

# XPERTSS LISTER V1.3

## APRLIST - PROGRAM DOCUMENTATION

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# APRLIST - PROGRAM DOCUMENTATION

## INTRODUCTION TO APRLIST

The APRLIST program is designed to make it easy for Approach developers to document the MACROS and NAMED FIND/SORTS used in Lotus Approach .APR files. This program overcomes deficiencies in Approach's built-in documentation capabilities as follows:

1. Macros can only be printed from the Approach Macro Editor one-at-a-time.
2. Long formulas in macro commands are often cut off, leaving the printout incomplete.
3. Import and Export commands in macros will not print out the fields involved. All you see in the printout is the command and file name referenced.
4. Macros have no "comment" command, making the logic of macros difficult to reconstruct if the original developer is not available or has not documented them separately.
5. Named Finds and Finds embedded in macros have no print option or other documentation capability at all in Approach.
6. LotusScript has no ability to write out the content of either macros or named finds, which is the main reason the XpertSS Documenter 2 program does not include this level of detail.

How did we overcome these deficiencies? The APRLIST program is not an Approach application. It was developed using a compiled basic (HotBasic 4.0A) and by examining multiple .APR files to determine the file content and format, without any program or file documentation from Lotus or IBM. In particular, APRLIST locates various parts of the information contained in the .APR file by reading the actual .APR file byte by byte. The .APR file content is written out to two text files and a database that can be used to construct a set of macro information databases for use with your XpertSS Documenter 2 system and the XDOCMACROS.APR program.

The text files output from APRLIST contains the following information:

1. General file information (content of Approach File Properties)
2. Database information on database files and fields referenced by the .APR
3. Calculated and variable field names
4. Named Find/Sorts conditions and fields referenced, including those Finds defined entirely within a macro
5. Alphabetic list of macro names
6. Listing of macro commands and options in the order in which they were defined by the developer.
7. Tables joined, relational options, join keys

When run from the XDOCMACROS.APR, APRLIST will create a database (mac2xdoc.dbf) that contains the information used by XDOCMACROS.APR to populate the following databases:

- Maclink2 – contains the .APR path and file name, and the ID for both APRLIST connections to the databases below and optionally the XpertSS Documenter 2 document ID. It also contains the control parameters for APRLIST for the .APR in question.
- Macros – contains the .APR ID and macro ID and name, and number of commands within each macro.
- Maccmds – contains the .APR ID, macro ID within the .APR, the step number and ID, macro command and options text string.
- Macdfld – contains the macro step ID, table and field name referenced and whether the field is read, written or just referenced in a formula.
- Macauto – contains information about macros called automatically by events such as TabIn or TabOut of a field, Click on a Button, etc.
- Macsys – is an internal control database for IDs within the system.

## HOW DO WE DOCUMENT YOUR MACROS

Macros are located by scanning the .APR file for the first macro by name. This means that the first macro name must be unique. No views may be named the same as the first macro and views must not contain the first macro name as a field label.

Macro steps are examined to determine the command and options. Then the options are scanned for field names and formulas. Here are a few examples:

```
Message      Select Event Time-Frame,Select Today or Future, which includes today's
              events. ,Today,Future
              *** ACTION on Today : View Daily Events
              *** ACTION on Future : View Future Events

Find         using stored find: Find Today's Events by Type

View         Switch to: Report - Daily Events

Run          IF(IsBlank(VType5)) is true continue this macro else run & return from macro: Create
Follow-Up #5

Export       to file: 'C:\OrderDesk\ODXpert\upsdata.txt'
              ** export found set**
              ** number of fields to export: 4
              ordhead.SHATTN
              ordhead.SHCOMPANY
              ordhead.SHSTREET
              ordship.Addr2/Room/Floor
```

A few macro commands are not supported by APRLIST. The REPLICATE command is NOT supported if preset parameters are used. The PRINT command with preset parameters and the MAIL command with preset parameters can be documented in most cases but they are not absolutely reliable. You should verify the Finds listed for Query by Box, Find Duplicates, Find Distinct and Find Top or Lowest Values by comparing the output to what you see in the Macro Editor.

## HOW DO WE DOCUMENT YOUR NAMED FIND/SORTS

Named Find/Sorts are located by scanning the .APR and counting the number of macros it finds. The Named Finds immediately follow the last macro. Thus, the number of macros used in the program must be known (see below how to obtain this count).

Here are a few examples:

```
Find#: 2 TYPE :VIEW -> NAME: wksfind-8condx on: Worksheet 1
      condx #1: testdb.txtfld GTR THAN one AND
                : testdb.numfld LESS THAN 6.000 AND
                : testdb.datefld LESS THAN 4/1/2005 AND
                : testdb.accountno LESS THAN 999 AND
                : testdb.meterno LESS THAN 900 AND
                : testdb.acctname LESS THAN zeta AND
                : testdb.depositamt GTR THAN 0.000 AND
                : testdb.balance EQUAL 0.000

Find#: 5 TYPE :ASST -> NAME: Find Today's UPS Orders on: Daily Order Documents Menu
      condx #1: ordhead.ORDERDATE EQUAL the value in Today() AND
                : ordhead.SHIPVIA ENDS WITH *UPS*
      sort by : ordhead.PAYMETHOD

Find#: 8 TYPE :VIEW -> NAME: Find Today's Events by Type on: Report - Daily Events
      condx #1: Events.DATE EQUAL the value in Today() AND
                : Events.TYPE BEGINS WITH the value in VType1

Find#: 24 TYPE :VIEW -> NAME: Find for bills on: BillSortWks
      condx #1: Acct.ACCTSTATUS BEGINS WITH Blank(s)
      OR condx #2: Acct.ACCTSTATUS BEGINS WITH Blank(s) AND
                  : Acct.CURRBAL GTR THAN 0.000
      sort by : Acct.ACCTNO
```

## PREPARING YOUR .APR FILE FOR DOCUMENTATION

### I. Get the name of the first macro and the count of macros

We suggest you edit the first macro name and prefix the name with something like zzzzz- or other characters that will insure a unique name. The spelling and capitalization of the macro name given to our program **MUST** match the spelling and capitalization used in the .APR.

**Note the first macro name is the name of the first macro written for the system - not the first macro in alphabetic sequence.** Where do you find the first macro name? Look in the File Menu for the Approach File Properties option. The Approach File Properties dialog lists the macros in order of creation rather than alphabetically. Scroll up to the first in the list and that name will be the one you use in this program.

Also, the number of macros in the .APR shown over the macro name list is used as a parameter in our program. **The number of macros must be accurate for the program to function properly**

### II. Make sure you have at least one calculated or variable field

There must be at least one calculated or variable field present for the system to work properly. If your .APR doesn't have at least one of the two types of fields - create a variable type field named COMMENT for APRLIST to find.

### III. Remove any custom menu on the opening view

The absence of certain options, such as "Close" on the File menu, can prevent the documentation from completing. Temporarily replace the custom menu with the default menu while running APRLIST.

### IV. Prepare your LotusScripts as LSS

If your program uses global LotusScripts as SUBROUTINES (run from a RUN command in a macro), and you want to list those subroutines by name then you must export the all of the GLOBAL subroutines to a file with the same name as the .APR file but as a file of type .LSS. This file must be in the same folder as your .APR file.

Example:

MyProgram.APR would need the LotusScript GLOBAL subroutines exported to MyProgram.LSS. If the .LSS file isn't found, APRLIST uses SUBRTN #1...SUBRTN #nn as the names of the subroutines when referring to them in macros.

### V. Save your APR file.

The .APR file must have been saved (as opposed to SAVE AS) at least once. Approach builds some tables internally upon a file save that APRLIST requires.

## APRLIST TESTED ENVIRONMENTS

APRLIST has been tested with the following database/file types:

- dBase and Paradox files created by Approach

- MS-ACCESS NORTHWIND sample database using the ODBC driver.

- MySQL 3.51 for text and numeric fields only using ODBC driver (note DATE fields crash Approach)

- Sybase SQL Anywhere 9.0 using ODBC driver

- SQL Anywhere

- Oracle

- Advantage

It has not been tested against any other SQL servers or Lotus Notes.

## APRLIST PROGRAM LIMITS PER APR FILE

4096 database field names	Field names are truncated to first 30 characters
2048 macro names	Maximum name length of 32 characters
2048 calculated fields	Maximum name length of 30 characters
2048 variable fields	Maximum name length of 30 characters
512 Lotus script routines	Maximum name length 50 characters
512 named finds	Maximum name length of 32 characters
50 dbf/alias files	Number of dbf/alias files

Any .APR exceeding any of the above maximums will cause the APRLIST.EXE program to crash.

APRLIST does not work if your files are defined with SQL commands (examples - the Property Master and the Job Master files in the XpertSS.com Free Download area).

## TROUBLESHOOTING PROBLEMS IN THE MACRO LIST OUTPUT

Deleted macros and macro commands leave "garbage" characters in the .APR file. If those characters are present you might try the following:

- 1 If macros have an error message indicating our program was unable to interpret the macro, try adding a BROWSE command just before the command giving the problem.
- 2 Second, try editing the "bad" command by changing the command to BROWSE, then reentering the original command.
- 3 Use the setup program to skip the bad macro and document it using the APPROACH macro editor.
- 4 Make a minor change to the .APR like moving a field label slightly and doing a SAVE on the .APR file.

## DISCLAIMERS

1) If APRLIST output disagrees with the output of the APPROACH macro editor, then the macro editor output is correct.

2) If APRLIST crashes or does not successfully list your .APR file's content, and the above "troubleshooting" steps are not successful, we will not entertain this situation as a "bug" to be fixed in the APRLIST program. This is due to the variations we have found in .APR files while testing APRLIST, and the corruption we have encountered in some of these files. We will accept a copy of your .APR file and make a best-effort level attempt to get it listed for a minimum fee of \$65, paid in advance.

## INSTALLATION OF APRLIST

The following files are distributed compressed into an archive file named XLister.zip. You will need a program like Winzip to extract the following files onto your computer. For the program to work properly, you must put all files into the same directory, i.e. C:\MACRODOC, or another folder name of your choice.

Files: vaprlist.exe, aprdir.exe, aprlist.exe, XDOCMACROS.APR, CompressFiles.APR

.DBF: mac2xdoc.dbf - created by APRLIST.EXE  
maclink2.dbf - contains setup info for each application  
macros.dbf - macro names and identification  
maccmds.dbf - individual commands in each macro  
macdfld.dbf - individual fields in each macro  
macsys.dbf - system information  
mtymacs.dbf - used to generate mac2xdoc.dbf  
macauto.dbf - contains macro names called automatically from buttons, etc

.TXT: maclist.txt - printable main text output of APRLIST.EXE  
nfindlist.txt - printable named find/sort text output of APRLIST.exe  
parmfile.txt - setup parameters for APRLIST.EXE

.ADX: corresponding to all .DBF files  
.DBT: associated with macros.dbf and maclink2.dbf  
.BAT: prtmaclist.bat - used to print the macro list from within XDOCMACROS.APR  
prtnfindlist.bat - used to open the named find/sort list within the program

The program license is in the file named license.txt.

Initial installation and release-related information is in the file named readme.txt.

Documentation is in two Adobe Reader formatted files as follows:

The documentation for APRLIST.EXE is stored in the file: APRLIST.PDF

The documentation for XDOCMACROS.APR is stored in the file: XDOCMACROS.PDF

## RUNNING THE PROGRAM - OVERVIEW

The APRLIST program may be run two ways: either as a stand alone program that produces a text file for printing or as a part of an Approach program which stores the macro information in a dBase file, provides facilities for comments, prints multiple reports and interfaces to the XpertSS Documenter V2 program.

- 1 To run the programs in standalone mode: Create a shortcut to the VAPRLIST.EXE program.
- 2 To run the programs as an Approach system: Create a shortcut to XDOCMACROS.APR

Three programs make up the APRLIST program. *VAPRLIST.EXE* is a GUI setup program that calls *APRLIST.EXE*. *APRDIR.EXE* assists you in selecting an .APR file from within the XDOCMACRO.APR. These three program files and the .APR file must be in the same directory, but are storable in any directory.

The output of the APRLIST.EXE program can be written to these files:

1. The file named "maclist.txt" can be located in the same directory as the APRLIST.EXE or it can be stored in the same directory as the .APR file documented. If your .APR file is MyProgram.APR then the output file is named "MyProgram-mac.txt" when written to your .APR's directory.
2. The file named "nfindlist.txt" can be located in the same directory as the APRLIST.EXE or it can be stored in the same directory as the .APR file documented. If your .APR file is MyProgram.APR then the output file is named "MyProgram-finds.txt" when written to your .APR's directory.
3. A set of dBase files may optionally be created containing the macro information.

The XDOCMACRO.APR program also has forms and reports to display the macro database information. See the documentation file XDOCMACRO.PDF for more information.

## **RUNNING THE APRLIST PROGRAM IN STANDALONE MODE**

Click your shortcut to the VAPRLIST.EXE program and you will see the following Macro List Program dialog:

The screenshot shows a dialog box titled "Lotus Approach - Macro List Program". It contains the following fields and controls:

- .APR name: A text box containing "Edit4" with a browse button (...).
- Data for fields below are obtained from the Approach File Properties screen in your APR.
- Note: First macro name is case sensitive!!!! (in a dark grey box).
- First macro name: A text box containing "Mac".
- Number of macros: A text box containing "1".
- Macros to list (0-999 for all): Two text boxes containing "0" and "999" with the word "through" between them.
- Which commands to list in macros: A group box containing four checked checkboxes: "All", "Import/Export", "Run", and "Set".
- SAVE PARAMS ONLY: A button.
- LIST MACROS: A button.

- Click on the box with ... at the upper right to open a standard File Selection Dialog.
- Tab to the First Macro name and enter the first macro name created for the .APR file.
- Tab to the Number of macro field and enter the number of macros present in the .APR file.
- Optionally you can enter the number range of the macros to list. This is the order in which they were created and not the alphabetical order. One use of this would be to skip over a macro that does not list successfully.
- Click the LIST MACROS button to run the APRLIST program.
- Click the SAVE PARAMS ONLY to simply store your data in the parameter file to use later.

## **THE APRLIST PROGRAM SCREEN**

When you click the LIST MACROS button, the APRLIST program opens a Command (DOS-type) Window and displays progress messages as it runs. As information is needed, a prompt will be displayed on the screen. The first screen (not shown) simply reminds you to make sure you have prepared your .APR file for the process. Press the ESC key and the program will stop. Press the ENTER key and you will see the following type of screen.

**Note:** What you see in the Command Window as the program is running is the program finding the database field definitions, variable and calculated field names, and the macros and finds within the .APR file.



```
Approach File Macro Lister
Setup file input

file: C:\XpertSS_Products\Bluma\LilApp\MYCOMPANY.APR
first macro: XXXXX Next Time
total macros: 5
first macro to print: 0
last macro to print: 999
build dBase import file: N
Document id number: 999999
Flags to PRINT: ALL!ImpExp!Run!Set: Y!Y!Y!Y
Looking for file: C:\XpertSS_Products\Bluma\LilApp\MYCOMPANY.LSS
Lotus script export file: C:\XpertSS_Products\Bluma\LilApp\MYCOMPANY.lss not found
No LotusScript SUB names loaded
--> RUN commands using subroutines will refer to number rather than name
```

At one point you will be asked if the file number field used by Approach is a 2 byte field or a 4 byte field.

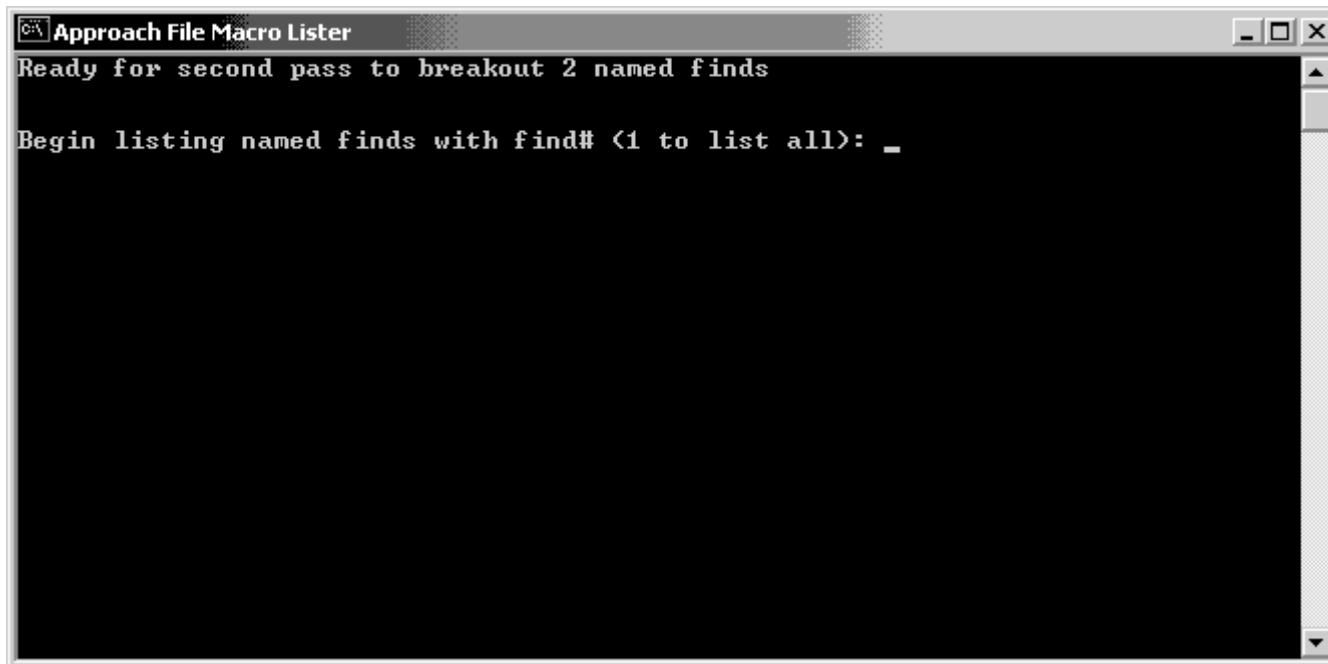
```
Approach File Macro Lister
A P P R O A C H   M A C R O   L I S T E R
-----
Author: JLB/Xpertss.COM                      Version: 1
Program: C:\XpertSS_Products\Bluma\LilApp\MYCOMPANY.APR
1st Macro: Mac

Build DBF header block

Calculated fld nr size (2 or 4)----->: 2
Normally fld number size is 2 but some files use 4
Try 2 <----- if that doesn't work - rerun with 4
Enter fno size:
```

Normally, the correct field size is 2, so try entering 2 and press the ENTER key. If the program does not run successfully, rerun it and answer 4. All other prompts are either Y or N.

The next prompt you will see is shown below. You may enter the number of the first Named Find/Sort you wish to print. If you want all of them to be listed, enter a 1 here. If you enter number 5, for example, the first 4 Named Find/Sorts will list only the name. The rest will list the name and find conditions.



If the program runs successfully, files named maclist.txt and nfindlist.txt are created in the same location as the aprlist.exe file. And you will be offered an option on the last screen to save a copy of the text output file in the same location as the .APR file with the same name. MYCOMPANY.APR will have the macros listed in MYCOMPANY-mac.txt and MYCOMPANY-finds.txt, for example. You can use Notepad or any word processor of your choice to view, print, and otherwise use this data.

#### **ERROR CONDITIONS YOU MAY ENCOUNTER**

- Invalid APR file name or path
- XXXX.lss file not found. (Where XXXX is your APR file name) This is a warning that the script sub names will not be listed in your macros if you run any of them with the macro RUN command. Instead a sub number will be listed
- ERROR IN FINDING VALID FIELD HEADER – you entered a 2 or 4 and it was not the right field size. The program will give you another opportunity to enter the number.
- First macro name not found in the .APR file – find the correct first macro name and try again.
- The program may “hang” or “loop” if the macro name is found, but it is not a macro. The program may have found a view name or some other object name instead. This will result in either no macro list or garbage in the list. And if the screen stops changing the text listed in the window for a while, you can close it with the upper right X.
- The macro list may not be complete if you have entered the number of macros incorrectly.

#### **SUPPORT FOR APRLIST**

The APRLIST program is supported in two ways:

1. Questions can be posted on <http://www.xpertss.com> in the “XpertSS Product Support” discussion area. This lets both the program author and other users of the program offer suggestions and comments, and this method adds to the knowledgebase of information about the program.
2. Requests to analyze .APR files that the APRLIST program does not successfully list can be purchased from the XpertSS Store. Instructions on where to send the problem file/files will be provided upon receipt of your order.