

HTR Seminar 2004 - Presented by Ken Massa

- Intro - Seminar mission statement.

Development of HTR

- Team approach, “hot” beta-test and the habit of improvement.
- Ben’s key finding – “3 out of 4” - a fundamental premise of thoroughbred racing.
- Ernie’s critical discovery - the turning point of HTR and a radical re-thinking of handicapping and longshot prediction.
- Tommy C. and the tournament niche.
- “It’s too hard – the program changes too much”

K-Line - a new and clear understanding of HTR’s main contender rating

- K-Line = Precision Value Line, Morning Line, Probability
- Wagering Screen
- Bad decisions – unprofitable bets – awareness

Advanced Handicapping Topics

- Workout Score in depth
- $Q5 = x$
- SOR and EPR class analysis

Testing, Filtering and Query made easy in the new “Robot”

- Filtered Tests
- Simple Query
- Instant Spot Play Generator

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The K-Line - Primer and Development

The K-Rating 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 will win approximately 50% of their races in nearly any sample at any track under all conditions. Top-4 hit 75-80% without fail. There are virtually no ties to distort the results.

Statistically the (K) is nearly flawless when viewed in its numerical correlation (see attached chart). Each level of the (K) wins at a slightly higher rate than the next number. Only at the bottom levels when the sample sizes decrease do we see some slight blips in the data. Overall it is a model of linear accuracy and distinct separation that is hard to match in the volatile world of horse racing outcomes.

While we can run large samples and admire the (K) for its statistical purity – the problem is how to deal with it on an individual race basis. Can a rating as dependable as the (K) be understood in context for a single field and beyond statistical averages? After a year of research, I'm happy to report the answer is emphatically a "yes" and the original concept was even expanded beyond my expectations for a broad range of uses.

The K-Line and its associated forecasting tools are a perfectionist's dream. Every race immediately set into clear focus. The separation, the gaps, the spread between the (K) numbers are no longer guesswork.

Please read the power points on the next page regarding the K-Line advantages.

Concept and Design of the K-Line

(Skip this section if you don't want a technical mouthful!)

There are 4 basic components in the creation of the K-Line →

1. The rating itself (see chart of (K)-ratings from 50-116) and associated stats.
2. The rank of each rating in an individual field and associated stats.
3. The field size and change of stats for 1-2 above.
4. The gaps, spaces and differences in the numbers from top to bottom.

The (K) is already a multi-faceted rating with dozens of situational handicapping factors involved in its formulae; it wasn't necessary to include or fuse other HTR figures into this mixture.

A gigantic multi-dimensional array was created in Visual Basic to store each of the (K) rating numbers (range 50 to 116); then the rankings (1-9), field size (2 – 20) and gaps between the numbers (-99 to +99) together for a massive computational orgy. I used approximately one million horses from 120,000 races to solve the equations. A resulting probability and odds line is arranged for every possible dispersion of the (K) for a field of horses. Its adaptability to any race means the K-Line is truly a master of improvisation!

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The K-Line - Power Points

- The K-Line is displayed in three formats. Standard line (i.e. 7/5, 7/2, 23/1); decimal line (1.3, 3.7, 22.9); and round probability percentage (43, 21, 4).
- The K-Line is an accurate improvement to the regular morning line odds. It is precision, not “ballpark”. For instance, instead of 4 or 5 horses tossed in at 20/1 or 30/1 by the line maker, the K-Line distributes the correct odds such as 38/1, 56/1 or 83/1 on these horses. It is also “self-adjusting” – it instantly re-computes itself after scratches for 100% accuracy and does not leave a useless line if the MLO favorite scratches.
- The K-Line is an excellent and high-confidence value line. A major improvement on the previous “VBET” (and its associated Prob%) because it recognizes the uniqueness of each race field. It is particularly accurate at the lowest and highest odds ranges – which is the downfall of most other betting lines including the previous HTR’ VBET.
- For Longshot and Tournament Players the K-Line is a powerful ally. Decision making becomes clear as the K-Line reveals whether or not the bet has any merit based on the tote odds. Many horses that are identified as possible price plays (\$ and \$\$ for example) in HTR are revealed by the K-Line as impossible stabs. While 99/1 odds is quite rare nowadays on the tote (and never on the ML) you will see many of them on the K-Line – these horse have less than 1% probability of winning and are always bad bets -- unless you can get 99/1 on the board! Conserve your longshot wagers to those horses with odds above the K-Line. You are taking the worst of it by betting those with odds below the K-Line.
- Conservative bettors can put “underlay” into the history books too but the task is a bit more difficult due to the ‘simulcast dump’. The (K) is at its highest accuracy when the rating is above 108. The K-Line will report these horses between 4/5 – 5/2 odds. At post-time, many of these runners appear to be value plays as their tote odds hover above the K-Line. Unfortunately about half of these horses are bet down after the bell to unplayable odds. The K-Line does an excellent job of correctly estimating low odds favorites, but the late action is unpredictable and can ruin profitability.
- The new WAGERING screen displays the entire (K) picture including the rating, ranking, K-Line odds in two formats. It also lists Win, Place and Show probabilities (WinP, PlaP, ShoP) in easy to understand round percentages that always total 100. The old Vbet and Prob% are shown in separated brackets. If you download the Charts along with the Results files, you can view the K-Line side-by-side with the final tote and finish position for every horse. This is a stunning visual education that I suggest every handicapper take time to look at. A realization of the difficulty in finding value as well as an unbiased look at the public’s betting tendencies is enlightening.
- The Wagering screen also has interesting Dutch and Money Line functions which allow you to choose specific horses for appraisal. Press the <enter> key or dbl-click on two or more horses to view the dutch (\$100 base) or money-line numbers. I’ll review this further in a future text.

The [Wagering] screen is accessed from the large button on the bottom left of the main screen from versions of HTR2 after July 2004.

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Workout Score - Power Points

- The HTR2 Workout Score is based on successful activity pattern recognition, not fast workout times. Workouts and races are considered “activity”. The purpose of the workout rating is to indicate fitness and health -- not speed.
- Due to the problems with workout reportage and missing works, only positive scores should be considered relevant. A poor workout rating, while having slight statistical significance, cannot be interpreted fully.
- The Workout Score is computed with the following factors →
 1. The distance of the workout.
 2. The ‘space’ or activity gap between the works and races.
 3. The time of the workout vs. other workers at that track and distance on the same morning and for the last 365-days. (Workout times alone are not considered in the rating).
 4. A ‘success database’ which identifies particular patterns that produce “live” horses. Race effort is factored into the pattern in some cases.
- Steroid and other drug use may be a logical conclusion of a high Workout score or sudden increase in the score for a horse. Trainer changes, particularly to the ‘super trainers’ (Trn = 400+) often pump the score and indicate a turnaround.

Workout Rating by Score (min 1000 horses) / All Races / Purse \$5000+

<u>Wk Rating</u>	<u>Win</u>	<u>WROI</u>	<u>W+P</u>	<u>Dingers (\$19+)</u>
95 and up	17%	0.87	30%	11%
94	20%	0.81	42%	10%
93	16%	1.00	31%	11%
92	21%	1.01	34%	13%
91	19%	0.98	33%	10%
90	18%	0.95	31%	11%
89	16%	0.82	31%	10%
88	17%	0.85	30%	11%
87	17%	0.86	31%	10%
86	15%	0.83	29%	13%
85	16%	0.85	30%	13%
84	14%	0.85	27%	14%
83	14%	0.85	26%	15%
82	15%	0.81	29%	12%
81	14%	0.85	28%	15%
80	14%	0.84	27%	16%
79	14%	0.80	27%	15%
78	14%	0.85	26%	16%
77	13%	0.81	25%	15%
76	13%	0.80	24%	15%
75	12%	0.75	24%	17%
74	12%	0.78	23%	17%
73	12%	0.77	23%	17%
72	11%	0.74	22%	17%
71	11%	0.75	23%	18%
70 or less	10%	0.71	21%	18%

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Q5 = x - Power Points

- Q5 refers to the number of horses in the race that have Quirin speed points $\geq +5$. This replaces the previous Quirin speed point assessment rating “QT3” in the top header of all reports in HTR2.
- The reason for the change is that defining “early pressure” is very ambiguous with the Quirin points and races often do not unfold as expected (i.e. horses dueling into fast fractions). Instead, it makes more sense to predict “lack of early pressure” which is a better use of the Quirin points when there are few in the race that have been assigned (+5) or more.
- Tests on early speed velocity factors, Fr1 and E/P show definitive improvement when the number of Q5’s drop. The most spectacular gain is when $Q5 = 1$. The lone Q5, particularly if a +6 or more, has dominion over the pace.

EPR and SOR - Power Points

- “Class” in the 21st century is no longer quantifiable. Slot purses are pumping up purses to unheard of amounts, state-bred agricultural incentives overpay the locals, condition books are getting more creative (and complicated) as the racing secretary has to deal with the politics of the horsemen.
- This year the notion of “Pars” is gone forever in HTR2 as I was no longer confident in the hierarchy of the numbers. Race performance now defines the class assessment.
- EPR (Estimated Performance Rating) is found in the top header of the current race. It is based on the prior race performance from all entrants, individual efforts and logical performance improvement for winners based on race type and age.
- SOR (Strength of Race) rating is assigned to past-performance running lines to assess the quality of the prior races. This number can be compared to the EPR to determine if there is an actual rise or drop in company (class).
- PAC (pace rating) – PER (performance rating) – SOR – EPR are all based on the Quirin style figures scaled from 85-115. These numbers can be directly compared to each and represent roughly 1-length or 1-class level per point.
- Despite our best efforts, there is no definitive or systematic approach to class that will produce consistent profits. The handicapper either has to make time to study each runner’s recent race history carefully -- or ignore detailed scrutiny of the pp’s and allow factors such as the (K) to make general distinctions.

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The Robot (Tester) - Power Points

- Test and Query with greater specificity on various dist/surf/race types.
- Filter horses with exact criteria, factors and eliminations.
- Multiple factor criteria for spot plays tests.
- Effective analysis of the Kline and K-rating.
- Generate daily spot plays based on successful results.
- “My Play” results highlight every test result at the top of the printout.
- Test individual tracks or all tracks at once. To test a circuit (i.e. BEL, SAR, AQU) copy the files for these specific tracks into a new folder (i.e. c:\nyra) -- then run the robot with “All Tracks” selected while working in this folder.

The “Filters” section has a wide array of items to select. If you check-mark an item in this area, only those horses that meet ALL the factors chosen will be queried by the robot. The current folder must contain sufficient races + results Example:

[any class, dist, surf ok]

[] K = 1

[] Fr1 = 1

[] Wk >= 85+

[] Trn >= 400

This filter set requires that the horse meet 100% of these criteria at once – a very high standard! Click the [Start the Test] button. A few horses will make it through and they will probably show extremely strong results depending on the tracks and time period tested from the current folder. The overall results for these specific filters will be revealed in the top row on the test results with “My Play”. The remainder of the output shows the test results in the individual HTR categories.

On a daily basis you can click the [Get My Plays] button with this same criteria selected above and instantly receive all the qualified play listed by track - race number, horse, program number, ML odds and K-Line. The list can be printed and used to --- (to be continued)