

WHAT'S NEW ---

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THE OPTIMIZATION OF  
A TRADING PROGRAM

- QUICKSTUDY<sup>®</sup> for Apple -  
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Many customers have been purchasing software which give the opportunity to test various parameter combinations to achieve the maximum profit results. For example, a system which may use three moving averages to determine market entry, market exit and, perhaps, a stop parameter, might require the investigation of a range of moving average readings for each of the three moving averages. Investigating all the combinations of three moving averages for a system where each moving average can take on 10 possibilities would require the computer to evaluate 1,000 possibilities (10 x 10 x 10). The user would then choose the combination of moving averages which produced the maximum profit and, perhaps, the minimum draw down. He may then conclude that he has an optimum system which will work with a certain reliability.

Many customers have asked us about the merits of such an approach, and this motivated us to write this brief message. Drawing from my experience as a Statistician and Researcher for General Electric for over ten years, I can tell you that most analysts make the error of ignoring the concept for freedom loss in a statistical analysis exercise. Each parameter introduced into a system represents a measure of control which limits the reliability of the outcome. The more control that is introduced; (the number of different moving averages, for example - we use three in the above illustration) into a system, the less reliable the results will be. For another example, if you had ten closing prices, you could, through the method of Least Squares, fit a 9th degree polynomial through the data forcing the polynomial to run through each and every point. The correlation co-efficient for this model (the polynomial) would be 1.0. This would indicate that there is 100% correlation between the prediction model and the raw data that you gathered from the

<sup>®</sup> QUICKTRIEVE, QUICKMONEY, QUICKSTUDY  
<sup>SM</sup> PERPETUAL CONTRACT  
<sup>TM</sup> QUICKACCOUNT WATCH, QUICKDAYTRADER are registered trade marks & servicemarks of Commodity Systems Inc.  
<sup>TM</sup> CBOT Market Profile is a trade mark of the Chicago Board of Trade.

market. With a 100% correlation, you would expect that the 11th point (tomorrow's data) would be predicted with certainty; in other words, you would know what tomorrow's close would be with absolutely no error. Unfortunately, because of the concept of degrees of freedom, tomorrow's data could not be predicted with this model, because in this example, so much control has been used that the model will not predict with any reliability whatsoever. This is not to say that simulations (such as trying all combinations of three moving averages) do not have some merit. But the more moving averages and the more control parameters selected (such as stops, market ranges, standard deviation differences, RSI percentages, stochastic levels of significance, etc.), the more control you have asked for and the less reliable will be the result.

A customer called me the other day, and he said he had developed a wonderful system for pork bellies. He took one year of data and he introduced many control parameters. In preparing his trading system for pork bellies, he found that it resulted in a simulated performance of 19 winning trades and one losing trade in a one year period. He said he proceeded to use the system in the market with the parameters he had derived. Over a six month period it made 20 trades, just as in the simulation. Unfortunately for him, in practice he had 19 losers and one winner. He asked me where he went wrong, and after he explained his simulation methodology, I learned that he had introduced too much control over too short a period of time of simulated history.

The best systems approaches in my experience are ones which use a very low number of variables; two to five, if possible, at the most. The data that is used to simulate should be of sufficient length to accommodate 30 or more trades. A statistical consideration every trader should follow would be to satisfy a minimum 30 trade sample. This consideration is derived from Sampling Theory, which requires that 30 samples be drawn to approach normality (the Central Limit Theorem is the basis for this claim). He should strive to produce large samples of simulated trading which exceed the magic number of 30 and hold the number of control

parameters introduced into the procedure to a very few. This is extremely important to boost the reliability of the results. I would favor a system that simulated a \$10,000 total profit in 30 or more trades if it only used two parameters, for example, over a system which may generate a million dollars profit in 20 trades, if the latter used seven control parameters. The reliability of the former system would be much higher because of the large sample and the small control or minimum freedom loss.

You should be as suspicious of the results that you attain with your simulator as you should be of the advertised claims of systems' developers who brag about unbelievable profits over short periods of time.

I hope the above tips may give you some guidance in following through on your computer work and in deciding on the systems into which you may consider sinking your hard-earned money.

The markets have been performing in a trending manner in the last few months. For some of you, your natural reaction might be that what I am telling you here doesn't apply to you because you have found the "holy grail" in your approach. If this is your reaction, savour the profits you have gained and pause from the market long enough to get accustomed to having that additional capital. Read this over a couple of times before making your next trade.

#### QUICKSTUDY FOR THE APPLE

Quickstudy is available for all Apple users. The manual is complete, and if you wish to receive one, include a note with your invoice. We had originally put a price of \$50.00 on this disk, but this met with some objection, so we are modifying this plan as follows:

Effective upon the receipt of this newsletter, QUICKSTUDY is available free of charge with the purchase of \$80.00 worth of historical data of your choosing. The enclosed order form offers a special data sale at reduced prices for the Apple customers only. Spending at least \$80.00 will make you the beneficiary of the

PLE QUICKSTUDY disk and manual. If you have already paid \$50.00 for our QUICKSTUDY disk, by adding \$30.00 to your purchase, you may receive the \$80.00 worth of data at the rates published on the enclosed order form. #

### OPTIMIZING PERFORMANCE WITH PERPETUAL CONTRACTS

One of the reasons why CSI encourages the use of the PERPETUAL CONTRACT for evaluating markets is because the PERPETUAL CONTRACT, because of its construction, removes from consideration two key elements in the market that may distort the analysis. These include interest rates and carrying charges. Since the PERPETUAL CONTRACT looks at the market a fixed period forward - say, 91 days, for example - it removes some of the effects of interest rates and carrying charges which may contribute to accelerated or deaccelerated market movement during the final months before contract expiration. Simulations which use real contract data may be biased toward periods of higher interest rates, which can vary between five or six percent to as high as 20 to 25 percent. The effects of changing interest rates may favor periods of high interest rates over periods of low interest rates, and you may not be simulating the market that you are studying. More than likely, you may be simulating the interest rates and carrying charges that are part of the U.S. economy.

Users of PERPETUAL CONTRACTS make other mistakes which are worth mentioning. They sometimes take the perpetual data, run it through their optimizer, and generate a set of parameters. They will then take this set of parameters and supply it to their system to evaluate the conventional July or December contract and trade the July or December contract, based upon the parameters determined from the PERPETUAL CONTRACT. This is a mistake. If you generate a set of parameters for the PERPETUAL CONTRACT, then apply them only to the PERPETUAL CONTRACT when trading the market. You are free to enter the market in which ever contract has sufficient volume and open interest (i.e. liquidity) to suit your trading preferences. Get your market direction emphasis solely from the PERPETUAL CONTRACT model.

The PERPETUAL CONTRACT that one uses should be of a length that is sufficiently forward to accommodate the minimum period between successive delivery months of the commodity used. It also should take into account the period forward that fits the trader's mode of trading. If the trader's approach to the market gets him in and out of the market in a week's time, for example, the position should be entered a few days further distant than the PERPETUAL CONTRACT looks forward so that the time in the market will encompass the contract which is the same time period forward. However, if the trader's system stays in the market for two months, for example, and the three month Perpetual is what you have chosen for your analysis, the trader should enter the conventional contract which is approximately four months forward when the position is entered. #

### SOME HISTORICAL NOTES ABOUT CSI

In the early years of CSI, before servicing the industry with QUICKTRIEVE software and data, the company was heavily involved in systems development and software for mainframe computers. We developed dozens of systems and analysis tools, including many which are popular today. The software was developed in conjunction with our already popular data base, which was the exclusive source for many large brokerage and data banking companies. Shearson, DRI, E.F. Hutton, Control Data, etc. were among the earlier customers of CSI who purchased our data base and subscribed to our daily data feed. Today we can count nearly every well-known brokerage firm and the largest data firms as our customers.

We of the U.S. point this out because we want our customers to know that in the initial stages of our development we could easily have taken the analysis route in our microcomputer software development or begun earlier in our hardware development business.

We developed our data base first, because there were no other data base alternatives at the time. Our data retrieval system, later to be named QUICKTRIEVE, was developed next. This system used a compressed data technique which can transmit numeric characters at

twice the rate and in half the time as the rated baud rate of the modem to be used. To QUICKTRIEVE, a 300 baud modem produces an effective numeric transfer rate of a 600 baud modem. Similarly, 1200 baud looks like a nearly 2400 baud modem. This advantage, of course, cuts in half both the time and character count (both billable items by Telenet, Tymnet, or Uninet) that a given quantity of data will consume. It also cuts in half the time the customer needs to wait to get his data updated. In fact because of other considerations, such as check summing and data verification done on the fly, QUICKTRIEVE is up to ten times faster than any competitive product.

Needless to say, the data development and the communications match-up with CSI's computer and your micro were far more complex and time consuming than any analysis effort could have been. We are about to introduce some analysis items, which are embodied in our QUICKDAYTRADER and QUICKMONEY products. To stay in synch with our priorities, we could not have considered such products until the more difficult problems of data and communications were solved.

We gave companies, like Compu Trac, a great boost by allowing their customers access to our data base while we perfected the data and the QUICKTRIEVE communications.

We are very proud of our new products, QUICKDAYTRADER and QUICKMONEY. The way these products operate with respect to the analysis basis is not a secret. We feel customers who will risk their capital should be aware of the foundation for the system analysis tool. I can't imagine asking a customer to "Trust me. It will work!"

QUICKDAYTRADER and QUICKMONEY are new concepts in analysis and do not compete with the normal analysis software commercially available. These products are very data intensive and require unusual data feeds not acceptable to regular analysis products. Our analysis products complement rather than substitute for regular analysis tools. #

## QUICKMONEY

Our work on QUICKMONEY is proceeding very satisfactorily. The system will track Equity and give explicit Buy-Sell-Hold recommendations. We have been following the substance of QUICKMONEY in the market and are encouraged by its reliability.

QUICKMONEY is unlike most systems in that it looks for two commodities to be significantly under and/or over-priced at the same moment. A recent pair of markets entered with QUICKMONEY involved being long two Soybean Meal contracts and short one Wheat contract. Over a period of about a month, this relationship has produced over \$6,000 in profit. Don't attempt to take on these positions, however, because this straddle may have run its course. QUICKMONEY is designed to identify all such opportunities, and we expect to see one opportunity occur per pair of markets per year.

Not so surprisingly, the agricultural markets seem to do the best. This is true probably because of the strong economic substitution benefits of agricultural markets. To feed her family, the housewife will be just as happy to purchase corn products as wheat products if corn prices are low with respect to wheat, considering, of course, an extensive past period of the two commodities relative to each other.

QUICKMONEY has a parameter which may take on only a handful of possibilities. We call it a "skim factor" and it identifies the degree of correlation that exists between any pair of markets. The more a pair of markets are correlated, the less the risk in trading one against the other. The skim factor helps identify market entry points which keep risk as low as possible. The concept is so exciting that we are expediting the completion of this project. We look forward to delivering some early versions of QUICKMONEY in approximately two months.

Those customers taking advantage of the enclosed sale on a minimum \$395.00 purchase will be the early recipients of the QUICKMONEY software when it is completed. #

QUICKACCOUNT WATCH

A new product preview. This new product will permit (during market hours) the computation of the net dollar change of a given portfolio since the prior day close. It will be designed to auto call the data base at regular intervals throughout the trading day.

We hope to accommodate multiple portfolios in the commodity markets and produce an analysis of each following a single call to the data base.

We will not give an indication of the availability of this product until after we get your reaction as to the possible demand. It will be programmed first for the CSI QUICKPC and other IBM PC/XT compatibles. #

PORTFOLIO CHANGE CHARGES

CSI encourages all users to make portfolio changes and enter history through the QUICKTRIEVE Customer Subsystem. This method reduces chances for error and personnel processing time.

We have been charging a \$5.00 fee for portfolio changes initiated verbally through our Order Entry Department. We are changing this policy as a result of customer requests. The \$5.00 portfolio change fee will not be charged if the change results in an increase in the customer's portfolio, or if the change is accompanied by a history order of six months or more of data.

The net result will be that the \$5.00 fee will only be imposed if you reduce your portfolio and do not purchase additional historical data. We are in the business of selling data and do not want to discourage data purchases, but at the same time, we would like to encourage the use of our Customer Subsystem, which is simple to use, greatly reduces chances for error, and is much less costly to CSI due to reduced personnel time. #

SOFTWARE DEVELOPMENT UNDER WAY  
& A GLIMPSE AT QUICKDAYTRADER OUTPUT

QUICKDAYTRADER is a system which

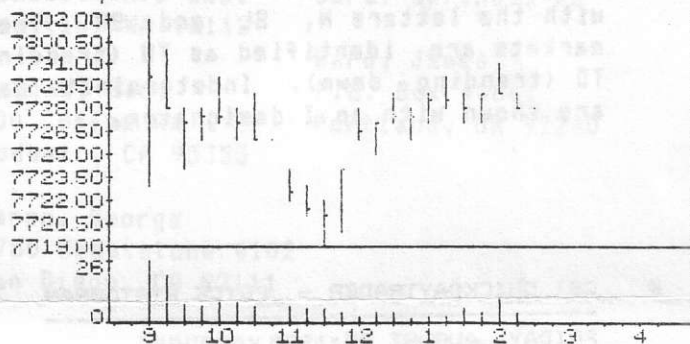
analyzes live data in 15 minute intervals. For every contract collected, it produces a bar chart since the opening bell, a point and figure chart current to the last quarter hour, an analysis table that statistically reveals for price and volume the mean, median, and modal readings. In addition, the probable price to which the market will return, the slope of the data, and a statistically determined indication of whether the market is likely to be suitable for back and forth trading, or the taking of short or longer term positions in trending markets. Also revealed is a histogram of trading progress which graphically reveals a comparison between actual price and volume data, the theoretical form of "trading data" and the theoretical form of "trending data".

The following details were printed out with the Apple QUICKDAYTRADER program. This report would have cost an average user about thirtyfive or forty cents.

CSI QUICKDAYTRADER - PRICE BAR CHART

FRIDAY, AUGUST 23, 1985

CONTRACT = T. BONDS 09/85

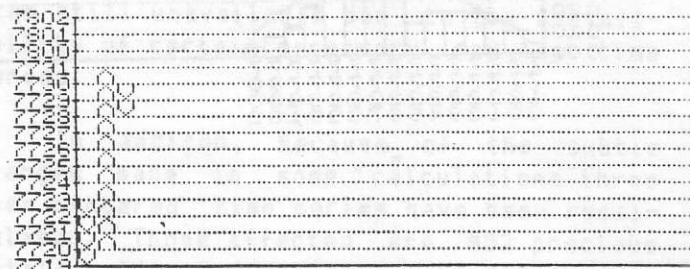


CSI QUICKDAYTRADER - POINT & FIGURE CHART

FRIDAY, AUGUST 23, 1985

CONTRACT = T. BONDS 09/85

BOXSIZE = 1  
REVERSAL = 3



CSI QUICKDAYTRADER - TABLE 3

FRIDAY, AUGUST 23, 1985

CONTRACT = T. BONDS @9/85

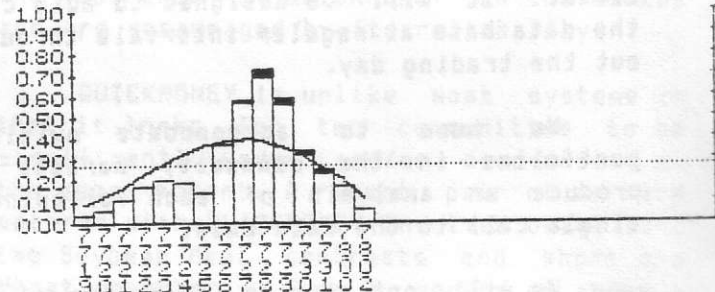
PARAMETER DESCRIPTION	BASED ON PRICE	BASED ON VOLUME
MEAN - PRICE/VOL	7726.752	10.133
MEDIAN - PRICE	7726.016	7728
STANDARD DEVIATION	4.48	7.812
MODAL 1 PRICE	7728	7728
PROB SUP-RES REVISIT PRICE	7726.384	7728
CHI SQUARED STATISTICS		
NORMAL 5.226	3.485	3.126
LEFT 4.575	2.228	-
RIGHT 4.575	2.913	-
UNIFORM 5.89200001	10.274	8.914
DIST TYPE (N,SR,SL,TU,TD,I)	SL	N
SLOPE OF PRICE DATA	.064	-
LAST PRICE INTERVAL - HIGH	7728	-
LAST PRICE INTERVAL - LOW	7728	-

The above "Table 3" produces important statistics about today's trading tendencies. The main report describes these variables which produce statistical insight into how the market should be traded. The Chi squared statistics give rise to an assessment of the market type which is either normal, trading or indeterminate. Normal markets are identified with the letters N, SL and SR. Trending markets are identified as TU (trending up) TD (trending down). Indeterminate markets are shown with an I designator.

CSI QUICKDAYTRADER - VOLUME HISTOGRAM

FRIDAY, AUGUST 23, 1985

CONTRACT = T. BONDS @9/85  
DISTRIBUTION TYPE = N



The above two charts for price and volume show a comparison of the real data with the two norms of trading and trending. Trading markets are "bell shaped" and trending markets follow the flat dotted or "uniform" shape. The shading on the tips of the histogram rectangles identify the most recent price visits to given price rectangle. This example definitively identifies a trading market. The user should look to sell the days higher prices and buy at the days lower prices. There is a high probability that the market will then return near to the "revisit price" of 7726. #

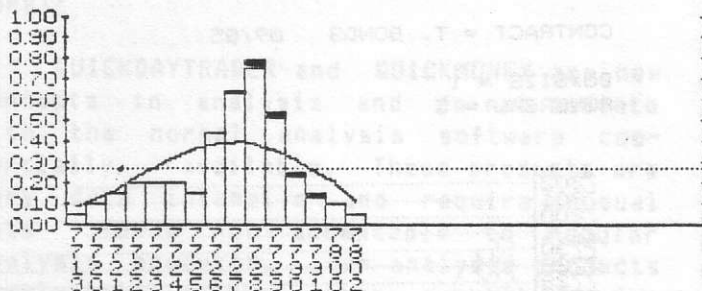
HOW DOES THE CBOT MARKET PROFILE COMPARE?

By contrast, the CBOT's Market Profile would appear like this if it were subscribed to through CSI.

CSI QUICKDAYTRADER - PRICE HISTOGRAM

FRIDAY, AUGUST 23, 1985

CONTRACT = T. BONDS @9/85  
DISTRIBUTION TYPE = SL



CSI QUICKDAYTRADER - MARKET PROFILE

FRIDAY, AUGUST 23, 1985

CONTRACT = T. BONDS @9/85

PRICE TICK	TIME	VOLUME INTERVAL
7802	2.36	b
7800	6.36	bB
7731	9.70	bB1
7730	12.95	bBdJ1
7729	22.36	bBdei jJkK1L
7728	27.63	bBcCdDeHi IjJkK1Lm
7727	21.96	bcCdDeHi Ijkk
7726	14.05	bcCDeEH1
7725	5.30	bcH
7724	7.10	bcfG
7723	7.50	bFG
7722	6.63	fFqG
7721	4.30	FgG
7720	2.30	qG
7719	1.50	g

It is left up to you to use your own judgement in interpreting the market type and trading approach. #

### AUTO CHART-WRITE

If you are a user of CSI's QUICKPLOT software and often have (as we do) the need to print several charts at once, you can accomplish this feat quite simply using the software developed by Roland B. Benner, a customer of CSI.

This program, called AUTO CHART-WRITE, will print charts which you have BSAVED to the disk with QUICKPLOT. You need to BSAVE each chart, which takes only seconds, with QUICKPLOT. You may then introduce AUTO CHART-WRITE and print each of the charts that you have prepared in an unattended mode. A maximum of 40 charts may be printed at one time on an unattended basis with this simple program.

If you wish to purchase Mr. Benner's program, it is available for \$40.00 at the following address:

Roland C. Benner  
20401 116th Avenue  
Maple Ridge, B.C. V2X 1Y4  
Canada

or you can call Mr. Benner directly for better service. 604-931-8302 at his office, or 604-465-5361 at home. #

### CHANGE IN BILLING COMPUTATION FOR 10% DISCOUNT

Effective with the March billing the 10% discount on daily data collection applies only to the period 8PM to 8AM local time (time at location of call origin).

### CHOICE OF NETWORKS

Due to increased demand, CSI has expanded the access ports for Telenet and decreased access ports for Tymnet and Uninet. Please whenever possible favor Telenet in your calling preference dialog file or user constants file. #

### USER GROUPS

The following is a list of CSI customers interested in forming a user group. If you wish to contact one of them please feel free;

Brady, Dick W. 5003 A2 New Hope Rd Raleigh, NC 27604	Durham, Carl 8101 Andora Dr. La Mirada, CA 90638
Evans, Robert 3825 Skyhigh Rd Cottage Grove, WI	Nardman, Daryl 308 Second Scheritz, TX 78154
Lechtreck, L Box 31125 St. Louis, MO 63131	McGinnis, Dick Evergreen Commodities 859-409 Granville St. Vancouver, B.C.
Moss, Gene 901 E Camino Real Boca Raton, FL	V6C 1T2
Newman, R.W. 500 River Road Cos Cob, CT 06807	Mikkelsen, Kent 1025 Stuart Road NW Albuquerque, NM 87114
Sweeney, John J. 939 16th Ave East Seattle, WA 98112	Paycher, Abe PT Commodities 3501 University Dr Coral Springs, FL
Wagner, Gary 600 Coffee Rd Modesto, CA 95355	Ward, James P.O. Box 40641 Portland, OR 97240
Yarno, George 2750 Wheatstone #102 San Diego, CA 92111	#

### INDUSTRY INDICE HISTORY (Commodity #235)

The extensive data processing effort required to accurately compute the odd number contracts which are geometrically averaged is now complete. Historical data can now be collected for these items. The #57 contract (cash financials) is the only item still unavailable due to the unavailability of certain necessary raw cash time series.

In addition, because of the subtle changes made in some calculations three even numbered time series have been recalculated. Those affected are #52 precious metals, #46 industrials, and #60 forward LME markets. Any user who may have ordered