TradeSim®

Advanced Trading Simulator and Back Tester

Application Note 1

Creating a Portfolio Security List in Metastock the Easy Way

✓   TradeSim Standard Edition
✓   TradeSim Professional Edition
✓   TradeSim Enterprise Edition
✓   Metastock Version 7.xx only

Last Update 1 April 2003

Page 1

Contents

Disclaimer

In no event shall Compuvision Australia or its suppliers be liable for any damage either direct or indirect, including, without limitation, damages for loss of business profits, business interruption, loss or business information or other losses arising out of the use of or inability to use the software.

The results obtained from using this software are not indicative of, and have no bearing on, any results, which may be attained in actual trading. Results of past performance are no guarantee of future performance. It should not be assumed that you would experience results comparable to that reflected by the results from this software. No assurance is given that you will not incur substantial losses, nor shall Compuvision Australia Pty Ltd be held liable if losses are incurred.

Compuvision Australia Pty Ltd is not a licensed investment advisor and so the information and results obtained by using this software is for educational purposes and of the nature of a general comment and neither purports nor intends to be, specific trading advice. The information obtained from using this software should not be considered as an offer or enticement to buy, sell or trade and is given without regard to any particular person's investment objectives, financial situation and particular needs. This software is not designed to replace your Licensed Financial Consultant or your Stockbroker. You should seek appropriate advice from your broker, or licensed investment advisor, before taking any action.

Copyright and Licensing Agreement

TradeSim is Copyright© 2000-2003 by Compuvision Australia Pty Ltd.
"TradeSim" is a trademark of Compuvision Australia Pty Ltd.

IMPORTANT - READ CAREFULLY

This license statement and limited warranty constitutes a legal agreement ("License Agreement") between you ("Licensee", either as an individual or a single entity) and Compuvision Australia Pty Ltd ("Vendor"), for the software product TradeSim® ("Software") of which Compuvision Australia Pty Ltd is the copyright holder.

BY INSTALLING, COPYING, OR OTHERWISE USING THE SOFTWARE, YOU AGREE TO BE BOUND BY ALL OF THE TERMS AND CONDITIONS OF THE LICENSE AGREEMENT.

Upon your acceptance of the terms and conditions of the License Agreement, Compuvision Australia Pty Ltd grants you the right to use the Software in the manner provided below.

If you do not accept the terms and conditions of the License Agreement, you are to promptly delete each and any copy of the Software from your computer(s).

This license agreement only applies to the software product "TradeSim" and not to any other product even if that product is similar to TradeSim and has a similar name.

The Vendor reserves the right to license the same Software to other individuals or entities under a different license agreement.

After accepting this license agreement, the Licensee is permitted to use the Software under the terms of this agreement.

Under this license agreement, the Software can only be used by those persons or entities that have purchased a license key. Payment information is available at http://www.compuvision.com.au/PurchaseOnline.htm.

The Software is provided "as is". In no event shall Compuvision Australia Pty Ltd be liable for any consequential, special, incidental or indirect damages of any kind arising out of the delivery, performance or use of this Software, to the maximum extent permitted by applicable law. While the Software has been developed with great care, it is not possible to warrant that the Software is error free. The Software is not designed nor intended to be used in any activity that may cause personal injury, death or any other severe damage or loss.

When errors are found in the Software, the Vendor will release a new version of the Software that may no longer contains those errors a reasonable amount of time after the Vendor is given an accurate description of those errors. Which amount of time is reasonable will depend on the complexity and severity of the errors. The Vendor will mention the release at http://www.compuvision.com.au, at the Vendor's option, directly contact the Licensee to announce the new release. The Licensee can then, at their option, upgrade to the latest version or to continue to use the older version the Licensee already has. In the latter case, the Licensee will no longer be entitled to technical support until the Licensee has upgraded to the latest version.

The Vendor reserves the right to charge an upgrade fee in the case of major new enhancements or additions to the Software. This major new version will then start a new version line, which will use version numbers

clearly distinguishable from the old version line. The Licensee has no obligation to upgrade to the new version line.

You must not attempt to reverse compile, modify, translate or disassemble the Software in whole or in part. You must not run the Software under a debugger or similar tool allowing you to inspect the inner workings of the Software.

The Software remains the exclusive property of the Vendor. Any Licensee, which fully complies with the terms in this license agreement, may use it according to the terms of this license agreement. You must not give copies of the Software or your license key to other persons or entities. If you have received a download password or an URL with an embedded password for downloading the Software, you must keep this password secret. You must also take reasonable steps to prevent any third party from copying the software from one of your machines without your permission.

The Vendor reserves the right to revoke your license if you violate any or all of the terms of this license agreement, without prior notice.

Trademarks

1. TradeSim® is a registered trademark of Compuvision Australia Pty Ltd.
2. Metastock® is a registered trademark of Equis International.
3. Microsoft Windows® is a registered trademark of Microsoft Corporation.
4. Microsoft Excel® is a registered trademark of Microsoft Corporation.
5. Word for Windows ® is a registered trademark of Microsoft Corporation.
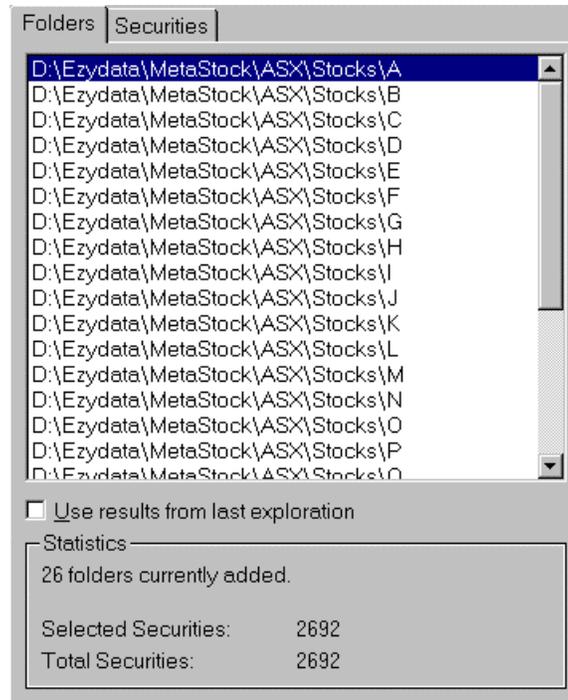6. TradeStation® is a registered trademark of Omega Research Corporation.

Page 5

Introduction

Traditionally when running any kind of exploration in Metastock including a trade database exploration you would first have to select the securities of interest to be used in the exploration. Typically you may have data for all securities listed on your exchange, however you may only want to test a trading system using a subset of this data. For example you may only want to test a trading system using the top 100 stocks because these are the most liquid securities and therefore are more suitable when simulating a particular trading system. In this case you would obtain a list of stocks that were in the top 100 and then only enable the relevant stocks in the securities list in Metastock. Shown below is an example of part of a securities list for the ASX 100 constituents. This list as well as all of the others for the other indices can be downloaded from the ASX website http://www.asx.com.au in Microsoft Excel format.
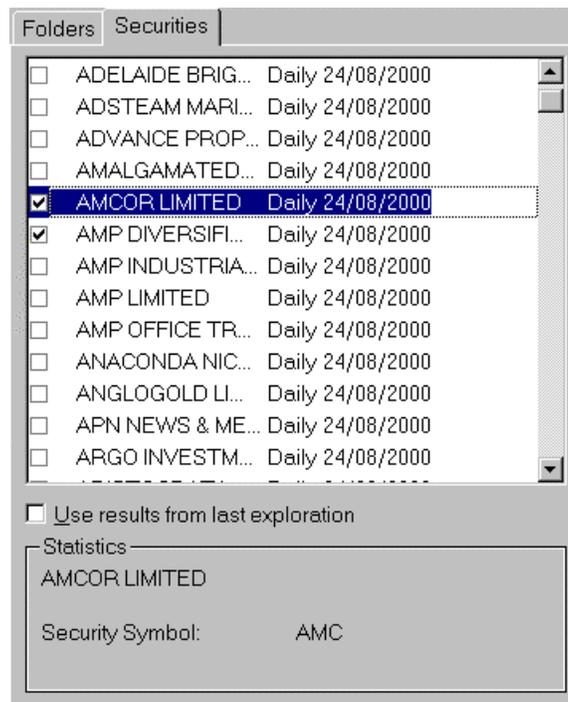
Group(025) S&P/ASX 100		GICS Sector	Sector
ADP	AMP DIVERSIFIED	FINANCIALS	Property Trusts
AFI	AUSTRALIAN FOUNDAT.	FINANCIALS	Invest. & Fin. Serv
AGL	AUSTRALIAN GAS LIGHT	UTILITIES	Infra & Utilities
ALL	ARISTOCRAT LEISURE	CONSUMER DISCRETIONARY	Tourism & Leisure
AMC	AMCOR LIMITED	MATERIALS	Paper & Packaging
AMP	AMP LIMITED	FINANCIALS	Insurance
ANZ	AUSTRALIA & NZ BANK	FINANCIALS	Banks
ART	AMP SHOPPING CENTRE	FINANCIALS	Property Trusts
ASX	AUSTRALIAN STOCK EX	FINANCIALS	Invest. & Fin. Serv
AXA	AXA ASIA PACIFIC	FINANCIALS	Insurance
DDF	DEUTSCHE DIVERSIFIED	FINANCIALS	Property Trusts
BBG	BILLABONG	CONSUMER DISCRETIONARY	Retail
BHP	BHP LIMITED	MATERIALS	Divers. Resources
BIL	BRAMBLES INDUSTRIES	INDUSTRIALS	Transport
BLD	BORAL LIMITED.	MATERIALS	Building Materials
BRL	BRL HARDY LIMITED	CONSUMER STAPLES	Alcohol & Tobacco
BTO	BT OFFICE TRUST	FINANCIALS	Property Trusts
Note that only part of this table has been reproduced.			

To generate a securities list in Metastock involves adding the relevant security folders to the folders list and checking off the relevant securities in each of the folders as shown in the example below.

Created with Metastock by Equis © 2001

Created with Metastock by Equis © 2001

Normally you would check off all of the relevant stocks in the securities list, which matches the securities in your portfolio. Checking the securities from a database containing several thousand can become very laborious and error prone particularly when dealing with a large portfolio. Fortunately TradeSim incorporates some additional features, which makes this procedure fairly straightforward and helps to automate the process somewhat by allowing you to create a simple security filter exploration in Metastock, which is purposely designed for this sort of application.

Automating the process

To generate a security list using the TradeSim Metastock Plug-In requires that we first have a portfolio list file stored as a basic space or tab delimited text file. An example was given in the previous section. However you can generate your own security list with a text editor such as *Note Pad*, provided that you start each new symbol on a new line. An example of part of the ASX 200 security list after it has been saved in tab delimited text format is shown below.

```
asx200constituents.txt - Notepad
File  Edit  Search  Help
Group(051) S&P/ASX 200
ABC           ADELAIDE BRIGHTON        MATERIALS      Building Materials
ADB           ADELAIDE BANK            FINANCIALS     Banks
ADP           AMP DIVERSIFIED          FINANCIALS     Property Trusts
ADZ           ADSTEAM MARINE           INDUSTRIALS    Misc. Industrials
AFI           AUSTRALIAN FOUNDAT.      FINANCIALS     Invest. & Fin. Serv
AGL           AUSTRALIAN GAS LIGHT     UTILITIES      Infra & Utilities
AIP           AMP INDUSTRIAL TRUST     FINANCIALS     Property Trusts
AIX           AUSTRALIAN INFRASTR.     FINANCIALS     Infra & Utilities
ALL           ARISTOCRAT LEISURE       CONSUMER DISCRETIONARY  Tourism & Leisure
ALN           ALINTAGAS LIMITED        UTILITIES      Infra & Utilities
AMC           AMCOR LIMITED            MATERIALS      Paper & Packaging
```

Note that the first column should always contain the security code or symbol and any other columns are ignored by the filter exploration so you can add comments after each security code provided that there is at least one white space separating the security symbol and the remaining contents of the line. You may have portfolio lists in other file formats but you will have to save or export the list so that it is stored as a basic space or tab delimited text file. For example if you have a list that is in a spreadsheet file format, first load the list into your spreadsheet program and then save it as a space or tab delimited text file. Also you will need to carefully note the name and directory of your portfolio list file. In this example the ASX-100 list was stored in the file specified by;

```
D:\Trading\Security Lists\asx100constituents.txt
```
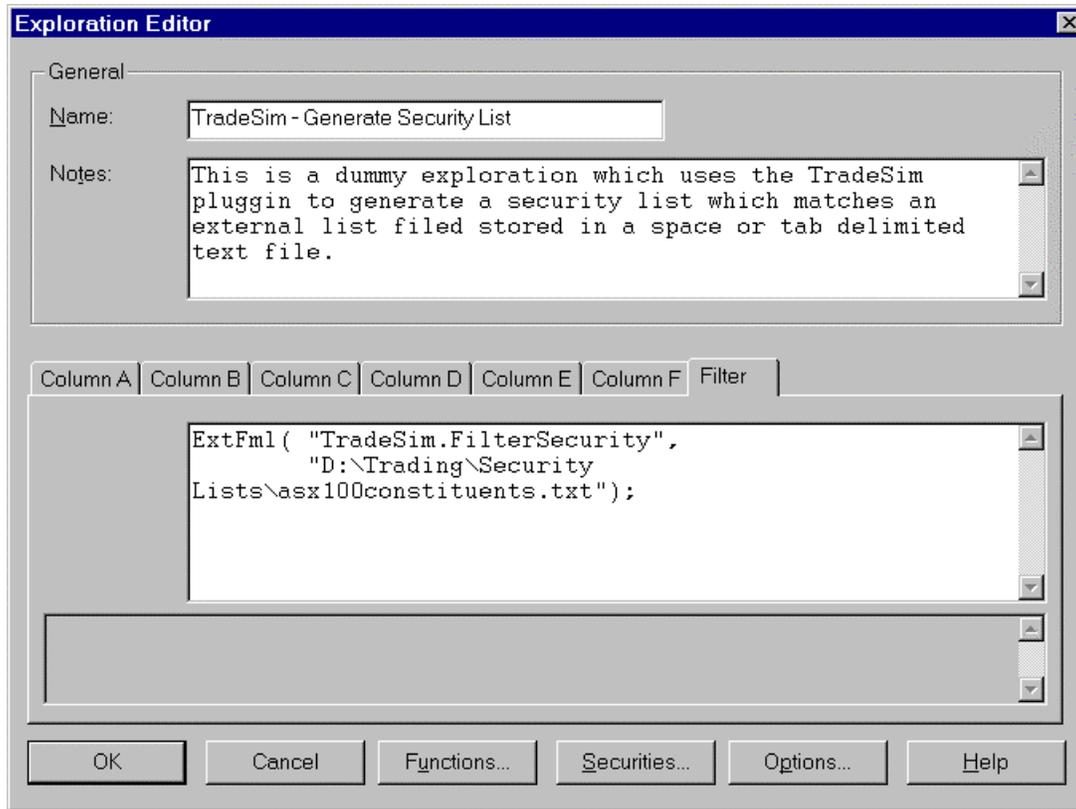
With this portfolio list file we can now create a simple exploration using the external formula contained in the TradeSim External Plug-In called *FilterSecurity*. This external function only takes one additional parameter, which is a string constant that represents the full filename and directory of the security list file. For example using the portfolio list file above we can write the exploration indicator as follows;

```
ExtFml( "TradeSim.FilterSecurity",
        "D:\Trading\Security Lists\asx100constituents.txt");
```

Every time this function is called in an exploration the security symbol is compared to the list of symbols stored in the portfolio list file and if a match is found the function returns a non zero value and the security is added to the report. At the end of the exploration the securities listed in the report should match all of the securities in the portfolio list.
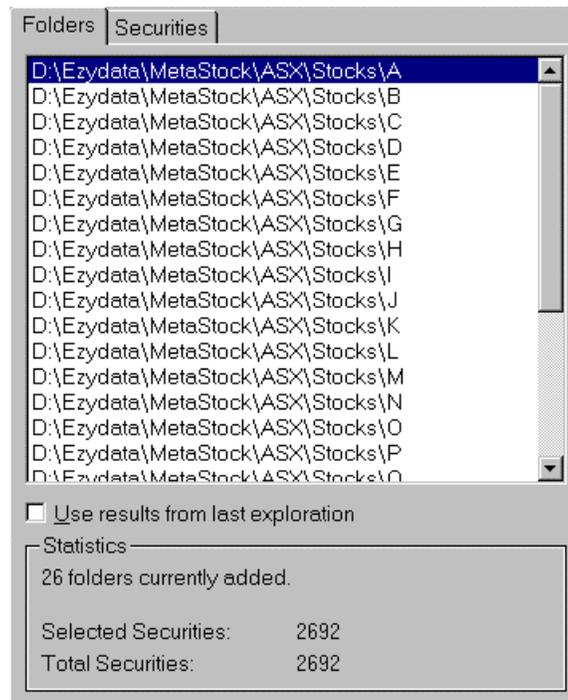
> **Warning:** The portfolio list file should always be specified by the full filename including the path and file extension. Incorrect specification of the portfolio list file or an invalid portfolio will cause an internal error. The filter security indicator should always be place in the filter section of an exploration and the *Use Filter* option should always be enabled in the exploration editor options.

Using this information we can now create an exploration in Metastock and call it *TradeSim – Generate Security List*
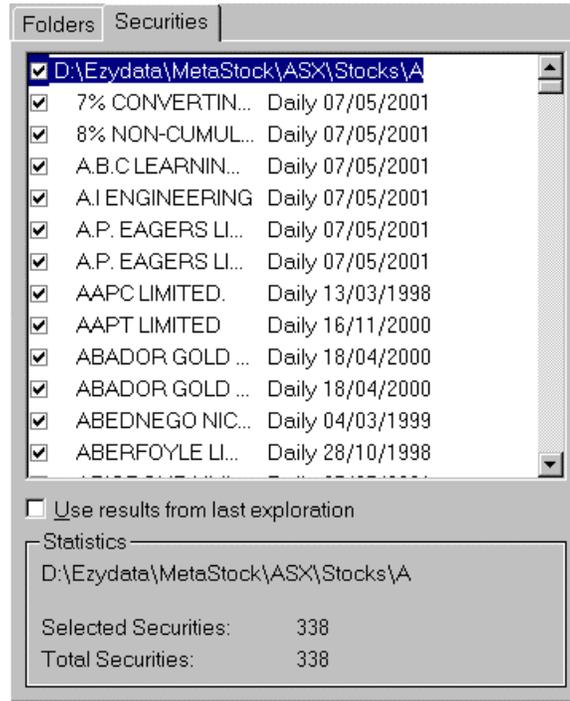
Created with Metastock by Equis © 2001

Click on *Securities* button and make sure that you have all of the relevant securities folders added to the security list box.
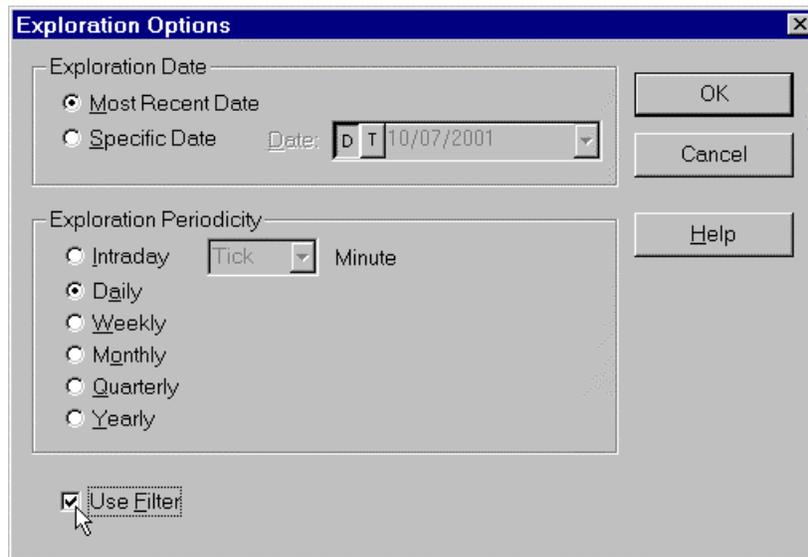

Created with Metastock by Equis © 2001

Make sure all of the securities are checked in each folder as shown in the example below for the 'A' folder. Check a all of the other folders as well to see that all of the securities are all checked.
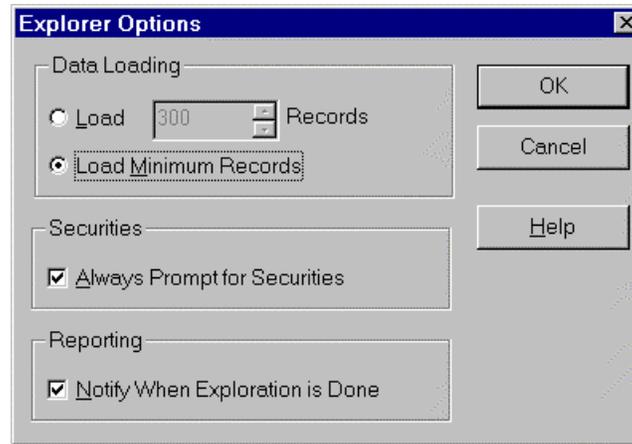

Created with Metastock by Equis © 2001

Select OK and then click on the **Options** button and make sure *Use Filter* is checked.
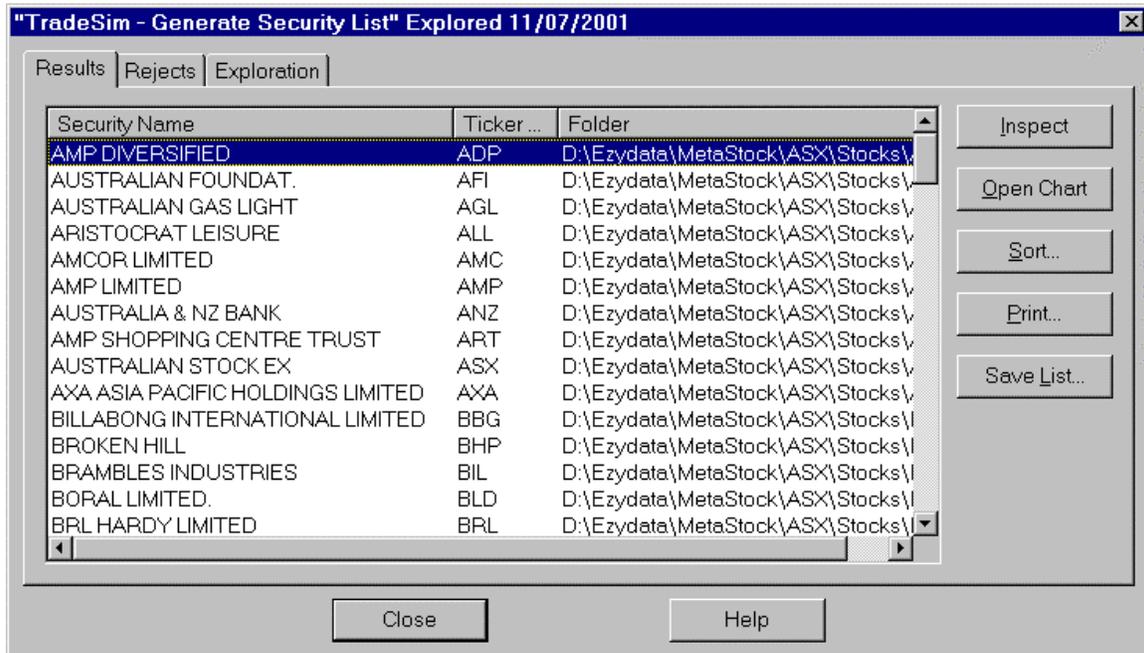

Created with Metastock by Equis © 2001

Click on **Options** from the exploration dialogue box and check the **Load Minimum Records** checkbox to speed up processing.

Created with Metastock by Equis © 2001

Click **OK**, then click **Explore** and click **OK** again to start the exploration. When the exploration has completed click the **Report** button and the report dialogue box should open with all of the securities that were matched between the security list file and the security database files. Check that all of the securities that were in the security list file are present in the report. If some securities are missing in the report then this maybe because you have not included all of the relevant security data folders in the security list or some of the securities are missing from your data vendor or maybe the symbol names are different which quite often happens. If you are happy with the list in the report you can save this list so that you can reuse it later by clicking on the **Save List** button and saving it to an appropriate file. For example you might call it "ASX-100".
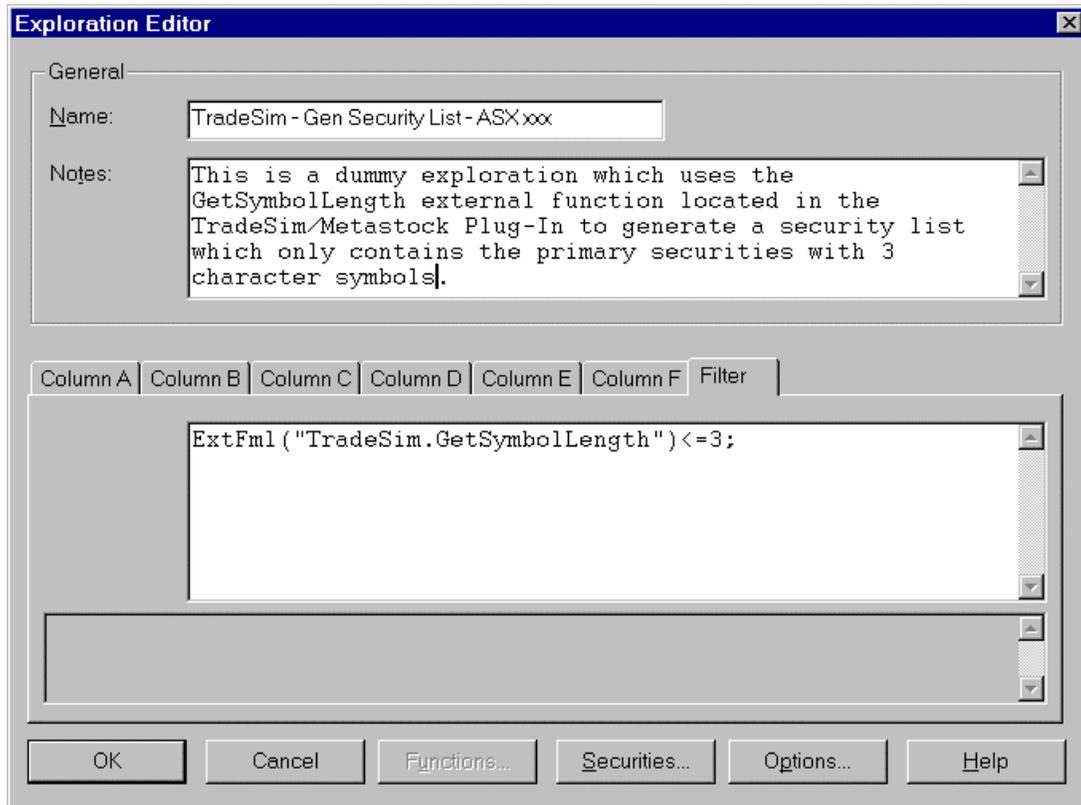

Created with Metastock by Equis © 2001

Using the GetSymbolLength function to generate a portfolio list.

Typically you may have data for all securities listed on your exchange. This can amount to thousands of securities, which may include a lot of illiquid traded Warrants and Stock Options that you don't want to include when you generate a trade database. When you generate a security list you may only want to

include the primarily traded securities, which for the case of the ASX are all securities with three characters in their symbol name. TradeSim comes to the rescue by providing an additional function called *GetSymbolLength* which returns the number of characters in the symbol and can be used in a security list exploration to include or exclude securities with symbols that are a certain length.

For example if you are only concerned with the primary securities which have symbol lengths of 3 then you can easily use the *GetSymbolLength* function in an exploration to reject all 4,5,6 character stock options and warrants by simply filtering out securities with symbol lengths greater than 3. Like the *FilterSecurity* function the *GetSymbolLength* function would be inserted in the filter section of an exploration as in the following example.

Created with Metastock by Equis © 2001

When generating the security list for the example above you would make sure all of the securities are included in the exploration.

Reference Literature

This list of references is by no means exhaustive but represents material, which is either recommended, or for general reading.

1) Compuvision Australia. TradeSim User Manual.

2) Equis. *Metastock for Windows 95/98 & NT*. This is the user manual that comes with Metastock Version 7.0 and is a prerequisite for using TradeSim.