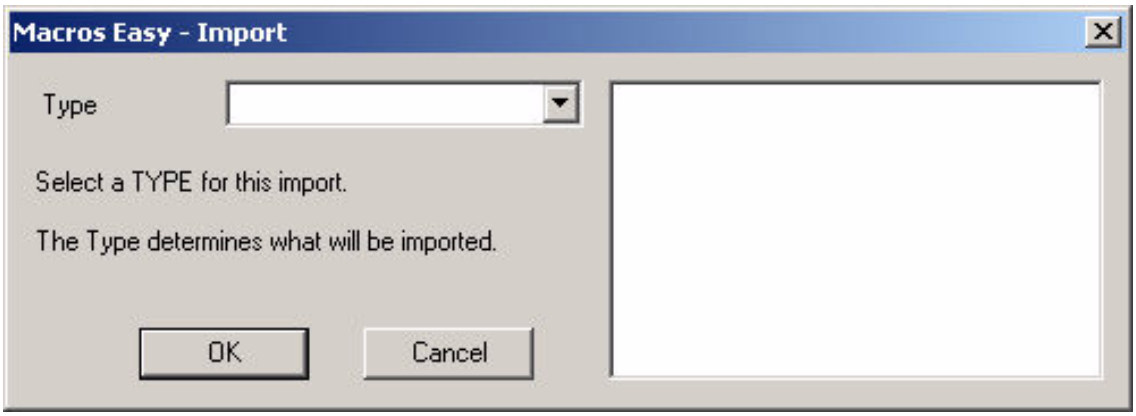
RECORD

Writes an end of record marker in the export file. A <timestamp> and <username> are automatically added for audit purposes, to enable consolidation and reporting of export files.

Note: no exporting takes place at this time. Exporting takes place when the macro runs. See Tutorial - Export.

Import

Selected from Macro, Create, Action IMPORT, pressing the Import button.



OPEN

Opens the Import Open dialog to specify the file to be imported.

FIELD

Opens the Import Field dialog to specify a field to be imported.

RECORD

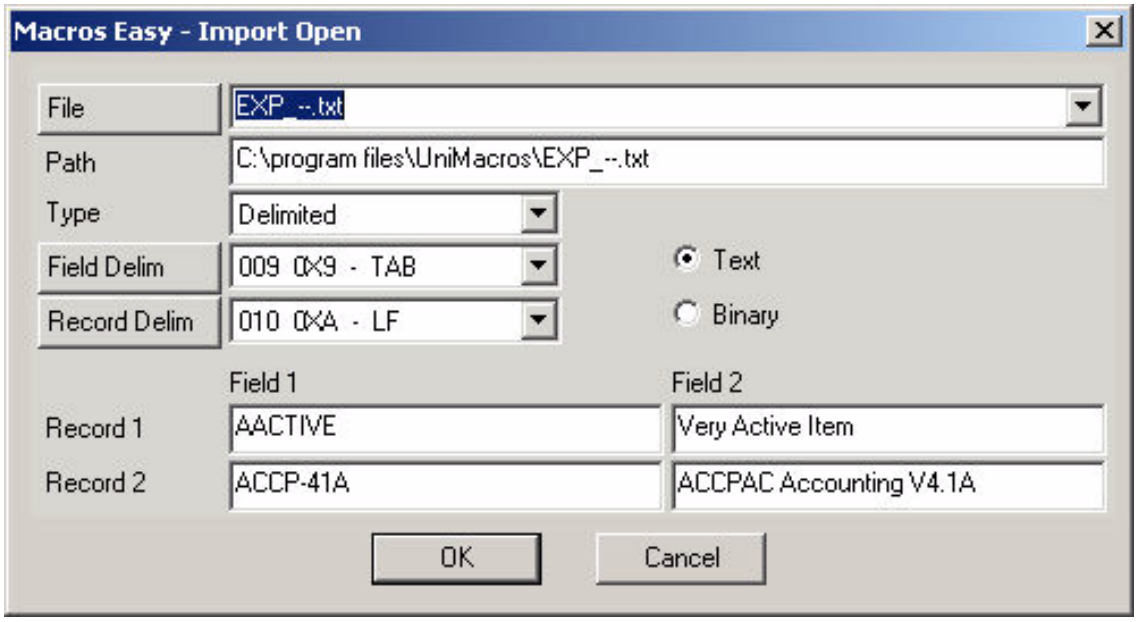
Opens the Import Record dialog to signal all fields have been imported from the current record.

These values control importing during macro replay.

Import Open

This dialog specifies the file to be imported.

Delimited File



Browse for the import file.

ME imports are keyed by file name (excluding path information). ME allows multiple import files - even simultaneous import files - but only one import file per import of the same name.

Path

The full path name of the file to be imported.

Type

Delimited or Fixed length.

Calls the Key Finder to allow a delimiter to be typed. Import will use this character to locate the end of a field.

Field Delim

The field delimiter in Decimal, Hexadecimal and Text.

Calls the Key Finder to allow a delimiter to be typed. Import will use this character to locate the end of a record.

Record Delim

The record delimiter in Decimal, Hexadecimal and Text.

Text/Binary

The file open mode. Delimited files are normally opened Text.

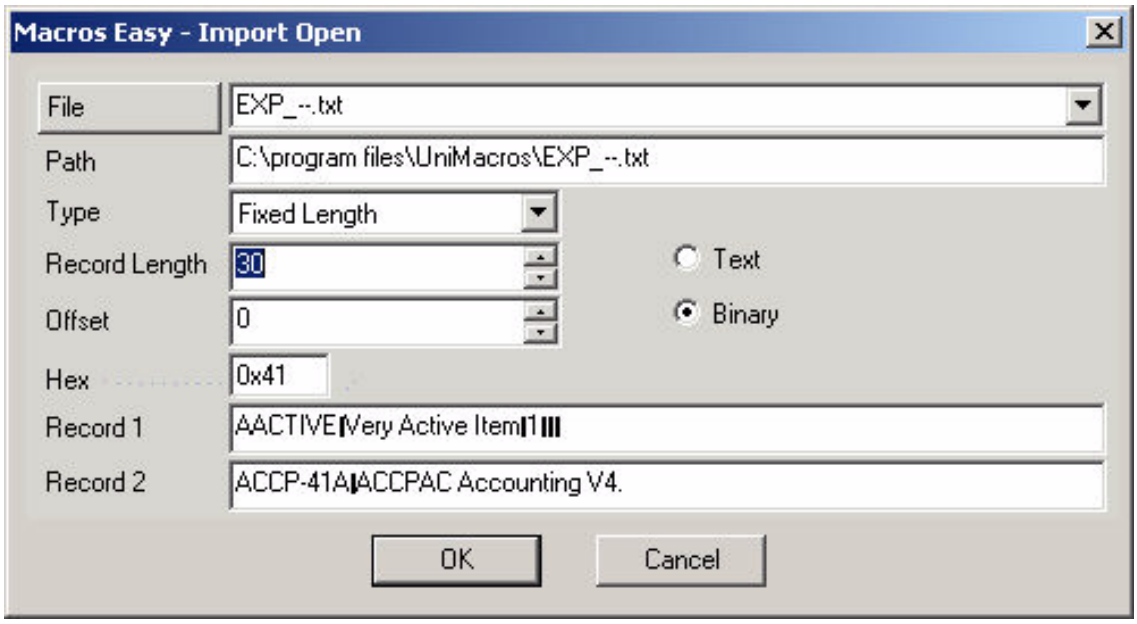
Sample Import

	Field 1	Field 2
Record 1	AACTIVE	Very Active Item
Record 2	ACCP-41A	ACCPAC Accounting V4.1A

The bottom portion of the display shows how the data in the file will be imported. Modify the settings of the screen - especially the delimiters - until this matches the data in your import file. It is important that this display matches the data in your import file. Do not try and control field order or field selection at this time.

If you are having problems identifying the record and field delimiters open the file as Fixed Length. Use the Offset value to move through the file to locate the delimiters. Read the value of the delimiter from the Hex field.

Fixed Length File



Browse for the import file.

ME imports are keyed by file name (excluding path information). ME allows multiple import files - even simultaneous import files - but only one import file per import of the same name.

Path

The full path name of the file to be imported.

Type

Delimited or Fixed length.

Record Length

Select a record length to match your file.

Offset

Some data files have a header at the beginning of the file which must be skipped before locating the data records. May also be used to scan through files to identify delimiters for delimited files.

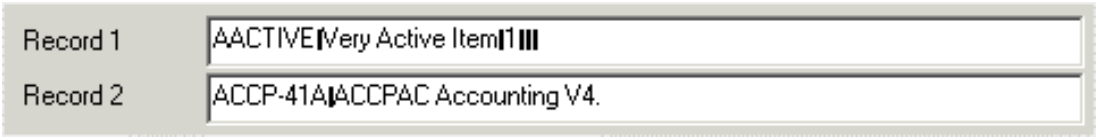
Hex

The hexadecimal value of the character at the current file Offset. This can be used to identify record and field delimiters in delimited files. 0x41 = 'A'.

Text/Binary

Normally fixed length files are opened binary, but may be opened text if required.

Sample Import

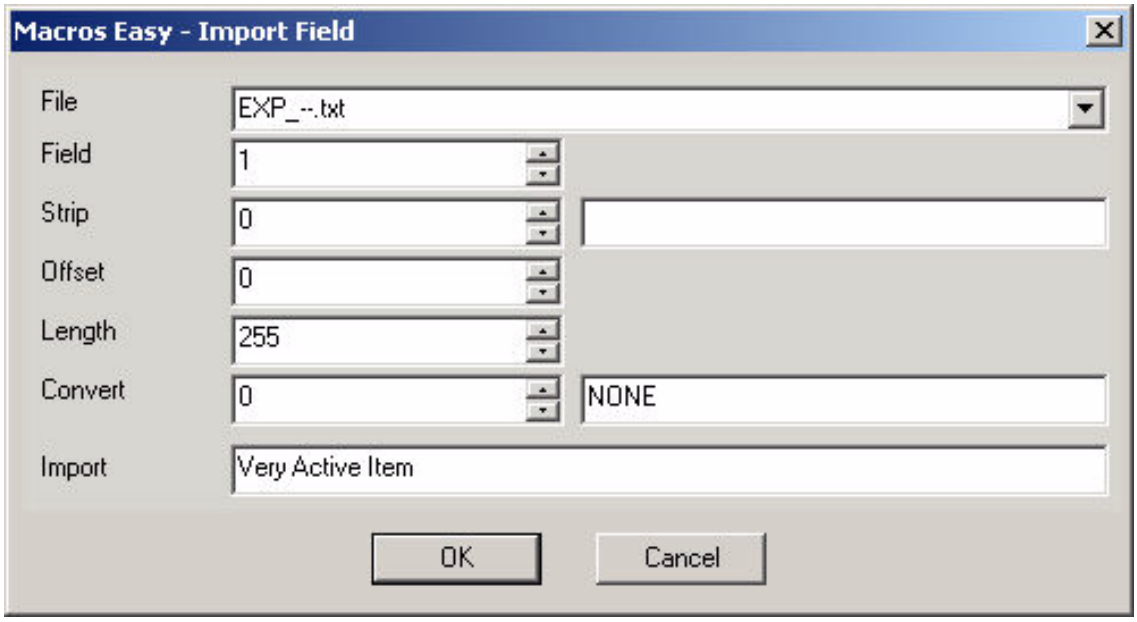


The bottom portion of the display shows how the data in the file will be imported. Modify your setting so that the display correctly identifies the start of the first and second record. Do not try and isolate or identify fields at this time.

Import Field

This dialog specifies a single field to be imported. Each field to be imported requires an import field specification.

Delimited Files



File

The name of the file to be imported. This name was entered using the Import Open dialog.

Field

The number of fields to skip in a record to locate the field to be imported. Modify this value until the desired data appears in the Import field.

Strip

Removes quotes, spaces, masks and alpha from data.

Offset

Allows importing from within the middle of a field.

Length

Allows trimming of a field

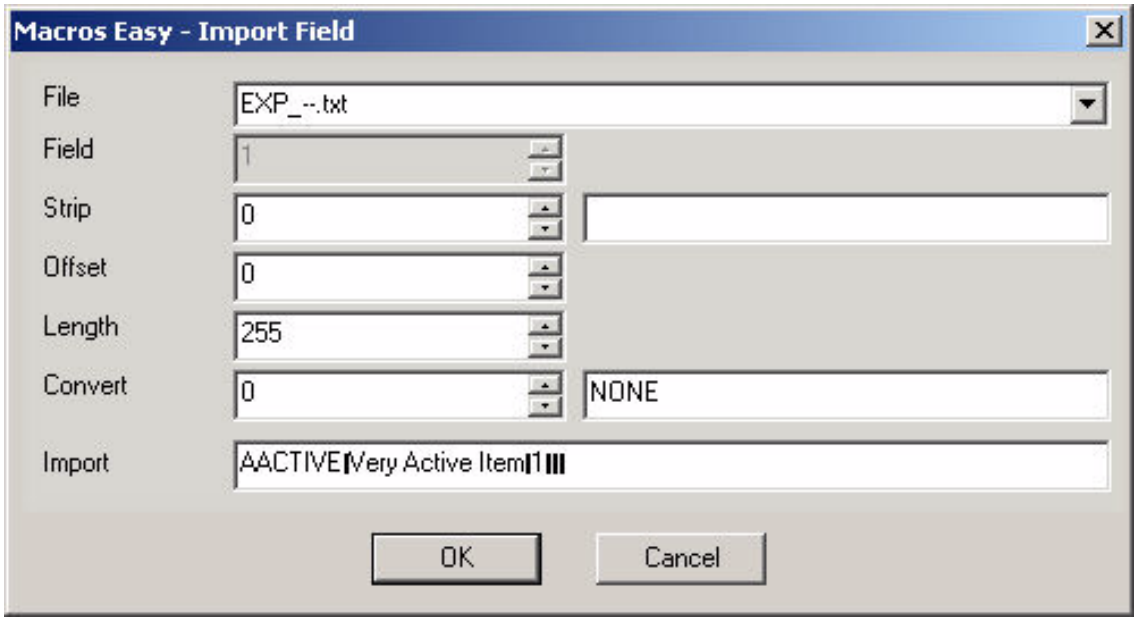
Convert

Allows right justification of the data.

Import

Modify your settings until this field displays the data to be imported. IMPORTANT - no importing takes place at this time. See Tutorial - Import.

Fixed Length Files



File

The name of the file to be imported. This name was entered using the Import Open dialog.

Field

This field has no meaning in fixed length files.

Strip

Removed quotes, spaces, masks, alpha from data.

Offset

Modify this value to locate the beginning of your data in the record. This value is the zero based offset of you data field from the beginning of the record.

Length

The length of your data in the record. This value may not be available depending on the value of Convert.

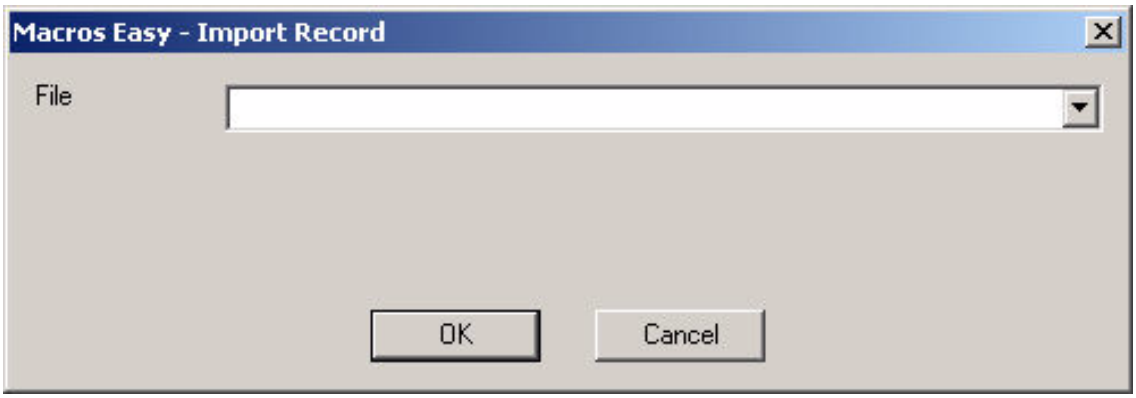
Convert

Converts binary data to strings suitable for importing. 20+ industry standard formats are available. Contact Product Support should you require additional conversions.

Import

Modify your settings until this field displays the data to be imported. IMPORTANT - no importing takes place at this time. See Tutorial - Import.

Import Record

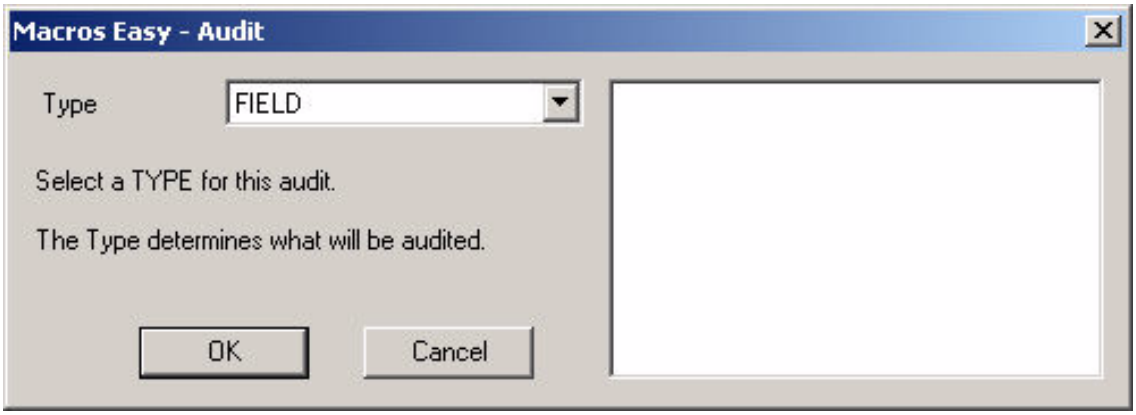


Signals Import to move to the next record. Select the file name you are importing.

Audit

Selected from Macro Create, Action AUDIT, pressing the

button.



ARCHIVE

Write the archive field name and contents to the audit file followed by and end of field marker. This type is typically only used internally by ME to save "before" images of fields.

FIELD

Writes the macro field name and contents to the audit file followed by an end of field marker.

RECORD

Writes an end of record marker in the export file. A <timestamp> and <username> are automatically added for audit purposes.

Note: no auditing takes place at this time. Auditing takes place when the macro runs. (See Tutorial - Audit.)

Calc

Calculator style arithmetic on a field, for field types that support Cut/Paste.

Provides the following functions:

+ add
- subtract
* multiply
/ divide
% percent
Sx save memory where x = 0 through 9
Rx recall memory where x = 0 through 9
C clear calculator - memories unchanged

The calculator uses the existing value in a field as its starting point. Assume a field has a value of 3:

+3 - will return 6 to the field
*4 - will return 12 to the field
C+2 - will return 2 to the field (C = Clear)

ME will automatically simplify your calculation and re-display the new formula before saving the macro. If the macro is already in simplified form it is saved without re-display.

The non-numeric characters of the original field are used as mask characters in the result. A value such as $511,111.11 * 2 will result in $1022,222.22.

To have ME remove the mask, end the formula with an '=' (equal) sign. A value such as $511,111.11 * 2= will result in 1022222.22.

The decimal place and precision of the number are not treated as a mask, and are preserved. The result always has the same number of decimal places as the original value.

The result is rounded to match the decimal precision.

10 memories are available to store temporary values. These values are lost when ME is unloaded.

The Sx - save memory functions subtotal the result in the calculator and save it to memory.

Assume our field has a starting value of 3:

+3S0+5 - will save (3+3) = 6 in memory 0, and return (6+5) = 11 to the field
S0 - will save 3 in memory 0
CS0 - will save 0 in memory 0

The Rx - recall memory functions can be used in place of a numeric value.

Assume our field has a starting value of 3, and memory 0 has a value of 6:

+5*R0+3 - will return (3+5)*6+3 = 51 to the field
+R0 - will return (3+6) = 9 to the field
C+R0 - will return (0+6) = 6 to the field

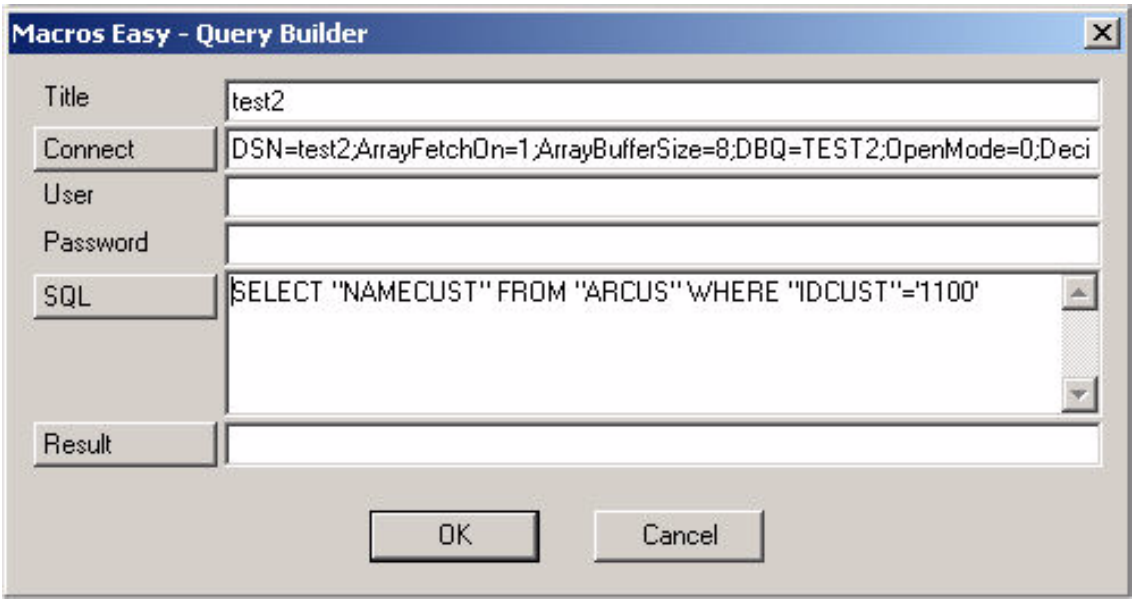
The Rx and Sx functions can be combined.

Assume our field has a starting value of 3, and memory 1 has a value of 6:

+R1S0+3 - will save (3+6) = 9 in memory 0, and return (9+3) = 12 to the field

Query

Database lookup for field types that support Paste.



Title

A user defined title for the query.

Connect

The database connection string for the database. Pressing

with a blank string will call the Database Administrator to help build a connection.

User

Optional User ID to connect to the database.

Password

Optional Password to connect to the database.

SQL

Structured Query Language database Query. You can cut and paste SQL from products such as Crystal Reports to build your queries. Pressing

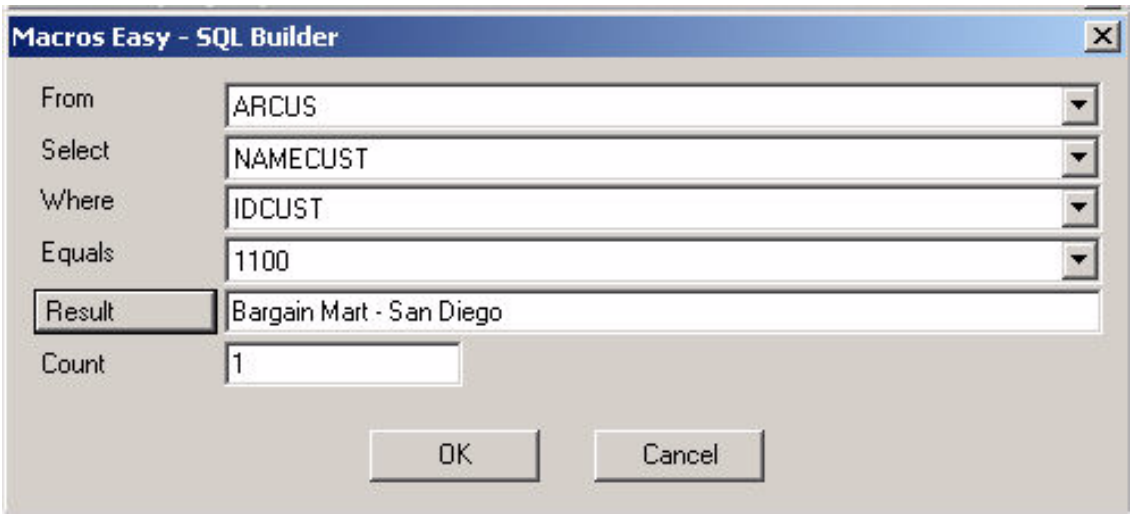
will call the SQL builder.

Result

The query result. This value will be used to update the screen field, and is recalculated each time the macro runs.

SQL

A simple SQL builder is available for Queries.



From

The Table to be used to build the query.

Select

The Column to return in the query.

Where

The Column to be tested to filter the query.

Equals

Either a value, or an Archive name. Macros Easy allows you to test based on an Archive value. By saving a value in an Archive, a single macro can run different queries, depending on the value in the Archive.

Result

The result that will be used to update the screen field.

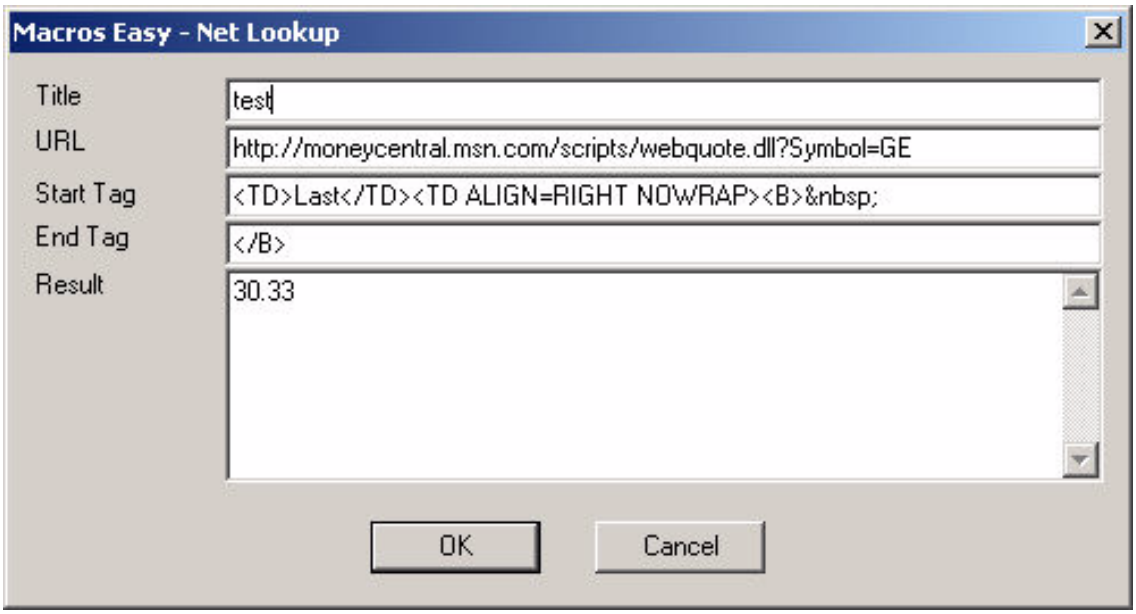
Count

The number of records returned in the Result Set. For a properly designed query, this should be 1.

A value of 0 indicates the query returned no records, and thus cannot update a field. A value > 1 indicates that the query returned multiple records. Only the first record returned will update the field.

Net

Internet/Intranet lookup, for HTML and XML data.



Title

A user defined title for the query.

URL

Uniform Resource Locator. The Internet/Intranet address for the data to be queried.

Start Tag

A string the appears at the URL, immediately ahead of the data to be located. This value can be CUT from the Result (CTRL C) and pasted into the Start Tag (CRTL V).

End Tag

A string the appears at the URL, immediately after the data to be located. This value can be CUT from the Result (CTRL C) and pasted into the End Tag (CRTL V).

Result

The data found at the URL, that appears between the Start Tag and the End Tag. This value will be used to update the screen field, and is recalculated each time the macro runs.

Triggers

Triggers are used to run macros. A macro will not run until a Trigger occurs.

Triggers can be set on events such as user keyboard and/or mouse action. ME takes advantage of the idle time between user input to run macros.

ME recognizes the following event Triggers:

Never

The macro will never run. This allows macros to be turned off for testing and development purposes.

All

The opposite of Never. The macro will run on all events in any field on the application screen as long as the macro field is visible. This Trigger should only be used with caution. It is best used with the Paste Action or combined with TESTS or with push-buttons that close their own window. Take care when using the "ALL" Action to make sure the macro has a way to stop. Otherwise the macro may continue to run indefinitely may affect performance.

Setting Options, Trace will reveal any macros that are running indefinitely.

Any

The macro will run on any event in a specific field. All events in other fields are ignored. This is a field specific version of ALL.

Name

The macro will run in response to a manual "File Run" command. The name of the macro is entered into the Trigger Field. When NAME occurs the macro will run.

NAME Triggers can be created in two ways:

1. Enter the name to run under the File, Run menu selection.

2. Enter the name to run as a batch command. ME Run <name>

Note: macros can only be run from batch mode when ME is already running.

HotKey

The macro will only run on a specific keystroke combination, in a specific field. Selecting a hotkey will call the Key Finder and change the Trigger the actual key combination.

The same hotkey can be "re-used" to run a different macro in each field. It can also be combined with a Test to run different macros within the same field.

HotKey can recognize mouse click and shift key combinations created by the KeyMouse Action, with different behavior from the CLICK Trigger.

The Trigger occurs on the Windows KeyDown/MouseDown event. The hotkey is removed from the input queue.

Key combinations that contain only the ALT, SHIFT, or CONTROL keys - such as <Shift SHIFT> - are not recognized as hotkeys.

Hotkeys require a key combination that includes one key that is not ALT, SHIFT, or CONTROL.

A full list of available keys is found in Appendix B.

Click

The macro will run on a (left) mouse click in a specific field. The Trigger occurs on the Windows MouseUp event. The mouse event is not removed from the input queue.

Visit

The macro will run when the keyboard focus enters a specific field.

Leave

Similar to **Leave Any**, the macro will run when the keyboard focus leaves the specified field - within the current screen. **Leave** does not fire when the focus changes for application drill-down style operations, in which logically the focus has not changed on the original screen. Rather it fires after the drill-down is complete, and the focus moves to another field on the original screen.

Create

The macro will run when a field is created.

Activate

The macro will run when a field is activated. Typically only called for top-level windows (screens).

Timer

The macro will run when a timer completes.

Leave_Any

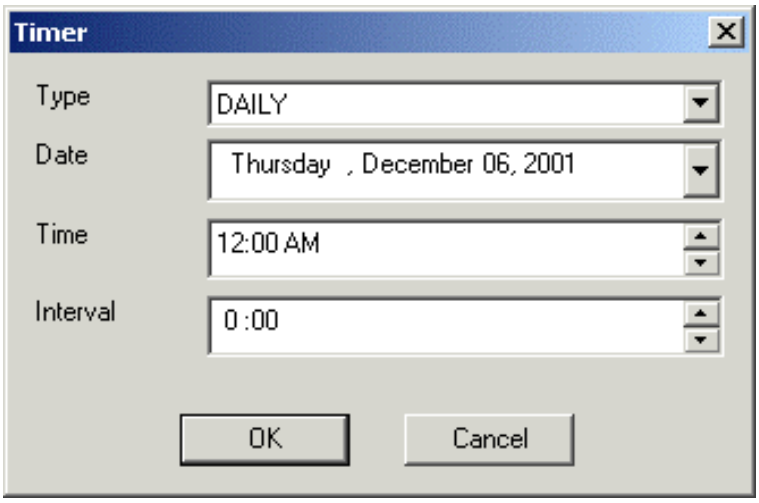
The macro will run when the keyboard focus leaves a specific field.

Change

The macro will run when a field is changed. The Change Trigger occur when a field logically changes. Thus, when you are editing a field the Trigger will not run, but rather the Change Trigger occurs after you have finished editing a field.

Timer

A macro can be run from a Timer. Timers are defined by setting a TIMER Trigger.



Pressing the

button can be used to call the Timer dialog.

The timer fields are defined as follows:

Type

The type of timer being defined.

Date

The first date on which the timer will fire.

Timer

The first time on which the timer will fire.

Interval

The length of time between timers for a repeating timer.

Timer Types

Once

The timer will fire on the specified date and time and never again.

Daily

The timer will fire first on the specified date and time then once a day at the specified time.

Weekly

The timer will fire first on the specified date and time and then once a week on the same day of the week at the same time.

Monthly

The timer will fire first on the specified date and time and then once a month on the same day of the month at the same time.

Repeat

The timer will fire first on the specified date and time and then continue to fire according to the length of time specified in Interval. This can range from 1 minute to 24 hours.

User

Similar to a ONCE macro, this macro will fire on the specified date and time but only for a specific user and then is deleted from the database. Use this type of timer if you will never want to use this timer again.

ME uses the User type timer to Schedule macros. A schedule macro is a macro that conditionally creates a timer macro.

If you want to create a timer but only under certain conditions, you can either include a Test in the timer, or create a Schedule macro.

The advantage of a timer macro is that it is simple.

The advantage of a Schedule macro is that it fire on both an Trigger NAME and a Test unrelated to the timer.

Timer macros should be used when you want a macro to always run. Schedule macros should be used when you want a timer type macro to run but only in response to an unrelated events such as an event in another module.

Precision

Timer precision is limited to 1 second.

Timer Status

Each user has their own timer status, independent of all other users. For example a "once" macro will fire once for each user in the group not just once for the entire group. Only "user" macros are user specific.

Foreground Window

When a timer runs it brings the parent window for the macro to the foreground.

Program Manager

When you wish to create a TIMER Trigger that is guaranteed to run, such as starting a program at a specific time, create the "run" macro directly from the desktop. This will tie the macro to module EXPLORER.EXE, screen Program Manager and field Desktop.

This window is always available and as such your "RUN" macro will always run.

Schedule macros use the Desktop window themselves to schedule future Triggers via timers.

Tests

Three fields control the type of test being performed.

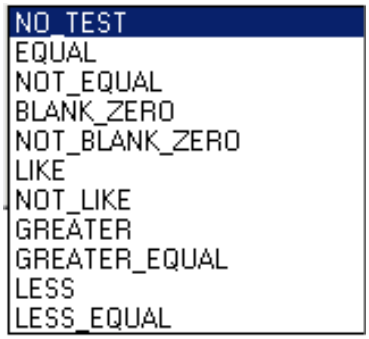
Condition
The type of test to be performed
Source
The source of the data to be tested
And/Or
How the test is combined in and/or conditions.

Condition

ME allows you to test the contents of fields or the state of buttons to control when a macro will run.

Combined with Triggers, Tests allow you precise control over when your macros will run.

ME provides the following tests:



NO_TEST

No test will be performed.

EQUAL

A specific field will be tested to see if it equals a specific value. If equal the macro will run. The field being tested is independent of the Action or Trigger fields except that all fields must be in the same screen.

NOT_EQUAL

A specific field will be tested to see if it is NOT equal to a specific value. If NOT equal, the macro will run.

BLANK_ZERO

A variation of the "equal" test. The field to be tested is temporarily cleared when the macro is first created, and the macro is automatically filled in "equal" to the value of the field when empty. This Test automatically resets the test to Equal.

NOT_BLANK_ZERO

A variation of the "not equal" test. The field to be tested is temporarily cleared when the macro is first created and the macro is automatically filled in "not equal" to the value of the field when empty. This Test automatically resets the test to Not Equal.

LIKE

Perform pattern matching on the field. The characters ? and * are allowed as wildcards.

? = match 1 character
* = match 0 or more characters.

If the test string has no wildcards the field will be tested to see if it contains the test string. Equivalent to *string*.

NOT_LIKE

The opposite of LIKE. The macro will run if the pattern does not match.

GREATER

A field will be tested to see if it is greater than a specific value.

GREATER_EQUAL

A field will be tested to see if it is greater than or equal to a specific value.

LESS

A field will be tested to see if it is less than a specific value.

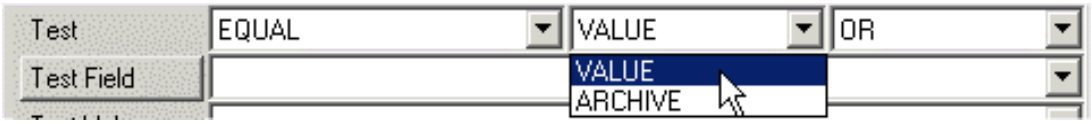
LESS_EQUAL

A field will be tested to see if it is less than or equal to a specific value.

Note: fields are first tested to see if they contain numeric values. If both fields are numeric, then numeric tests are performed. Otherwise an alpha test is performed.

e.g.: Numerically 12 = 12.0. However these two values are not equal in an alpha test.

Source



Select VALUE or ARCHIVE to test the field on the screen against the value in the macro or a screen field saved via the ARCHIVE Action.

And/Or

Select AND or OR to control how the test will be combined with other macros. Identical macros that differ only in their tests can be combined according to the rules in And/Or Conditions.

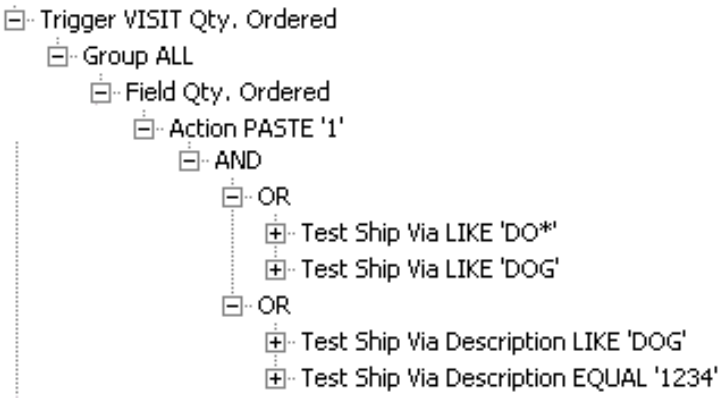
And/Or Conditions

Multiple macros for the same field which differ only in their TestField or TestValue are automatically combined to create AND/OR conditions. This can be controlled by the AND/OR field.

The rules are as follows:

1. If the AND/OR field is OR macros that differ only by TestValue will be combined in an OR condition.
2. If the AND/OR field is AND macros that differ only by TestValue will be combined in an AND condition.
3. Macros that differ by TestField are always combined in an AND condition.
4. Mixed AND/OR conditions are run as (OR) AND (OR). OR's are always evaluated first then AND's.

The Actions and Triggers Views show how macros are combined.



The Notes tutorial shows an example of copying macros to create an AND condition.

Finder

Finder

ME employs finders to locate physical windows and capture keystrokes.

Some of the dialog labels are also buttons which when pressed will call the various finders.

Find Macro

Finds a macro by locating the physical window the macro was written for.

Find Triggers or Tests

Find Field

Find a field by physically identifying the field.

Find Recording

Find a field to be used for recording/replay of macros.

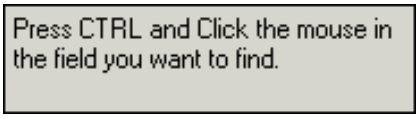
Find Key

Find a hot key combination.

Find Field

Selected using the

button in the Fields data windows or from the Field menu, the Finder allows you to identify application fields to ME.



Attached to the mouse cursor the finder waits until you press Ctrl and Click the mouse then returns the field ID under the mouse back to ME.

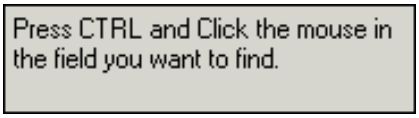
Pressing Escape cancels the Finder.

When Option, Trace is set the physical window handle of the underlying field is also displayed. This can be used with the .log file to aid in debugging macros.

Macro Find

Selected using the

button in the Macros Create of Edit dialogs, the Finder allows you to identify application Action fields to ME.



Attached to the mouse cursor the finder waits until you press Ctrl and Click the mouse then returns the field ID under the mouse back to ME.

Pressing Escape cancels the Finder.

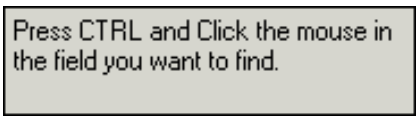
When Option, Trace is set the physical window handle of the underlying field is also displayed. This can be used with the .log file to aid in debugging macros.

Find Field, Triggers, or Tests

Selected using the

or

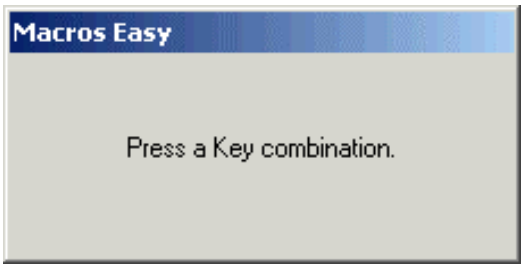
buttons in the Macros Create or Edit dialogs, the Finder allows you to identify application Trigger or Test fields to ME.



Attached to the mouse cursor the finder waits until you press Ctrl and Click the mouse then returns the field ID under the mouse back to ME.

Pressing Escape cancels the Finder.

Find Hotkey



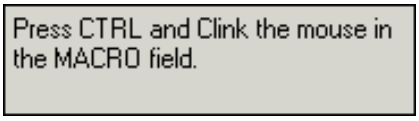
Press the key combination (including ALT CTRL and SHIFT) you want to set.

Find Recording

Selected using the

or

buttons in the Macro Create or Edit dialogs. The Finder allows you to identify application fields to ME for recording or replaying macros.



Attached to the mouse cursor, the finder waits until you press Ctrl and Click the mouse then returns the field ID under the mouse back to ME.

Pressing Escape cancels the Finder.

When Option, Trace is set the physical window handle of the underlying field is also displayed. This can be used with the .log file to aid in debugging macros.

Controls

Hot Key

The default ME hotkey is <Ctrl F10>. Press this key in any application field to popup the Macro Wizard.

Tray Icon

The ME Icon appears in the system tray whenever ME is loaded.

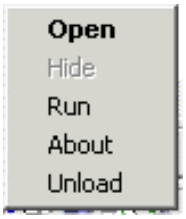
- Macros disabled.

- Macros enabled.

Double clicking this icon will open ME.

Single clicking this icon will bring ME to the foreground.

Right Clicking the tray icon will open the tray menu.



Open

Open ME. Similar to double clicking the tray icon.

Hide

Hide ME. Similar to closing the ME main window.

Run

Run a NAME Trigger. Similar to selecting File, Run from the ME main window.

About

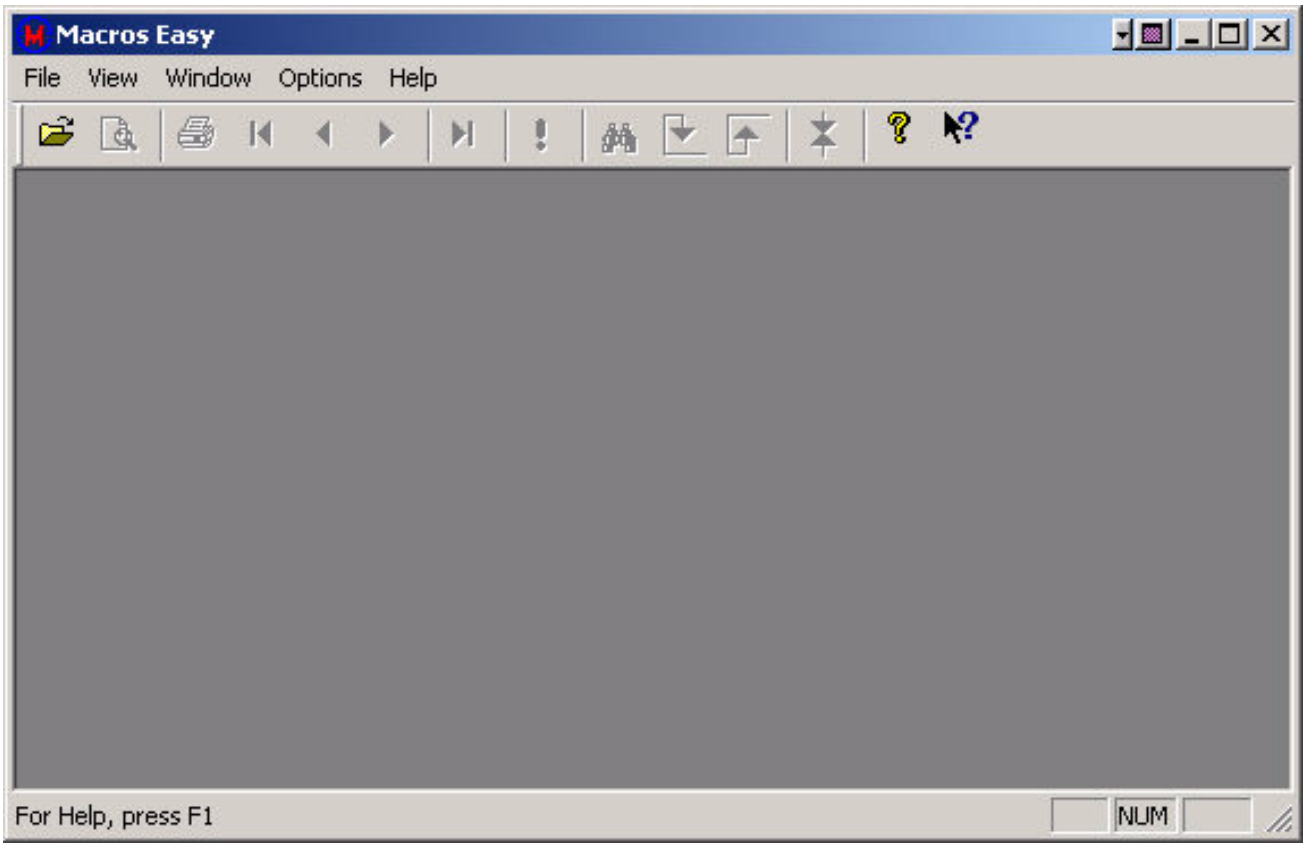
Display the About window.

Unload

Unload ME from memory.

Main Window

This is the ME main window as it appears when no views are open.



When no views are open you are able to select File Backup, Restore, and Replace from the main menu. For security reasons these commands are not available otherwise.

While the ME main window is open, macro execution is suspended to simplify maintenance.

Closing (not minimizing) the main window returns ME to the tray and enables macros.

To learn how to use ME, see Quick Start or Tutorials.

To learn how to maintain your macro, see Actions and Triggers.

Toolbar

The toolbar is displayed across the top of the application window, below the menu bar. The toolbar provides quick mouse access to many tools used in ME.

To hide or display the Toolbar choose Toolbar from the View menu (ALT, V, T).

Click To

Open a document.

Preview the active document before printing.

Print the active document.

Go to the first record in the current selection.

Go to the previous record in the current selection.

Go to the next record in the current selection.

Go to the last record in the current selection.

Re-query the database.

Search the tree for a matching item.

Move the current macro up within an Trigger.

Move the current macro down within an Trigger.

Status Bar

The status bar is displayed at the bottom of the ME window. To display or hide the status bar use the Status Bar command in the View menu.

The left area of the status bar describes actions of menu items as you use the arrow keys to navigate through menus. This area similarly shows messages that describe the actions of toolbar buttons as you press them, before releasing them. If after viewing the description of the toolbar button command you wish not to execute the command, then release the mouse button while the pointer is off the toolbar button.

The right areas of the status bar indicate which of the following keys are toggled:

Indicator Description

CAP
The Caps Lock key is toggled.

NUM
The Num Lock key is toggled.

SCRL
The Scroll Lock key is toggled.

Scroll bars

Displayed at the right and bottom edges of the document window. The scroll boxes inside the scroll bars indicate your vertical and horizontal location in the document. You can use the mouse to scroll to other parts of the document.

Title Bar

The title bar is located along the top of a window. It contains the name of the application, the table, the module and the screen currently selected in the table.

To move the window, drag the title bar. **Note:** You can also move dialog boxes by dragging their title bars.

The standard File menu offers the following commands:

Open

Opens a view.

Close

Closes a view.

Print

Prints a view.

Print Preview

Displays the view on the screen as it would appear printed.

Print Setup

Selects a printer and printer connection.

Exit

Closes the ME window. ME continues to run in the background.

When no views are open the File Menu offers these additional commands:

Backup

Copies your ME to a tab delimited text file.

Restore

Retrieves your ME data. Existing records are unchanged.

Replace

Retrieves your ME data. Existing records are replaced.

Clean

Removes unused entries from your database.

Integrity Check

Check the integrity of the database.

Delete Errors

Delete any errors from the database.

Run

Runs a macro by name.

Unload

Unloads ME from memory.

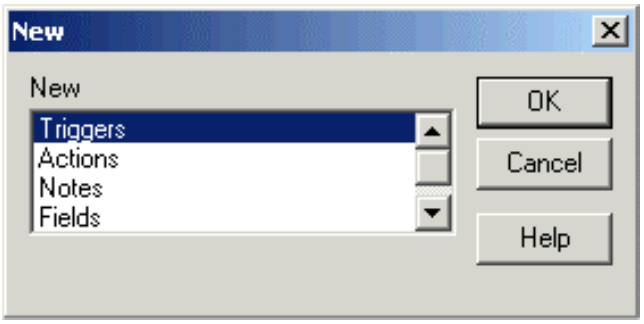
Open command (File menu)

Use this command to open a view. You can open multiple views at once. Use the Window menu to switch among the multiple open views.

Shortcuts

Toolbar:
Keys: CTRL+O

The Open command will bring up a menu to select the view to open.



Select the view you wish to open and then press OK.

Close command (File menu)

Use this command to close the window containing the active table.

Save (File Menu)

Available only when no tables are open this command copies the current Group to a tab delimited text file.

This command creates a .TDF file, which contains all the information required to re-create the macros for a group, which can then be loaded into another ME database using the LOAD command..

Load (File Menu)

Available only when no tables are open this option restores a previously SAVED copy of a Group to your database. Existing records in your database are overwritten.

This command, along with Save, allows macros for a Group to be transferred from one ME database to another.
.

Backup (File Menu)

Available only when no tables are open this command copies critical portions of your ME database to a tab delimited text file.

This command can be run via the command line:

ME backup

Restore (File Menu)

Available only when no tables are open this option restores a previously backed up copy of your database. Existing records in your database remain unchanged.

This command can be run via the command line:

ME restore <filename>

Replace (File Menu)

Available only when no tables are open this option restores a previously backed up copy of your database. Existing records in your database are overwritten.

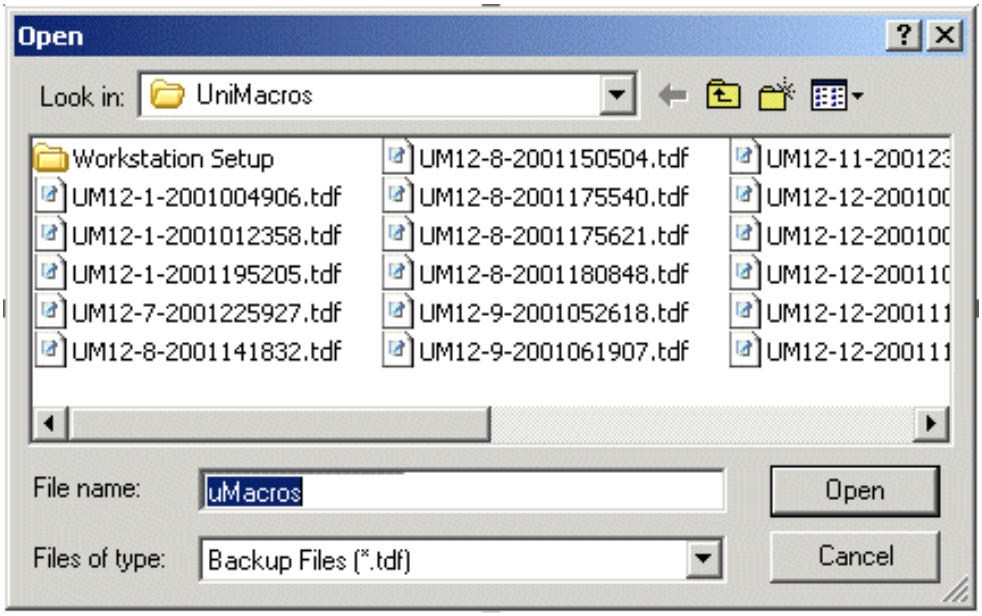
This command can be run via the command line:

ME replace <filename>

Rollback (File Menu)

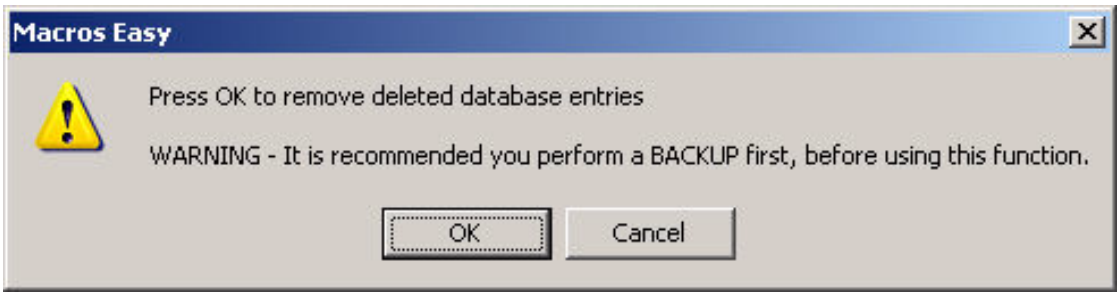
Available only when no tables are open this option restores a previously backed up copy of your database. All existing records in your database are deleted, and replaced with the previous backup.

File Browse



The file browse dialog allows you to select files from outside the ME database for File Restore/Replace and Run/Schedule macros.

File Clean



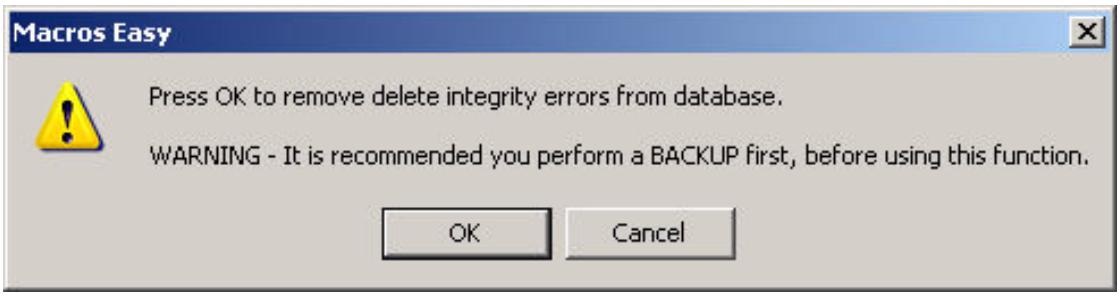
This function removes deleted items from your database. It is recommended you perform a Backup before using this function.

File Integrity Check

Run an integrity check on the database to locate any macros with errors. These errors can be deleted using the Delete Errors function.

File Delete Errors

This function will delete database errors discovered by the Integrity Check.



This function deletes macros from the database. As a result you should perform a Backup before deleting the errors.

Print dialog box

The following options allow you to specify how the document should be printed:

Printer

This is the active printer and printer connection. Choose the Setup option to change the printer and printer connection.

Setup

Displays a Print Setup dialog box so you can select a printer and printer connection.

Print Range

Specify the pages you want to print:

All - Prints the entire document.
Selection - Prints the currently selected text.
Pages - Prints the range of pages you specify in the From and To boxes.

Copies

Specify the number of copies you want to print for the above page range.

Collate Copies

Prints copies in page number order instead of separated multiple copies of each page.

Print Quality

Select the quality of the printing. Generally, lower quality printing takes less time to produce.

Print command (File menu)

Use this command to print a document. This command presents a Print dialog box where you may specify the range of pages to be printed, the number of copies, the destination printer and other printer setup options.

Shortcuts

Toolbar:
Keys: CTRL+P

File Print Setup

Print Setup command (File menu)

Use this command to select a printer and a printer connection. This command presents a Print Setup dialog box where you specify the printer and its connection.

Print Setup dialog box

The following options allow you to select the destination printer and its connection.

Printer

Select the printer you want to use. Choose the Default Printer or choose the Specific Printer option and select one of the current installed printers shown in the box. You install printers and configure ports using the Windows Control Panel.

Orientation

Choose Portrait or Landscape.

Paper Size

Select the size of paper that the document is to be printed on.

Paper Source

Some printers offer multiple trays for different paper sources. Specify the tray here.

Options

Displays a dialog box where you can make additional choices about printing, specific to the type of printer you have selected.

Network...

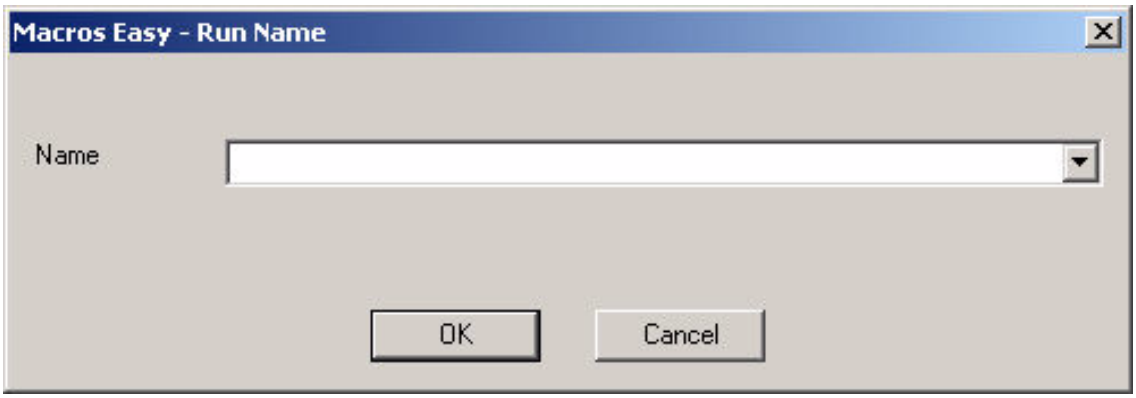
Choose this button to connect to a network location assigning it a new drive letter.

Print Preview command (File menu)

Use this command to display the active document as it would appear when printed.

Run

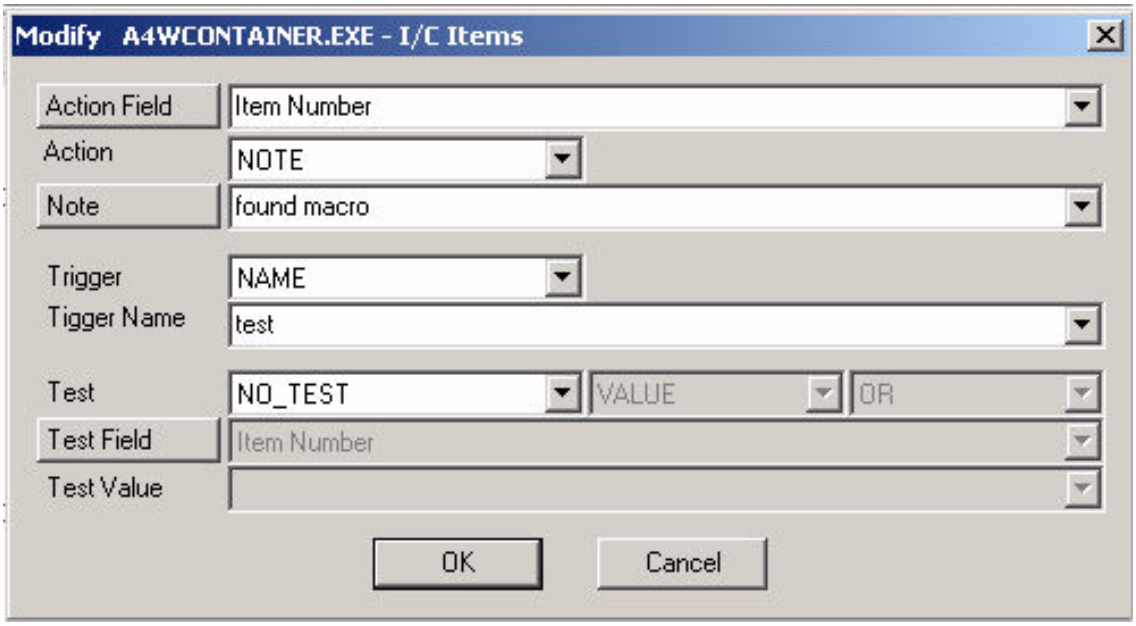
Selected from File, Run, this command runs a macro by running a NAME Trigger.



A NAME is a user-defined Trigger, similar to a CLICK or HOTKEY Triggers but one that does involve user action with the application.

A Name Trigger macro will run only if the macro field exists.

Example:



This macro has a NAME Trigger of test. Selecting File, Run, test will run this macro provided the underlying application program is also running. In this case, the field "Item Number" must exist for the macro to run.

Name Triggers can also be run in batch mode from the command line provided ME is already running. If ME is not running, macros will not be run from the command line.

ME Run test

Will also run the above sample macro. If the Trigger NAME includes SPACES, it must be enclosed in quotes:

ME Run "test 34"

Macros can also be run from the Macros menu. However these commands only run the currently selected macro. A NAME Trigger runs ALL macros in the group with the same name.

Exit command (File menu)

Use this command to end your ME session. This does not remove ME from the system. Use the Tray Menu to do this.

Shortcuts

Keys: ALT+F4

Unload (File Menu)

This command only appears when no tables are open. It unloads ME from memory. The same as selecting Unload from the tray icon.

This command can be run via the command line:

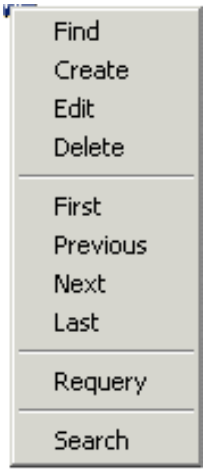
ME unload

Field menu

Fields Popup

Right clicking on a field ID will display the Fields Popup Menu which allows modification of your fields.

The following commands are available



This menu is a combination of the Fields Menu and the Record Menu.

Field Menu

Find

Calls the Finder to locate a field. If the field does not exist ME will call Field Create.

Create

Called by the Finder if a field does not exist. Can be used to force the creation of fields in Grids for other Row and Column combinations.

Edit

Edits a field name.

Delete

Deletes a field name.

Search

Searches for a matching item in the tree.

Field Type

The field type controls how macros work with each field. If a macro does not work as expected it may be necessary to change the field type.

The field type may be changed during Field Create and Field Edit.

Paste mode allows ME to talk directly to fields without moving the keyboard focus. It is important because it allows you to create macros that update fields in the background.

Paste mode macros are only available for common field types.

Paste enabled field types:

TEXT

The field is able to select, cut and paste text. Works with edit and rich edit fields and editable combo boxes.

CHECKBOX

A selectable button.

RADIOBUTTON

A radio style button. Similar to CHECKBOX.

PUSHBUTTON

A button that may be pressed but not selected.

COMBOBOX

A combination of a field and a list. Works best with combo boxes that do not allow editing of the display field. Combo boxes that can be edited may work better as type TEXT.

LISTBOX

A drop-down list.

Field types with limited Paste:

GRID

An ACCPAC for Windows version 5 grid. Paste grids only work while the focus is inside the grid.

KEYMOUSE

Paste does not perform an erase first. Paste may not work if the focus is in another field.

Field types without Paste:

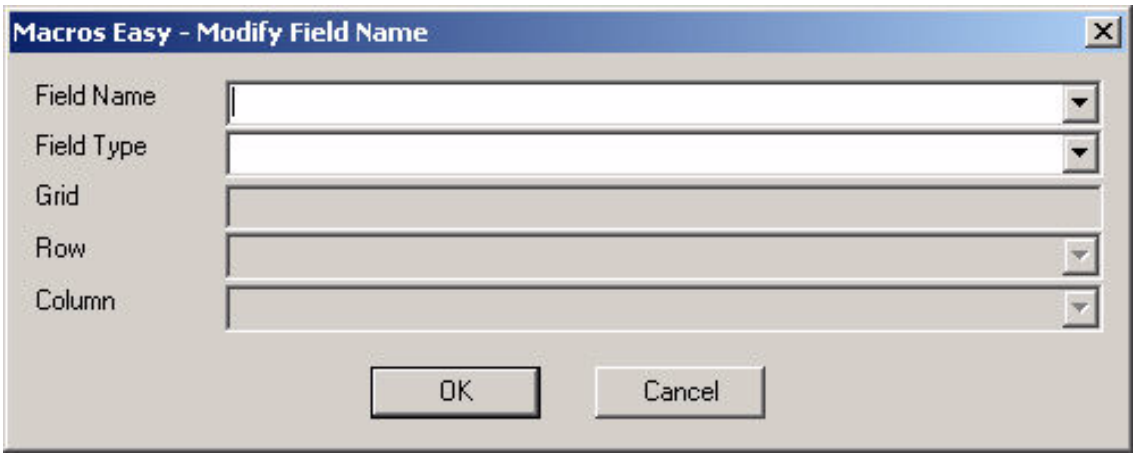
READONLY

Typically a label or disabled field. Can be used in a TEST or ARCHIVE.

NOACTION

Macros will not run on this field.

Field Edit



Field Name

This screen allows you to modify the name of a field. This might be required to correct errors or to combine the operation of two physical screen fields (windows) into a single logical field name.

Field Type

You may override the field type should you wish to change the basic macro behavior for this field. All fields with the same name must have the same type.

TYPE GRID

The following fields are only applicable for Grids. Editing grids requires that the screen containing the grid be open.

Grid

If the field type is "GRID" you can enter the grid name for this field. Normally ME uses the first column of the grid as the name but you can change this.

Row

If the field type is "GRID" you can enter the row name for this field. If the row name is blank ME will use the current row at run time.

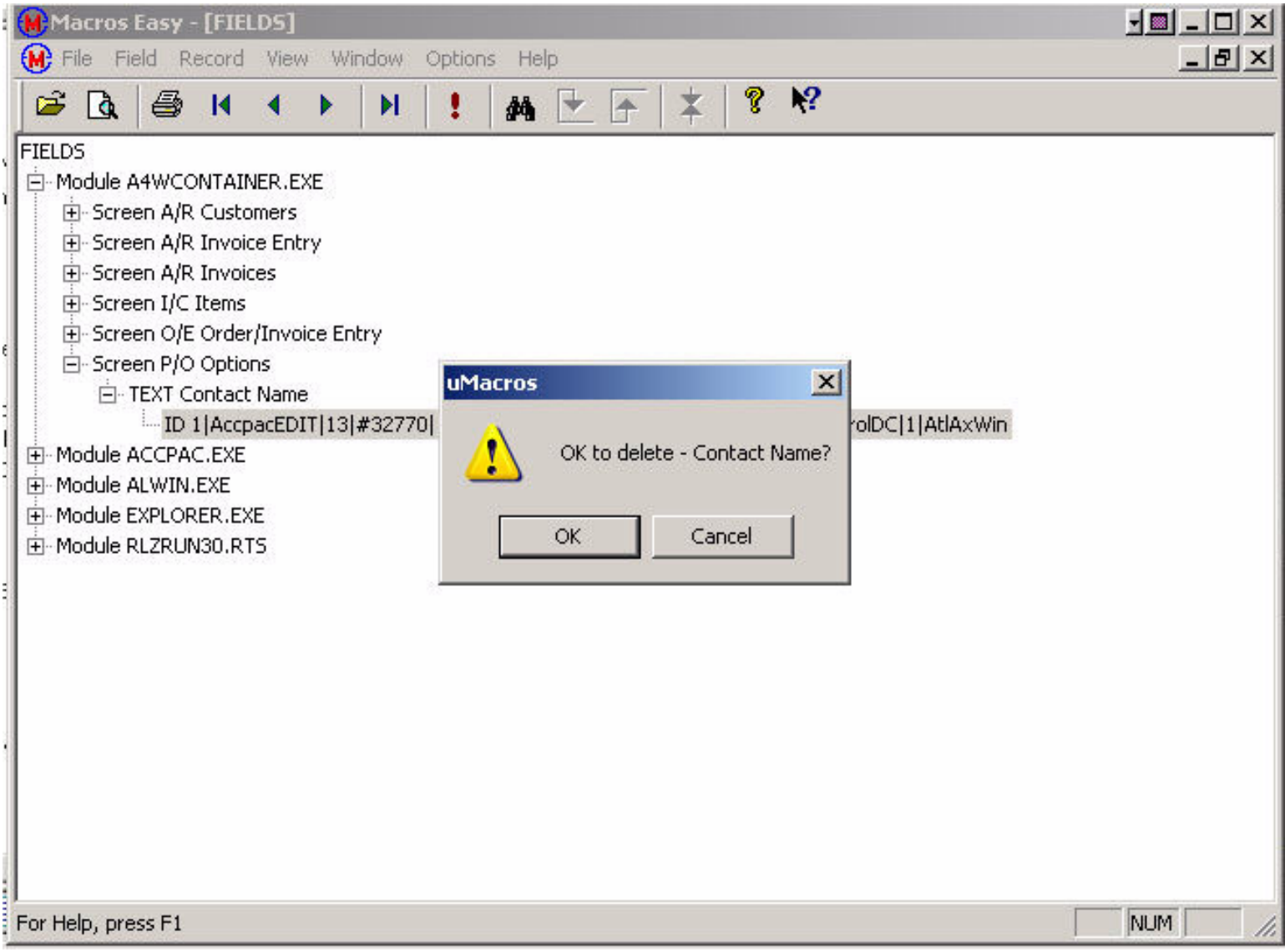
Column

If the field type is "GRID" you can enter the column name for this field. If the column name is blank ME will use the current column at run time.

Field Delete

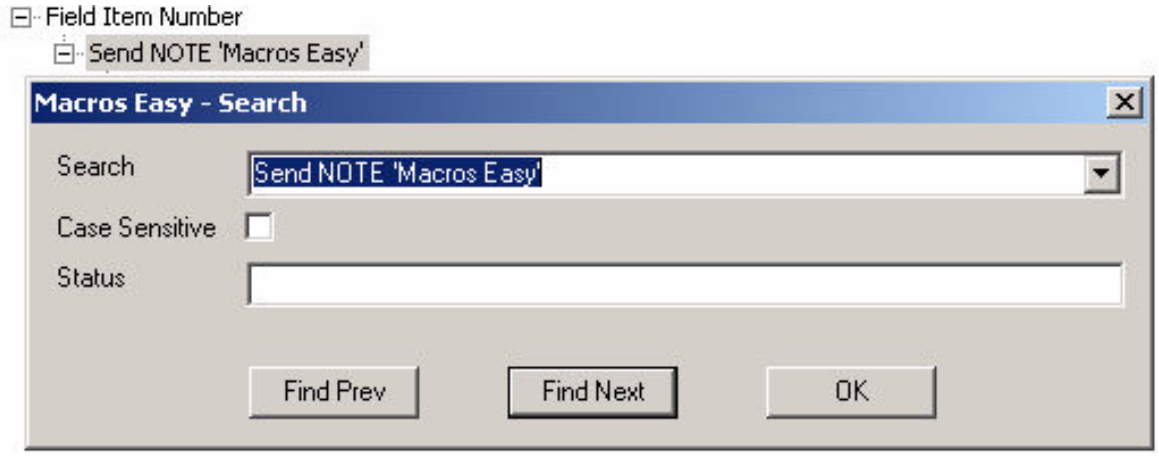
Normally you should not have to delete a field definition. Should it be necessary:

1. Select File, Open to open the Fields table.
2. Select the correct Field record.
3. Select Field, Delete.
4. Press OK to confirm.



Search

Available both from the menus and the search icon on the toolbar, Search allows you to search for any text appearing in the current tree.



Search will scan the tree looking for the string you entered. The search is always relative to your current position in the tree.

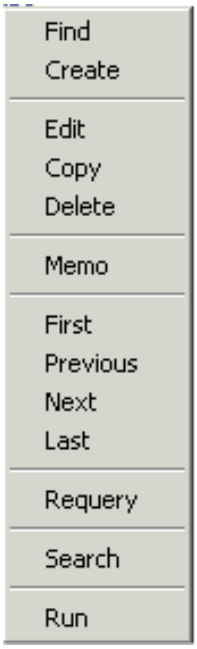
Use the and to choose the direction of the search.

Press when the search is complete.

Macro Popup

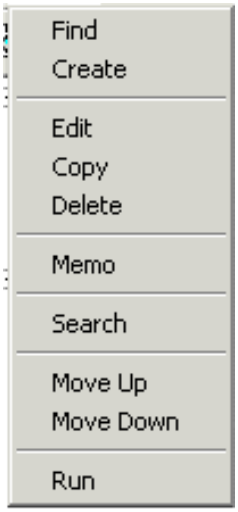
Right Clicking an Index of Dup item will display the Macro Popup menu which allows modification of you macros.

The following popup commands are available when working with macros:



This menu is a combination of the Macro Menu and the Record Menu.

Macro Menu



Find

Calls the Finder to locate a macro. If a macro exists for this field the view will be positioned to the first macro for this field. If no field definition exists ME will call Create Field. If no macro exists for a field ME will call Create Macro.

Create

Creates a macro for a field. Calls the Finder to locate the field.

Edit

Used to modify an existing macro. The macro edited is the current macro in the Macro table data grid.

Copy

Allows a macro to be copied. Used to move macros to other groups, screens or to create AND/OR conditions.

Delete

Deletes the current macro in the Macros table data grid.

Search

Searches for a matching item in the tree.

Memo

Creates a memo to document the current macro. This allows you to provide a name for your macros.

Move Up (Trigger View)

Moves the macro "Up" in the order of execution within a Trigger.
See: Order of Execution.

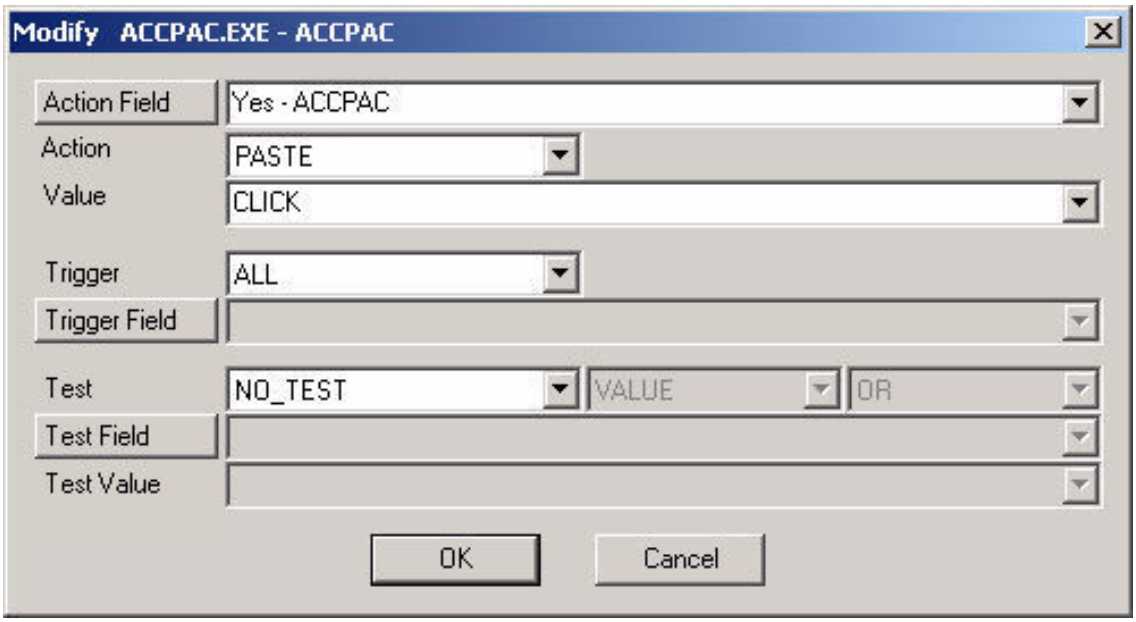
Move Down (Trigger View)

Moves the macro "Down" in the order of execution within a Trigger.
See: Order of Execution.

Run

Runs a macro by simulating the macro Trigger. Macros will only run if the application they are to run against is also running. The macro Trigger is only simulated. It is not sent to the application. Once the macro starts however all the subsequent macro actions are live and can start other macros.

Macro Edit



The Edit Macros dialog is called after the Macro Create Wizard. The Wizard is called by pressing the hotkey <Ctrl F10> while in Wizard Mode. (Select Options, Wizard.) The Edit Macros dialog can also be called via the Macro, Edit menu item.

The dialog is divided into three areas.

ACTION - The top section (Action) determines what the macro is going to do.

Action Field

The 'Action Field" is automatically filled in with the name of the field from which you pressed the hotkey.

You can use this field or change the field using the combo box or the finder Action Field.

Action

Select the appropriate Action for this macro. Depending on what you are doing, ME may suggest an action.

Value

Fill in the Value you want ME to automatically send to the field. Depending on the Action selected, buttons may be presented to help in building this value. ME may also read suggested values from the screen and add them to the combo box to speed entry of default values.

TRIGGER - The middle section (Trigger) determines when the macro will run.

Trigger

Select a Trigger to run the macro.

Trigger Field

Select the field, or use the finder Trigger Field. Triggers can also be user-defined names. If the Trigger is "Name", enter a name of your choosing.

BOTTOM - The bottom selection (Test) determines if the macro will run.

Test

Select a Test to limit when the macro will run.

Value/Archive

Select

depending on the source you want to test. Select VALUE to test against a value entered into the macro. Select ARCHIVE to test a field against a previously stored screen value.

And/Or

Select

to control how this macro is combined with other macros.

Test Field

If a test is selected, a "Test Field" will be required. Select the field using the combo box, or by using the finder

.

Test Value

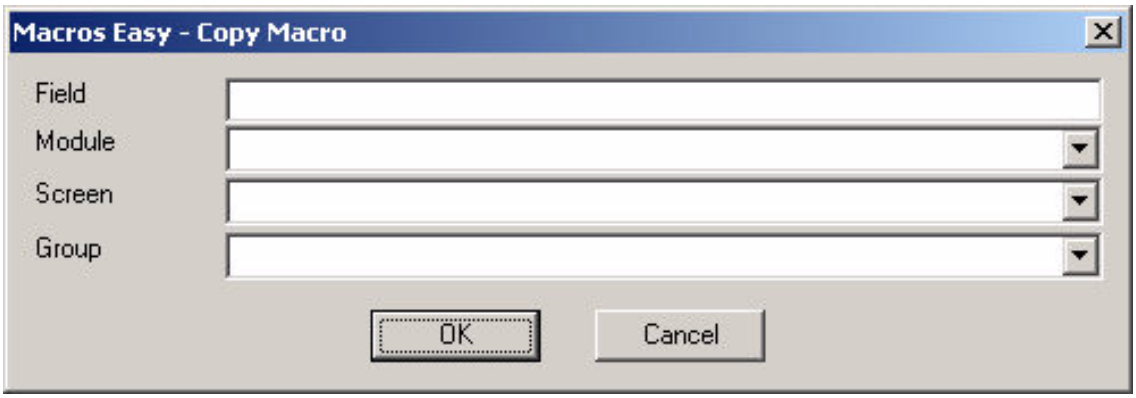
If you selected VALUE/ARCHIVE

, enter the value you want to test. Otherwise, use the combo box to select the Archive you want to test.

Note: The Action, Trigger, and Test field can all refer to different fields, but they must all be on the same screen.

Macro Copy

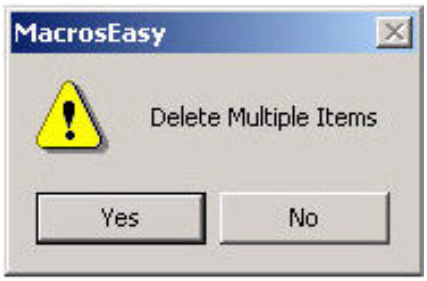
Selected from the Macro Menu, the Copy wizard allows you to copy the current macro to a new macro and/or to a different screen and/or group.



Macro Copy will call Macro Modify to verify the new macro and to allow editing of the new macro.

Macro Delete

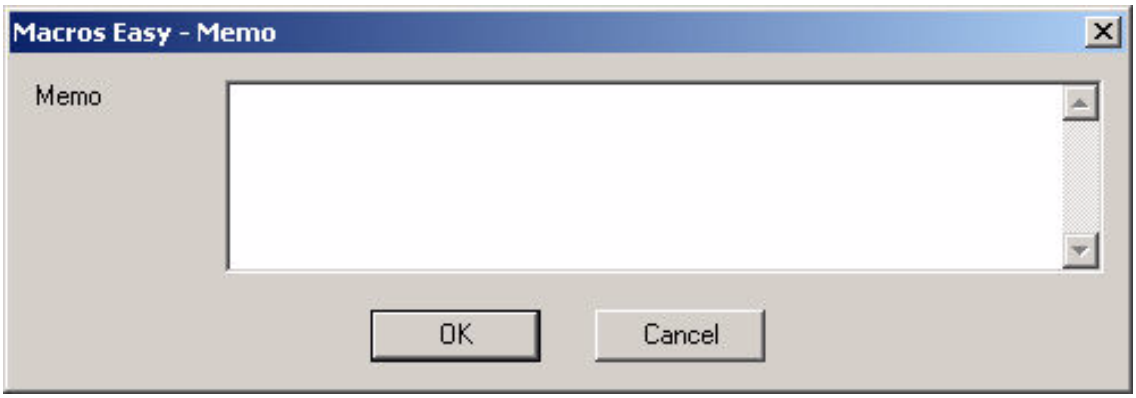
1. Select File, Open to open the Actions or Triggers table.
2. Select the correct Macro record.
3. Select Macro, Delete.
4. A warning will be displayed if more than one macro may be deleted. Press Yes to confirm.



Macro Memo

Memos allow you to document your macros. These memos appear in the macros report to assist in maintaining your macros.

1. Select File, Open to open the Actions or Triggers View.
2. Select the correct Macro record.
3. Select the Macro, Memo.
4. Enter a memo then Press OK.



Triggers - Order of Execution

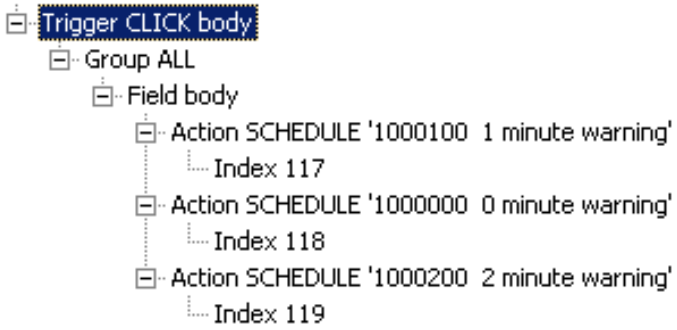
The Triggers View shows the order of execution for multiple macros for a single Trigger.

Normally the order of macro execution is the same as the order in which triggers occur. When multiple macros exist for the same Trigger they are normally run in Index sequence.

If you need to change the order of multiple macros for a single Trigger to something other than index sequence the Trigger View, Macro menu, Move Up/Down functions can be used to change this.

Example:

Before



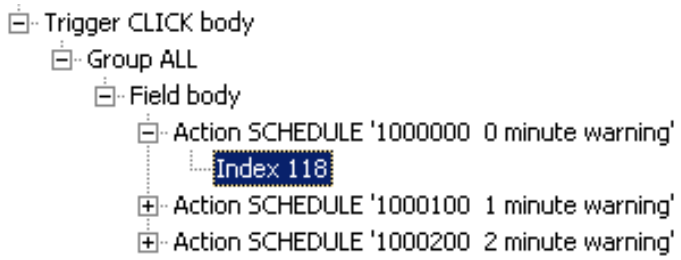
In the Before view the macros are set to run in Index sequence which is the default - the order in which they were created.

Select the macro you want to move. In this case we will select

Right click

to bring up the Triggers popup menu, and select

After



In the After view macro

has now been moved up and will run ahead of the other two schedule macros.

KEYMOUSE and PLAYBACK macros

When executing ME does not wait for keystrokes and mouse click to be processed by the application. They are simply "queued" for the application when it is ready.

As such putting a mouse click or keystroke or playback macro ahead of a Test within a single Trigger will not work. The keystroke and mouse actions will be queued the Test performed and then the application will begin reading the queued clicks and keystrokes.

In general use Triggers to detect and control KEYMOUSE and PLAYBACK Actions.

Posting of KEYMOUSE and PLAYBACK macros is a feature of the Windows operating system and is the reason for the non-procedural design of ME, and the PASTE Action. PASTE is not queued.

Notes Menu

The Note menu is used to maintain Notes.

Edit

Modify a Note.

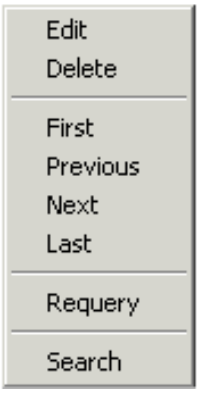
Delete

Delete a Note.

Search

Search for a Note.

Note Popup

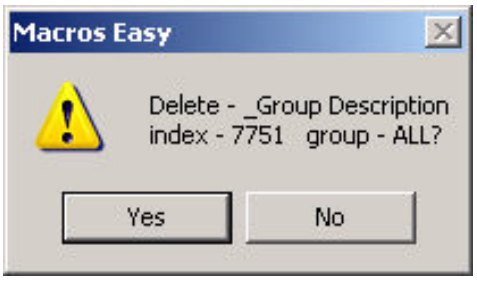


This menu is a combination of the Note Menu and the Record Menu.

Note Delete

Select the

button from a popup note or Delete from the Notes Menu. You will be asked to confirm the delete.

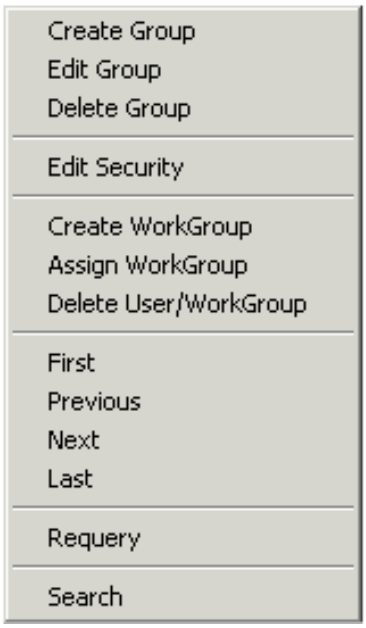


Press

to delete the note.

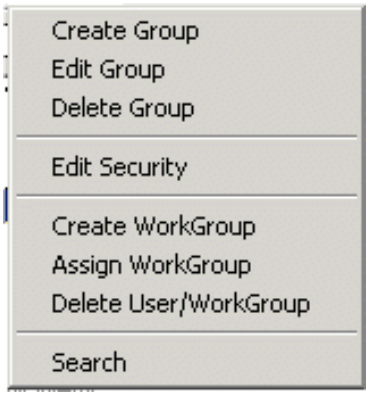
Security Menu

Security Popup



This menu will popup when you right click the Security window. It is a combination of the Security Menu and the Record Menu.

Security Menu



Create Group

Creates a new macro group.

Edit Group

Modifies a group.

Delete Group

Deletes a group.

Edit Security

Edits an existing security record.

Create WorkGroup

Creates a user workgroup -- a prototype user.

Assign WorkGroup

Assigns a user to a workgroup. All changes to a workgroup are copied to all users of the workgroup. A user can be a workgroup or a user prototype can be a workgroup.

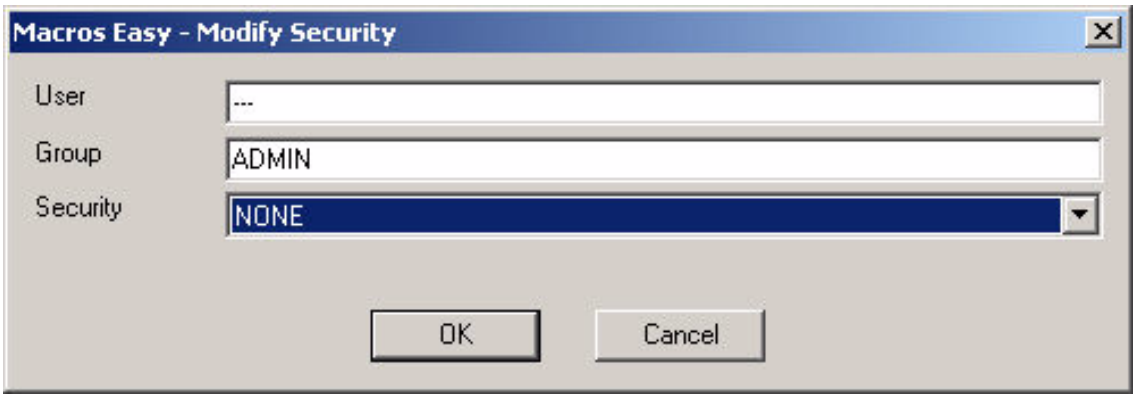
Delete User/WorkGroup

Deletes a user or a workgroup. A user can be a member of a workgroup, or a workgroup, with other users as members of the workgroup. A user cannot be deleted if they are a workgroup with members.

Search

Searches for a record

Security Edit



This menu allows you to modify the security for a user in a group.

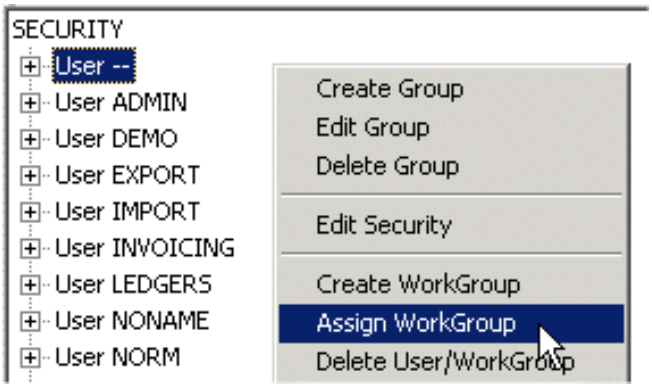
When system security is enabled this determines the capabilities of a user within a group.

WorkGroup Assign

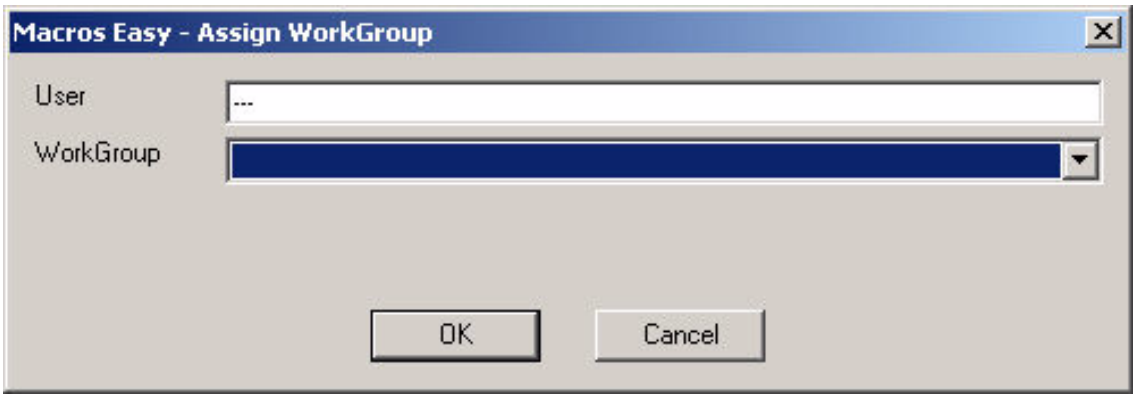
Security is used to determine which user is able to run which groups of macros. With many users and macros this can become time consuming.

To simplify security maintenance of users assign each user to a workgroup. Once this is done, you will no longer be able to edit the security for the user. Rather by editing the security for the workgroup the security of all users of the workgroup is automatically changed.

From the Security View select a user then right click and select **Assign WorkGroup**.



This will open the Assign WorkGroup dialog.



Select the WorkGroup you wish to assign this user to, then press

.

Selecting a blank workgroup removes the user from any workgroup.

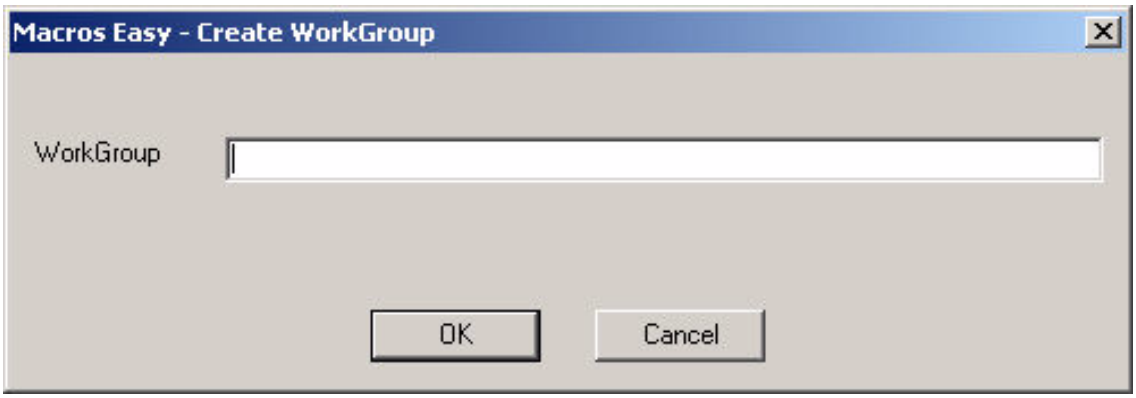
You can assign a user to a prototype user or an actual user as a workgroup. There is no functional difference. However, using real users as workgroups makes it impossible to delete the real user. For that reason it is recommended you use prototype users as workgroups rather than real users.

WorkGroup Create

WorkGroups provide a quick means to maintain security for a group of users.

Any existing user can be a workgroup or a member of a workgroup.

The WorkGroup Create dialog allows you to create a "prototype" user to serve as workgroup.



Enter the name you wish to give the WorkGroup, and press

.

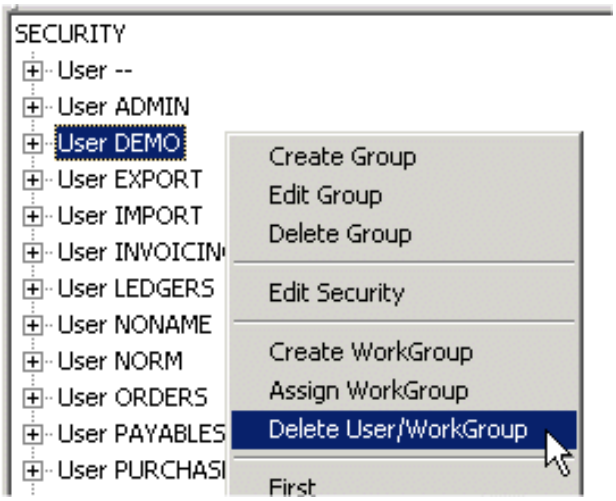
The name chosen for the workgroup must be different than any other user or workgroup.

WorkGroup/User Delete

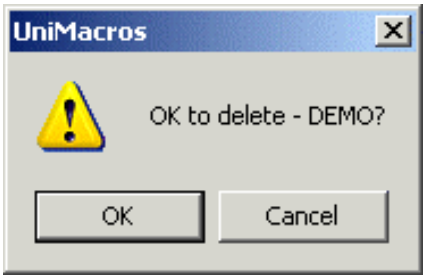
The WorkGroup/User delete function allows you to delete a workgroup or user from the system.

You cannot delete a user or workgroup if any other user is using them as a workgroup.

From the Security View right click the user/workgroup you wish to delete and select **Delete User/WorkGroup**.



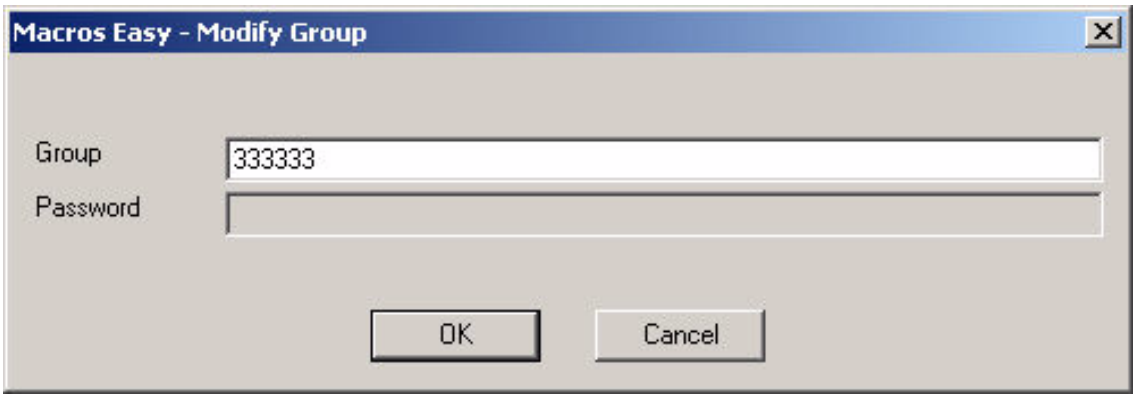
ME will ask you to confirm.



Press

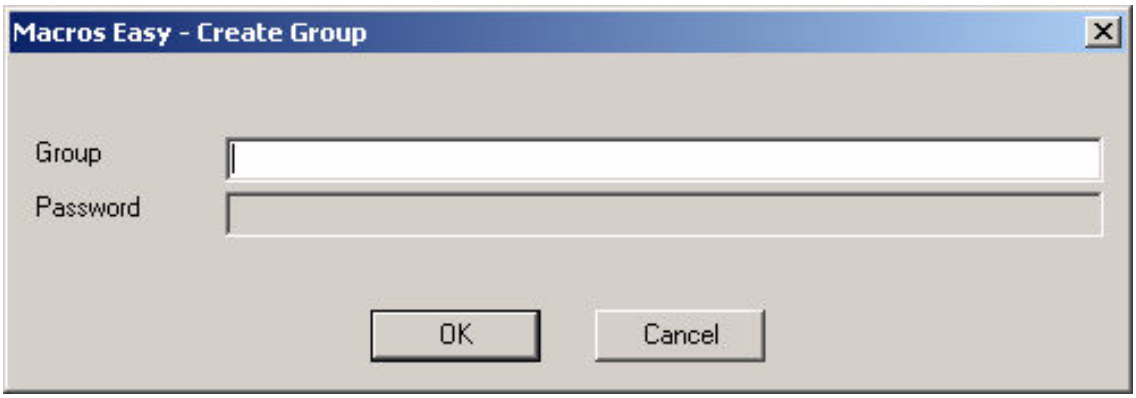
to delete the user/workgroup.

Group Edit



When system security is enabled you can change the group password and restrict user access to the system.

Group Create



This menu allows you to add new groups to the system.

When system security is enabled you can also set the group password. The group password allows supervisors to override group security to deal with exceptions.

Group Delete

Answer OK to delete the current group.

Record menu commands

The Record menu offers the following commands:

First Record

Shows the first record in the current selection

Previous Record

Shows the previous record in the current selection

Next Record

Shows the next record in the current selection

Last Record

Shows the last record in the current selection

Re-query

Re-queries the database. Any partial updates are cancelled.

First Record command (Record menu)

Use this command to go to the first record in the current selection.

Shortcut

Toolbar:

Previous Record command (Record menu)

Use this command to go to the previous record in the current selection.

Shortcut

Toolbar:

Next Record command (Record menu)

Use this command to go to the next record in the current selection. This command will be disabled if you are currently viewing the last record and have arrived at this record by a series of Next Record commands instead of the Last Record Command.

Shortcut

Toolbar:

Last Record command (Record menu)

Use this command to go to the last record in the current selection.

Shortcut

Toolbar:

Re-query Record command (Record menu)

Use this command to re-query the database. Changes made by other users become available at this point.

View menu commands

The View menu offers the following commands:

Toolbar

Shows or hides the toolbar.

Status Bar

Shows or hides the status bar.

Toolbar command (View menu)

Use this command to display and hide the Toolbar which includes buttons for some of the most common commands in ME such as File Open. A check mark appears next to the menu item when the Toolbar is displayed.

See Toolbar for help on using the toolbar.

Status Bar command (View menu)

Use this command to display and hide the Status Bar which describes the action to be executed by the selected menu item or depressed toolbar button and keyboard latch state. A check mark appears next to the menu item when the Status Bar is displayed.

See Status Bar for help on using the status bar.

Window menu

Window menu commands

The Window menu offers the following commands which enable you to arrange multiple views of multiple documents in the application window:

Cascade

Arranges windows in an overlapped fashion.

Tile

Arranges windows in non-overlapped tiles.

Arrange Icons

Arranges icons of closed windows.

Cascade command (Window menu)

Use this command to arrange multiple opened windows in an overlapped fashion.

Tile command (Window menu)

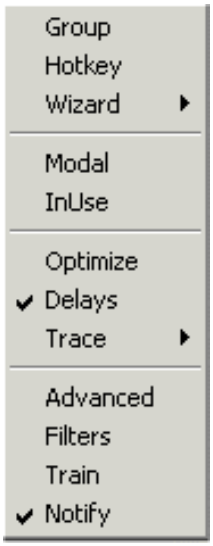
Use this command to arrange multiple opened windows in a non-overlapped fashion.

Window Arrange Icons Command

Use this command to arrange the icons for minimized windows at the bottom of the main window. If there is an open document window at the bottom of the main window, then some or all of the icons may not be visible because they will be underneath this document window.

Options Menu

The options menu allows you change aspects of ME specific to each user.



Group

Change the group of macros that will run for this user.

Hotkey

Change this user's hotkey.

Wizard

Switches between Wizard and Expert mode.

Modal

Change the way notes pop up.

In Use

Change the fields view to only show fields that are being used.

Optimize

Remove redundant mouse moves while recording a macro.

Delay

Replay macros at recorded speed.

Trace

Enable macro tracing for this user.

Advanced

Modify low-level parameters to adjust for very slow/fast machines. As a security measure these setting are only

available from the Options menu when all tables are closed. A user must have security level SYSTEM to access these settings. See Options Advanced

Filters

Allow multiple screens to use the same name.

Train

Enable Field name auto training.

Notify

Automatic notification of product updates.

Options Group

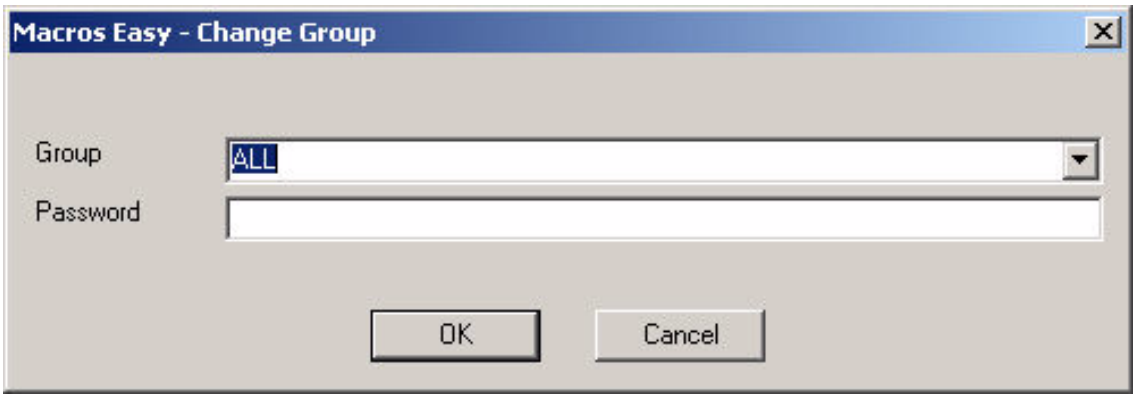
Run from the Options menu, the Change Group selection allows a user to change their group, or to create new groups.

This determines which macros will run for this user.

One special groups exists:

Group ALL - sees and runs all macros that the User has Security Access to.

All other Groups only see and run macros in their own Group.



Use the combo box to select a new group and then press OK.

If you have SYSTEM level security you can also type a new group name into the Group field. When you press OK you will be given the opportunity to create a new group.

When a user changes to a group if system security is turned of, all users have SYSTEM level security. When security is turned on the user security level is determined by the Security table.

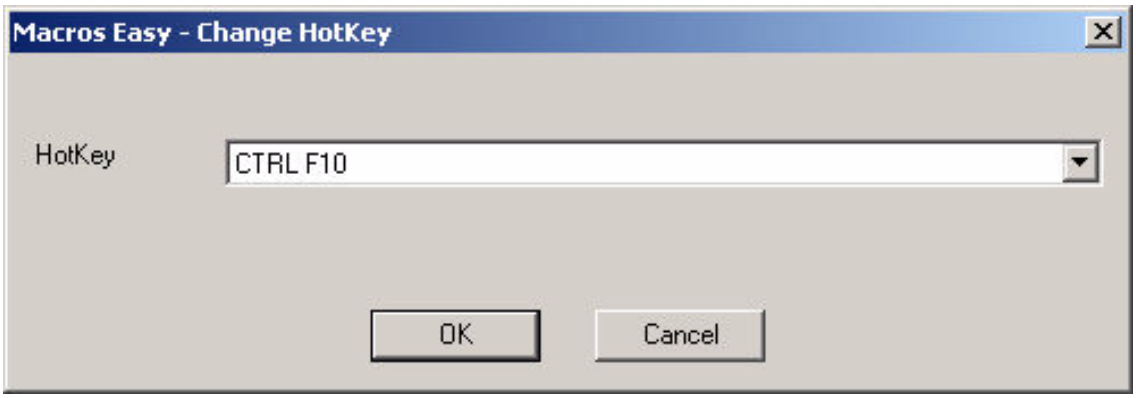
If a group password is set then entering the group password overrides the default group security for this user (as determined by the Security table) allowing SYSTEM level access to this group.

Entering the system password in the Password field also overrides the Security table and enables SYSTEM level access for the user.

The system password can only be set by activating ME. This turns on system security.

Entering either the group or system password allows SYSTEM level access to a group. Group passwords allow supervisor overrides within groups without compromising the system password.

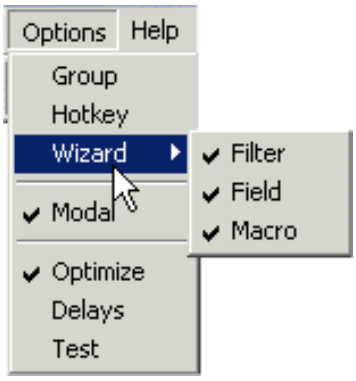
Options Hotkey



Options, Hotkey will allow you to change your hotkey. Unlike macro hotkeys the ME master hotkey is limited to <CTRL F1-F12>.

Contact Product Support if this limitation proves restrictive.

Wizard



Selecting Options, Wizard switches between Wizard mode and Expert mode.

Wizard Filter

Enables Wizard Mode for creating application filters.

Wizard Field

Enables Wizard Mode for creating field names.

Wizard Macro

Enables Wizard Mode for creating macros.

Three wizard options are included to allow you to selectively turn off each wizard as you become more familiar with ME. The wizards are an aid to learning ME but they are slower than using expert mode. For something like Filters which are set only once per application you might always want the wizard enabled.

Note: Wizard mode is specifically limited to popup using the hotkey <Ctrl F10>. Normal maintenance and field finding is always done in expert mode. The assumption being that if you are using these features you should no longer require the Wizard.

Options Modal

When Options Modal is selected popup Notes will be placed in the foreground. This means that the keyboard focus will switch from the current application to the note.

When Options Modal is not selected popup Notes remain in the background until they are selected. The keyboard focus remains with the running application.

During keystroke/mouse journal recording/playback notes are never placed in the foreground.

Options In Use

Set this field on to only see the fields that are in use in macros within the current group. Turn this option off and the fields view will show all fields even those not used in any group.

This option is only available when the FIELDS tree is active or when no views are open.

Details:

Group SYS - In Use shows all fields in use in all groups regardless of security.

Group ALL - In Use shows all fields in use in all groups for which the user has security access.

Group xxx - In Use shows all fields in use in group xxx for which the user has security access.

Options Optimize

“Optimize” removes unneeded mouse moves from recorded playback macros while recording. This speeds macro replay when Delays or Test is selected.

Options Delay

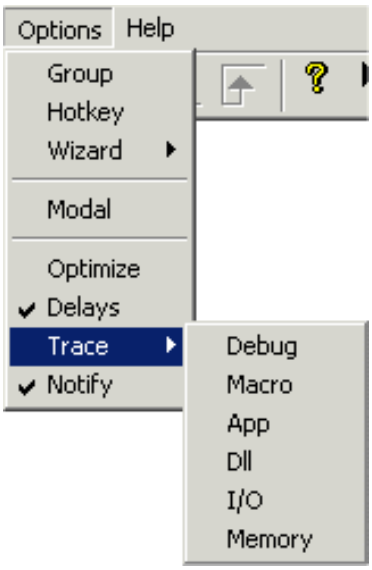
Selecting this option will insert "delays" into PlayBack macros as they are replayed, so that they run at the same speed as they were recorded.

When this option is not selected, macros will replay as fast as your application will accept keystroke/mouse events. When recording new macros, Delays should be enabled, or Test mode enabled, until a macro is fully tested.

Edit the Journal and enter a NEGATIVE delay value to have the macro delay even when Options, Delay is set.

Options Trace

Selected from the Options menu the TRACE function is intended to help testing of new macros before they are put into production. TRACE is reset whenever ME is restarted.



Trace Commands (can affect application performance)

Debug - pop up a note when a macro runs
Macro - Trace macros

Advanced (can affect system performance)

App - trace application internals
Dll - trace Dll internals
I/O - trace I/O internals
Single - single thread timer macros

Pressing the CTRL key while selecting Macro provides a shortcut to enable advanced logging. When Advanced options are selected, the status of the client modules is also logged. This additional information is normally not required, except as an aid to Product Support, and should not be left selected as it affects performance.

When TRACE is checked, ME will log errors, events, and macro status to the user log file (UM_<username>.log). The log file is only appended, and never deleted, by ME. You can delete/truncate this file as required to simplify testing.

The log file should be sent to Product Support to aid in problem resolution.

TRACE should be turned off when not required as it affects the performance of ME.

Advanced Testing

Tracing is provided for internal features of ME. This additional information is normally not required except as an aid to Product Support and should not be left selected as it affects performance.

Sample Trace:

yyyy/mm/dd-hh:mm:ss Hwnd = 0x000705AE LOAD Item Number 'Hi! Welcome to ME' BY NOTE ON VISIT IN Item Number IF Item Number EQUAL ''

This message is generated when the macro is loaded into memory which in this case would be anytime there is a change in the physical windows on the I/C Items screen.

yyyy/mm/dd-hh:mm:ss Events = 1 Module - RLZRUN30.RTS Screen - UNISAM - I/C Items

yyyy/mm/dd-hh:mm:ss Hwnd = 0x000705AE VISIT Item Number

The next set of messages tells us there was 1 Event in the I/C Items Screen, and the event was a VISIT to the Item Number field.

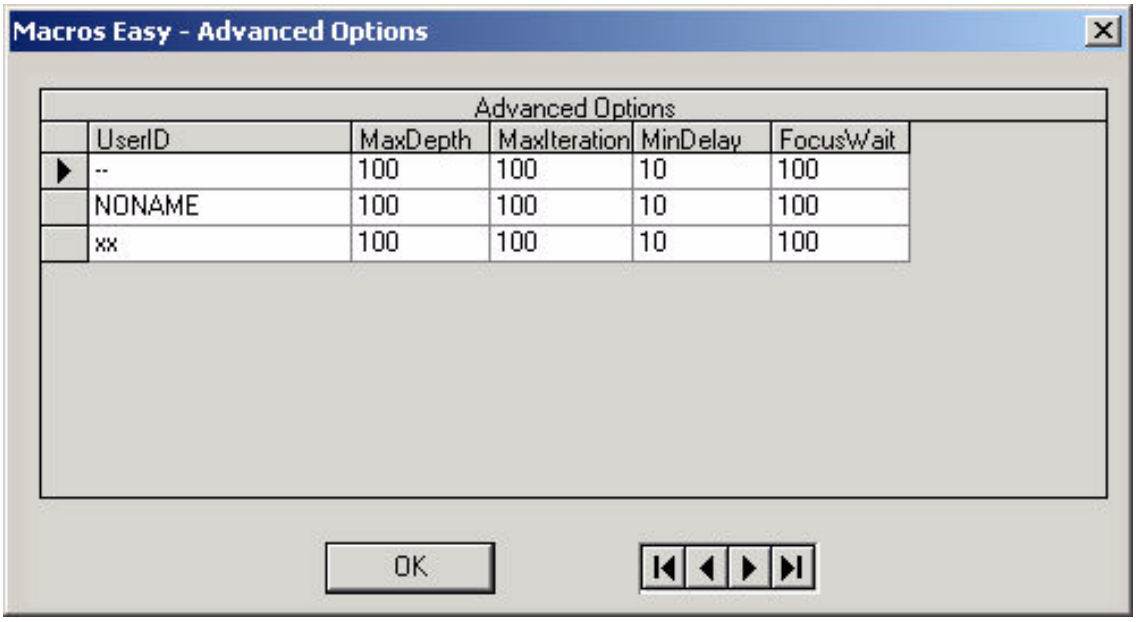
yyyy/mm/dd-hh:mm:ss Hwnd = 0x000705AE SEND Item Number 'Hi! Welcome to ME' BY NOTE ON VISIT IN Item Number IF Item Number EQUAL ''

This last message appears anytime the macro runs which in this case would be when there is a visit to the Item Number field and the Item Number is equal to “”.

Options Advanced

The User Table has some advanced settings not normally available for user modification and is subject to change in future releases. These should not be modified without the advice of Product Support.

As a security measure these setting are only available from the Options menu when all tables are closed. A user must have security level SYSTEM to access these settings.



MaxDepth

The maximum depth that PlayBack macros will recursively/circularly execute. This can be modified to any limit > 0. A small amount of memory is temporarily used the deeper the macro executes.

Default = 100.

MaxIterations

Reserved.

MinDelay

The minimum replay delay between keystrokes or mouse clicks independent of any other setting. This value can be increased if your application is missing keystrokes/mouse clicks during journal replay as an alternative to selecting Options, Delay or to automatically override delays edited to 0. Mouse moves are not affected and are always set to zero delay if Options, Optimize is selected.

Default = 10 ms.

FocusWait

The minimum time the focus must remain in a field before it is considered a change of focus when there is no user input. This value may have to be increased on slow machines if false focus changes are being detected. Setting this value too high may results in sluggish execution of macros using Visit Triggers when there is no user input.

Default = 100 ms.

Options Train

When this option is enabled normal ME operation is suspended. Each time there is a focus event, ME will inspect the field with the focus. If the field is not known to ME the Create Name Expert will be called.

Options Notify

When selected this option will automatically check for Macros Easy product updates and notify you if they are found.

Filters

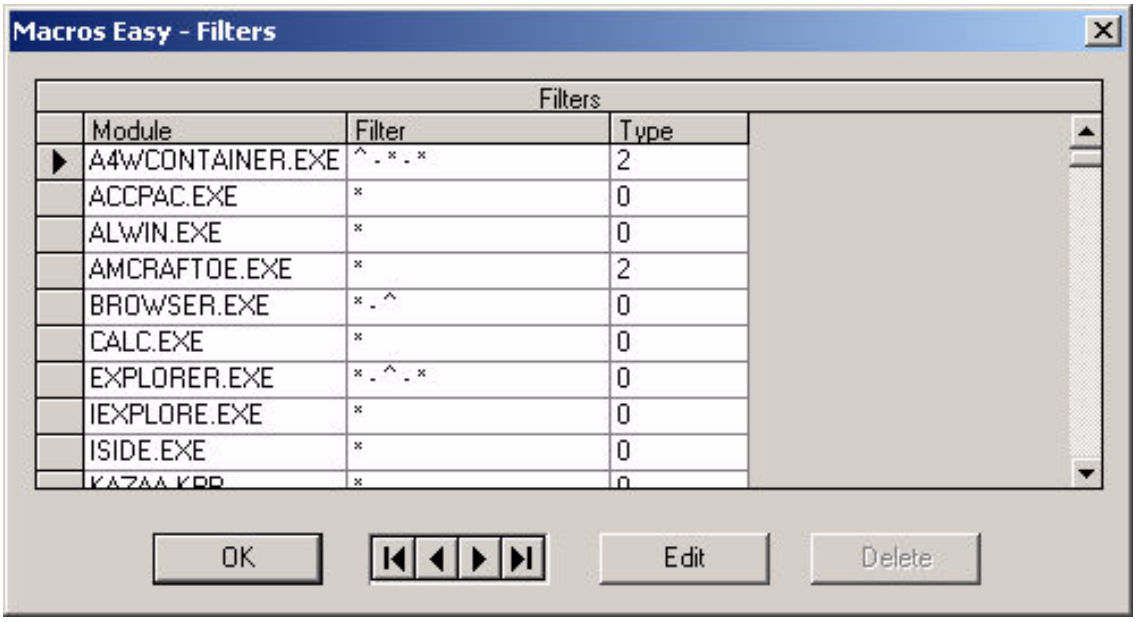
Options Filters

Application screens are often of the format:

Application Name - File Name.

Normally you would need to create a new field definition and macro for each different file an application opens.

The Filters dialog allows you to make one macro and field work with multiple screens by "filtering out" the file name from the screen name.



Module

The name of the module you wish to apply a filter.

Filter

The filter to be applied to the module.

Type

Application specific product features.

Filter Specification

The first and last characters of the filter must be either * or ^. These characters have the following meaning:

* - use the characters on this side of the separator string
^ - ignore the characters on this side of the separator string

The characters between the first and last character of the filter are the separator string. This string will be searched for in the screen name. Blanks are significant.

Any group of characters may be used as a separator string. Typically the sequence " - " (blank, dash, blank) is used in Windows but you can use any string that matches your application.

The filter always removes the separator string, and the characters on the ^ side of the separator. The filter leaves the characters on the * side of the separator string.

Example:

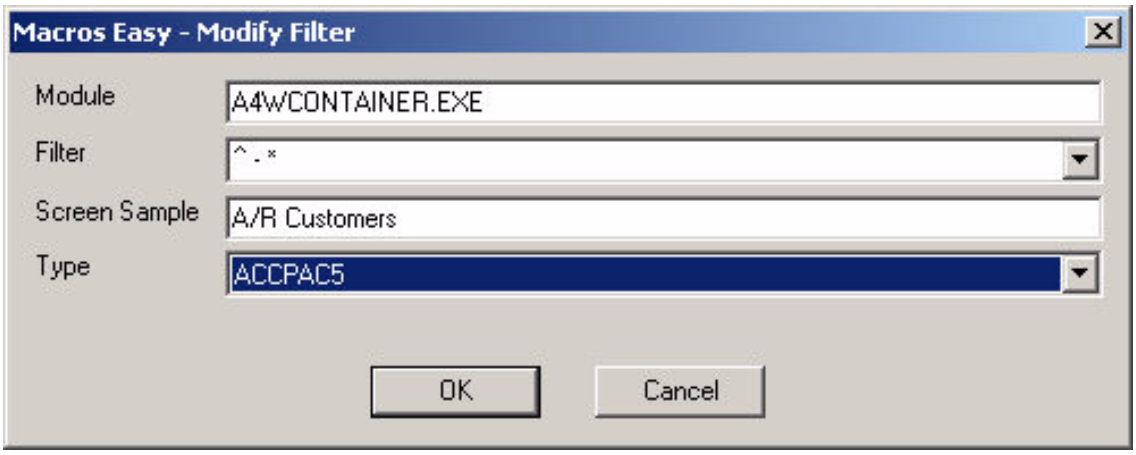
ACCPAC - Sample Data

* - ^ yields "ACCPAC"
^ - * yields "Sample Data"

Choose a filter so that all related screens have the same name.

In our example we would use * - ^ as the filter so all ACCPAC screens would be called ACCPAC regardless of the database being opened.

Modify Filter



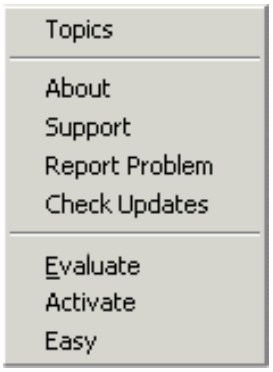
The Modify Filter menu allows you to create a filter for a module. Filters are used to remove application specific information from screen names so that field and macro definitions work over a range of application screens.

See Options, Filters.

Help menu

Help menu commands

The Help menu offers the following commands to assist with this application:



Topics

An index to topics on , which you can get help.

About

Display information about the product.

Support

Product support information.

Problem Report

Create a problem report to send to product support.

Check Updates

Check for ME Product Updates.

Evaluate

Change your demo copy of ME into an evaluation version.

Activate

License your version of ME.

Easy

Display information about the author.

Index command (Help menu)

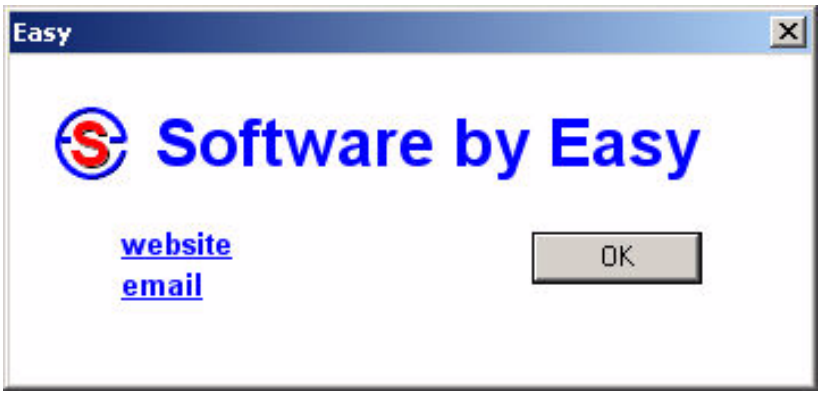
Use this command to display the opening screen of Help. From the opening screen you can jump to step-by-step instructions for using ME and various types of reference information.

Once you open Help you can click the Contents button whenever you want to return to the opening screen.

Using Help command (Help menu)

Use this command for instructions about using Help.

Easy



Easy has been developing products for ACCPAC since 1985.

Perhaps you will recognize these products written by Easy.

ODBC Link - ACCPAC Product of the Year.
Report Master for Windows - Data Link
Zippy Products for ACCPAC Plus - including Zippy Macros.

ME is our latest product for ACCPAC.

Distributed by UniDevCo, ME combines:

1. Macros Easy for ACCPAC - the best of Zippy, updated for Windows.
2. UniDevCo distribution and support for ACCPAC users.

Suggestions

Easy is committed to developing user friendly, well-supported products. We welcome you comments and suggestions for product improvements.

If there is any aspect of the product, service or support that you would like improved:

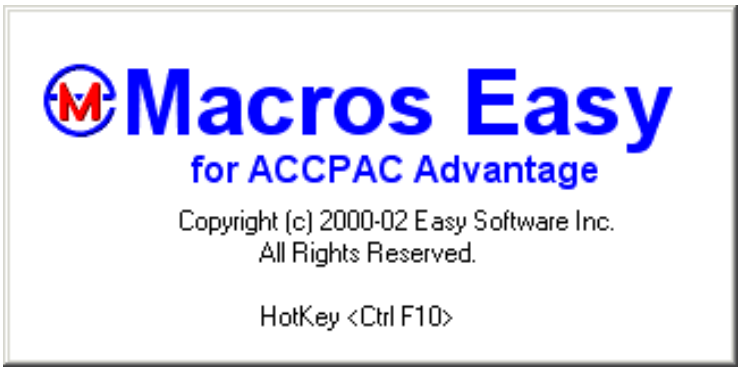
Contact:

Easy Software Inc.
1990 Casano Drive
North Vancouver, BC V7V 2R2
Canada

tel: +1 (604) 987-0050
email: info@easysoftwareinc.com

Splash

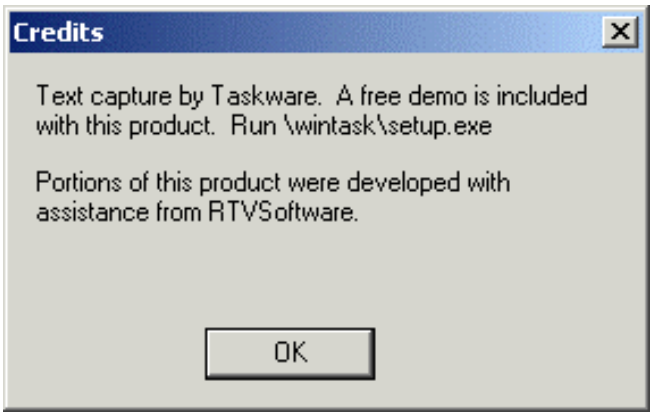
The Splash screen appears when you first start ME.



ME is distributed exclusively for ACCPAC by UniDevCo.

When ME is activateed if security is turned on by entering a system password then users with security of READ or NONE will not have a hotkey as these users are unable to create macros.

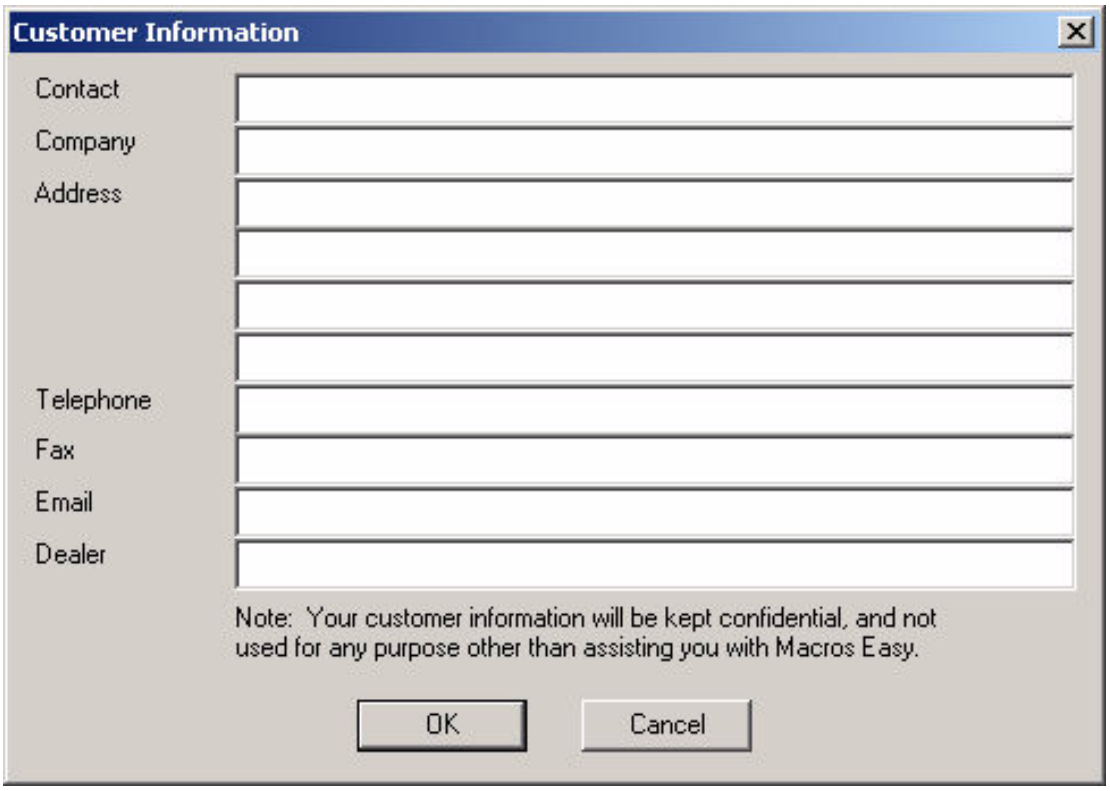
Credits



Thanks to all the people that have provided suggestions and ideas for this product!

If you have an idea or suggestion to improve ME do not hesitate to contact us.

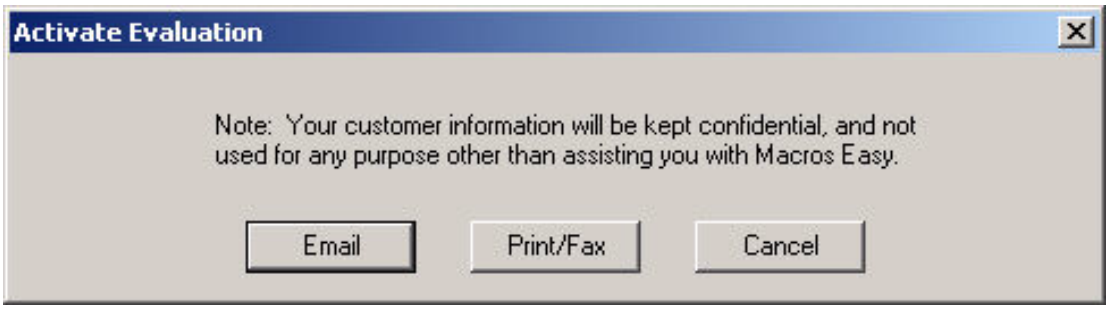
Customer Information



ME requests customers to identify themselves to better support you with ME.

This information will be kept confidential and will not be used for any other purpose other than assisting you with Macros Easy.

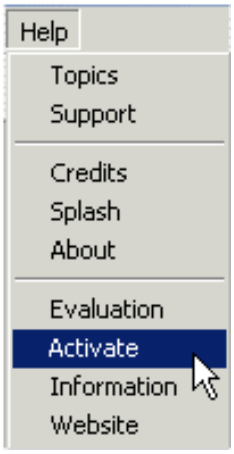
Activate Evaluation



You may email or fax your request to upgrade your Demo copy of ME to an Evaluation version.

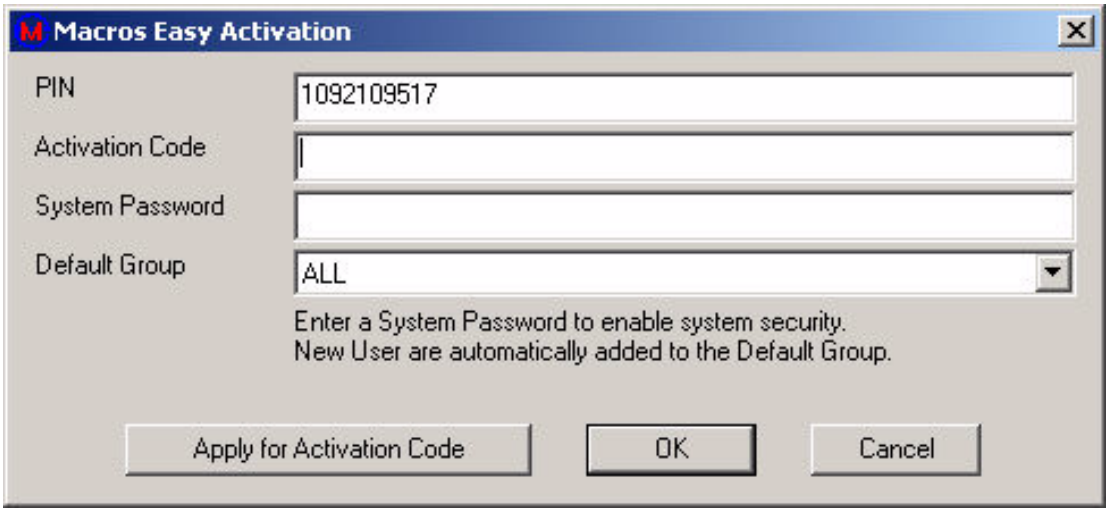
Activate ME

You may activate ME by selecting Help, Activate.



Or running Activate from the start menu: Select Start, Programs, Macros Easy, Activate.

Activate



Enter your activation code to enable multi-user operation.

Enter a System Password to enable security.

Set the Default Group. All new users will be added to this macro group.

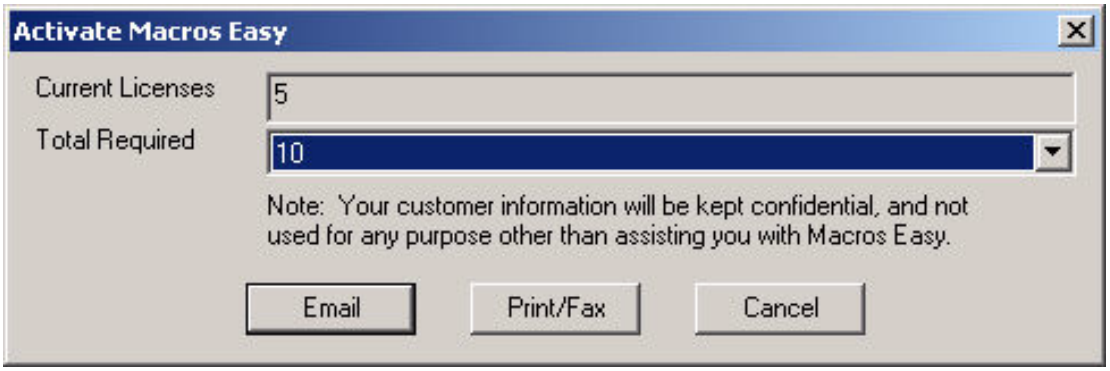
Apply for Activation Code

If you do not have a activation code, select

.

Activation will ask you to identify yourself via the Customer Information dialog.

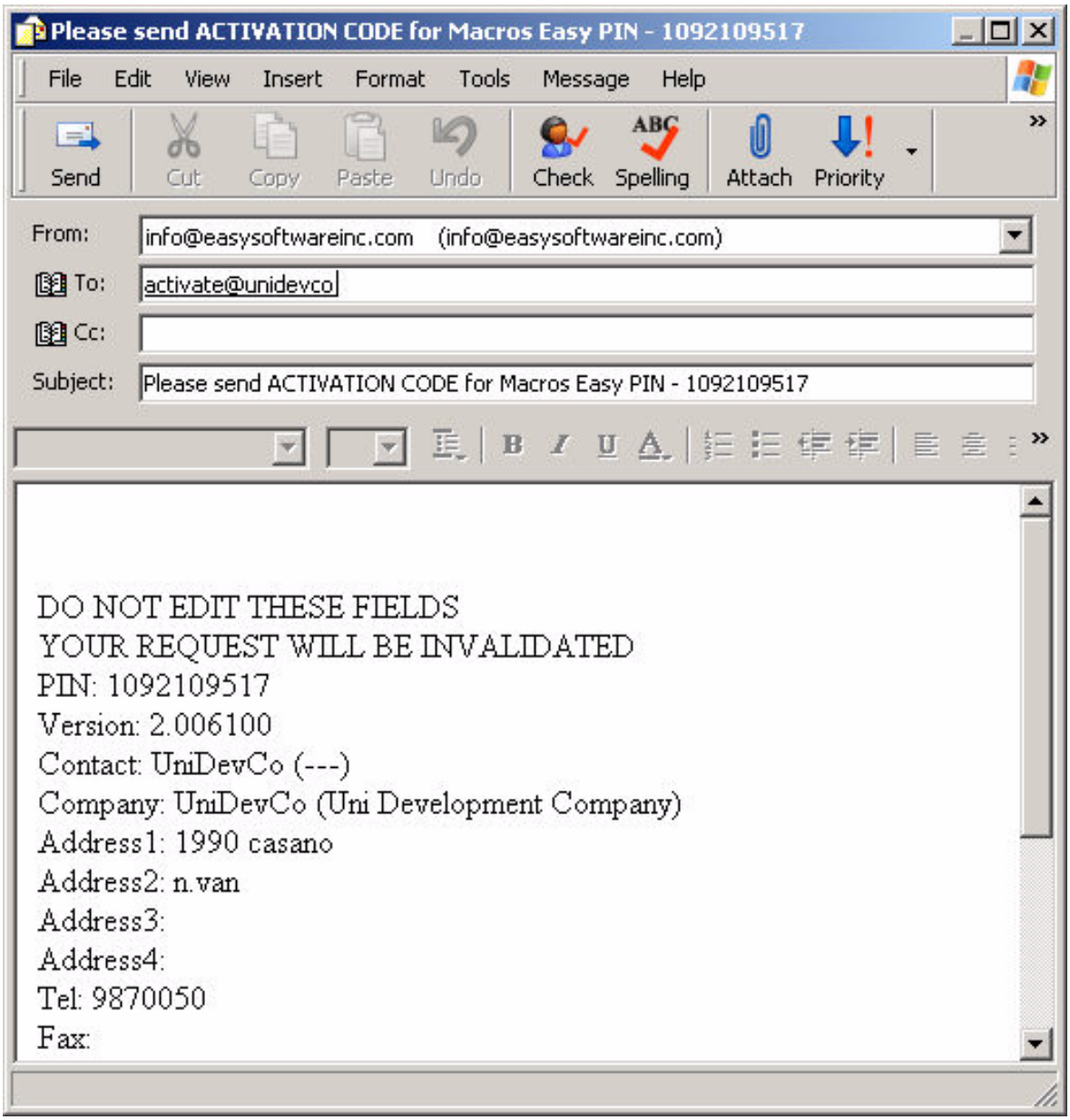
Complete the customer information form, then press OK.



Select the number of licenses you require. This will be the maximum number of users authorized to use ME.

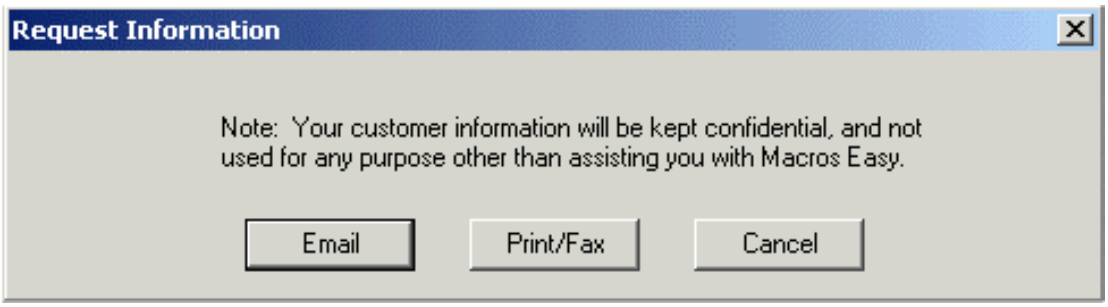
You may email or fax your request to activate your copy of ME.

You may add additional information to this email. However do not edit the fields inserted by ME. To protect your security, ME adds encrypted verification to the email.



Send the email created by ME and a activation code will be returned to you for entry into the activation program.

Request Information



You may email or fax your request for information about ME.

Suggestions

Easy is committed to developing user-friendly well-supported products. We welcome you comments and suggestions for product improvements.

If there is any aspect of the product that you would like improved:

Contact:

Easy Software Inc.
1990 Casano Drive
North Vancouver, BC V7V 2R2
Canada

tel: +1 (604) 987-0050
email: info@easysoftwareinc.com

Your customer information will be kept confidential.

Tray Menu

Open ME

Opens the ME main window for maintenance and reporting.

When the ME main window is Open, macro replay is suspended.

The tray icon changes to show this:

- Macros disabled.

- Macros enabled.

Hide ME

Hides the ME maintenance and reporting window when it is no longer needed.

Hiding ME enables macro replay. Until ME is hidden macros are suspended from running so that they will not interfere with maintenance.

- Macros disabled.

- Macros enabled.

Unload ME

Unloads ME from memory. Stops ME.

Appendix

Appendix A - Batch Commands

ME provides a command line execution, provided a copy of ME is already running:

Syntax:

uMacros <command> [<name>]

ME supports the following batch commands:

Backup

Backup the database. Filename is data\uMacros.tdf.

Restore

Restore the database without overwrite. Filename is data\uMacros.tdf.

Replace

Overwrite the database. Filename is data\uMacros.tdf.

Unload

Unload ME from memory.

Trace xx

Sets trace mode - any combination of:

off	0
macro	1
app	2
dll	4
i/o	8
memory	16
debug	32

Run <TriggerName>

Runs all macros with Trigger NAME.

Reserved commands

Backup
Restore
Replace
Silent
Close
Unload
Import
Export
Run

Appendix B - KeyMouse commands

The following Key and Mouse instructions are recognized by ME and will generate the expected key and mouse Triggers.

Control keys start with the '<' character and end with the '>' character.

The single character commands <<> and <>> must always be entered with the enclosing '<>' braces.

Single character commands such as <A> can be entered without the enclosing '<>' braces.

Mouse Triggers without an (x,y) location default to (1,1). Mouse locations can only be entered on the left mouse button/click.

BUTTON Triggers used as hotkeys occur on the mouse down event and are removed from the application input queue.

CLICK Triggers used as hotkeys occur on the mouse up event and are NOT removed from the application queue.

Shifted keys with keyboard equivalents such as '&' and 'A' are represented as '&' and 'A' rather than <Shift 7> or <Shift a>.

Key combinations that contain only the ALT, SHIFT or CONTROL keys - such as <Shift SHIFT> - are not recognized as hotkeys.

Hotkeys require a key combination that includes one key that is not ALT, SHIFT or CONTROL.

Keys without keyboard equivalents are represented as VK_nnn, their virtual key equivalents.

<NULL>
<LBUTTON> <LBUTTON(x,y)> <CLICK> <CLICK(x,y)> <LCLICK> <LCLICK(x,y)>
<RBUTTON>
<CANCEL>
<MBUTTON>
<XBUTTON1>
<XBUTTON2>
<VK_007>
<BACK>
<TAB>
<VK_010>
<VK_011>
<CLEAR>
<RETURN>
<VK_014>
<VK_015>
<SHIFT>
<CONTROL>
<ALT>
<PAUSE>
<CAPITAL>
<KANA>
<VK_022>
<JUNJA>
<FINAL>
<HANJA>
<VK_026>
<ESCAPE>
<CONVERT>
<NONCONVERT>
<ACCEPT>
<MODECHANGE>
<SPACE>
<PRIOR>

<NEXT>
<END>
<HOME>
<LEFT>
<UP>
<RIGHT>
<DOWN>
<SELECT>
<PRINT>
<EXECUTE>
<SNAPSHOT>
<INSERT>
<DELETE>
<HELP>
<0>
<1>
<2>
<3>
<4>
<5>
<6>
<7>
<8>
<9>
<VK_058>
<VK_059>
<VK_060>
<VK_061>
<VK_062>
<VK_063>
<VK_064>
<a>
<b>
<c>
<d>
<e>
<f>
<g>
<h>
<i>
<j>
<k>
<l>
<m>
<n>
<o>
<p>
<q>
<r>
<s>
<t>
<u>
<v>
<w>
<x>
<y>
<z>
<LWIN>
<RWIN>
<APPS>
<VK_094>

<SLEEP>
<NUMPAD0>
<NUMPAD1>
<NUMPAD2>
<NUMPAD3>
<NUMPAD4>
<NUMPAD5>
<NUMPAD6>
<NUMPAD7>
<NUMPAD8>
<NUMPAD9>
<MULTIPLY>
<ADD>
<SEPARATOR>
<SUBTRACT>
<DECIMAL>
<DIVIDE>
<F1>
<F2>
<F3>
<F4>
<F5>
<F6>
<F7>
<F8>
<F9>
<F10>
<F11>
<F12>
<F13>
<F14>
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<F16>
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<F20>
<F21>
<F22>
<F23>
<F24>
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<VK_137>
<VK_138>
<VK_139>
<VK_140>
<VK_141>
<VK_142>
<VK_143>
<NUMLOCK>
<SCROLL>
<VK_146>
<VK_147>
<VK_148>
<VK_149>
<VK_150>
<VK_151>
<VK_152>
<VK_153>
<VK_154>
<VK_155>

<VK_156>
<VK_157>
<VK_158>
<VK_159>
<LSHIFT>
<RSHIFT>
<LCONTROL>
<RCONTROL>
<LMENU>
<RMENU>
<BROWSER_BACK>
<BROWSER_FORWARD>
<BROWSER_REFRESH>
<BROWSER_STOP>
<BROWSER_SEARCH>
<BROWSER_FAVORITES>
<BROWSER_HOME>
<VOLUME_MUTE>
<VOLUME_DOWN>
<VOLUME_UP>
<MEDIA_NEXT_TRACK>
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