

Introduction to Expert Design Studio

A complete Trading System development tool for TradingExpert Pro

Expert Design Studio (EDS) provides TradingExpert Pro users with the ability to design, test, and fine-tune their own trading systems. EDS also includes a powerful reporting function which screens your AIQ data using your EDS developed trading strategies and produces customized reports listing trading opportunities. The software is designed to work seamlessly with other AIQ TradingExpert Pro applications.

EDS also functions as an advanced reporting tool for TradingExpert Pro. It gives users the ability to produce fully customized reports based on their personal stock screening techniques.

EDS may also be used in conjunction with TradingExpert Pro to perform multiple screenings and develop highly focused lists. You can use fundamental screening, TradingExpert Pro Reports, or EDS screening to create an initial list. Then subject this list to a second screening with EDS. The possibilities are many.

Designing a Trading System in EDS



The user begins by creating a set of trading rules which are entered and saved into a “Document”. These rules define the strategy that will screen your AIQ data for trading opportunities.

You can create as many Documents as you wish, each representing a totally different and unique trading system. For each Document, you designate the tickers in your AIQ database that are to be screened. You can screen a user list of tickers, specific ticker types such as futures, and you can specify daily or weekly data.

EDS Trading Rules

Trading systems can be quite simple, consisting of just one or two rules, or highly sophisticated, with many rules involving many different filters and conditions. When EDS scans your AIQ database, it finds those tickers that pass (i.e., meet the criteria specified by) each of your rules and generates reports. These reports list the tickers that pass the individual rules. A report can be generated for any of the rules in a trading system. A Summary Report lists all tickers that passed one or more rules.

The major hurdle in creating rules is specifying the condition that tickers must meet in order to pass a rule. Although EDS provides all of the basic elements that you need, it requires some thought and ingenuity to define your conditions as valid expressions (i.e., expressions that the EDS rule compiler can understand and interpret).

To simplify the task of creating rules, EDS provides a large number of Pre-built Rules and strategies. These Pre-built Routines, which cover most aspects of analysis, will allow you to easily create highly sophisticated trading strategies with only a minimal understanding of the EDS rule language. Using a special EDS function (called Rule Builder), you can quickly construct complex strategies by simply pasting the pre-built rules into your EDS Documents.

Even if you plan to exclusively use the pre-built rules, you will need some understanding of how rules are structured. The following is a brief explanation of the EDS rule language. A more complete treatment of the EDS language is found in Chapter IV.

Rule statements consist of the three parts:

- **Goal** - Result of evaluation of the rule (also the Name you assign to the rule).
- **IF** - separates Goal from Body
- **Body** - A set of conditions or facts that must be satisfied (all must be True) for the goal to be achieved (i.e., the rule itself is True).

The rule body is constructed from a few basic elements. These elements include:

- **Fields** - the price, volume, and indicator (both technical and fundamental) values accessible in TradingExpert Pro. Fields are always enclosed in brackets [].
- **Key Words** - a set of mathematical and logical operators and conditions (=, >, if, and, or, not, etc.).
- **Functions** - predefined routines which perform mathematical procedures (e.g., square root of a number) or return specific values (e.g., highest value in a series of numbers). See the EDS Reference Guide for a complete list of Functions.

Example of an EDS rule:

1. With this rule, we want to find all stocks with upside Expert Ratings greater than 90. To accomplish this goal, we can write the following rule:

ERUp if [er up] > 90.

This rule (named ERUp) looks at the er up field value. If the value is greater than 90, the rule is “passed”. This means that only tickers with ER values of 91 and above on the current date will pass this rule.

Other EDS language statements

In addition to rule statements, the EDS rule language provides several other types of statements that may be used in an EDS Document:

- **User Defined Functions**

User Defined Functions (UDF's) are used to define or compute values for use in rules or as items in reports. You can also create your own indicators with UDF statements, then add your indicators to the *Charts* application Indicator Library and plot them on charts.

Example:

We can create a Function that computes a numerical value from two Field values.

cross is [st esa] - [lt esa].

This statement computes the variable *cross* as the difference between the short and long-term price ESA's.

- User Constants

User Constants are labels created to represent numerical values.

Example:

We can create a Constant that will be used in rules involving upside Expert Ratings.

define erupvalue 95.

This statement creates a User Constant called *erupvalue* and sets it equal to 95.

- Comments

Comments may be inserted anywhere in an EDS Document and have no affect on the other statements. Comments are preceded by an exclamation point (!).

How Trading Rules are Entered

EDS provides powerful tools for creating trading rules. The easiest way to define your rules is to use the Pre-built Routines which are available through the Rule Builder function.

Rules can also be entered directly into your EDS Documents using the built-in text editor. You can also use the Rule Builder to quickly find any of the basic rule components or predefined functions and paste them into a into the rule that you are defining.

When a rule is entered, EDS automatically parses and compiles the rule and checks for syntax errors. The system alerts you with a message when an error is found.

Testing a Trading System with EDS

Back testing plays an important role in the design of an effective trading system. EDS provides a back testing function with all the tools you need for testing your systems under different historical market conditions. You specify the tickers that will be scanned, the historical time period for the test, and the exit parameters. When the test is run, a report is produced that gives you all the information needed to analyze the effectiveness of your rules and fine-tune your system.

With EDS, you back test your systems rule-by-rule. This allows you to analyze and perfect each component as you build your systems. You can fine-tune each rule in your system for maximum performance based on your criteria. For fine-tuning, you simply adjust critical parameters, repeat the test, and compare results. Using this technique you can easily hone in on the values that produce the best results.

When a rule is entered into a Document, it is compiled and added to a list of rules for that Document. From this list, the user selects one or more rules for inclusion in the Document's scanning report. Selecting a rule also creates a Report Tab for that rule. A Report Tab must be created for all rules that you plan to test

In setting up a test, you have several choices:

Entry Transaction Type:

- Buy
- Sell Short

Test Time Range:

You choose the historical period of time over which tests are run, which lets you examine performance under different market conditions.

Exit Method:

- Hold all positions for a fixed period of time - maximum profit (or loss) during the period is used as the performance criteria.
- Trade the system - you designate an exit strategy to simulate trading the system based on both entry and exit rules.

Test Report

Each test produces a report which includes detail and summary pages.

The summary page lists averages for all positions and includes a number of statistical measures which relate to system effectiveness.

The detail page contains a trade by trade list of all positions entered including entry and exit data, holding period, draw down and profit statistics.

Once you have fine-tuned your trading system and are ready to start trading (or paper trading) with live data, you can begin running the EDS scanning reports. The EDS report function screens your AIQ data for trading candidates (tickers that pass your rules) and generates a report.

The “Properties” specified for the trading system (Document) determine which tickers from your AIQ database are included in the screening process. Properties include a universe of tickers (all or a user list), the types of tickers (stocks, options, etc.), and the type of data (daily or weekly).

In addition to listing those tickers that meet your screening criteria, rule reports can be individually customized to display additional columns of information. You can choose from over 70 different Fields (prices, indicators, etc.) available from TradingExpert, or you can select information that you have defined within the EDS Document itself.

If your system consists of more than one rule, you can produce a Summary Report which contains separate columns for each rule included in the report. Each column in the Summary Report lists the tickers that passed a particular rule and the report data is easily sorted to bring together a list of tickers that passed any rule.

For detailed instructions on how to create reports, see Expert Design Studio, Chapter VI.

