

HTR Monthly Report
Thoroughbred Handicapping Newsletter
August/September 2004

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Handicapping Technology and Research

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Late Summer News

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Each month, the current edition of the HTR Monthly Report is available on the Internet from our members' web site only. This is not a free newsletter; it is included as part of a paid subscription to HTR's monthly download service (\$119/mo). Selected articles can be found on the free HTR web site (see back page for web address). The HTR Monthly Report is normally available by the 5th of each month.

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*News and Notes***HTR Seminar 2004 at the Gold Coast**

We had an excited crowd of more than 60 horseplayers for the annual seminar at the Gold Coast on Wednesday afternoon July 14. Thanks to all of you that attended and we hope you had a good time as well as learning a lot of new material. This was a record turnout for our subscriber meeting. We did attract more than 90 visitors one year at the Stardust for an "open to the public" seminar, but it was probably the free donuts that made the difference there! Anyway, we were very happy with nice banquet room provided for us and everything went smooth with the facilities. There will be a few schedule changes next year to allow me more time for demonstrating the software and examples, but otherwise expect a similar schedule and location and dates (the Wednesday prior to the contest) next summer. The Gold Coast management did invite us back and that saves on our costs and holds down the fees for those attending. The maximum outlay this year was \$40 for someone attending all sessions.

The combination seminar + tournament was again a big hit and the results were undeniable (see page-3). While some may complain that the seminar is held too close to the tourney for any immediate benefit, our experience after two years of doing this (we held the 2003 seminar right before the KEE contest in Lexington) is very positive and the majority find the seminar an excellent mental booster and psychological catharsis for success. I'm enthused by the feedback and comments, as well as the reaction and large turnout to want to return to the same scenario for next year at the Gold Coast.

Seminar highlights.

I have complete coverage, full details and expanded information about my presentation on the critical HTR2 updates in this double-issue of the newsletter. Even those of you that attended, know that I had to rush at the end, so we need to cover some additional ground in this issue for you. If you were unable to make the seminar, I have written everything out clearly with examples and step-by-step details.

After some funny (bad!) jokes, Tom Walters used his 1-hour seminar time to effectively discuss wagering strategies and always weaves it in with the 'ground zero' understanding of Kentucky breeding and racing which is in his backyard in Lexington. Sincerely grateful your yearly contribution *TomCat!*

Don Nadermann and Mike Dee talked long into the night to go over all aspects of Access / HTR2 export and it seemed like it still wasn't enough time as we passed the 10:00pm deadline. Great job by both and the knowledge imparted is invaluable. Thanks very much Donnie and Mike for your hard work.

Ernie Logsdon, John Buls and Herman Bell also helped with the A/V and general logistics and their assistance was much appreciated in keeping the seminar running smooth throughout the day.

We held a fun cash contest with actual handicapping from an HTR sheet that blanked out the track and date and other information so no one could identify the race before hand. Garett Overstreet (CA) won the 1st prize of \$300. Barbara Buckley (CA) and John Buls (WA) finished 2nd and 3rd and received \$50 each. The Gamblers Book Club of Las Vegas was kind enough to donate some vintage titles for the winners as well. The little contest was a rousing time and everyone had fun. Our hope for next year is to get the digital tapes of the races and let the yelling commence as the results are presented on screen.

Prior to the seminar Donnie and his wife Sue surprised me with the announcement that he had secured the website address: www.htr2.com for us and he and webmaster Rick had set it up to work immediately to link to our regular IP address. Baseball caps were passed out with "HTR2.com" logo on the bill and I'm really grateful to Donnie and all of you that quietly donated the money to purchase this domain name – a godsend for me when needing to get someone pointed to our website. Now it is easy to remember HTR2.com anytime to get to the HTR website and then go right to the members download or discussion board from the homepage.

Tournament News
Results at the Gold Coast

We had a large spillover from the seminar on Wednesday going into the Gold Coast tourney on Thursday with nearly 50 entries from the HTR players. The total headcount for the event was more than 730 entries and that surpassed last year by over 200 and easily a new record. Both banquet rooms assigned for the tournament filled up immediately and they had to add seats in the hall. The reason for the enthusiastic turnout was that players were trying to qualify for the \$1-million "world series" event to be held in January at the Orleans (\$2000/entry fee). The competition was highly competitive for the 40 free spots and the point totals were incredible.

HTR players did extremely well. We qualified at least seven to the "world series" and about \$50,000 in cash paid out to our subscribers. At least a dozen other HTR players were within striking range (about 20,000 points) but needing one more winner to get into the money. Very impressive results as a group overall and many commented to me that the new KLine was a major factor in the decision making process and the confidence to pass up nearly hopeless picks (see page-4).

HTR subscriber Scores in the top 100 and Qualifiers to "World Series of Handicapping"

Note: the contest winner had 35,946 points. Underline shows actual entry name.

<u>HTR Player(s)</u>	<u>Finish</u>	<u>Points</u>	<u>Qualifier</u>
Newton, Rick	3	32,014	Yes
<u>Nadermann/Massa</u>	6	28,970	Yes
Newton, Rick	20	25,854	No (one per player)
Triplett, Gary	23	25,312	Yes
Hogarth, Bill	24	25,204	Yes
Pagels, Jerry	27	24,552	Yes
<u>Buls/DeRienzo/Walters</u>	29	24,400	Yes
<u>Buls/DeRienzo/Walters</u>	32	23,994	Yes
Barbaro, Bobby	46	22,580	Maybe?
<u>Marconi/Massa</u>	69	21,140	No
<u>Logsdon/Massa</u>	84	20,160	No
<u>Logsdon/Frunz</u>	92	19,600	No

Notes:

- =Barbaro might still qualify if there are 5 or more players above him that have previously received a spot.
- =Rick Newton finished third and 20th with his two entries – incredible – and took home \$25,000+
- =Donnie N. scored a massive 19,000+ points on Friday alone - but someone beat it! – \$1000 day money.
- =John Buls, Mike Dee and *Tomcat* were equal partners and qualified twice using different entry names!
- = All my entries ("Massa") were partnered with other HTR players – thanks very much guys!

Congrats to everyone for a great try and thanks for all the terrific feedback both during and after the seminar/tournament. The Orleans in October will be the last major attempt to qualify for the \$1-million *World Series of Handicapping* in January (50 or more spots). Hope to see you there.

Handicapping with HTR2
(K) Rating and the New KLine in Depth

I'll draw from my handouts at the seminar as the outline for this extensive article on the KLine. Expanded explanation and additional material has been included.

The (K) is an enviable rating tool. Highly consistent, reliable and verifiable. Every horse in every race, regardless of circumstances, is computed a (K) figure and there is no dispute about its long-term accuracy. Horse ranked 1-2 (K) will win approximately 50% of their races in nearly any sample at any track under all conditions. Top-4 (K) hit 75-80% without fail. There are virtually no ties in the (K) that would distort the results.

Statistically the (K) is nearly flawless when viewed in its numerical correlation. Please peruse the charts below and read the analysis. This is shortened version of the complete (K) chart handed out at the seminar.

(K)	Win%	WP%	WPS%	Avg Mutuel	\$19+Winners
116+	52.4%	73%	86%	\$3.40	0%
115	51.4%	73%	83%	\$3.80	0%
110	33.6%	57%	71%	\$5.10	0%
105	21.7%	42%	58%	\$7.70	2%
100	14.6%	30%	45%	\$11.10	10%
095	10.1%	22%	35%	\$16.40	29%
090	06.5%	16%	27%	\$24.20	52%
085	04.9%	12%	21%	\$31.10	70%
080	03.5%	10%	17%	\$40.10	78%
075	02.6%	07%	13%	\$54.50	88%
070	01.6%	05%	09%	\$56.70	98%
060	01.3%	02%	05%	\$84.00	99%
050-	00.5%	01%	02%	\$136.40	100%

(K) Rating results by Rank - Level 100

(K)	Rank	Win%	Avg Mutuel
100	1	19.3%	\$7.60
100	2	15.9%	\$9.90
100	3	15.4%	\$11.10
100	4	14.7%	\$11.90
100	5	14.0%	\$12.00
100	6	11.8%	\$13.10

Analysis

The (K) is a statisticians dream in terms of the orderly correlation of the numbers from top to bottom. Ranks (example with K = 100) further separate the ratings that are the same number. Field Size and the gaps between the individual ratings also make a difference in the results. The confusion comes in trying to utilize all the numbers and stats for an individual race. The KLine solves the clarity problem and puts a single field in clear context while maintaining the integrity of the overall (K) prediction strength.

Handicapping with HTR2
The KLine – Development

Aside from the (K) as an excellent contender selector for the top rankings in any race, how can we use all these statistics to grasp the distinctions between an individual field of horses as they face off against each other? Every race is unique and so is the distribution of the (K) figures among the entrants. The KLine was developed to ‘clear the smoke’ and clarify your understanding of a single race.

The rest of this page has a lot of technical details – browse it and move on to the next page if you are technically challenged.

Concept and Design of the KLine – Technical Details

There are four basic components of the KLine →

1. The rating itself, typically ranging from 65 to 115 for most horses.
2. The rank of each these ratings in overall samples and framed from the individual ratings (see example of Level = 100 on previous page).
3. The field size.
4. The gaps – spaces and differences between the numbers for any field, top to bottom.

The (K) is already a multi-faceted rating. There was no need to expand or broaden it with new factors while creating the KLine. Later we’ll read how you can interpret the KLine differently and upgrade your opinion of the odds based on the workout rating or early speed dominance and certain race scenarios.

To create the KLine, a gigantic multi-dimensional array was coded in Visual Basic to store each of the (K) rating numbers (50 to 116); the rankings (1-9); field size (2 - 20) and gaps between the numbers (-99 to +99). Throw all this into a mix for a massive computational orgy. I used approximately one million horses from 120,000 races to formulate the equations. A resulting probability and odds line is arranged for every possible dispersion of the (K) to recognize any field of horses. This adaptability to every race situation means the KLine is truly a master of improvisation!

KLine vs. VBet

Previous versions of HTR used a standard probability model (Prob%) with a resulting odds-line (VBet). The ‘standard’ method used by almost all other computer programs or automated line makers is formulated by combining a number of key factors with their known win rates and mixing them together. HTR used multiple-regression (the weighting of various factors to compute a predicted outcome) for this purpose. The result of this approach produces a near-perfect centering of the probability for the median range, which is in the 10% – 20% probability area. Horses listed as Prob = 15%, for example, would indeed win exactly 15% of their future races. This was verified numerous times by HTR researchers and myself in large sample tests.

The problem with this approach is that it tends to fall apart at the high and low ends. This is a result of forcing the alignment to the median probability. Unfortunately, the ‘bookends’, those horses that have less than 10% chance of winning, and especially those with greater than 20% probability lose their accuracy as the range moves farther from the median. A horse listed as 5% Prob (20.0 VBet) would actually win less than 3% of their races. At the opposite end, a favorite shown with Prob = 25% (4.0 VBet) would have a realistic 30% or higher chance of success to win that race.

As it turns out – these ‘bookends’ are the most significant horses we need to consider when handicapping a race. The old HTR Prob% and VBet were terrific statistical tools in many ways, but they lacked the pragmatism needed to determine true betting value from a typical field of horses. The separation wasn’t distinct enough and most longshots were overvalued and favorites were usually underestimated.

Handicapping with HTR2
KLine -- as Self Adjusting Morning Line

The KLine fulfills several critical aspects of race analysis. We'll discuss each in detail.

1. A self-adjusting Morning Line with clear separation.
2. Reliable and confident Value Betting Line.
3. Precision probability ratings.
4. Realistic public tote odds assessment.

KLine as self-adjusting Morning Line

New York bettors need no reminder of the futility of the morning line these days. A sixteen horse field scheduled for the grass – 6 or 7 scratches, including the morning line favorite, the entire MLO picture is rendered completely useless. Sometimes the track announcer will make a correction, but few actually hear the announcement.

“The purpose of the morning line is to estimate the likely public betting.” That's the standard spiel that racetracks and handicapping book authors want us to believe. The truth is that that Morning Line is a marketing tool designed to stimulate betting action on a race. Major stakes races are not a problem for wagering interest and listing a big star at “3/5” MLO is an added attention lure. For the majority of races though, the morning line maker will not post the favorite at odds below 2/1 or any longshot above 30/1, no matter how impossible the horse's chance of winning. The reason for this is obvious – they don't want bettors discouraged and thinking the race is walkover for the chalk. More subtle, the *horizontal* exotics (daily double, p3, p4, p6, etc.) rely on bettor interest in the subsequent races and they need to make them look playable and competitive to attract larger combination tickets. Every aspect of racetrack marketing has one essential purpose these days – larger betting handle – if the MLO helps their cause, they will tailor it to that end.

At most locations, the person creating the daily morning line for the track will abide by the guideline above (2/1 --- 30/1) for all the horses. After they decide on the likely two or three betting favorites, they then proceed to “ballpark” the other horses in clusters of odds: 5/1 and 8/1 are common, then 10/1, 15/1, 20/1 and 30/1 maximum. The separation after 9/2 tends to be superfluous.

The KLine instantly updates itself when you pull out the scratches. This is the “self-adjusting” aspect that gives you a major advantage over the public which gets stuck with a decimated MLO after the scratches. Obviously, you will need a computer in front of you or a laptop at the track or race-book to take full advantage of this. At the very least, you can get the early scratches before printing your HTR sheets. On most screens in HTR2, the KLine is presented in ‘tote style’ for fast visual interpretation. For example “8/5” instead of 1.6. Extract a scratch and this horse may now drop to “7/5” (1.4).

The KLine does not “ballpark” the horses in blocks of odds. It gives you complete separation and a precision number. Favorites, even in large claiming fields are often shown below 2/1, some as low as 3/5. Those horses *thrown in* at 20/1 and 30/1 on the MLO become KLine 17/1, 33/1, 42/1, 68/1, 76/1 and 99/1 (maximum) as an example. We'll talk more about the frequent listing of KLine 99/1 in the section on the Value Line and longshot betting. For now, recognize the important advantage the KLine offers over the MLO. Does this mean the morning line is now meaningless to an HTR user? Not at all, the MLO is a key fact in understanding how the public reacts to a race and is one of the three most influential factors in public betting --- the other two are recent speed figures and the *connections* (jockey, trainer, owner-stable, sire and breeding origin).

Handicapping with HTR2
KLine -- as Value Line Prediction

As a value prediction tool the KLine is indispensable. The HTR2 handicapper will no longer have to guess when making win bets on horses with odds that are lower than the probability of winning. A clear identification of the horses the public has underestimated is a key to getting generous exotics. Passing races is critical for longshot players that need to preserve capital or hold 'bullets' in a tournament. The KLine accomplishes all of this for you as long as the tote-board and the scratches are accessible. What about using the KLine as a static tool for research and early (before scratches) spot play identification? Perfect tool for that too, and you can use the new "robot" various ranges of it.

It's best to illustrate all aspects of the KLine by using a real race and discussing every nuance of the horses involved. Below I am using the 9th at SAR on July 29, 2004. The data below has been extracted and edited from the new [Wagering] screen in HTR2. More on that screen in detail later in this issue but this example will get to the heart of it.

WinP = the (K) win probability% (the predicted percentage of win success).

Final Odds = final (actual) tote board odds for each horse.

Fin = (actual) finish position for each horse in this race.

Here is how the 9th race looked →

Pn	Name	MLO	KLine	(K)WinP	Final-Odds	Fin	VBet
2	Cozy Man	7/2	Scratched				
3	Love Less	10/1	65/1	2%	12.1	8th	25.9
4	Private R	20/1	99/1	1%	23.4	6th	19.9
1	Afortunad	3/1	Scratched				
5	Moonshadow	15/1	18/1	5%	44.5	5th	10.0
6	Lord Abou	6/1	9/1	10%	19.2	12th	10.3
7	Shake the	5/1	7/1	12%	4.8	Won	10.0
8	Source	10/1	18/1	5%	4.0	3rd	10.0
9	Jimmy O	12/1	40/1	2%	8.2	10th	19.4
10	Wise Talk	6/1	7/2	23%	7.4	7th	6.8
11	Steves Su	20/1	65/1	2%	55.3	9th	10.3
12	Fines Cre	6/1	22/1	4%	12.9	4th	12.5
1A	Classy E.	3/1	15/1	6%	21.5	11th	14.8
13	Stong	5/1	Scratched				
14	Speed Hun	3/1	5/2	29%	3.1	2nd	5.6
15	Fabulous	8/1	Scratched				

The MLO maker obviously had his hands full with this race from the start. After the scratches came in the morning line was a mess because the better half of the coupled entry (#1) was removed, but the line was still showing the 1A as the 3/1 co-favorite.

#2 Cozy Man 7/2 Scratched

One of the early favorites scratched and puts the MLO into flux and complicates paper handicapping.

#3 Love Less 10/1

MLO was 10/1, but the KLine 65/1 !! The public bet the horse to 12/1 and it finished 8th. Why the huge discrepancy between the MLO and the KLine? The KLine used the (K) rating, rank, field size and gaps between the other horses to determine that this runner had a less than 2% shot of winning. This prediction by the KLine seems like it was 'going out on a limb' – but at least in this instance, it proved correct.

Continued on page 8

Handicapping with HTR2
KLine -- Horse by Horse

#4 Private R.. 20/1

Here's a good example of the MLO "ballpark" lumping of the low probability horses at 20/1 and the VBet badly overstating the chances of such as horse (19.9). The KLine lists this horse at 99/1, meaning there is a 1% chance that this entrant will win. Does that mean the 99/1 types will never win? No, 1% means they will win about one in a hundred. Just be sure the payoff justifies a wager on them. The actual final tote odds on this horse were 23/1 - a terrible underlay according to the KLine - yet a fair value play if using the MLO or older VBet? --no way, trust the KLine on these.

#1 Afortuned 3/1 Scratched

Here we have the key half of the coupled entry scratched and now the MLO on the remaining runner is absurd at 3/1. The KLine judges each part of a coupled entry separately to avoid this common problem. More later on this interesting situation that often throws the public off and can be a good opportunity.

#5 Moonshadow 15/1

Here is a case where the MLO and the KLine actually agreed. Yet the public ignored this horse and it went off at 44/1. Is this good value? Absolutely - but keep in mind the 5% probability of winning according to the KLine means you will probably tear up a lot of tickets before one of these pops for you.

#6 Lord Abou.... 6/1

This horse's morning line apparently did not fool either the KLine (9/1) or the public (19/1) and the horse finished last.

#7 Shake the.... 5/1

KLine differed slightly with the MLO and listed this one at 7/1. The public thought the horse was a bit better than that and they were right. The horse won and paid \$11.80. Was this winner fair value? Even though the horse won the race, it appeared to be a mild underlay. You can disagree with this considering the horse did win, but bets like this one are the reason why more than 90% of the public will eventually lose money at the races, as most winners do not pay more than their actual chances of winning.

#8 Source 10/1

KLine predicted 18/1 on this while the VBet concurred with the MLO at 10/1. Who is right? Certainly not the public that bet this horse down to 4/1 and a terrible wager no matter how you look at it.

#9 Jimmy O.... 12/1

Here is another horse where the KLine went completely over the head of all the other odds and made this horse a near-fatal 40/1 shot while the public bet it all the way down to 8/1 and tossed their money to the wind as the horse ran up the track.

#10 Wise Talk 6/1

Here is a rare case where the KLine low-balled the MLO (6/1) and the public (7/1) and listed this horse as a great shot at 23% and 7/2 odds. It finished 7th. Remember that 23% probability means a 77% chance that the horse will lose. But the odds were apparently an overlay on this one.

#11 Steve's Su 20/1

KLine gives him the boot at 65/1 and the public was in agreement (55/1) - horse finished 9th.

#12 Fines Cre... 6/1

Another one where the KLine completely disagrees with the MLO and places the horse at 22/1. The public and the VBet were in agreement though at 12/1. Conflicting numbers and the horse finished 4th.

Handicapping with HTR2
KLine -- Horse by Horse

#1A Classy E. 3/1

The remaining half of the coupled entry with a morning line now completely distorted at 3/1. The KLine gave the horse a 6% of winning (15/1) and so did the VBet. The public however did not like the horse and it was sent off at more than 20/1 and finished 11th. This is a good example of the self-adjusting KLine reacting to a scratch and setting the line more realistically. A bettor that was playing ahead to this race in the pick3, might have been thrown by that 3/1 MLO on the leftover half of the entry and used the horse on the ticket assuming the MLO was giving him a key contender. A serious error that won't happen with the KLine after the #1 is scratched out.

#13 Stong 5/1 Scratched

Another low MLO scratch that confuses the race.

#14 Speed Run 3/1

The KLine made this runner the favorite at 5/2 (29% chance of winning) and the public likewise bet him to the chalk at 3/1. The horse finished second. Notice the VBet way off on this one at more than 5/1, which is typical of lower odds horses with the VBet – often badly underestimating them.

#15 Fabulous... 8/1 Scratched

Another scratch from a large original field. Serious handicapping of a race such as this ahead of the scratches can be frustrating and futile. That's why high-tech handicappers have the advantage in a race where confusion and distraction reign.

Summary

This race was more difficult than most for odds assessment, even after the fact. The MLO was obviously a mess with several key scratches and could not be trusted. The KLine was able to re-organize itself after the scratches (self-adjusting) and give us a better estimate of the real contenders and possible value plays.

Is the KLine infallible? No way, and we'll discuss situations that you need to be aware of when it is most vulnerable. But among the highest (20/1 and up) and lowest (5/2 or less) lines, I can firmly report that the KLine is precise at targeting those projections. Interesting that this is the exact opposite of the older VBet where the center and median odds were excellent, but the low and high were way off. For most horseplayers though, the 'bookends' are of the most interest when handicapping a race. The KLine win probabilities are accurate at all levels, but the variance in win rates is greater with horses between 4/1 and 10/1. To illustrate that last sentence regarding "variance" let's look at three example KLine odds →

KLine (6/5, 48% probability) = the low odds KLines at 6/5 or less will go forward and win about 50% of their races and the public betting will likely be right around this number with little variance, except that many will go lower in the end after the 'simulcast dump'. True probability ranges 45% - 55%.

KLine (50/1, 2% probability) = actual chances for a win are 1.5% - 3%. Won't find many winners among these that pay better than \$100 (fair value) though. The public tends to over bet almost all low probability horses. Suppose you cash a ticket on a 50/1 KLine but it pays \$35 (16/1). Have you succeeded in outsmarting the KLine? Maybe, but typically a win on one of those means you were lucky, but drastically underpaid. If you finally get lucky on a horse with such a small chance of success, at least get a fair price.

KLine (6/1, 13% probability). Going forward these runners will win about 12-15% of their future races. However, the volatility spread is much higher than with the 6/5 or the 50/1 discussed above. This means that an individual horse at 6/1 KLine will have an actual probability ranging from 10% to 17%, yet a large sample will cluster toward the 13% average in the long run for all such horses. The probability variance is greater for a single instance for horses in middle odds ranges than those at the high and low ends.

Handicapping with HTR2
KLine -- Weaknesses

- First Time Starters are undoubtedly the 'Achilles heal' with the KLine and you should be acutely aware of this when handicapping maiden races. The problem is obvious – lack of substantial information to create precision probability. Many first time starters even fool the trainer and owner with a surprise display of speed, agility or guts in their debut. No one can know exactly how a youngster will respond to the pressure of racing or be sure of the amount of talent. But we do know a few things that are predictable: **1)** very rare to see a FTS win at distance beyond 6.0f and especially at a route. Grass is an exception. **2)** Trainers rarely make a mistake when debuting a horse in a maiden claimer. If a young thoroughbred displays a solid hint of ability they will not risk it for a claim. This does not mean FTS never win a Mcl race, but it usually only happens when the other horses are extremely slow. **3)** Pedigree, Jockey and Trainer stats give us reasonable predictability for debuting horses, but they can also be far off the mark. **4)** HTR2's workout rating is just about the only clue to uncovering longshot FTS. Remember that the Wk rating is not part of the (K), so upgrade any FTS with a Wk > 80. Combining the Wk rating with a strong PED and/or TRN rating is a big bonus, but the odds will drop on those.
- Maiden races in general can throw the KLine off a bit. The more race experience the maiden field has as whole, the more likely the KLine will get it right. But if the field is full of FTS and lightly raced types, the KLine can be less accurate. But this is actually rare and tests reveal that the probabilities and resulting KLine for maidens are only slightly less predictive than other types of races. A test for races that have a higher percentage of unknowns or FTS is probably needed.
- Turf races that feature entrants from foreign countries or several horses with long layoffs. One of the best assets of the (K) is how it strongly weaves the trainer into the mix for all horses, so the KLine won't miss too many of these. But a highly regarded classy shipper from Europe without any races in North America and perhaps an unknown trainer can throw off the KLine. Same goes for a race where several of the runners have had long layoffs and now return in a grass route.
- Turf races, especially turf sprints in which most of the entrants are coming from a mixed bag of dirt races, layoffs, sprints and routes. These are complicated races to assess for anyone. Bottom line is the greater the unknown elements – the more difficult it is to figure the race accurately.

Key issue to remember regarding the above scenarios – the Wk rating.

A strong HTR2 workout rating (Wk) should upgrade your opinion of almost any horse that has an unknown quality to it. This includes FTS, 2nd and 3rd time starters, equipment changers, recent claim or acquisition by a new barn (especially if a 'super trainer'), layoffs and freshened runners. Quality foreign shippers from Europe and elsewhere have incomplete data and rarely show strong Wk patterns. We need to consider the connections and pedigree with great scrutiny and realize the KLine can't recognize real ability without some performance information from a North American race.

The Wk is not part of the (K) computation. So peruse those horses ranked 1-2 Wk or with ratings > 80 (particularly those with Wk > 85) and make a mental adjustment to the KLine in these instances. It is not necessary to downgrade horses with Wk < 75 as it could be due to missing or incorrect workout data.

Why not include the Wk into the (K) formula, and thus the KLine for greater accuracy? The Wk rating was added to HTR2 in 2003. The (K) was already a well-established figure in the software. It would be foolish to immediately insert it and tinker with a (K) rating that has proven so consistent and been thoroughly researched. We know that strong Wk scores improve the statistics on the (K) as a whole, but that is different than trying to incorporate every Wk score into the (K).

*Handicapping with HTR2***KLine -- Strengths / Favorites / Longshots / Tournament Play****False Favorites, Underlays and Bet Downs**

Most horseplayers lose in the long haul because they are wagering on runners with payoffs that are less than the horse's realistic chances of success. The majority of winning horses, particularly favorites, are underlays (the odds are lower than the probability of winning). But unlike the previous VBet, which almost never gave the nod to the chalk – the KLine will find value among the favorites from time to time. As mentioned before, the probability ratings on horses listed with KLine 5/2 or less are very precise and you can have firm confidence in those projections and know exactly when to bet on or against them.

Most importantly, the KLine will tell you at a glance just how strong the top-2 favorite chances really are. You'll know whether you should try to beat them or just accept the likely chalky outcome and use them in all your exotics. Often the second choice will be a mild overlay if they plunge too heavily on the favorite.

When the favorite is bet heavily and far below its KLine – what to make of it? There are going to be some instances where insiders have heavily bet the horse due to knowledge beyond our data realm. Msw races are the most likely scenario for that. The majority of time however, they are bad bets. The public is willing to accept odds much lower than the favorite's realistic chance of winning the race. It also means there must be a corresponding rise in the odds of some of the other contenders and that's where we should be looking for value.

Longshots and Tournament Plays

The issue for the longshot and tournament players is preservation of capital or holding onto 'bullets' in the contest. Passing races is critical. The KLine is an important tool and you'll know exactly when the odds are in your favor now. Those horses with KLine above 35/1 have less than 3% chance of winning. No matter which factors are pushing the horse, such as Fr1, Wk, \$\$, etc, recognize that you are probably going to lose on them. They are good bets only when the odds exceed that high KLine, but that is rare. Yes, I'm aware that impossible longshots do win – about 1-2% of the time. But 98% of the time you will have passed correctly on them and that will more than make up for all the stabbing you did on these horses in the past. It's a game of percentages – put them in your favor – reduce your risk.

Tournament Awareness

What you'll start to notice on those 40/1, 60/1, 80/1 and 99/1 KLine is that the actual odds are often under 20/1 and a terrible value, much worse than betting odds-on favorites. Pass on them and watch as many other players in the tournament waste bullets on those. Many of these horses have decent early speed which attracts some action. As every HTR subscriber is aware our greatest strength is with velocity analysis and early speed. When a highly ranked Fr1 or E/P runner is shown with KLine > 35/1, there is definitely a big problem with the horse that the (K) has picked up – possibly extreme weakness in the final fraction (rule of 50.00) or a trainer with a lot of zeros.

On the other hand, when the situation is desperate (you have zero points in the contest) there is no reason to wait for an 8/1 overlay or worry about value. You need a lightning bolt right now! *Hail Mary* plays can be found with the KLine too. Locate horses in the 15/1 – 30/1 KLine range that have drifted up past 35/1 odds on the tote and take a shot. At least you have some reasonable percentage advantage and are not totally stabbing in the dark.

Stop the bleeding with your indecision and lack of confidence and use the KLine as your partner and avoid bad longshot bets from now on. The key to making money with long priced horses is the ability to consistently pass up losing races.

*Handicapping with HTR2***KLine -- More on Tournament Play / Coupled Entries**

Tournament players have to allow a bit more latitude with value and odds observations because they need to win right now. Long run ROI has no meaning. The 'sweet spot' is to look for overlays among horses with at least a 10% probability of winning (KLine 9/1 or less) showing odds that are 50% or more higher than the KLine. Here's a sample set of possible observations at the tournament →

<u>KLine</u>	<u>ActualOdds</u>	<u>Comment</u>
4/1	5/1	Tepid but playable for adding points
4/1	7/1	Excellent overlay
4/1	12/1	Run to the window!
7/1	6/1	Pass - underlay
7/1	9/1	Not bad - modest value
7/1	17/1	These are the gems you wait for
15/1	8/1	Horrible bet
15/1	14/1	Ok if you need a longshot stab right now.
15/1	35/1	This is what you want for a <i>Hail Mary</i> play.

When faced with mandatory races, you may have to accept the 7/1 KLine going off at 6/1 or the 15/1 KLine that is 14/1 on the board. These are not good win bets – but if they represent the closest available intersection between a fair probability of winning and getting some needed points – you have to work with those if you can't pass the race. Same scenario is present when you have saved a final bullet for the last race of the contest day.

When multiple tracks are in play during the contest you have a major advantage over the other players using paper methods. They will typically be waiting for horses they have marked the night before and hoping to get some decent odds. Scratches are their worst nightmare. The more confusing the race with a large field and lots of scratches the more likely the public will make mistakes. The KLine automatically adjusts itself when you pull the scratches and there is really no time wasted in re-evaluation.

Coupled Entries

You may have noticed that the KLine makes a separate probability and odds line for each part of the coupled entry. This has to be done so that in case of a scratch, the other half of the entry will be correctly evaluated. We don't want to emulate the error in the MLO when a scratch to one of the coupled entry-mates occurs. There are two ways you can handle this situation when two or more coupled horses run in the same race. The fast method is to accept the lowest KLine among the coupled entrants as your acceptable value line with some awareness that your chances are actually a bit better because you get another horse thrown in. For the math inclined you can add up the *WinP* (the associated win probability made by the K-rating) on the coupled horses and reset the KLine on your own. For example, suppose each half of a two horse coupled entry had a $WinP = 5\%$. The sum probability is now 10% and you have converted two 20/1 shots into a fair 10/1 opportunity. We'll discuss the *WinP* in detail on the next two pages.

I have been asked over the years if I use the Morning Line to help create the (K) rating. Anyone looking at the KLine vs. Morning Line disparity in most races will dismiss that notion immediately. If you peruse the KLine vs. Morning Line in races with a coupled entry, you will often find an incredible difference. A MLO of 4/1 on the coupled entry will often have a KLine with something like 12/1 and 40/1 for the pair. Notice how the MLO maker will lowball the odds when there are two horses coupled. You'll understand these situations much better now and can take advantage of the gullible public that loves to bet on the apparent "two for one" bargain.

Handicapping with HTR2
KLine -- The Wagering Screen

There is new large button on the bottom-left of the HTR2 main screen – [Wagering]. This screen has several interesting features beyond the KLine. It is not a handicapping screen as the only factors listed are the (K) and its associated probabilities and lines, the MLO and the older VBet and Prob% for comparison. Before you use the WAGERING screen, it is suggested you download both the Result Files and the Chart Files for the races you have in the current folder. First we'll look at each item on the screen one by one →

The horses are sorted in post-position order. I'm changing this to Program Number sort so that coupled entries will be listed next to each other on the screen.

Pn – Program Number

- marker for horses chosen by pressing <enter> or dbl-clicking on them. For use in the Dutch and Money Line displays (see below).

PP Horse MLO - Post-position, Horse Name and official track Morning Line Odds.

(K) – r --- The (K) rating and rank.

KLine – The KLine odds in tote format.

WinP – Probability – based on the (K) – that the horse will win the race.

PlaP – Probability – based on the (K) – that the horse will finish exactly second.

ShoP – Probability – based on the (K) – that the horse will finish exactly third

Dutch – Selected by pressing <Enter> or dbl-clicking on two or more of the horses. The number listed will be the amount of money needed to bet to realize a gross \$100. Another display will pop up listing the amount of profit (based on \$100 bankroll) that will be realized. This is a “static dutch” based on the KLine. Short-term results are volatile due to odds changes. Dutching is a completely lost art in the world of thoroughbred racing in this era due the near impossibility of knowing the actual odds before the bet can be made.

Money – Select two or more horses by pressing <Enter> or dbl-clicking on them. Now a money-line is displayed that can be used to find value with ‘match-up’ wagers at various race-books or on-line wagering services. You need to have an understanding of money-lines from sports wagering to use this feature.

Prob-VBet The previous HTR version of the probability and value line are shown so you can compare it with the KLine.

KLine - here shown in actual decimal format and not rounded.

(Items shown below are displayed when the Results and/or Charts are available)

Tote – The final tote odds for each horse in the race shown in decimal format if the Chart is downloaded.

Fin - Actual finish position for each horse in the race. If the Chart file has not been downloaded the screen will display the 1-2-3 finishers and final odds for the winner only.

It is strongly suggested that you download Racefile + Result File + Chart File and view races individually in the WAGERING screen. Notice how the MLO, KLine and final odds differ. Most importantly, become aware of how rare it is to find true value on most winners due to the hefty takeouts.

Handicapping with HTR2
KLine – Value / Wagering Screen / Exotic Wagers

You can utilize the Wagering Screen for all types of wagering decisions including exotic bets.

Here is a sample set of horses we'll use to construct our exacta and trifecta tickets and discuss the overall effect of the Wagering Screen.

Horse	MLO	WinP	PlaP	ShoP	KLine	ToteOdds
A	7/2	16	19	19	5/1	5.9
B	15/1	04	06	10	24/1	38.2
C	8/5	36	23	16	9/5	0.8
D	5/1	13	17	17	6/1	11.3
E	9/2	11	17	17	8/1	6.2
F	3/1	19	20	20	9/2	2.8

HorseA

The KLine and the public (tote odds) agreed on this horse's chances (about 5/1 – with a 16% to win). Interesting that MLO was lower at 7/2 so the horse will attract plenty of attention in the pick-x wagers. Notice that the Place and Show probabilities are among the highest in this field.

HorseB

This horse has a scant 4% shot at winning. The MLO was typically low for this type of horse, but the public let the horse go off far over its actual chances at 38/1 compared to a KLine of 24/1. HorseB is a decent stab for a "hail mary" win/place wager, but certainly a must use on the bottom of the trifecta with a 10% chance of hitting the board.

HorseC

The MLO favorite has 36% chance of winning and a value line at 9/5 according to the (K). The public hammered the favorite down to 4/5 making it a big underlay. Should we try to beat the horse? Sure, if there are other possibilities that have both a good chance to win combined with overlay odds. Often this will happen when the chalk has been over-bet.

HorseD

Here's a horse that seems to have ignored by the public in their zest for the favorite. The KLine and the MLO were 5/1 and 6/1 respectively, yet the tote odds are 11/1, nearly double the expectation (13% chance to win). The PlaP = 18% and the ShoP = 19%, an excellent opportunity in the exacta and tri.

An important digression here – a big overlay on the KLine (value bet) will generally produce higher than expected returns in the exotics as well. It is not necessary that every value bet must win the race for you to make money. Most overlays are excellent exacta and trifecta hits as well.

HorseE

Another one that the KLine does not like as much as the MLO (9/2 MLO vs. 8/1 KLine) and sets the probability at 11%. The public bet the horse to about 6/1 which is a slight underlay and not a good win bet. As good a chance as any in the exacta and tri.

HorseF

A morning line of 3/1 makes this one the second choice. The public agreed entirely, the horse went off at 5/2. The KLine set the fair price at half that expectation though (9/2 – 19%). A definite underlay all the way around. Here is one we should try and beat.

Final analysis of this race on the next page.

Handicapping with HTR2
KLine – Value / Wagering Screen / Exotic Wagers

Re: example race above

We have a standout in terms of win potential with HorseC, but its odds are far too low to gamble on. As far as the exotics, he has to be considered on top if we can find some value in the other slots. There is one possible solid win bet with HorseD as the odds are generous compared to its chances of winning. The horse is a must use in all the exotics and an excellent tournament play. The longest shot on the board (HorseB) is also a reasonable value play, but its chances of winning are highly unlikely. The other three horses have been bet below their realistic chances of winning, but certainly have percentages on their side for hitting the board.

If this race came up as a later slot for the pick3,4,6 – how should we deal with it? The tote odds are not available and we won't know who the value horses are before we have to bet the pick. Use the WinP column to add up your total chances and use the following rule of thumb in playing your tickets:

Daily Double get 75-85% coverage.

Pick3 get 70-80%.

Pick4 get 60-70%

Pick6 get 50%

You do this by adding the numbers in the WinP column. In the example race we could get 70% coverage by using HorseA (16) + HorseC (36) + HorseF (19) = 71%. But those are all the MLO favorites. The key is to mix it up so that you include some potential longshots in the mix based on factors that produce good priced winners such as early speed velocity or a strong workout rating. Compare the KLine with the MLO to find some possible value as the public tends to stack the subsequent races of the pick-X with the lowest morning line choices. With a 60-80% shot in each leg of your pick-X and some price potential, you will have an excellent chance of hitting the bet and possibly a *home run*.

Final Word on the Wagering Screen

One of the eye-opening features of using the Wagering Screen (results + charts) and observing the KLine vs. final odds, is the clear understanding that the majority of favorites and longshots are underlays (actual odds are lower than the horse's real chances of winning). In fact, most thoroughbred winners are underlays and this is why the 90% or more of all horseplayers must lose in the long run. The KLine is a very stoic and sobering piece of information as it reveals this truth race after race. The 15-20% takeout is the primary nemesis. The public also uses the chalk as a safety net and typically over-bet them.

A winning player begins the handicapping process by trying to identify good value from among those horses with a decent probability of winning (12% or more) and making a decision based on whether the odds are worthy of a gamble on the outcome. Otherwise pass the race or consider the exotics only. High probability horses, usually underlays in the win pool, are the key to linking with the lower probability value plays (such as HorseB in the example) that rarely win but can fatten the exacta or trifecta.

The good news for horserace bettors is that the pari-mutuel pools are not efficient investment markets. Many winners and 2-3 finishers are overlays and they are the key to profits. The KLine should help you pass more races and use your wagering capital on positive expectations.

Handicapping with HTR2
KLine – Final Thoughts

- The KLine is an excellent starting point for all your handicapping and immediately refines the decision making process. Start by locating the horses that can make you money (overlays).
- Don't obsess with longshot winners that defied their KLine. They are rare and usually flukes. A 50/1 KLine that wins and pays \$23 is actually a rip-off for the lucky ones that hit it. The critical association that you need to make with playing higher priced horses is to insure that they have a reasonable chance to win (10% or more) and wait for extreme value (50% and up over the KLine). Happens every day, wait for the best opportunities and realize that passing up the lowest probability horses is a part of a game plan for success. Sure, sometimes they slip through and surprise, but more than 96% of the others will lose and save you big money in the long haul.
- Lower priced horses and some K-1's will now appear to be overlays before post-time. The off-track public notices this also and usually dumps a pile of money on horses with tote odds that are hovering around 2/1. Most horses that are 9/5 or 8/5 on the board with a minute to post, end up getting hammered, so use these high probability types in your exotics as keys, not win bets.
- The "sweet spot" for the KLine is probably somewhere between 3.0 – 6.5. These horses are typically the 2nd or 3rd wagering choices and K-2,3,4. They have a 14% or better probability of winning and are the best candidates for overlay mutuels when the public over does it on the chalk.
- The Workout rating (Wk) is the key factor that will upgrade your opinion of a horse's KLine. Horses with Wk > 80 and especially those from 85-99 are going to outrun their odds in most cases. More on the Wk in this issue.
- Maiden races with multiple first time starters (FTS) are more volatile events for the KLine as the information is very limited as to their genuine ability. While we can paint a broad statistical spectrum using Trainer, Jockey and Pedigree ratings, we can't isolate individual cases where talent is unknown and ready to explode. Again, the Wk rating is your key ally here.
- Tournament players and longshot investors can play with far more confidence as they will immediately be able to pass on the horses with the extremely low chances of winning (KLine 30/1 and up or a 3% or less chance to win). Success with longshots means preserving capital (or bullets in the contest) and saving up for the best opportunities.
- Notice races where there is a definitive break in the line, such as a field with Kline: 2/1, 3/1 and then a 6/1 as the third choice. The 3rd pick is double the odds of the second. This is the classic "2-horse race" and you can isolate those two in the exacta, quinella or pick-X wagers with high confidence. A "3-horse race" is also common, for example: 2/1, 3/1, 5/1 and then breaks to 10/1 for the 4th choice. Again, the next horse is double the KLine odds of the previous. Another way to look at a "2-horse race" is when the combined WinP is > 55% or the total projection in the "3-horse race" exceeds 70%.
- Most people fail to net a profit with horse race betting. But the reason is not usually due to having bet on a bunch of losers. The problem is that the winners they do get are underlays and are not paying enough. Most players will admit as much these days – "where has all the value gone". The KLine will not let you make this mistake, pay attention and wager when the expectation is positive only.

Handicapping with HTR2
Workout Rating - Advanced Understanding

As I prepared for the seminar, I hesitated on something in my presentation. It was an analysis of the workout rating as it related to steroid usage. I use the word “related” because I cannot prove that there is drug use among trainers and am not making accusations here. The relationship has to do with my original premise on the workout rating patterns and how it is analogous to the fundamental use of steroids.

Steroids are not directly a performance enhancer for horses or humans; they can't make anyone run faster. But they are a powerful recovery accelerator. They allow the equine or human athlete to workout harder, more frequently and with increased intensity. The “tonic” effect of steroids is healthier and harder physical development and greater aggression toward physical activity. Pain is pushed into the background and workload is increased.

Steroids are a ticking time bomb for the user however. The list of dangerous long-term side effects is enormous and death from growing tumors can occur. Do athletes or their trainers concern themselves with health effects in the future? Not usually – money comes fast for winners – they worry about health issues later, if ever.

My original theory on the workout rating was to assess a three pronged pattern →

1. Workload or effort performed.
2. Recovery.
3. Follow Up.

Suppose, after a few years of inactivity, someone goes to the gym and works out like a maniac. The next morning they will be terribly muscle sore and barely able to get out of bed. A follow up workout is not possible in a day or two. This sore and injured person cannot recover and put out the same effort for awhile. More time is needed to heal.

Now picture a racehorse that works a fast 5-furlongs, one of the better works of the day. Exactly 6-days later the trainer schedules another work at the same distance and the horse goes out and repeats this excellent effort. Another 6-days and the horse does it again. Very impressive, yes? This is not a sore or injured runner; it has repeated and even improved on his initial strong effort. This is a well tuned equine athlete. The HTR2 workout rating will be high.

The HTR2 Wk rating does not concern itself with the time or quality of a single morning work. If you want that you can get it from multiple sources including our own PP's. I have tested “best of morning” and various workout grading methods for effect on win% and ROI. There is nothing there. The reason the Wk rating is a powerful prediction tool is that it identifies activity patterns with solid evidence that the horse is fit and healthy – not fast.

Does the workout rating uncover drug or steroid usage? What about legal nutritional advances that emulate steroids? All possible – but I have absolutely no proof of anything. My hypothesis is that some trainers may be using “designer cocktails”, special supplements to increase fitness that are not detectable with current drug testing. None of this would make the horse run faster, the purpose is to rapidly produce physical fitness and increase workload – recovery – positive follow up.

The workout rating is hardly a precision mathematical formula. Many locales do not enforce workout reportage and the information is not reliable. Some horses are misidentified in the early morning, other workouts are missing altogether and some are timed incorrectly. The HTR2 Wk is designed to stress only the positive patterns with the available information. Low ratings are not that meaningful.

*Handicapping with HTR2***Workout Rating - Advanced Understanding - Reminders**

Here is a summary of the workout rating point ranges and situations you will encounter →

Below 77

Probably no meaning at all and not necessarily a negative. Older horses with layoffs > 45 days should be scrutinized as to their work pattern since the layoff. 2-year-olds, especially cheaper ones, will often show Wk ratings this low, so the rank = 1,2 might be of interest. Concern perhaps if a well-bred FTS from a good barn shows a low workout number like this when several others in the field are far better.

77-79 (if rank = 1,2)

Not clear – but possibly a live pattern if the horses are young, cheap or slow and the ranking is the best in the field. Not happy with this if a maiden or FTS from a major track. Well meant young horses in Msw usually have strong work patterns.

80 – 84

Moving into positive territory the 80+ ratings are indicative of a pattern of activity that shows us that there has been a firm workload followed up by one or more strong efforts. If the work pattern comes after a 28 or more day layoff, it is likely the entire workout pattern has taken place since the last start. A classic “freshening” and a sign of health and fitness.

85-89

Definitive positive pattern apparent. A “live” horse in most cases (but not necessarily a fast enough horse that will win). Layoffs from 24 – 90 days are most interesting as the workout pattern will then have taken place during the freshening. Absolutely become aware when there has been an associated change in Trainer (claim or otherwise), Jockey, Blinkers or Lasix. These changes indicate that the good work pattern may have been due in part to the new changes. Super Trainers (rating > 400) are masters at form turnarounds.

90 - 99

Rare, but obviously an attention getter. Longshots with such a high workout rating should never be ignored. Upgrade even the 99/1 shots when you see this. Powerful indicator of a horse ready to roll.

- Can the workout rating be wrong in the positive range? Yes – sometimes you’ll see an unusually high number but find no workouts in the pp’s! Race activity is counted in-between works – but sometimes the pattern recognition goes bonkers. This will usually result in a workout rating higher than 90, so be suspicious if a cheap, slow or heavily raced runner gets a sudden Wk > 90. Check the past-performances and ignore the anomaly if there is nothing showing. The weird ones don’t usually show up in the range below 87.
- Horses that have been racing regularly since the most recent morning work may have diluted their positive pattern, but not always. The formula considers regular and vigorous race activity as part of the pattern to construct the Wk rating, but it is not as significant as workouts themselves. The fewer days you see in the LAY (layoff days) column, the more likely the Wk pattern has been woven into the general form cycle.
- On the other hand – important for ‘sheet’ players – a strong Wk rating mixed in with one or two vigorous races is a high-confidence sign of certain health (or ‘supplement’ use). These horses are the least likely to “bounce” and excellent candidates for a successful step up in class. Watch for a regular recent pattern of → [intense effort – recovery – positive follow up]. This is the signpost for race ready fitness and improvement.

Handicapping with HTR2
EPR – SOR and Related Ratings

All the ratings we are talking about in this article are derived from the ‘Quirin style’ pars, pace and speed figures. These ratings are scaled from about 80 to 115 maximum. In theory, 1-point equaled about 1-length and one class level difference. There are several good books which cover the topic of using this method of congruent figures for race and performance analysis. The original is William Quirin’s “Winning at the Races ...”. Tom Brohamer covered the topic towards the end of his “Modern Pace Handicapping”. James Quinn wrote an excellent guide to using these figs in his book: “Figure Handicapping”. You can get all of these from Amazon.com or the Gamblers Book Club (my local library has all three). There are several sources for similar figures and other books are out there on the topic. Many past HTR newsletter covered it as well.

EPR = Estimated Performance Rating. This takes the place of the previous “Par”. Pars or class level quantification are difficult to figure in the 21st century. There are a variety of reasons for this including purse inflation due to slots and state-bred bonuses, as well as the unusually creative race-conditions written by the racing secretary to get larger fields on the track and keep horses from shipping out. The EPR is found in the header of every report in HTR2 and is the first indication of the strength of the field. Here is a sample scale for older male horses at major tracks →

<u>EPR</u>	<u>Class Level</u>
115	Champion Grade I - million dollar purses.
110	High class stakes quality.
105	Good allowance stock. High claimers. Best Msw races.
100	Decent claiming around 10k. Weaker Msw. Top Mcl.
095	Lowest claiming range. Average to weak Mcl.
090	Cheapest maiden claiming fields.

This chart above is just a sample for older males at a track such as CD or DMR. The lower half of the scale (below 100) contain the vast majority of thoroughbreds racing at medium to small tracks, claimers under \$10,000, females and younger horses (age 2-3). Keep in mind the number = 100. This is the dividing line between a quality thoroughbred that can earn its way and all the others that struggle to keep hay in the barn. A thoroughbred that can compete well with race EPR \geq 100 will be one of the minority that makes a decent profit during the racing year. The average amount of earnings needed to break even for most horses in training ranges from \$15,000 - \$30,000 per year. Looking at the money box for many cheap thoroughbreds – how does the barn keep them in training? The answer to that is that they have to cash a bet once in awhile to stay afloat or have owners that don’t mind throwing their money out.

The EPR is your first indication of the quality of the race and what will be necessary to win. We then compare the PAC – PER – SOR and Pscan figures to determine this. The EPR is not a median or average range for achievement. It is a logical estimate of required effort needed to win the race. For many entrants, sometimes all of them, this number seems too high. But keep in mind that my studies were definitive and “water will seek its level”. If all the horses appear too weak for the EPR, this is usually a maiden race or a race with 2yr-3yr. Someone will emerge and rise up towards the EPR in the end.

SOR (strength of race)

These figures are similar to the EPR except they are found in the past-performance lines. They give us realistic appraisal of the quality of the previous races. There is no judgment considered for the individual horse in question – the SOR rates the quality of the overall past races only. You will find the SOR in the HTR2 past-performance screens (PP1, PP2, FIG1, FIG2, PPQ) in the section on the left with the class description. For example: **098 3up C10** This was a 10k claimer for older males that was rated 098 in quality. Class changes can be easily assessed by comparing the SOR from the last start to today’s EPR.

Handicapping with HTR2
EPR – SOR and Related Ratings

Down in Class (SOR from the last start is 2 or more levels higher than today's EPR)

A horse with early speed that ran poorly against much tougher competition may show considerable improvement today. This is because the drop in class is usually associated with a softer and less aggressive pace scenario. Early speed types that face easier competition in the early going are the most likely to benefit from a drop in company.

Up in Class (EPR today is 2 or more levels higher than the horse's last SOR)

When faced with a stiff rise in class, such as a graduating maiden or Nw allowance winner moving up, the opposite is true. The horses in today's field listed with a stronger EPR are more intense and aggressive at establishing early position and will fight to hold it longer. Be aware of the SOR <> EPR relationship after a horse wins and steps up. The good pace and speed figures earned in the win will not help the horse if it is crushed early by a savage pace scenario from its new opponents.

PAC – PER – Pscan ratings comparable to SOR and EPR

There are three performance analysis factors found in HTR2 that rate the pace (PAC), overall performance and final race speed (PER), and project the likely performance today (Pscan). All of these numbers are congruent and comparable to the SOR and EPR.

PAC = rates each horse's effort to the 2nd call.

The [PPQ] screen contains the 10-race history of the PAC on the far right (the first of two numbers). Does the horse have enough early speed to keep up with today's likely pace scenario? Compare the pace numbers to the EPR – are they competitive? If not, then the horse must be a late runner to compete and you need to check the PER. Those horses with PAC figures higher than today's EPR are in good shape.

PER = rates the horse's overall effort similar to a speed figure.

This number is found on the far right in the [PPQ] past performance lines and is the second of the two figures listed. A horse that has not run a PER figure within 5 points of today's EPR in the past is going to be a longshot to win the race and will have to mount huge improvement or hope the rest of the runners wither. When the entire field appears well below the listed EPR, then the PAC numbers need to be scrutinized or look for possible improvement from young horses with new trainers, strong Wk ratings, equipment changes, lasix, a new jockey, recent gelding, etc. Cheaper horses and bad maiden claimers are better assessed with the PAC rating as they do not possess stamina or late speed. Classier horses (EPR > 100) have more consistent PER ratings that will be in line with today's EPR.

Pscan – an estimate of today's PER

The Pscan (past-performance scan) seeks out the last 4 races for each horse and attempts to estimate the likely PER. The Pscan is a viable contender selector and some HTR users prefer it over the (K) because the Pscan can be viewed as a differential from the top rank, rather than a pure ranking 1-2-3. You can find the Pscan on the [TLC] screen top section on the right. Those horses, such as FTS and other lightly raced types, are shown with an estimated Pscan based on any available predictive factors such as pedigree or trainer. The differential (PDif) can be used to separate contenders from also-rans. The typical number is about -5.0 or worse from the top for eliminations.

Whole-number time ratings such as the PAC- PER are the backbone method of handicapping for most horseplayers. Due to this mass acceptance, they suffer from overuse and the ROI are poor when tested in any broad sample. The same is true for all good speed figures on the market -- results are lousy if used mechanically. Certainly pace figures are not as widely understood by the public and have the greater potential; yet not the explosive results we get with the more complex velocity numbers. Best use of the figures is to predict improvement or decline (*form-cycle analysis*) and understand genuine class changes.

Handicapping with HTR2
Research with the Robot

The HTR2 test screen is now called the “Robot”. A robot differs from a simple tester or database software in that it must carry out a set of instructions while performing actual physical tasks. In this case the physical task is locating and opening a file from the criteria set on the screen that matches the user parameters. The robot then records and tallies the results and then closes file and moves on to the next one. At the end, after testing all applicable races, it formats and sorts an output screen.

The robot is a godsend for those HTR users that cannot or will not learn how to use the HTR2 Export combined with MS-Access for their research. It is slower than a database due to the extra steps it must take each time you run the test and the filters are pre-set and cannot be changed. The speed problem is not really an issue with modern computers though. I can test more than 1200 races a minute on a modest Pentium machine. Unlike Access or other db apps, the robot is very user-friendly and it’s relatively simple to perform a test. For the majority of users, the statistics presented are acceptable knowledge. Those that want more sophistication or flexibility will have to learn Access.

Here are the 3 basic steps you need to take to use and run the robot and obtain test results →

1. Download two weeks or more Racefiles + Result Files for the tracks you want. The HTR subscriber download site contains the last 6-weeks of data for any track. (We cannot sell or give you older data per contract with Equibase). The test files should be placed in your c:\htr folder as usual. If you know how to work with folders and files on your computer, you can devise other locations to run your tests. You may run the robot from any folder on your computer.
2. Process the files in the usual manner by merely running HTR2 after download. Before you click the “eyeball” to enter the main screen, DO NOT check-off an individual date to load. The robot requires access to all your files; let all your races load from the start.
3. After you enter the main HTR2 screen, click the ROBOT button at the bottom and enter the test facility. There are about a hundred check-boxes on the screen that will filter the data for you. At the top you’ll see familiar items for distance and surface and other race specific information. These are the RACE FILTERS that you will set to match the type of races you want to research. For example, suppose you set the surface to filter = “grass” (only). While testing, the robot will encounter dirt races, but they are ignored and not included in the statistics. The other boxes are HORSE FILTERS that are used to test specific criteria and ignore all other horses. We’ll run an example in a moment.
4. The robot interface has two main buttons that start the test or check for spot plays. The button used for testing the data is START THE TEST. Click it after you have setup some criteria with the various filters. The other button is GET MY PLAYS and I’ll explain that in a minute. After clicking TEST NOW the robot begins the testing process and when finished it will display a report with lots of information. Prior to running any test, you must set the Track selection box on the right to ALL or pick one specific track from the list. The list shows you all the tracks that are available to be tested.

Now that we know the initial process for testing let’s set up the robot step by step. I’m going to run a test that I hope will produce positive results and can be used as a regular spot-play at all tracks. If my test shows a profitable ROI – I can pluck these daily plays by using GET MY PLAYS each day with the same criteria.

Handicapping with HTR2
Research with the Robot – Sample Test

Listed below are the filter items I'll use in this test. If you want, load the robot screen and work right along with this text.

- Start by clicking the “Test ALL” (tracks) box at the bottom of the track listing. This allows any track to be used in the test.
- Also check-off the “Test Last 30-days Only” box. I want to see recent stats only. This box stops the test process after it encounters races more than 30-days old (from current date). You'll find this item in red underneath the main buttons near the top – center.
- Non maidens. I don't want maidens in this test so I uncheck the boxes for Mdn Claiming and Msw. Do this by clicking those boxes so the check-mark is gone.
- Older horses. I'm removing races restricted to 2yr and 3yr by un-checking those boxes on my screen. This leaves a check-mark only in the “3up/4up” box.
- Purse 10k+. This eliminates cheaper tracks with purse levels below \$10,000. In order to isolate this factor – I un-check the box for “Purse < 10k”, meaning I do not want those races with purse below \$10,000 involved in my output.
- Vi > 32 only. There are four boxes for the Vi criteria listed on the left. Uncheck the first two, and that will leave only the “Vi 33-37” and “Vi 38-50” left with check-marks. Races with lower Vi are more volatile. I'm looking for a high-percentage play.
- K = 1. I want the top rated (K) horse only in this test. The box below the Vi section has this option.
- Fast Dirt Races Only. I will ignore races on wet or turf surfaces by checking the “Dirt Fast” box. This restricts my test to races officially listed as “fast” on dirt.
- Sprints Only. There are multiple check-boxes for distance selection. If we want to test the sprints only, then we will un-check all the boxes for distances of 8.0f and greater and leave only the check-marks for races between 4.5 – 7.5f.

I have to admit a boner here. The distance boxes do not include any criteria for the “1mile 40yard” or “1mile 70 yard” distances. I should have lumped these in with the 1mile (8.0f) distance option. These races are therefore not counted with any of the distance test criteria. I will fix it for the next upgrade.

- Early speed. I have already checked off that I want K-1 horses only in this test. To supplement that I also look into the filter section and check-off “EP = 1”. This will restrict the tester to finding horses that has rank = 1 with E/P velocity. All other horses are ignored, even if they are K = 1. Remember that any time you set filters in the bottom section, ALL of those criteria must be met. If you check off too many items, your sample size may drop to zero.
- My final option is to check the Layoff < 90. This will cause the tester to ignore horses with layoffs of more than 3 months or 90 days.

I'm all ready to run my test now so I click the “Start the Test” button and wait for the results. Your results may differ from my sample – this was a contrived test and my track mix is not representative.

Handicapping with HTR2
Test Results Analysis and Spot Plays with the Robot

When the test is finished the result screen will pop up. Here is the top line of my test result and the column headers on the test result screen and an explanation for each –

ITEM	Plays	Wins	WN%	W-ROI	WP%	Long-%W-High	P-ROI
MyPlay	00402	0135	34%	1.05	58%	0007 05 \$22	0.91

Item Various factors and criteria to separate the data. The first item listed is “My Play” it tells you how the test performed on all horses in your sample. The remainder of the list is broken down by specific HTR factors such as K 1-9 to separate qualifying horses.

Plays The total number of horses tested. In my test results, the **My Play** “Plays” = 402.

Wins The number of horses that won their races in the test. We got 135 winners in the sample play.

WN% Percentage of winners from the sample. One of two key factors in your test outcome.

W-ROI This is the 2nd key factor in the output. ROI is the return on investment for betting \$1 on each of the qualifying horses from the test sample. In our example test, we had 402 plays (\$402 bet) and the return was \$1.05. This means 5% return on the dollar.

WP% Win + Place percentage. The percentage of horses that finished 1st or 2nd combined.

Long-%-High The number of winners in our sample that paid above \$15 to win. There were just 7 of these in my test sample and that translates to 5% longshot winners (7 / 135). The “High” is the highest priced winner from the test. In this case we caught a \$22 winner as our top price.

P-ROI Computes the ROI if betting \$1 to Place on each qualifying test horse that finished 1st or 2nd.

Daily Spot Plays

I'm happy with this test result above and would like to find horses that match my criteria each day. To do this I set up the exact parameters and check-boxes from page-23 and click the GET MY PLAYS button. My test result screen now shows me a list of horses (sorted by track and race) that qualify. I can do this every day and get an instant list of plays to bet. I can run as many spot plays as I desire.

Note - the red “Custom” buttons at the bottom of the screen are inactive. They will be used later to save and retrieve your spot play criteria. I'll have those ready in a future update to HTR2.

Final Thoughts

Dig in and experiment with the infinite number of possibilities on the robot screen. The sky is the limit. Many researchers wonder what sample size or win% is logical for expecting the results to carry forward. This is the critical question you need discover. A sample of 9 winners from 10 races in a very specific test at a single track under heavily filtered environment is not going to continue forever! Yet the results are fascinating and a play that strong should be bet until it starts to lose. Yet a low win percentage result (under 15%) that yields a high ROI is dependent on a few bombs and probably won't repeat either.

Remember that all test results are back-fitted data. If you have a huge sample, the stats might be too old to count on with current races. A small positive sample could be a fluke or data spike that won't repeat in the long run. As you work with robot and watch outcomes day to day you'll develop great intuition about test results. In any case, it's a hell of a lot of fun to test data so the learning curve is fast.

Systems and Angles
The Bad Jockey

I don't like characterizing the low percentage riders as "Bad" jockeys. These poor guys suffer so much to get a winner. But we need catch phrase like "Super Trainer" to describe the factor quickly. Nothing personal and we realize that jockeys live off their reputation and "bad jockeys" tend to end up on "bad horses". Perhaps we can prove in our tests that low rated jocks are just as effective when getting a live mount. The definition of a "bad jockey" is easy. Jky rating < 200.

The jockey rating (Jky) is found throughout the HTR2 program. It is based on a 365-day snapshot and updated daily. The jocks rate of success with the individual horse and trainer are included in the rating, which accounts for why it changes from race to race.

Let's look at overall results when the Jky < 200 and then some highlights when combined with other factors. I pulled this right off the robot; you can do the same test by checking the filter *Jockey < 200*.

ITEM	Plays	Wins	WN%	W-ROI	WP%	Long-%W-High	P-ROI
MyPlay	163631	11206	07%	0.68	16%	4616 38 \$256	0.46

Results are pretty dismal overall. On the other hand, there may be multiple plays per race and that dilutes the results. Let's break it down by factors that would serve to isolate one jockey per race.

K-1	09624	2486	26%	0.86	45%	0094 04 \$45
K-2	12223	2083	17%	0.82	34%	0259 12 \$81
K-3	14364	1785	12%	0.78	28%	0450 25 \$97
K-4	16651	1521	09%	0.73	22%	0652 43 \$91
K110	01421	0499	35%	0.88	58%	0002 00 \$20
FR1-1	16452	2055	12%	0.82	25%	0361 18 \$177
E/P-1	15652	2260	14%	0.83	28%	0294 13 \$177
A/P-1	14129	2532	18%	0.87	33%	0229 09 \$120
A/P-2	15049	1983	13%	0.80	28%	0285 14 \$131

Analysis

There is a definite drop in the win rate among the stronger (K) factors but the ROI does not suffer terribly due to longer prices with low-rated jocks. The Fr1 results is the most interesting. Overall results with Fr1 are typically about 19% with an ROI around 0.90. The win rate for Fr1 is way down with the "bad jockeys" and the ROI is surprisingly poor. Is there some proof here that the "bad jockeys" have problems with front running horses or maybe they can't hold it together on a weakening early speed type.

The A/P and the K110 do not show a drop with the ROI, although the win percentage drops. There is a lot more to be learned about these jocks. Try testing them on turf or with route races. My guess is that low rated riders will be more reliable in common dirt sprints. Might be interesting to combine them with super trainers or with the jockey switch option as well.

Late News

There will be no newsletter in early September. This is a double issue combining August and September editions together. I will be busy with family vacation through the end of August. We will also be distracted with our annual summer tournament taking place Aug 27- Sept 6 as well. Next edition will be out in October and we'll continue the month by month production. I'll be out of the office from Aug 14-26.

Speaking of the summer tournament -- it is fast approaching. The HTR Summer Challenge. The contest dates are Friday August 27 – Monday Sept 6 (Labor Day). You'll be making \$2 Win-Place-Show mythical bets on a minimum of 60 races from 5 tracks. For complete rules and how to sign up please check the HTR discussion board: "HTR Summer Challenge" forum.

For the latest on-site tournament results and commentary, check out the HTR discussion board "Tournaments and Qualifiers"

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