It is like getting your Ph.D in algorithmic trading, except cheaper and easier . . .

Risk and Hypothetical Performance Disclosure

THIS IS HYPOTHETICAL PERFORMANCE

GOVERNMENT REQUIRED DISCLAIMER - COMMODITY FUTURES TRADING COMMISSION STATES:

FUTURES AND OPTIONS TRADING HAS LARGE POTENTIAL REWARDS, BUT ALSO LARGE POTENTIAL RISK. YOU MUST BE AWARE OF THE RISKS AND BE WILLING TO ACCEPT THEM IN ORDER TO INVEST IN THE FUTURES AND OPTIONS MARKETS. DON'T TRADE WITH MONEY YOU CAN'T AFFORD TO LOSE. THIS IS NEITHER A SOLICITATION NOR AN OFFER TO BUY/SELL FUTURES, STOCKS OR OPTIONS ON THE SAME. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE DISCUSSED IN THIS DOCUMENT. THE PAST PERFORMANCE OF ANY TRADING SYSTEM OR METHODOLOGY IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.

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Bob PardoBiography and Accomplishments



Bob Pardo

Bob Pardo was an early pioneer of algorithmic trading in the futures industry with *the Pardo Corporation*, consultant to world-class trading firms with *Pardo Group Limited*, celebrated author of the definitive guide to strategy development *The Evaluation and Optimization of Trading Strategies*, creator of *Walk-Forward Analysis*TM and an accomplished strategy designer and successful trader as the founder and portfolio manager of *Pardo Capital Limited and its celebrated trading program XT99 Diversified*.

Bob was instrumental in laying the initial foundations of what have become industry—wide algorithmic software applications. He continues to be at the cutting edge of this fast paced industry.

The Pardo Corporation Algo Pioneer

In the 1980s, Bob founded *The Pardo Corporation* and concentrated on the design and creation of sophisticated trading and technical analysis software programs, among them *Chartist, Advanced Chartist, Advanced Trader, Blast, XT* and many others.

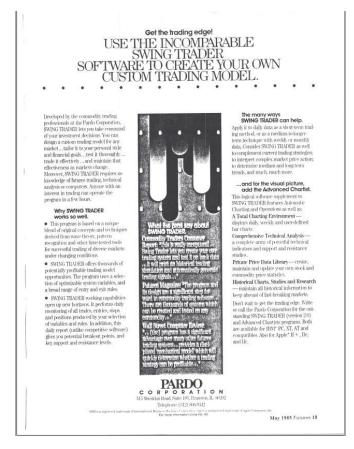
Swing Trader was the first application which brought sophisticated trading model development to the individual investor. Its far more sophisticated successor *Blast* and a number of others were the algorithmic precursor of *XT99 Diversified* and *Pardo Renaissance Diversified*.

XT99 Diversified, in fact, was a subset of a research program which employed XT and other Pardo trading applications.

Ranger

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The Pardo Corporation A walk down memory lane in ads





Pardo Group Limited Consultant to top trading firms

Beginning in the early 90s Bob founded *Pardo Group Limited* a boutique consulting firm providing design, programming and analysis services to a select group of top tier trading clients including *Goldman Sachs, Daiwa Securities* and *Transworld Securities* to name a few.

A long-term project with *Goldman Sachs* created a highly customized, real-time OS2 version of *Advanced Trader* for their in-house use.

A long-term joint venture with *Daiwa Securities* created among the first multi-strategy managed futures trading programs guided by Bob's cutting-edge mandate *A Money Management Platform – Daiwa 1991*.led to the first iteration of the strategy at the core the highly successful trading program *XT99 Diversified*. *XT99 Diversified* was a joint-venture partnership with DUNN Capital Management and managed all *PCL* client investments.

Pardo Group Limited From that seminal proposal

A Money Management Platform

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Pardo Capital Limited XT99 Diversified – a storied trading program

Bob founded Pardo Capital Limited in 1996.

In 1998 he established a joint-venture partnership with legendary DUNN Capital Management,

In 1999 PCL and DUNN launched XT99 Diversified. It ran until 2012. Peak assets under management was US\$40 million.

XT99 has been cited more than 35 times for top trading performance and has won Bob multiple honors as a top trader. He was featured as one of the top traders of 2008 in Futures magazine.

Pardo Capital Limited XT99 Diversified earned many citations

Return	Ranking	Date	Organization
69.98%	*#2 2002 Top 20 CTA	2002	* Futures, March 2003
40.01%	#4 Top 20 CTA	3 yr comp'd	Barclay Managed Eds Rep, 4th Q. 2002
81.73%	#3 Top 20 CTA	2002 YTD	Barclay Managed Fds Rep, 4th Q. 2002
33.19%	#9 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 3 rd Q. 2002
37.77%	#7 Top 20 CTA	2002 YTD .	Barclay Managed Fds Rep, 3 rd Q. 2002
-31.9%	#3 March's Top 20 CTA	March 2002	Futures, June 2002
111.23%	#1 2001 Top 20 CTA	2001	Futures 2002 Sourcebook
33.01%	#3 Nov's Top 20CTA	November 2000	Futures, February 2001
20.95%	#5 August's Top CTA	August 2000	Futures, November 2000

Return	Ranking	Date	Organization
16.74%	#4 Top CTA	. July 2007	Futures, October 2007
76.29%	#4 Top 20 CTA	. 2007 YTD .	Barclay Managed Fds Rep, 4th Q. 2007
28.06%	#6 Top 20 CTA	5 yr comp'd	Barclay Managed Fds Rep, 4th Q. 2005
34.02%	#3 Top 20 CTA	5 yr comp'd	Barclay Managed Fds Rep, 3 rd Q. 2005
26.92%	*#12 Ťop 20 CTA	5 yr comp'd	Barclay Managed Fds Rep, 2nd Q. 2005
31.52%	∙ #17 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 1st Q. 2005
31.6%	#5 Top 20 CTA	5 yr comp'd	Barclay Managed Fds Rep, 1st Q. 2005
26.07%	#7 Top 20 CTA	5 yr comp'd	Barclay Managed Fds Rep, 4th Q. 2004
28.68%	#17 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 3rd Q. 2004

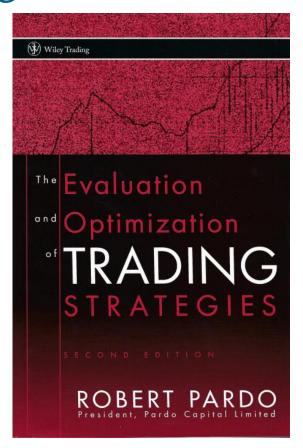
Return	Ranking	Date	Organization
°31.4%	#4 Top 20 CTA	5 yr comp'd	Barclay Managed Fds Rep, 3rd Q. 2004
32.95%	#12 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 2nd Q. 2004
30.58%	#11 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 1st Q. 2004
59.7%	#1 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 4th Q. 2003
52.94%	#7 Top 20 CTA	2003 YTĎ	Barclay Managed Fds Rep, 4th Q. 2003
20.35%	#1 July's Top 20 CTA	July 2003	. Futures, October 2003
50.32%	#2 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 3rd Q. 2003
21.57%	#1 Feb's Top 20CTA	February 2003	Futures, May 2003
38.54%	#6 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 2nd Q. 2003

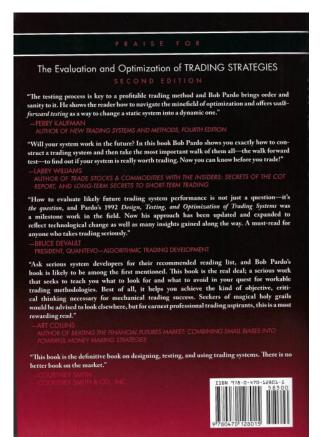
Return	Ranking	Date	Organization
37.48%	#14 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 3rd Q. 2009
33.74%	#18 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 2nd Q. 2009
142.02%	#2 Top 20 CTA	2008 YTD	Barclay Managed Fds Rep, 1st Q. 2009
49.83%	#13 Top 20 CTA	3 yr comp'd	Barclay Managed Fds Rep, 1st Q. 2009
24.65%	#18 Top 20 CTA	5 yr comp'd	Barclay Managed Fds Rep, 1st Q. 2009
19.08%	#3 Nov's Top CTA	2008 -	Futures, February 2009
14.2%	#3 May's Top CTA	May 2008	Futures, August 2008
63.73%	#2 Top 20 CTA	2007	Futures, March 2008
63.73%	#11 Top 20 CTA	2007	Barclay Managed Fds Rep, 1st Q. 2008

Celebrated Author The Evaluation and Optimization of Trading Strategies

Bob expressed his ideas about the testing and development of trading systems in his highly regarded book *The Design, Testing and Optimization of Trading Systems,* published by J. Wiley & Sons in 1991. This book — referred to in the industry as the "Black Bible" — has long enjoyed the international acclaim of the trading community and is widely considered a trading classic. Pardo wrote a greatly expanded and updated version in 2007 called *The Evaluation and Optimization of Trading Strategies*.

The Evaluation and Optimization of Trading Strategies





Walk-Forward Analysis

The creation of these diverse and powerful trading applications required an exhaustive study of technical and chart analysis methodology. Bob increasingly focused on the creation of techniques to optimize and validate trading strategies in a reliable way and to eliminate hindsight and over-fitting. In 1991 Bob developed the ground-breaking methodology – now considered the "gold standard" – for strategy optimization and validation known as Walk-Forward $Analysis^{TM}$.

It was first published in Futures magazine in an article entitled *Walking Forward Can Keep a Trading Model Ahead.*

It was described in detail in his 1991 book *Design, Testing and Optimization of Trading Systems* and again in the expanded update to that book *The Evaluation and Optimization of Trading Strategies* both published by Wiley & Sons.

Walk-Forward Analysis

TRADING TECHNIQUES

Walking forward can keep a trading model a step ahead

By Robert Pardo

Most mechanical trading systems consist of a set of rules governing entry and exit points.

These rules contain variables called "parameters." Most systems allow you to test different values of parameters to maximize profitability. This process is called "optimization."

Optimization is a tricky business. Too many traders complain that their trading model loses money after optimization. Such situations usually arise from improper optimizing technique or faulty understanding of post-optimization — real-time, realmoney — performance.

It's very easy to overoptimize and overfit a trading model. Overfit models look very different in real time than they do in testing. The real question is: Will your system make money after it's been optimized?

The only known method of testing for overfitting involves a test of postoptimization performance or "out-ofsample" testing. Statistical accuracy also requires as many such tests as possible and use of the largest body of data available.

data available.

The "historical walk-forward" test is the only testing method available that includes a series of tests verifying performance. A typical walk forward consists of 12 to 30 such tests over six to eight versy of price history.

to eight years of price history.

To fully appreciate the advantages of walk-forward testing, you have only to look at the limits of traditional testing, which optimizes and evaluates the performance of a model using only one set of historical data.

In conventional testing, you calculate profit performance for a number of different trading models and select a top model from among them. You select and judge the top model by traditional performance figures such as net profit/loss, maximum drawdown. percentage of winning trades, etc. There's nothing wrong with these measures. It's just that their source is an unverified optimization over one period of historical price data. When the performances of different

When the performances of different variations of a trading system are based on one period of historical data, they offer little information about how these models will trade in real time. Nothing indicates how they would do in data that was not part of the optimization or, more important, under different trend, liquidity and volatility conditions.



Proponents of traditional approaches counter that the more data used in optimization, the greater the validity of the results. But a trading system can be overfit on a large data window as easily as on a small. It's still only one data set. One walk-forward test encompasses two data sets. The traditional approach also in-

ward test encompasses two data sets. The traditional approach also involves only one test. Stringing together a series of walk-forward tests brings forth greater statistical validity: If optimization using one period is good, then optimizations on 10 perriods should be 10 times better. Why is the test so important? To trade a model with confidence, you need to know certain things: • Is the system properly tested or

need to know certain things:

B it he system properly tested or
overfit? If the trading model is overfit
in all likelihood it will begin to lose
money immediately. If it is tested
properly, however, it will most likely
continue to produce real-time profit
at a pace similar to the test results.

What is the rate of future proftiability? It helps to see if real-time

itability? It helps to see if real-time profits will be 100% of optimization profits (very good) or 20% (bad). Traditional testing provides no estimate of post-optimization "efficiency."

of post-optimization "efficiency."

• How much risk is needed to make a set profit? Traditional testing offers only maximum drawdown. This is an incomplete measure of risk when trend, liquidity or volatility change.

Testing differences

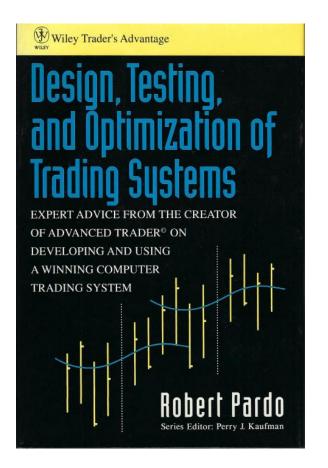
Several important contrasts exist between the traditional and walk-forward approaches in finding answers to these concerns.

First, a single walk-forward test involves a two-step process where you find top models for a historical period by empirical optimization, then test using a different set of historical data. Top models are those meeting certain performance criteria.

Performance of a particular model is calculated on a historical period called the "estimation window." The testing step — using the "test window" — is also known as an "out-of-semple." Dest

The lengths of the estimation and test windows are determined by several factors: data availability, type of trading system, desired pace of trading, relevancy of data, etc.

As a rule of thumb, a model tested on two years of data may trade well continued



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Thank You

Thanks for bearing with me.

The purpose of all of this background is NOT to boast, although it might seem that way. Rather it is for you to realize that *Ranger* is a product of the highest quality created by someone who has repeatedly demonstrated an unusual level of expertise and experience in these areas.

A person who can speak definitively about the process and the subject.

Ranger

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A unique product without parallel based upon years of proven expertise

Ranger is a sophisticated and ultra-customizable trading strategy and development tool written in *Easy Language*.

Ranger can be used to build strategies in any type of market – futures, equities, currencies and crypto – and on any time frame, daily, weekly, intraday, etc..

Ranger was designed and is used by Bob Pardo.

It embodies a structure which is based upon the way Bob created *Pardo Renaissance Diversified* a highly diversified trading program based upon multiple markets and many uncorrelated trading strategies. The original intention was to use *Ranger* to create a new portfolio section therein. *Ranger*, in fact, is currently being used in that capacity.

But Bob also realized that it could serve another purpose which has become very important to him. And that is to bring top-quality trading strategies and development tools to the trading public.

Consequently, *Ranger* incorporates a very rich strategy feature set, much of which is unique, and which gives the trader the power to create an extensive array of *uncorrelated trading strategies*.

Ranger thus empowers the trader to create and trade a **portfolio** of uncorrelated trading strategies.

Bob's extensive research and trading experience has demonstrated that this is a highly effective approach to *reducing drawdowns* and *volatility* and thereby increasing riskadjusted trading profits.

With time, effort and practice, a trader can use *Ranger* to produce a rich trading portfolio highly diversified by market and strategy. And, of the same caliber as Bob has created with *XT99 Diversified* and *Pardo Renaissance Diversified*.

That is why we like to say that mastering *Ranger* is like getting your Ph.D in algorithmic trading.

Ranger What Is Included

- 1. **Ranger** includes the strategy in protected form. For those interested, open code can be licensed directly from Pardo & Company.
- 2. A t*hirty-minute teleconference with Bob* which can be on *Ranger*, suggested, or whatever you choose.
- 3. A *portfolio of three daily strategies* in a market of your choice eMini, Crude Oil or Gold (available mid September)
- 4. A comprehensive and detailed *manual*
- 5. A unique, *proprietary guide to creating strategies* the way Bob Pardo does the *Pardo Development Process* (PDP)
- 6. Twenty-two TradeStation Workspaces with optimization ranges filled in which embody the PDP.
- 7. Five proprietary indicators which can be used within Ranger; open code is available

Ranger The Manual

The *Ranger Manual* is very detailed and covers every application of the many variables and logic switches. This is the first page of the Table of Contents.



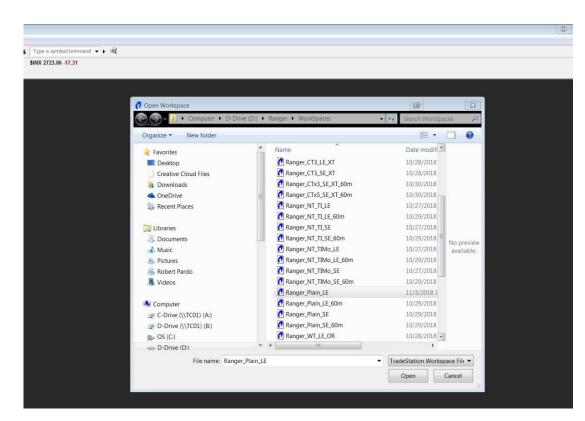
Ranger The Pardo Development Process

The *Ranger Pardo Development Process* is also very detailed and guides you through every stage of the strategy creation process from start to finish. This is the first page of its Table of Contents.



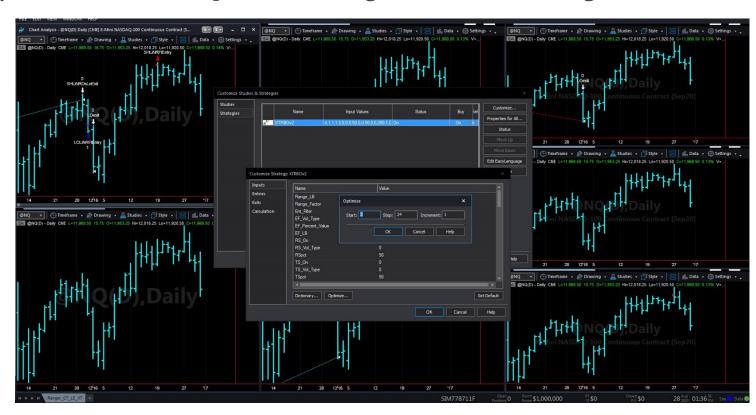
Ranger The PDP Workspaces

The *Ranger Pardo Development Process* includes all of the workspaces necessary to create new strategies of your own with *Ranger*. This is a partial list.



Ranger A PDP Workspace

This an example of a PDP workspace. There are multiple windows, each with different strategy variations all with optimization ranges and variable settings.



Ranger Daily Strategies

There are three portfolios currently in the final stages of completion. There will be a strategy portfolio consisting of three different strategies which vary in entry style, trend filtration and other features. They offer diversification.

Currently we are finalizing a strategy portfolio in the eMini, Crude Oil and Gold

Ranger Daily Strategies - eMini



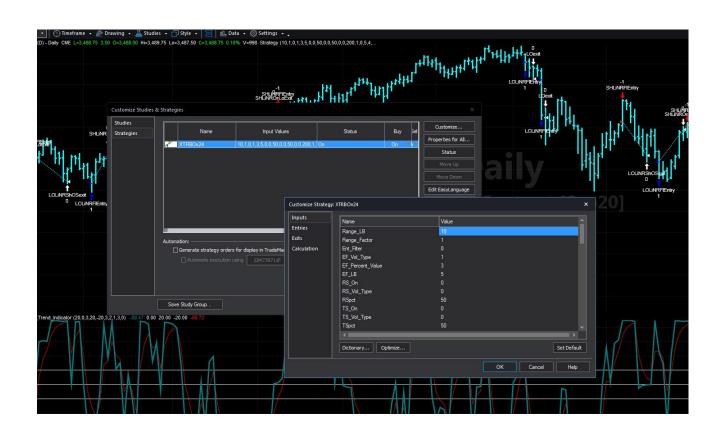
Ranger Daily Strategies - eMini



Ranger Pardo & Company's Proprietary Indicators



Dozens of logic switches and inputs



Ranger Highly Proprietary Information

We have included a tremendous amount of proprietary information.

- **I. Ranger** is structured in alignment with Pardo & Company's proprietary research process.
- II. This includes proprietary structural information regarding styles of entry and exit and different types of trend modes.
- Proprietary trend, overbot/oversold and volatility indicators
- IV. Enhanced variations of MACD and Bollinger Bands
- v. Signed Non-Disclosure and License Agreements are required to license *Ranger*.

Ranger Access to Bob Pardo

It has become important to Bob to be able to bring high-quality trading material to the trading public.

Ranger is powerful software

Ranger is also an education in algorithmic trading.

When you license *Ranger* in any form, you get phone access via the complimentary initial conversation.

You also get access to Bob via email.

Who Can Ranger Benefit?

Who Can Benefit? The Big Picture

Anyone can benefit from *Ranger* who is interested in –

- A high-quality, easy-to-use trading strategy development application,
- Advanced trading techniques and strategies,
- > Robust trading strategies and how to build them,
- Access to the quality trading strategies of *Ranger Alpha* built by Pardo & Company,
- > Building a diversified portfolio of uncorrelated trading strategies and
- Learning how a very experienced expert strategy developer and successful money-manager has built time-tested and proven strategies that have produced excellent results.

What Type of Trader Can Benefit from **Ranger**? Anyone Interested in Algorithmic Trading

We have analyzed our *Ranger* client base. From this we know the various types of traders who have benefited from it. They fall into various groups.

Anyone Interested in Algorithmic Trading

The first group is a bit of a catch all. This category consists of anyone who is interested in algorithmic trading. There is a lot of unique stuff in *Ranger* including access to me. I have generally found that the more experienced the trader the more they appreciate the flexibility, richness and robustness of *Ranger*.

What Type of Trader Can Benefit from Ranger? Those Interested in Becoming a Successful Algorithmic Trading

Those Interested in Becoming a Successful Algorithmic Trader

The second group of includes those traders who are *serious* about becoming a successful algorithmic trader. They know that the road to successful algorithmic trading can be long and costly.

They look to *Ranger* as a big head-start towards that goal guided by someone who has traveled it successfully. They recognize that the cost of *Ranger* is likely to save them many times the cost of the losses they are likely to experience attempting to build trading strategies from scratch and without the knowledge to determine if a strategy is robust or not.

What Type of Trader Can Benefit from Ranger? Successful Algorithmic Traders Interested in Adding New Strategies

Successful Algorithmic Trader Interested in Adding New Strategies

The third group consists of successful algorithmic traders who want to add additional robust trading strategies to their current platform.

For them, *Ranger* is a rather obvious investment.

I would be very surprised to hear that even the most experienced have not learned something new and valuable from *Ranger*.

What Type of Trader Can Benefit from **Ranger**? Breakeven Traders Interested in Improving

The "Breakeven" Algorithmic Trader Interested in Improving

The fourth group are those traders who have traded algorithmically for some time, with either none, small negative or modest success, the "breakeven trader".

He is tantalized by some limited success but knows that something is missing.

Ranger provides the robust strategies, the robust development process and the ability to create a portfolio of different strategies on markets of their choice and that suits their temperament. *Ranger* gives them the tools they need to move beyond "breakeven" trading.

What Type of Trader Can Benefit from **Ranger**? Those Interested in Taking a More Active Role

The "Trader / Investor" Who Wants to Take a More Active Role

This category is more demographically based. We have found that *Ranger* is very attractive to those who are retired or approaching retirement and who want to take a more active role in the management of their portfolios.

This group also includes those who, regardless of their stage in life, simply want to take a more active role in managing their portfolios for the purpose of achieving greater returns.

Ranger Alpha

Ranger Alpha

Pardo & Company provides licensing and leases to the strategies of Ranger Alpha.

Ranger Alpha currently consists of six different trading strategies.

These strategies trade sixty minute bars in the eMini. They can be traded in the Micro eMini or the full S&P contract at the discretion of the trader.

They are available in two forms.

- 1. As a monthly lease through the TradeStation store.
- 2. As an annual license for a bundle of five directly through Pardo & Associates.

Further information is available at https://www.pardo.space/ranger-alpha

Performance is available at https://www.pardo.space/the-ranger-alpha-strategies

How Can I Buy Ranger?

How to License Ranger

The different forms of *Ranger* licenses provides different levels of access.

Ranger Closed can be leased via the TradeStation store for \$225 a month.

Ranger Closed can be licensed directly from Pardo & Company for \$2,500.

Ranger Open can be licensed directly from Pardo & Company for \$5,000.

Contact Information

Contact Information

Ranger

Pardo & Company

pardo.space

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