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Come
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Winner™**

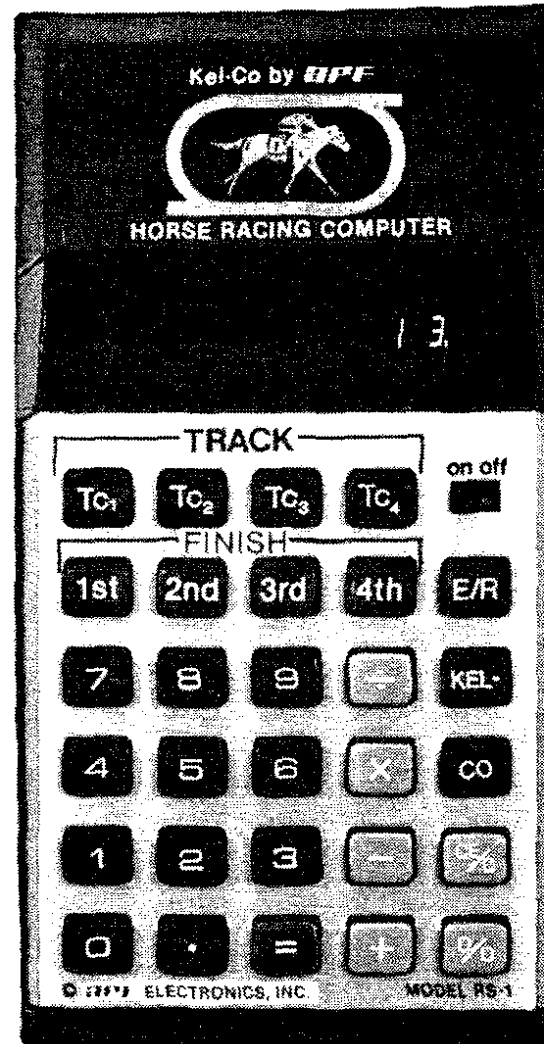
**KEL-CO's
CLASS COMPUTER**

***BPF* ELECTRONICS, INC.**

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INSTRUCTION MANUAL



**KEL-CO's
CLASS COMPUTER
FOR
THOROUGHBRED
RACE HORSES**

INSTRUCTION MANUAL

By
A. Stuart Kelsey

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Pompano Beach, Florida

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PREFACE

The *Kel-Co Class Computer* is based upon the same principles as the *Kel-Co Class Calculator* (slide rule). The calculator, first marketed in 1969, became the most widely used handicapping aid in North America, and was considered by most unbiased experts as the most successful ever developed. The electronic computer, by its very nature, is much easier to use, more accurate, and much faster than the slide rule.

The unit has two modes of operation: the "computer mode" which contains the pre-programmed formulas for the *Kel-Co* class ratings, and a "calculator mode" which is a standard calculator.

Regular *Kel-Co* users will note that some of this manual has been reproduced directly from the third edition of the *Kel-Co Class Calculator* (Sept. 1971) and from 1979 printing. Some sections are completely new and others have been partially rewritten.

To you new *Kel-Co* users, welcome to the club! Please take the time to understand, absorb, and then apply the principles in this manual. Success at the races is within your grasp, depending only on you!

Good Luck!

A. Stuart Kelsey

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INTRODUCTION

The *Kel-Co Class Computer* is a scientifically engineered, special purpose computer. It utilizes a special TEXAS INSTRUMENT microprocessor computer chip (TMS 1100/MP3452NL). It has been designed specifically to provide an accurate and rapid means for computing the *Established Class Ratings* for thoroughbred race horses. These ratings, together with a basic set of rules, provide a statistically proven handicapping method. This procedure has been simplified to the point where its use requires *absolutely no prior knowledge of handicapping principles*.

There are only three requirements for successful use of the computer. First, you must spend the few minutes necessary to learn its operation. Second, you must understand, and comply with, the set of operating rules. The rules have been made specifically for use with the computer, and their proper use helps provide the statistical edge required for successful wagering. Finally, you must have the past performance charts for each race to use the computer; these are published in the *Daily Racing Form*. A few sample calculations are included in this booklet. These should be studied carefully, making sure that you can duplicate the ratings in each case.

Once you feel you understand the operation and application of the computer, we strongly recommend that you try it out on paper, until you are confident that you are using it properly.

THEORY OF THE CLASS COMPUTER

The theoretical basis for the computer is called the *Principle of Established Class*. While every experienced handicapper agrees to the importance of thoroughbred Class, few have provided a useful working definition. Class has been variously defined by turf experts in terms of claiming prices, superior blood lines, inherent racing ability, racing courage, ability to control the pace of a race, etc. Class based on claiming prices is inaccurate; this will be discussed later. These methods all have one serious drawback. They are based on intangibles which are difficult, if not impossible, to measure in numerical terms. *Established Class*, on the other hand, is defined mathematically, and provides a specific numerical rating for each horse.

The *Principle of Established Class* is based upon the premise that thoroughbred class is best measured by the size of the purses that the horse has successfully competed for in the recent past. The resulting class rating then indicates directly the purse size of the race in which the horse will be a top contender when fit and ready. This class rating is determined mathematically by the class computer as a function of the horse's earnings and finish positions, from data which is listed in the past performance charts for the race. A horse entered in a race with a lower purse value than his class rating is a true *drop down*, and he represents a potentially strong betting situation. On the other hand, a horse with a lower class rating than the purse size is *moving up in class*; he will seldom be a serious contender. A *Drop Down* is defined here as a horse whose *Established Class Rating* is higher than the Purse Value of the race.

The established class principle allows us to bury once and for all the illusion that claiming price is a satisfactory measure of class. First of all, claiming price is clearly of no help for the higher class levels, i.e.,

allowance grades and up. Secondly, the significance of claiming price varies widely from track to track, making comparison difficult. For example, a successful \$5,000 claimer at Suffolk Downs may have difficulty winning with a 3,500 claiming tag at Aqueduct. Finally, the claiming price range in a race can be misleading. A horse could run with a \$4,000 claiming price in two successive races but these races could represent two different class levels. One could be a \$4,000-\$3,500 claiming race, the other a \$5,000-\$4,000 claiming race. In all of these cases the purse level will give the best measure of the actual class while the claiming price may be misleading or ambiguous.

In our opinion, class, as defined by the *Established Class principle*, is by far the most important single factor in handicapping. Clearly, there are many other factors which have a strong bearing on the outcome of a race, some predictable and some not. Fortunately, many of these are automatically accounted for by the class computer. For example, one common trainer tactic is that of conditioning a horse in races over his head and then dropping him into his true class level when in peak condition. Such class shifts may be partially concealed in claiming races because of the overlap in claiming prices as already mentioned. This manipulation is often completely concealed in allowance races where, for example, the purses may vary from \$7,500 to \$25,000 as at the Big A. A horse may have been racing over his head in \$12,000 to \$15,000 allowance company and show little. When dropped into a \$10,000 allowance race, he often romps home at a price to the confusion of the betting public. The *Kel-Co Computer* automatically rejects the horse in the conditioning races, but picks him out as a top contender when he returns to his true class level.

As stated, we feel that the established class rating is, by far, the single most important factor in handicap-

ping. However, we have formulated qualifying rules designed to account for the more important remaining factors. Specifically, the rules are designed:

- To eliminate horses or races where there is insufficient data to establish the true class ratings.
- To eliminate high-rated horses who are not in good condition.
- To eliminate wagering where there are two or more contenders who cannot be separated on a class basis.

This latter point is worth comment. This rule will clearly eliminate many races where the same horses are competing against each other week after week. The obvious question is, "Are there other handicapping methods, such as speed or pace handicapping, that can separate the contenders in such races?" We have found that no other method can consistently separate the contenders and provide a statistical edge on a long range basis. To the serious bettor, who is interested in long range profits, this is important. There is little financial satisfaction in the fact that your horse almost won or was beaten out in a "photo." To the occasional race-goer who expects to pay for his entertainment, the excitement of seeing his horse in contention right down to the wire may be satisfaction enough. The moral is—if you are interested in long range profits, you must pick the spots where the probabilities are in your favor. The computer and the qualifying rules are designed with this thought in mind—to provide the desired long range statistical edge.

One point should be emphasized. Although this is essentially a single factor method, it is not a so-called spot play system which may have only a few plays a week. The number of daily plays has varied from as few as three to as many as ten in a ten race card. The majority of races will be playable at most tracks, but the actual number will vary from day to day. Bad weather, off-track conditions, early season lack of

form, conditions which most rating experts recommend avoiding, make little difference to the *Kel-Co Computer!* Surprising to most, it is under such adverse conditions that the method excels—for here is where true class, as defined by the *Established Class Principle*, proves itself. The opening weeks of the New York season are typical examples. Many “experts” advise skipping this period until things settle down and become more consistent. What this really means is that the general public and many turf experts cannot properly grade thoroughbred class. For example, opening week at Aqueduct, 1980, saw the favorites winning 24% of the races, well below the normal average. For the same period the Class Computer had plays on 74% of the races, won 36% of these, and returned \$2.40 per dollar invested on straight win bets! The Computer also picked up 4 of the 6 daily doubles that week on straight 3 x 3 (\$18) crosses, two of which were greater than \$200!

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DESCRIPTION OF THE COMPUTER

The unit has two modes of operation. The programmed mode, which is used to obtain the Class Ratings, will be referred to as the “computer mode.” When used for standard arithmetic calculations, the unit is said to be in the “calculator mode.”

Common Keys

On off switch. Slide the switch to the left to activate the unit. As with any battery-operated device, you must switch the unit off when not in use to avoid running down the battery.

CE/C (Clear Entry/Clear). Touching this key once will clear the last entry from the display without affecting the unit's memory or any operation under way. This is used to clear an incorrect entry. Touching the key twice clears the memory completely. Before starting any new operation, touch this key twice to make sure the storage (memory) is clear.

0-9 integer keys. In the computer mode these are used to enter the number of finish positions and the earnings of the horse in dollars. In the calculator mode these are the standard number keys. The *decimal point* is used with the integers in the calculator mode only.

Calculator Keys

+, -, ×, ÷, Addition, Subtraction, Multiplication and Division. Standard arithmetic calculation keys.

= Equals key. When the calculation is completely entered, touching the = key immediately gives the answer.

%. Percent key. Using the percent key instead of the = key gives the answer directly in terms of a percentage.

The computer has been designed for handicapping purpose and does not perform all calculator functions. It has limited operations as such and only should be used for simple calculations. It does not function using

decimal equations nor does it subtract (-) or multiply (x) in the % mode.

A complete operating description for calculator mode is on page 50.

Computer Keys

Tc₁ - Tc₄. Track category keys. These 4 keys are used to enter the track category for each finish position.

When the unit is on and cleared, pushing one of the Tc keys put the unit into the computer mode. The computer will stay in the same track category until a different track key is pushed. The track category last touched is shown in the left side of the display panel.

1st, 2nd, 3rd, 4th are the finish position keys—Win (1st), Place (2nd), Show (3rd), and Fourth (4th). To enter 3 Place finishes at a Tc₃, you touch in order Tc₃, then depress 3 (Black Button), then 3rd (Finish).

E/R. Earnings/Rating. After the finish positions are all entered, this key is touched, E appears. This tells the computer that all finishes are entered and that the earnings will be entered next. The exact dollar value of earnings are then entered, and the E/R key is touched again. The rating immediately appears in the display, rounded off to two decimal places. This is interpreted in terms of thousands of dollars. For example, a rating of 12.25 would be interpreted at \$12,250. (This relates directly to the purse value of the race.)

Procedure

You must use the track category (Tc₁, Tc₂, Tc₃, Tc₄) corresponding to the track where the horse won his money. In most cases you will be using only 1 category, but in some cases you may have to use 2 or more categories. For example, a horse who races year 'round in Florida (Gulfstream, Hialeah and Calder) would use Tc₂ only. On the other hand a horse who raced in New York for the rest of the year would use Tc₂ for the Florida finishes and Tc₁ for the New York finishes.

OPERATION OF THE COMPUTER

Data Required

The data required to use the Class Computer is found in the past performances published in the Daily Racing Form. Only a small part of each chart is needed for the computer ratings. Specifically, in the upper right hand corner of each chart you will find the box score for the horse—the current year, number of races, number of wins, seconds, thirds, and total earnings for the year. Directly below is the same data for the previous racing year. Below this, data for up to 10 of the most recent races is listed. We are concerned with the date, distance, finish positions and tracks where the horse earned his money.

At the bottom of each chart the recent workouts for the horse are shown. The only other information used is found at the start of the race's past performances, in the description of the conditions of the race—the purse level for the race. Our class rating is related to the purse level and indicates whether the horse is moving up, in company, or dropping down in the race.

In general, we use data for the current year only, the exception being at the start of the calendar year, using the following data.

For lower class horses:

(vs purse size) under 25.0

1. If there are 4 or more races this year, use this year's data only.
2. If there are less than 4 races this year, but at least two of them were in the money, compute the rating for both years separately, and use the higher value.
3. If there are less than 4 races this year and less than 2 were in the money, combine the data for both years before computing the rating.

For higher class horses with a rating of a least 25.0:

1. If there are 6 or more races this year, use this year's data only.
2. If there are less than 6 races this year, compute the rating for both years separately and use the higher.
3. If the resulting rating is below 25.0, use the procedure for the lower class horses.

HOW IT WORKS

The step-by-step procedure follows (using Tc₂ for illustration):

Enter # Wins, # Places, # Shows and # Fourths with interger keys (Black Buttons).

Step	Enter	Touch	Displays
1.		Switch On	0
2.		Tc ₂	C ₂
3.	#Wins	1st	C ₂ , #1st (Wins)
4.	#Places	2nd	C ₂ , #2nd (Places)
5.	#Shows	3rd	C ₂ , #3rd (Shows) *
6.	#Fourths	4th	C ₂ , #4th (Fourths)
7.		E/R	E
8.	Earnings		E, Earnings
9.		E/R	Rating

The computer automatically assumes 0 for each finish position unless some number is entered. For example, if there were 0 places, you would just skip step 4 above.

In the example above, if you also had some finish positions at track category 1 in addition, you would enter them at step 7, thus:

*These figures drop out of the display when the finish position key is depressed.

	Enter	Touch	Display
7.		Tc ₁	C ₁
8.	#Wins	1st	C ₂ , #1st (Wins)
9.	#Places	2nd	C ₂ , #2nd (Places)
10.	#Shows	3rd	C ₂ , #3rd (Shows)
11.	#Fourths	4th	C ₂ , #4th (Fourths)
12.		E/R	E
13.	Earnings	E/R	Rating
14.		CE/C (x2) *	0

Let's try an example with actual numbers. Assume 2 wins, 1 place, 2 fourths at Tc₂ tracks; 1 win, 1 show at Tc₄ tracks, with earnings of \$23,640.

	Enter	Touch	Displays
1.		Switch On	0
2.		CE/C (x2)	0
3.		Tc ₂	C ₂
4.	2	1st	C ₂
5.	1	2nd	C ₂
6.	2	4th	C ₂
7.		Tc ₄	C ₄
8.	1	1st	C ₄
9.	1	3rd	C ₄
10.		E/R	E
11.	23640		E 23640
12.		E/R	10.96

The Class Rating is thus 10.96 for this horse.

If you make an error, use CE/C ("mistake"), (touch once), display 0. Enter correct number and continue. If in doubt, start again (touch twice).

*This means touch CE/C key twice.

Examples

The 7th race at Aqueduct on Dec. 7, 1978 is enclosed for illustrative purposes, chosen mainly because it has a conveniently small field. The computer ratings have been written beside the name of each horse. The data used for each horse follows and one case is worked out in detail.

	Enter	Touch	Display
		Tc ₂	C ₂
1		1st	C ₂ , 1
		Tc ₁	C ₂
			C ₁
2		4th	C ₁ , 2
		E/R	C ₁
			E
8220			E, 8220
		E/R	11.71

Quadrangles Plum - Tc₂: 1st; Tc₁: 2nd; \$8,220—

Post	Enter Data	Depress E/R	Enter Earnings	Depress E/R	Rate
1.	Tc ₂ : 1 1st, 1 2nd				\$7,740 10.
2.	Tc ₁ : 1 1st, 1 2nd, 1 3rd				
	Tc ₂ : 1 4th				\$9,560 9.77
3.	Tc ₂ : 1 1st;				
	Tc ₁ : 2 4th				\$8,220 11.71
4.	Tc ₁ : 2 1st, 1 4th				\$12,180 10.01
5.	Tc ₁ : 1 1st, 1 2nd, 1 3rd				\$9,520 10.39
6.	Tc ₁ : 2 1st				\$15,000 13.

Safeguard

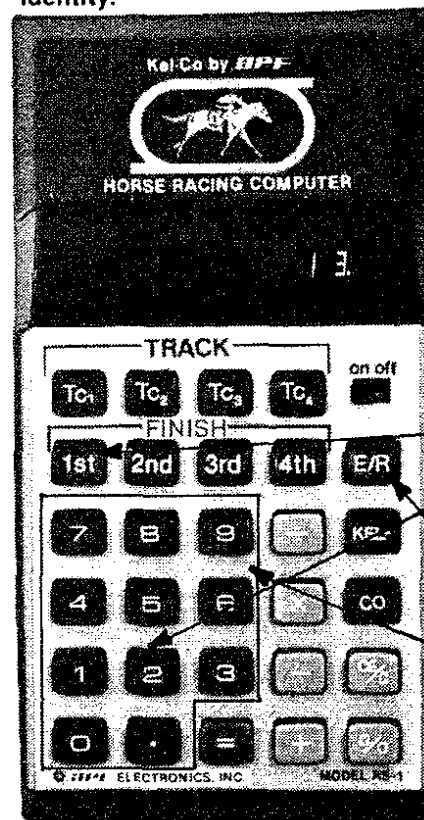
If you forget to press the E/R button and attempt to enter earnings the computer then drops the C from the display and you will not be able to enter more than 3 figures from the keyboard. This is an error and can be Cleared by use of the C/E key one (1) time, then depress the E/R button and enter the earnings.

Remember that before the earnings can be entered you must depress the E/R and E must be displayed, then enter the earnings. Depress the E/R for the rating.

IMPORTANT!

PLEASE EXAMINE CAREFULLY!

Kel-Co Buttons are non-functional, serve only as identity.



Turn on—

Step #1—
Select Tc and depress button.

Step #2—
Enter # Finishes, 1st, 2nd, 3rd, and 4th individually using BLACK buttons, then depress Finish position.

(Example: Tc₁, 2, 1st must be in correct order).

Step #3—
Depress E/R. (E) will appear in display. This means program is ready to accept dollars earned. Enter by using BLACK buttons \$15,000.

Step #4—
Depress E/R. Rating will appear in display 13.00.

NOTE: If display seems erratic, check battery by replacing with a known good one or use the AC adapter. Remember this is an adapter and does not charge the battery.

0.0.0.0.0.0.0. Means you have a bad battery.

Unusually bright .0 means battery going dead

REPRESENTS INITIAL ORDER OF RATING

12/7/78 AQUEDUCT

FINAL ORDER OF RATING

Purse = 18.0

\$1.00 ODDS AT POST

Tied For

7

4/5

Juggie Lea 10.00

Tc, 8
Tc, 8
Tc, 8
Tc, 8

Own.—Waldman M
25Nov78-3Ud fst 6f :22 :46% 1:13%
11Nov78-5CD fst 6f :22% :47 1:13%
7Nov78-3CD sly 6f :23 :48% 1:15
21Oct78-2Kee fst 7f :22% :46% 1:26%
14Oct78-2Kee sly 7f :22% :46% 1:26%
LATEST WORKOUTS Dec 4 Bel tr.t 4f sly :50% b (d)

B. f. 2, by Nashua—Jug Lu, by Bull Lea
Br.—Calumet Farm (Ky)
Tr.—Picou James E

(Tied for 2nd & 3rd Betting)

1115

St. 1st 2nd 3rd Amt.
1978 5 1 1 0 \$7,740

79-20 Juggie Lea 119 After The Lovin' 112 Jukebox Ballerina 119 Drew out 12
76-18 Sky Light Princess 119 Juggie Lea 119 After The Lovin' 112 Rallied 12
63-28 Montana Blackfoot 119 Bold Tj 119 Jukebox Ballerina 119 No threat 10
61-14 Brown Ridge Ro 120 Silver Oaks 120 Silver Solo 120 No menace 12
58-20 Smooth Bore 121 Lukbox Bllrin 121 Montana Blackfoot 121 No rally 12

7.00

16

Whisky Galore 9.77

Tc, 8
Tc, 8
Tc, 8
Tc, 8

Own.—Gaudin R
26Nov78-2Aqu fst 7f :23% :47% 1:26
16Nov78-2Aqu fst 7f :23% :48% 1:25%
5Nov78-1Aqu fst 7f :23% :47% 1:26%
20Jly78-7Atl fst 5f :22% :46% :58%
13Jly78-3Atl fst 5f :22% :46% :59%
LATEST WORKOUTS Oct 18 Aqu 5f fst 1:01 h

B. f. 2, by Cavonore—Cutty, by Smart
Br.—Jones M Troy (Md)
Tr.—Muzio Michael J

1095

St. 1st 2nd 3rd Amt.
1978 5 1 1 1 \$9,560

68-20 Jessamber 119 Full Of Magic 116 Whisky Galore 112 Tired 8
67-22 Carousel 116 Whisky Galore 109 Happy Mindy 116 Blocked 8
69-22 Whisky Galore 112 Gallant Yankee 119 Suzette Be Fst 119 Driving 14
89-11 Spot To Spot 119 Reimond Jr. 119 Joe King 120 Gave way 8
81-22 Jumping Joan 120 Apple Jill 120 Holy Mount 119 No mishap 12

14.40

RULE 2
X3
a

Quadrangles Plum 11.71

Own.—Flying Zee Stable 10.53 DQ
24Nov78-5Medg 170 :46% 1:12% 1:42%
17Nov78-6Aqu fst 6f :22% :45% 1:10%
2Nov78-4Aqu fst 6f :22% :46% 1:12%
19Oct78-3Bel fst 1 :46% 1:12% 1:37%
9Oct78-5Bel fst 7f :22% :46% 1:25%
LATEST WORKOUTS Dec 6 Bel tr.t 3f my :37% b

B. f. 2, by Quadrangle—Miss Plumage, by Bold Legend
Br.—Shaez D (Va)
Tr.—Barrera Luis

119

St. 1st 2nd 3rd Amt.
1978 5 1 0 0 \$8,220

68-17 Quadrangles Plum 118 Celebar 118 Fern Fed 118 Driving 7
84-17 Smooth Journey 119 Aish Of 119 Pepee 119 No rally 12
76-21 Dominant Dream 119 Ola Mae 119 Poulloverme 119 Evenly 14
62-20 Plankton 119 Poppycock 119 Bold Tj 119 Used early 8
59-15 Polar Flag 119 Plankton 119 Tweak 119 Bore out 12
Nov 11 Bel tr.t 5f fst 1:04 b Nov 11 Bel tr.t 3f fst :36 h

FAVORITE .90

*See Instruction Book for Tc

4/5

Carousel 10.01

Own.—Sommer S
16Nov78-2Aqu fst 7f :23% :48% 1:25%
18Sep78-4Bel sly 6f :23 :47 1:12%
30Aug78-4Bel fst 6f :23 :47 1:13%
16Aug78-3Sar fst 5f :22% :46% 1:11%
1Aug78-4Sar fst 5f :22% :46% 1:05
LATEST WORKOUTS Dec 1 Bel tr.t 3f my :35 h (d) Nov 25 Bel tr.t 4f fst :47% h

Ch. f. 2, by Spanish Riddle—Quilling, by Princequillo
Br.—Webster R N (Ky)
Tr.—Martin Frank

114

St. 1st 2nd 3rd Amt.
1978 5 2 0 0 \$12,180

72-22 Carousel 116 Whisky Galore 109 Happy Mindy 116 Ridden out 8
80-22 Carousel 119 Riddles Pet 110 Leader's Maid 109 Ridden out 12
74-21 Princess Doris 115 Fancy Hatter 119 Volary 117 Wide 9
68-16 Baby Snooks 119 My Dear Tam 113 Water Baby 115 Tired 12
79-14 Happy Mindy 119 My Dear Tam 115 Water Baby 119 Outrun 11
Nov 12 Bel tr.t 4f fst :47% h Nov 2 Bel tr.t 3f fst :34% h

2.80

RULE 3
X1

Vienna Dancer 10.39 DQ

Own.—Garren M M
6Nov78-1Aqu fst 7f :23% :46% 1:25%
26Oct78-6Aqu fst 7f :22% :45% 1:24%
13Oct78-5Bel fst 6f :23% :47 1:11%
27Sep78-1Bel fst 7f :22% :46 1:26%
LATEST WORKOUTS Nov 29 Bel tr.t 4f my :49 h Nov 13 Bel tr.t 4f fst :49% b

B. f. 2, by Marshua's Dancer—Vienna Lure, by Fisherman
Br.—Minish A W (Ky)
Tr.—Puentes Gilbert

114

St. 1st 2nd 3rd Amt.
1978 4 1 1 1 \$9,520

72-16 Tokyo Rose 111 Vienna Dancer 113 Clearly Early 115 Gamely 8
60-19 Belladora 114 Polar Flag 119 Cornish Runner 119 Outrun 12
77-14 Clerly Eryl 115 Piddle Your Own 114 Vienn Dancer 119 Lacked rally 7
70-19 Vienna Dancer 119 Kiawah 119 Volary 119 Ridden out 11
Nov 4 Bel tr.t 4f fst :47% h Oct 24 Bel tr.t 4f fst :48% h

10.20

1

Jessamber 13.00

Own.—Dotter R L
26Nov78-2Aqu fst 7f :23% :47% 1:26
26Oct78-6Aqu fst 7f :22% :45% 1:24%
15Oct78-5Bel gd 6f :23% :47 1:12%
4Aug78-3Bel my 5f :22 :44% 1:04%
6Jly78-4Bel fst 5f :23 :46% 1:06%
22Jun78-4Bel gd 5f :22% :46 1:05
LATEST WORKOUTS Dec 2 Bel tr.t 4f fst :50 b (d) Nov 19 Bel tr.t 5f fst 1:04 b (d) Nov 16 Bel tr.t 3f fst :36% b (d) Nov 12 Bel tr.t 4f fst :49% b

Ch. f. 2, by Bold Hour—Jessamba, by Count Amber
Br.—Dotter R L (Fla)
Tr.—Dotter Robert L

114

St. 1st 2nd 3rd Amt.
1978 6 2 0 0 \$15,000

71-20 Jessamber 119 Full Of Magic 116 Whisky Galore 112 Driving 8
70-19 Belladora 114 Polar Flag 119 Cornish Runner 119 Tired 12
81-17 Jessamber 119 Grey Doreen 119 She's Willing 119 Driving 8
81-09 Alada 119 Himalayan 119 Cornish Runner 119 No factor 12
76-19 Hermanville 119 Sexy Ways 119 Cornish Runner 119 Weakened 8
73-12 Lollipop Gal 119 Wild Bidder 119 Cornish Runner 119 Off slowly 8

7.90

PRIME 1st Choice

Hard Win Rule 3b does not apply because consistency 2 ÷ 6 = 33 1/3%.

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SEVENTH RACE
Aqueduct

1 MILE 70 YARDS.(INNER DIRT). (1.40%) ALLOWANCE. Purse \$18,000. Fillies, 2-year-olds which have never won a race other than maiden or claiming. Weight, 119 lbs. Non-winners of a race other than claiming at a mile or over since November 1 allowed 3 lbs. Of such a race at any distance since then, 5 lbs.

Value of race \$18,000, value to winner \$10,800, second \$3,960, third \$2,160, fourth \$1,080. Mutual pool \$114,123, OTB pool \$61,305. Track Exacta Pool \$178,982. OTB Exacta Pool \$91,886.

Last Raced	Horse	Eq.	A.	Wt	PP	St	¼	½	¾	Str	Fin	Jockey	Odds \$1	
26Nov78	2Aqu1	Jessamber	2	114	6	4	3½	4½	3½	12	12½	Fell J	7.90	
25Nov78	3CD1	Juggie Lea	b	2	111	1	2	5½	6	6	3½	2½	Asmussen C B5	7.00
16Nov78	2Aqu1	Carousal	2	114	4	1	12	11	11	21	34½	Maple E	2.80	
6Nov78	1Aqu2	Vienna Dancer	2	114	5	5	4hd	52	4hd	6	4½	Cruguet J	10.20	
24Nov78	3Med1	Quadrangles Plum	b	2	119	3	3	24	24	2hd	4½	53	Velasquez J	.90
26Nov78	2Aqu3	Whisky Galore	2	109	2	6	6	3hd	51	5hd	6	Santagata N5	14.40	

OFF AT 3:20 EST. Start good, Won ridden out. Time, :23¾, :46½, 1:12¾, 1:39, 1:43¾. Track fast.

\$2 Mutuel Prices:

6-(F)-JESSAMBER	17.80	8.00	3.80
1-(A)-JUGGIE LEA		8.80	4.69
4-(D)-CAROUSAL			3.60

\$2 EXACTA 6-1 PAID \$87.60.

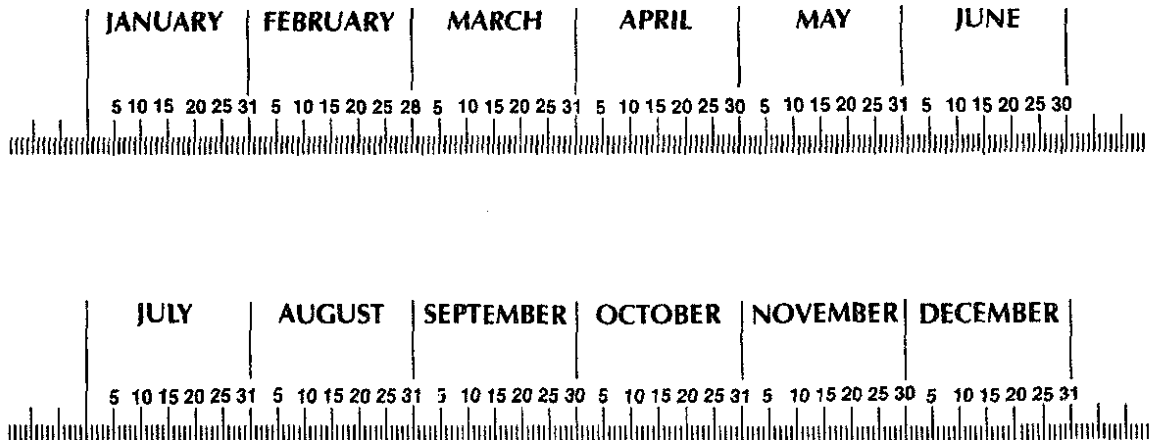
Ch. f, by Bold Hour—Jessamia, by Count Amber. Trainer Dotter Robert L. Bred by Dotter R L (Fla).

JESSAMBER, reserved early, made a run from the outside on the far turn and proved clearly best under intermittent urging. JUGGIE LEA, void of early foot, split horses near midstretch and finished with good energy to best the others. CAROUSAL tired from her early efforts. VIENNA DANCER had no apparent excuse. QUADRANGLE'S PLUM was used up prompting the pace. WHISKEY GALORE moved up along the inside on the backstretch but was finished after going six furlongs.

Owners— 1, Dotter R L; 2, Waldman M; 3, Sommer S; 4, Garren M M; 5, Flying Zee Stable; 6, Gaudio R.

Trainers— 1, Dotter Robert L; 2, Picou James E; 3, Martin Frank; 4, Puentes Gilbert; 5, Barrera Luis; 6, Muzio Michael J.

DATE FINDER



To determine if horse meets rules 1, 2 & 3 and Double Rules, select today's race date, work back the required time period. (ie. Vienna Dancer 12/7/78.) Rule XI, 14 days not met, see page 17.

TRACK CATEGORIES

The computer incorporates four different formulas to account for the different purse distributions used in North America. All tracks award purse money, to at least the first four finish positions; some to fifth; some to fifth and sixth, and others award money to all starters. Finish positions beyond fourth are handled by adjusting the number of fourths used. In most cases these adjustments have little effect on the resulting rating. However, if the horse has a low in-the-money consistency, the effect can be considerable. (Ignoring the adjustments will give a false high rating.)

Standard Formulas

The four basic formulas are listed below with their standard adjustments.

Tc₁: 1st thru 4ths only

Tc₂: 1st thru 4ths, and let every two 5ths
= one 4th.

Tc₃: 1st thru 4ths, and let every two 5ths
and/or 6ths = one 4th.

Tc₄: 1st thru 4ths, and let every three 5ths
= one 4ths.

Modifications (Follow in Large # After Tc)

The modifications follow. These are used with a few tracks which handle the adjustments differently.

1. Let every 5th = one 4th.
2. Let every two 5ths and/or 6ths = one 4th.
3. Let every two 5ths = one 4th.
4. Let every two finishes after 4th = one 4th.
5. Let every three finishes after 4th = one 4th.
6. Let every four finishes after 4th = one 4th.
7. Let every five finishes after 4th = one 4th.
8. Let every 5th = one 4th, and every six finishes after 5th = one 4th.

Example: Modification Tc₂ 7

$$\begin{array}{r}
 \text{Starts} \quad \text{1st} \quad \text{2nd} \quad \text{3rd} \quad \text{4th} \\
 \hline
 24 \quad 3 \quad 1 \quad 2 \quad 2 \quad = 8 \\
 - 8 \\
 \hline
 5 + 16 \quad = + 3 \quad \text{4th} + 1 = 4 \quad \text{4ths}
 \end{array}$$

Round up any excess finishes to next whole number of fourths.

Therefore, we would enter 4 additional 4th finishes to our calculations:

$$E 3500 = \text{True Rate } 1.38$$

Track Categories

Each track is listed under its category after its state (or Canada or Mexico). Standard track abbreviations are used, listed alphabetically.

AC	Tc ₄	(Agua) Caliente, Mexico
Aks	Tc ₄ 2	Ak-Sar-Ben, Omaha, Nebraska
Alb	Tc ₄ 2	Albuquerque, New Mexico
AP	Tc ₂	Arlington Park, Illinois
Aqu	Tc ₁	Aqueduct (Big A), New York
AsD	Tc ₃ 3	Assiniboia Dns, Winnepeg, Canada
Atl	Tc ₂	Atlantic City, New Jersey
Bel	Tc ₁	Belmont Park, New York
Beu	Tc ₃	Beulah Park, Ohio
BM	Tc ₄	Bay Meadows, California
Bml	Tc ₃ 6	Balmoral, Illinois
Bow	Tc ₁	Bowie, Maryland
CD	Tc ₃ 6	Churchill Downs, Kentucky
Cen	Tc ₃	Centennial Race Track, Colorado
Cka	Tc ₃ 6	Cahokia Downs, Illinois
Cls	Tc ₂	Columbus, Nebraska
Com	Tc ₃ 4	Commodore Downs, Pennsylvania
Crc	Tc ₂ 7	Calder Race Course, Florida
Ct	Tc ₃ 5	Charlestown, West Virginia
Cwl	Tc ₃ 6	Commonwealth (Miles Pk.), Ky.
DeD	Tc ₂	Delta Downs, Louisiana
Del	Tc ₁	Delaware Park, Delaware

Det	Tc ₃	5	Detroit, Michigan
Dmr	Tc ₄		Del Mar, California
EIP	Tc ₃	6	Ellis Park, Kentucky
EP	Tc ₃		Exhibition Park, B.C., Canada
EvD	Tc ₂		Evangeline Downs, Louisiana
FD	Tc ₃		Florida Downs, Florida
FE	Tc ₁		Fort Erie, Canada
Fer	Tc ₄	5	Ferndale, California
FG	Tc ₂		Fairgrounds, New Orleans, La.
FL	Tc ₃	8	Finger Lakes, Canandaigua, N.Y.
Fno	Tc ₄		Fresno, California
Fon	Tc ₄		Fonner Park, Nebraska
FP	Tc ₃	6	Fairmount Park, Illinois
GBF	Tc ₄	5	Great Barrington, Massachusetts
GG	Tc ₄		Golden Gate Fields, California
GP	Tc ₂	7	Gulfstream Park, Florida
Grd	Tc ₁		Greenwood, Toronto, Ont., Can.
Haw	Tc ₂		Hawthorne, Illinois
Hia	Tc ₂	7	Hialeah Park, Florida
Hol	Tc ₄		Hollywood Park, California
HP	Tc ₃	5	Hazel Park, Michigan
JnD	Tc ₂		Jefferson Downs, Louisiana
Jua	Tc ₃	4	Juarez, Mexico
Kee	Tc ₃	8	Keeneland, Kentucky
Key	Tc ₂		Keystone Race Track, Pennsylvania
LA	Tc ₄		Los Alamitos, California
LaD	Tc ₂		Louisiana Downs, Louisiana
LaM	Tc ₁	3	La Mesa Park, Raton, New Mexico
Lat	Tc ₃	6	Laton, Kentucky
Lbg	Tc ₃	3	Lethbridge, Alberta, Canada
Lga	Tc ₂		Longacres, Washington
LnN	Tc ₂		Lincoln State Fair, Nebraska
Lrl	Tc ₁		Laurel Race Course, Maryland
MD	Tc ₃	3	Marquis Downs, Canada
Med	Tc ₂		Meadowlands, New Jersey
MF	Tc ₃	4	Marshfield Fair, Massachusetts
Mth	Tc ₂		Monmouth Park, New Jersey
Nmp	Tc ₄	5	Northhampton, Massachusetts

NP	Tc ₃	3	Northlands Park, Canada
OP	Tc ₂		Oakland Park, Arkansas
Pen	Tc ₂		Penn National, Pennsylvania
Pim	Tc ₁		Pimlico, Maryland
PJ	Tc ₂		Park Jefferson, South Dakota
Pla	Tc ₂		Playfair, Washington
Pin	Tc ₄		Pleasanton, California
PM	Tc ₂		Portland Meadows, Oregon
Poc	Tc ₃	4	Pocono Downs, Pennsylvania
Pom	Tc ₄	8	Pomona, California
Pre	Tc ₄	1	Prescott Downs, Arizona
RD	Tc ₃		River Downs, Ohio
Ril	Tc ₄	1	Rillito, Arizona
Rkm	Tc ₃		Rockingham Park, New Hampshire
Rui	Tc ₁	3	Ruidoso, New Mexico
SA	Tc ₄		Santa Anita Park, California
Sac	Tc ₄		Sacramento, California
Sal	Tc ₂		Salem, Oregon (Lone Oak)
Sar	Tc ₁		Saratoga Springs, New York
SFe	Tc ₃		Santa Fe, New Mexico
ShD	Tc ₃	5	Shenandoah Downs, West Virginia
Sol	Tc ₄		Solano, California
Spt	Tc ₂		Sportsmen's Park, Illinois
SR	Tc ₄		Santa Rosa, California
Stk	Tc ₄		Stockton, California
Stp	Tc ₃	6	Stampede Park, Alberta, Canada
Suf	Tc ₃		Suffolk Downs, Massachusetts
Sun	Tc ₁	3	Sunland Park, New Mexico
Tdn	Tc ₃		Thistledown, Ohio
Tim	Tc ₃		Timonium, Maryland
TuP	Tc ₃		Turf Paradise, Arizona
Was	Tc ₂		Washington Park, Illinois
Wat	Tc ₃	5	Waterford Park, West Virginia
WO	Tc ₃		Woodbine, Canada
YM	Tc ₃		Yakima Meadows, Washington

Track categories by circuit see pages 53 and 54.

QUALIFICATION RULES

Race Elimination Rules

The biggest obstacle to many fans is their inability to avoid high risk races. Any serious player must pass such races to assure long range profits. The following rules are designed to eliminate those high risk areas where there is insufficient data to determine the true class levels, or where the highest rated horses are not in top condition:

- Rule 1.** Eliminate all maiden and claiming races for 2-year-olds.
- Rule 2.** Eliminate any maiden race for 3-year-olds (and up) where there are 3 unknown factors (UFs).
- Rule 3.** Eliminate any race where the three highest rated horses do not qualify or are UFs.

These rules will eliminate some races immediately by inspection. For the others, determine the class ratings of all horses in the race. Qualify the horses from the top down, until you have enough for the type of wagering in the race. Check rule 3. If the rule is satisfied, the race qualifies for play. If not, pass the race.

Definitions

An *unknown factor* (UF) is defined as:

- a) Any maiden in a maiden race who has less than 4 lifetime starts.
- b) Any qualified horse in a race for winners who has less than 4 lifetime starts or 4 starts in North America.
- c) Any horse who qualifies under an exception to the horse qualifying rules.
- d) Any horse who is *untested* relative to some condition in the race.

Horse Qualifying Rules

The *Established Class Principle* is sufficiently strong that few rules are necessary to account for the other factors. The most important of these are general fitness requirements which deal with recent activity and consistency. These basic rules, along with the Class ratings, are enough to achieve the desired statistical edge. We recommend that the novice restrict himself to these basic rules.

We have also included a secondary set of general handicapping rules. (See page 27.) These are of lesser importance since they are often accounted for by the Established Class Principle itself; in addition, they will affect fewer races. However, the experienced player should include these along with the basic rules. Note that these secondary rules require some judgement on the part of the user.

Rule 1. Recent Activity.

The horse must have raced in the past 2 weeks, or, he must have had a workout in the past 2 weeks and a race in the past 4 weeks. If not, he is disqualified. (Denoted X1.) *

Rule 2. Recent Performance.

The horse must have finished in the money or within 1 length of the winner at least once in his last 3 races and in the past 6 weeks. If not, he is disqualified. (Denoted X2.) *

Exception: If a horse shows a win or finish within 1 length of the winner after a layoff of 4 weeks or more, qualify him as a UF. This satisfies both Rules 1 and 2.

Rule 3a. Low Consistency.

The horse must have an in-the-money consistency of 25% if he is a winner this year, or 40% if he is not a winner. If not satisfied, dis-

* Denotes means as shown in the example.

qualify him and reduce his rating by 10%. (Denoted X3.)

Rule 3b. Hard Win.

If the horse's race was a hard win in the past 3 weeks, he must have a win consistency of 25%. If not reduce his rating by 10%. (Denoted - %.)

Rule 3c. High Consistency.

If the horse has a win consistency of 50%, or an in-the-money consistency of 75%, increase his rating by 10%. This must be based on at least 5 starts. (Denoted + %.)

Rule 3 does not apply to maiden races.

Definitions

In-the-money: A 1st, 2nd, or 3rd place finish position.

In-the-money consistency: Ratio (%) of the number of in-the-money finishes to the number of starts.

Win consistency: Ratio (%) of the number of wins to the total number of starts.

Hard win: A judgement call. Use 2½ lengths as a rule of thumb. A winning margin of 2½ lengths, is considered easy. Anything less is considered hard.

1 Week = 7 Days
1 Month = 28 Days

Example: Win Consistency Ratio (%) in this case is also the in the money consistency ratio.

	St.	1st	2nd	3rd
Jessambers 1978	6	2	0	0

2 wins out of 6 starts would thus be 1/3 or 33 1/3%.

Using the calculator mode, depress black 2, then ÷ button, then black 6, then = 0.3333333 or 33 1/3%.

SECONDARY HANDICAPPING RULES

(3 Year Olds and Up)

Rule 4. Distance.

Many horses show a decided preference for certain distances. If there is no clear-cut preference, ignore this rule.

- a) Disqualify routers in sprints.
- b) Disqualify sprinters in routes.

Exception: If the horse is untested at the distance, or if he is disqualified but has the highest rating in the race, make him a UF.

Rule 5. Track Surface.

Many horses show a decided preference for either the main (dirt) track or the turf (grass) track. If there is no clear-cut preference, ignore this rule.

- a) Disqualify a turf horse on the main track.
- b) Disqualify a dirt track horse on the turf.

Exception: If the horse is untested on the surface, or, if he is disqualified but has the highest rating in the race make him a UF.

Rule 6. Weight.

Consider weight of 120 lbs. or more at distances of 1 mile or more.

- a) Disqualify any horse who has not been in the money at least once when racing at a distance within 1 furlong of today's race and carrying within 2 pounds of today's weight.

Exception: If the horse is untested, or is disqualified but has the highest rating in the race, make him a UF.

Rule 7. Sex.

The female horse is generally much weaker than the male.

- a) Reduce the rating of any female racing against males by 20%.
- b) Increase the rating of a female who has beaten males, or has been within 1 length of

the winner, by 20% when racing females for the next 4 weeks.

Note: At some minor tracks, females run regularly against males. If her rating was earned in such races, ignore this rule.

Rule 8. Age.

In races for mixed age groups, i.e., 3-year-olds and older, or 4-year-olds and older, reduce the rating of the lowest age group in the race by 10% until May 1st.

Definitions

Distances under a mile (8 furlongs) are considered *sprints*; over a mile, *routes*.

A sprinter is a horse whose best races are in sprints. He seldom runs in routes; when he does, he is usually out of the money.

A router is a horse whose best races are in routes. He seldom runs in sprints; when he does, he is usually out of the money.

An untested horse is one who has never been subjected to certain race conditions. For example, he may never have gone a route distance or have been on the turf.

SUMMARY OF HANDICAPPING PROCEDURE

Before getting into the method of wagering, which is a completely separate subject, we will briefly recap the procedure. (In our example on pages 16 and 17, the horses are 2 yr. olds. We therefore use just the basic horse qualifying rules.)

The ideal way is to figure all races in your form before going to the track, preferably the night before. The first step is to check each race to see if any can be eliminated by inspection, i.e., 2-year-old maidens and claimers and some 3-year-old maiden races. Mark any such races RNQ (race not qualified).

Next, go to your first "apparently" qualified race and calculate the class ratings for **all** horses in the race. Then check the 3 highest rated horses to see if they qualify or are UFs. If none of your 3 highest rated horses is fully qualified, then mark the race RNQ, and go to the next race. If at least one of your top 3 horses is fully qualified, then the race qualifies for play. Continue qualifying the horses until you have 4 qualified horses in the race.

You should systematically mark each horse so that his rating and whether he qualifies or not is completely clear. It is convenient to use a Flair-type pen, light enough so that the printing in the form shows through. One simple way of marking your form follows. (See the sample chart on pages 16 & 17.)

1. Write the rating right after the horse's name. Put adjusted rating (if any) below the initial rating.
2. Write the overall rank of each horse in the margin, i.e., 1 for highest rating, 2 for 2nd highest, etc., without regard to his qualification.

3. If horse is qualified, mark a large circle in the middle of his chart. Inside the circle, put his rank as a qualified horse. That is, 1 for highest qualified rating, 2 for 2nd highest qualified rating, etc.
4. If horse is a UF, mark UF beside the circle.
5. If horse is unqualified, write X1 under his overall ranking if he is disqualified under Rule 1, etc.

Returning to the example on pages 16 & 17, the chart has been marked as described above. Note that we are just using the basic horse qualifying rules (Rules 1-3). The overall ratings are written to the left of each horse's name. Two of the horses don't qualify, including the 4/5 favorite going off at .90 on the dollar (Quadrangles Plum). The qualified rankings are indicated in the circles. Note that our top figure is a prime bet, as described in the next section.

In races where all horses are moving up, ie page 16, we consider our top ranking horse to be a prime bet as long as it meets the 10% above next highest rated horse.

If there are any early scratches, you should account for these before going to the track. These are usually available via phone, radio and TV, etc., depending on your locality.

The last step is to arrive at the track sufficiently early to check the card for late scratches, and, if any, to adjust your figures accordingly. You should then mark your program indicating the qualified races, your qualified horses, and your potential plays for the day.

METHOD OF BET

General

The art of proper wagering is possibly as complex a subject as handicapping itself, but it is invariably downgraded in importance by the average player. The *wagering method recommended here* is the result of *probability studies* aimed at optimizing the overall return. It has been specifically developed to be used with the established class handicapping technique; together these procedures provide the desired statistical edge for the regular or frequent race-goer.

We will discuss 5 types of basic play: the Prime Bet, Longshot Bet, Show Parlay, Daily Double, and Exacta. Each of these individually should show a profit over any reasonable sampling. However, there is no way of telling which will be the most profitable during the course of a meet; each one has been the best at one time or another. Consequently, we recommend that you use all 5 types of play independently each day.

The money levels given in this section can be raised or lowered to suit the individual bettor. However, if this is done, the ratio between the various bets should be kept in the same proportion as far as possible. Once the bet level is selected, it should be kept the same for all qualified races. This method of bet has been proven out over a long period of time, but to be effective *consistently* is necessary. Remember, each race and each day is independent. The common practice of changing *one's bet level and trying for a "big kill"* when ahead, or trying to get even in one shot when behind, will destroy the proven statistical edge.

For wagering purposes, it is convenient to define the class level in more detail. A horse, whose rating is at least 5% higher than the purse value, is considered a *dropdown*. Similarly, a horse whose rating is at least 5% below the purse level is considered to be a *move-*

up. Finally, a horse whose rating is less than 5% away from the purse value (higher or lower) is said to be *in class*. In most races you will have horses from all 3 groups. However, you will find some races where every horse is moving up. In general, these are more difficult to handicap, so we will play them a little tighter.

Prime Bet

The most common betting situation is the Prime Bet on our top qualified horse providing he has a sufficient class edge. *If the top qualified horse has a class edge of more than 10% over the 2nd qualified horse, he becomes a Prime Bet.* For example, assume the top choice has a rating of 13. Reducing this by 10% leaves 11.7 (using the calculator, take $13 \times 90\% = 11.7$). If the second choice is less than 11.7 the top choice is a Prime Bet. The amount bet depends on the horse's dollar odds at post time, as shown in the table below.

Prime Bet Table

<u>Dollar Odds</u>	<u>Bet</u>
Less than 6/5*	No Bet
6/5 to 9/5	Win \$20
2/1 to 3/1	Win \$10, Place \$10
7/2 and up	Win \$10, Place \$10, Show \$10

*During the first two weeks of the racing season, raise the minimum odds to 3/2.

Restrictions

1. If the top qualified horse is a UF, there is no Prime Bet in the race.
2. If the race is a Hurdle or Steeplechase event, there is no Prime Bet in the race. In both of these cases the horse could qualify for longshot play.
3. If there are less than 7 horses in the race, omit the show bet.

Longshot Bet

The Longshot Bet may be made on our top qualified horse if not a Prime Bet, on our 2nd qualified horse, and occasionally on our 3rd qualified horse. This bet is always made across the board, i.e., equally for win, place and show, but only when the odds are sufficiently long. (Also see Q. & A. page 44-50.)

Longshot Bet Table

<u>Horse</u>	<u>Dollar Odds</u>	<u>Bet</u>
1st qualifier	7/2 or better	\$8 across board
2nd qualifier	5/1 or better	\$6 across board
3rd qualifier	6/1 or better	\$4 across board

Restrictions

1. No Longshot Bet can be made if there is a Prime Bet in the race with odds of 9/5 or less.
2. No more than 2 bets in the same race can be made, i.e., 1 Prime and 1 Longshot, or 2 Longshots.
3. The horse must have 1 of the 4 highest overall ratings (including unqualified horses).
4. The horse must be dropping in class (i.e., no more than 5% below purse value).
5. If there are less than 7 horses in the race, omit show betting, i.e., just win and place.

Returning to our example on the chart, pages 16 & 17, note that we have a Prime Bet, Jessamber. Since her odds at post time were 7/1, she would normally be bet \$10.00 across the board; since there are only 6 horses in the race, we just bet \$10 win and \$10 place. The winning payoff returned \$129.00 for the \$20 bet. There is no longshot play since the two horses tied for

second are both moving way up (see Longshot Rule 4).

Notice that the qualifying rules eliminated play on the strong favorite who had the second highest overall rating in the race; similarly our third overall rated horse was also eliminated. Both were out of the money! *You must observe the qualifying rules!*

Show Parlay

The class principle is strong enough to make show bets practical in spite of the breakage penalty. Show parlays, where the entire return from each show bet is played on the next, can mount up surprisingly fast when successful. Although the odds are against a successful run on any one day, you can reasonably expect about two successful parlays per week.

Rules

1. Play is in qualified races only.
2. To be a play, the horse must be
 - a. A Prime Bet, or
 - b. The top-rated horse fully qualified, i.e., not a UF, with a 5% edge over the 2nd and 10% edge over the 3rd qualifier.
3. Eliminate any race where the expected return is under \$2.40. *If in doubt, eliminate if the win odds are under 3/2.*
4. There must be at least 3 possible plays for the day, or there is no play.

A reasonable amount to start the parlay with is \$20 in line with the basic Prime Bet level. Bet the return, rounded down to an even \$2 on the next play, and so forth. *If the parlay busts, stop play for the day.* Numerous variations on the method of rounding off are possible. Some like to round down to the nearest \$5 multiple, recover the original \$20 cost after a few

successful plays, and continue on the profits only. Note that one successful parlay will normally be enough to show a profit for a six-day week!

Daily Double

This represents a win parlay on the first two races. The major difficulty here is that you are betting the second race blind with no chance of seeing your choices before the race; so you risk being stuck with a heavily bandaged cripple. Analysis of the probabilities in double play are consequently quite involved. What follows here is a brief discussion of the principles with the recommended procedure for the more common cases.

The chances of picking two successive winners on a single combination is small. For example, if you have a 40% chance of picking the winner in any one race, the probability that you will pick two winners in a row is only 16% ($.40 \times .40 = .16$). We will increase this probability by playing more than one combination. The return on a \$2 double may vary during the season from under \$10 to several thousand dollars, with an average return of around \$50 to \$60. Clearly we cannot play too many combinations or the cost becomes too high compared to the probable return. We consequently eliminate doubles where the races are too unpredictable, and on the other hand, we play strong combinations more than once.

Note that the double rules have been relaxed compared to the usual race rules, thus emphasizing the class rating and old class more heavily. This implicitly recognizes the fact that betting coups are more likely to be attempted in the double races. In addition, this increases the chances of hitting the larger priced doubles.

Double Rules

1. At least 1 of the 2 double races must qualify for regular play.
 - a. Horse not qualified for regular play will be considered for double play, subject to the following restrictions:
 - a. The horse must have raced in the past 4 weeks; or if his last race was 4-8 weeks ago, he must have 2 workouts in the past 15 days; or if his last race was over 8 weeks ago, he must have 3 workouts in the past 15 days.
 - b. If the horse has had only 1 or 2 recent out-of-the-money races following a long layoff, he must have a total of at least 3 races or workouts in the past 15 days.
 - c. If the horse has no rating for this year, but has 4 or more races all in higher class levels, use his rating for last year. He will be considered subject to all rules above.
 - d. In maiden races only: Consider any first time starter who has 3 or more workouts in the past 15 days. To qualify, one of these workouts must be in fast time (compared to those of the other horses in the race), and one must be for a long distance, i.e., within one furlong of today's race or a mile if today's race is a route.
2. Treat any horse with 1 or 2 out-of-the-money starts as a first time starter. His races may be treated as workouts.
3. Adjust the rating of any horse who is unqualified for regular play but who qualifies for double play. If he is in class or dropping in class, reduce his rating by 10%; if he is moving up, reduce his rating by 20%.

4. List horse for double play in the following order:
 - a. Prime Bet
 - b. Qualified Dropdowns
 - c. All the rest in order of their adjusted ratings.
5. In general, we will use the top 4 horses on the list. *The top fully qualified horse must be on this list or the race must be eliminated from play.* If one of the races has a strong Prime Bet, the other race may use 5 horses on your list.

Method of Bet

Play is based on a total cost of \$20, i.e., on a total of ten \$2 double tickets. The ticket allocation is shown in the diagrams following for the common types of play. The numbers represent the order of your choices, 1st, 2nd choice, etc., and P represents a Prime. Each x indicates one \$2 ticket on the combination corresponding to that box.

- a. Standard Play

This play, shown below, will cover most situations.

		2nd Race			
		1	2	3	4
1st Race	1	x	x	x	x
	2	x	x	x	
	3	x	x		
	4	x			

2-3 combination
see below

The vertical numbers are the choices in the first race; the horizontal ones are the second race picks. The arrow, in illustration, points to the combination of the 2nd choice in the first race with the 3rd choice in the second race.

- b. Variations in the Standard Play can be made depending on the relative strengths or Class spread between contenders. Typical cases are:

	1	2	3	4
1	x	x	x	x
2	x	x	x	
3	x	x	x	

	1	2	3
1	xx	x	x
2	x	x	x
3	x	x	x

- c. If one of the races has a strong Prime, the main play would be:

	1	2	3	4
P	xx	xx	xx	x
2	x	x	x	

Possible variations could be:

	1	2	3
P	xxx	xx	xx
2	x	x	x

	1	2	3	4	5
P	xx	xx	x	x	x
2	x	x	x		

As was true with regular non-double bets, advanced preparation is essential. This is particularly true here since the double races often have large also eligible lists and frequent scratches.

Exacta

The theory behind Exacta (or Perfecta) play is similar to that for the Daily Double, but here we are trying to pick in order the first 2 finishers in a single race.

As with the daily double, the rules are broadened so that most races are playable.

Exacta Rules

1. All races are playable subject to the following restrictions:
 - a. No maiden 2-year-old races.
 - b. No unqualified races for 2-year-old winners.
 - c. No unqualified 3-year-old maiden races.
 - d. All other unqualified races are playable subject to rule 5 below.
- 2.-4. Same as Double Rules.
5. In general, we will use the top 4 horses on the list. *The top fully qualified horse must be on the list or the race is disqualified from play.*

Since the size of the return depends greatly on the number of horses in the race, we have two Standard Plays. For races with 8 or more horses use the play with 10 combinations. For less than 8 horses, use the 8 combination play.

PLACE				
	1	2	3	4
W		x	x	x
I	x		x	x
N	x	x		
	x	x		

PLACE				
	1	2	3	4
W		x	x	x
I	x		x	
N	x	x		
	x			

a) Standard
10 Combinations

b) Standard
8 Combinations

Note that we are boxing our 3 top horses and adding the 4th horse with the 1st, back and front, in our standard 8 combination play. For the standard 10 combination play we also include the 2-4 and 4-2 combinations. In the standard 10 combination we are keying equally on our top 2 horses, i.e., playing them both to win and place with all the other 4 horses.

In general, the novice should stick to the standard plays. With experience, some flexibility is desirable. For example:

- a. If our top choice is strong, we might wish to replace the 2-4 combinations with the 1-5 and 5-1 pair.
- b. If the race is relatively tight, you might reasonably include the 3-4 and 4-3 combinations. This increases the cost, but it is worthwhile if the odds are right.
- c. In short fields and when our top choice is a strong favorite, the exacta will probably be low in price. Unless you can logically narrow down the contenders to one or two and play these combinations several times, it is better to pass the race.

Again returning to our sample example in the chart, for the short field with a Prime Bet we would simply wheel the prime. The \$10 cost returned a payoff of \$87.60, very high for a short field!

THE "CLASSIC"

This is a special case which doesn't occur very often but can lead to very large payoffs when it does.

Classic Double. One race has a "strong" Prime, i.e., a Prime which has the highest overall rating in the race and is also a dropdown. The other race is unqualified and wide open. Wheeling the Prime is the obvious play.

This type play led to a \$7800+ payoff at Calder several years ago! It had a high price Prime in the first

race coupled with an unqualified maiden claimer with no qualified horses in the second race.

Classic Exacta. This is a similar situation with a strong Prime in a race where the rest of the field is wide open. If the Prime were not in the race, the race would not qualify. Again the play is to wheel the Prime.

Unusual payoffs are again common here. I recall a situation at Aqueduct several years ago where a strong Prime, favorite at 6/5, in a 6-horse field, led to an exacta paying over \$150!

You'll
Come
Out A
Winner™

MISCELLANEOUS

Quinella and Trifecta

The quinella, while not as common or as popular as the exacta, is found at some tracks. Here you pick the first two finishers, but they can finish in any order. Thus a ticket on the 2-3 combination wins if either 2 wins and 3 places or 3 wins and 2 places. Play is similar to exacta play but you need only half as many tickets to cover the same number of combinations as the exacta. The payoffs are consequently roughly halved or less. In particular, when the favorite finishes 1st or 2nd, the payoffs are usually relatively low. Consequently, if the favorite is among your top 2 choices, play may not be worthwhile.

The trifecta, where you must pick the first 3 finishers in order, is a completely different situation. Here the payoffs run often in the thousands and the probability of hitting one are correspondingly low. Generally speaking, this is not a worthwhile play unless you have a strong chance at picking the winner. For example, with a strong Prime, you should play the Prime to win and box 3, 4 or even 5 horses behind it for 2nd and 3rd.



OTB (Off-Track Betting) Play

Since OTB has become firmly established in N.Y. and looks like it will probably spread throughout many more states, a logical question is, "Can I use the computer if I play at OTB?" The answer is, "Yes, with some modifications."

Clearly any handicapping-wagering system which incorporates the post time odds into your play depends on your knowing the post time odds for optimum performance. For example, the morning line odds may show 8/1 on a horse. At those odds he might be a good longshot play. At post time his odds may have dropped to 3/1, and is no longer a good longshot play. On the other hand, a horse listed at 3/1 in the morning line may actually go off at 6/1 and be a longshot play at the track. Most efficient play on our Primes and Longshots thus requires that you be at the track.

How close the morning odds are to the actual post time odds varies from track to track and also with the section of the country. New Yorkers, for example, are favorite-happy. The 1st and 2nd morning line choices are usually bet down. Californians tend to go in the opposite direction, in particular, they tend to discount out-of-state horses excessively. In your area you should run a check on the morning line odds and see how realistic they are. You would then adjust the dollar odds in the Prime Bet and Longshot Bet tables accordingly—in the direction of being conservative.

As far as parlay-type wagering is concerned (doubles, exactas), we pay little attention to the odds. Consequently, these can be played at OTB the same way as at the track.

Questions & Answers

Some of the questions on the Kel-Co approach which we commonly encounter are repeated here for general information.

- Q. Can a novice really do well with your method?
- A. The novice, with no bad habits, sticks literally to our procedures and often does much better than the oldtimer who is saturated with bad habits and misinformation. Case in point: The pro would never bet a 40/1 prime bet—he knows better. The innocent novice, however, in his ignorance, bets the long price prime and wins! Incidentally we have had prime which have paid over \$100 to win!
- Q. Why do you pass most 2-year-old maiden races?
- A. While 2-year-olds have the advantage of not having been over-raced, i.e., relatively few have leg ailments, they are still “babies” who are maturing at different rates. Sudden improvements and “class” changes are thus common and relatively difficult to predict.
- Q. How do you handle dead heats?
- A. Horses who deadheat for 1st, for example, are each credited with a win in their charts. However, they split 1st and 2nd place purse money. In calculating their rating, credit the horse with $\frac{1}{2}$ a win and $\frac{1}{2}$ a second. On the computer you can take the rating both ways and average the two results.

- Q. How do you handle disqualifications as far as your horse qualifying rules are concerned?
- A. Give the horse the benefit of the doubt. Thus, if he finished in the money but was disqualified out of the money, assume he was in the money. Also, if he finished out of the money, but was moved up into the money by a disqualification, treat him as though he finished in the money.
- Q. How do you handle ties in your ratings when it comes to wagering?
- A. If the top two qualified horses are tied, they are both treated as the 2nd choice. Either or both must have odds of 5/1 to be a longshot play. Similarly, if the top 3 are tied, treat them all as your 3rd choice. It follows that if your top 4 were virtually tied you would treat them all as 4th choices—i.e., no wagering at all.
- Q. You don't mention wheeling a double or exacta. Why not?
- A. In general, our standard plays work out best in the long run, particularly for the novice. The experienced player will occasionally find wheels a better play, however. For example, if you had a strong Prime in 1 of the double races, and the other race was wide open, wheeling the Prime makes sense. (See “Classic.”)
- Q. What do you do if a horse has some of his earnings this year in a foreign country?
- A. The only way to handle this is to save your back result charts from the form (or alternately the monthly “Chart Books” published by the Form). You can then determine his earnings in this country and thus his rating here. Otherwise if he appears to be a contender you should include him in parlay play or pass the race.

- Q. What about claimed horses coming right back?
- A. A claimed horse must be raised in claiming price 25% when racing within a month of being claimed. This *may* or *may not* mean he is being raised in class over his head. We ignore the claim and let his rating decide whether he is a contender.
- Q. Can you explain dollar odds simply?
- A. You can interpret the dollar odds as the profit per dollar waged (if your horse wins). Thus dollar odds of 2/1 means that you make a profit of \$2 per dollar bet, or \$4 per \$2 bet, and thus a return or payoff of \$6 for your \$2 bet. Similarly, 9/5 means a profit of \$9 per \$5 bet (same as \$1.80 per dollar or \$3.60 per \$2) for a return of \$14 per \$5 or \$5.60 for \$2.
- Q. What about stake horses in allowance races?
- A. Some stake horses use allowance races as preps for an approaching stake race. The assumption is that the horse will try to win, but not if it would extend him so much that it might hurt his chances in the stake. Check his charts to see what happened in similar situations. If still in doubt, make him a UF.
- Q. What about speed and pace handicapping?
- A. There are some merits in both, but both have limitations. (Of course we're prejudiced.) It is commonplace to see a class horse "hook" an apparently faster horse and put him down. A major difficulty with speed or pace handicapping is that you must use a "track variant." The variant given in the racing form is almost useless and can be very misleading at times. This means that you must compute your own—a time-consuming process. It is also difficult to account for shippers properly.

- Q. How do you handle missing data?
- A. For a heavily raced horse, particularly late in the year, there may be 4th (and 5ths) which occurred off his chart. The horse will get a somewhat higher rating than he should when these are ignored. This is not important if the horse has a high consistency. However, if the horse has a low consistency, his rating could be much higher than deserved. You can compensate for this by using the last Tc and estimating that he had 1 4th for each 5 unaccounted for races. Same for 5ths.
- Q. Do you recommend spot plays?
- A. Our procedure is essentially a broad-based statistical approach. The class ratings, qualifying rules, and method of wagering form a complete proven package—this is what we recommend using. However, there are experienced handicappers who use the computer as a handicapping *aid*—to establish the class of the race, to handle certain types of races, etc. There are some who concentrate on spot plays with the computer. For example, one might pick standout Primes (top overall figure, dropping down, and at his optimum distance) who also has the top recent speed rating. This type of play requires experience & judgement.
- Q. How close do you stick to the qualifying rules?
- A. The rules are broad enough as they are, depending heavily on the class principle. I personally stick to the exact rules—this saves heavily on preparation time.

- Q. What about special horseshoes like mud calks?
- A. The proper interpretation of special shoes requires some judgement. In general, the use of these shoes requires additional effort and cost by the trainer; this would rarely be done unless the trainer thinks his horse is a serious contender. On some hard tracks, where the footing becomes slippery when wet (e.g., some Northern California tracks), calks become virtually a necessity for any serious contender.
- Q. You don't mention "mud" marks. Why not?
- A. While there are some legitimate mudders, the percentage at any track is low. We have found that the "class" holds up better, if anything, on "off" tracks. In addition, since many fans are over-concerned with mud marks, we get better prices than we would if the track were fast.
- Q. What about unqualified races? Do you ever play them?
- A. When I'm able to attend on a fairly frequent basis (with the intent and expectation of making money), I avoid them completely. The winning percentages are simply too low. However, if I am just out for a day's entertainment (and willing to pay for it), I may spend some time on the unqualified races. When you gain experience with our technique, you will notice a strong correlation between unqualified races and boxcar payoffs. Any top-rated, unqualified dropdown is worth examining in detail for any signs of life (particularly in the "gimmick" races). Not for the novice. However, even though you will occasionally find a big payoff, you are much better off to avoid unqualified races in the long run.

- Q. What do you have to say about the times the rules don't hold up?
- A. There are times when this is true, however the rules have been proven over a long period of time. The money you may have won betting on races we disqualify would not begin to offset losses from breaking the rules. Stick to the rules!
- Q. How do I handle betting on races when all the horses are moving up?
- A. As we discuss in our example race only the prime is eligible for a bet. The restriction 4 in Longshot Bet Table applies, therefore we wager only on the prime.
- Q. Do I bet on UF's?
- A. Yes! Except as outlined under the rules.
- Q. Would you explain Hard Win.
- A. Let's look at Jessamber, (page 17), this filly's last race shows a Hard Win, however she meets rule 3b. 33 1/3% also see definitions on page 26.
- Q. How do I handle missing in the money finishes that don't appear on the chart?
- A. Use the Tc for the oldest race shown in the Past Performances. Generally horses run in the same circuit; therefore, the oldest race Tc will give the results we want.

Basic Operating Instructions

Portable Battery Operation

Your calculator operates on a 9-volt alkaline battery. When it becomes weak, the display will light up very brightly, then become dim and erratic generally displaying all 0.0.0.0.0.0. To replace or install the battery, remove the cover on the bottom of the unit, carefully unsnap the battery; put a new Alkaline battery into the connector; replace it in the battery compartment with the connector on the opposite side of the adaptor plug and slide the cover back in place.

NOTE: Do not leave a bad battery in the computer for a long time. For A.C. operation, you should use 751S adapter designed for this computer. To use the adapter, simply turn off the power switch, and insert the adapter into the A.C. outlet, 110-120 volts, 60Hz; plug the adapter plug into the socket on the computer and turn the computer on. Remember this is an adapter and does not charge the battery. Use the adapter whenever possible. Battery life is limited. (Approximately 3 hours.)

Power On

Slide power switch to the left to turn on computer, touch [CE/C] twice.

NOTE: Touch [CE/C] twice before beginning a computation.

Number Entry

To enter a number, "touch" the numeric keys in sequence.

Example: To enter 12.3—

<u>Touch</u>	<u>Display</u>
[CE/C] (twice)	0.
1	1.
2	12.
[.]	12.
3	12.3

To clear an incorrect entry, use the [CE/C] key.

Example: To calculate $12 \times 7 = ?$

<u>Enter</u>	<u>Touch</u>	<u>Display</u>
12	[x]	12.
8	[CE/C]	0.
7	[=]	84.

NOTE: After clearing an entry, do not duplicate the operation function.

Examples of Basic Functions

NOTE: Touch [CE/C] twice before beginning a computation.

ADDITION: To calculate $9 + 17 + 32.5 = ?$

<u>Enter</u>	<u>Touch</u>	<u>Display</u>
9	[+]	9.
17	[+]	26.
32.5	[=]	58.5

NOTE: Each time an operation [+ , - , × , ÷ , %] is touched, the result of the previous calculation is displayed. The [+] key is not programmed to operate in a combined % operation. Use of this operation will give an incorrect and peculiar answer. The calculator will accept numbers less than 1 provided you first enter the decimal point followed by the number. Entering a zero before the decimal point will not be accepted by the calculator.

SUBTRACTION: To calculate $436.14 - 103.9 = ?$

<u>Enter</u>	<u>Touch</u>	<u>Display</u>
436.14	[-]	436.14
103.9	[=]	332.24

MULTIPLICATION: To calculate $31.62 \times 58.6 = ?$

<u>Enter</u>	<u>Touch</u>	<u>Display</u>
31.62	[x]	31.62
58.6	[=]	1852.932

DIVISION: To calculate $196 \div 7 = ?$

Enter	Touch	Display
196	[\div]	196.
7	[=]	28.

CHAIN CALCULATIONS: To calculate $15.3 \times 13.7 \div 4 + 19 - 11 = ?$

Enter	Touch	Display
15.3]×]	15.3
13.7	[\div]	209.61
4	[+]	52.4025
19	[−]	71.4025
11	[=]	60.4025

Reciprocals

When the number you want to take the reciprocal of is being displayed, simply press [\div] then [=] twice.

Example: $\frac{1}{10} = .1$

Enter	Touch	Display
10	[\div]	10
	[=] ($\times 2$) *	0.1

= Key does not preform Constant Functions. Decimal combination operations will not operate in all function modes. If you arrive at the same answers as the example show then the unit is preforming properly. The unit has been designed for handicapping and has limited calculator functions.

Track Categories By Circuit

(Modifications apply to all tracks on same line.)

Tc₁ –

Canada: Grd, FE,
 Delaware: Del
 Maryland: Bow, Lrl, Pim
 New Mexico: LaM, Rui, Sun (3)
 New York: Aqu, Bel, Sar

Tc₂ –

Arkansas: OP
 Florida: Crc, Hia, GP (7)
 Illinois: AP, Haw, Spt, Was
 Louisiana: DeD, FG, EvD, JnD, LaD
 Nebraska: Cls, Fon, LnN
 New Jersey: Atl, Med, Mth, GS
 Oregon: PM, Sal
 Pennsylvania: Key, Pen
 South Dakota: PJ
 Washington: Pla, Lga

Tc₃ –

Arizona: TuP
 Canada: WO
 EP, NP, AsD, Lbg, MD (3)
 Stp (6)
 Colorado: Cen
 Florida: FD
 Kentucky: Lat, E1P (6)
 CD, Kee (8)
 Illinois: FP, Cka
 Bml (6)
 Maryland: Tim
 Massachusetts: Sut
 MF (4)
 Mexico: Jua (4)
 Michigan: HP, Det (5)

New Hampshire: Rkm
New Mexico: SFe
New York: FL (8)
Ohio: Beu, RD, Tdn
Pennsylvania: Com, Poc (4)
West Virginia: CT, Shd
Wat (5)

Tc₄—

Arizona: Ril, Pre (1)
California: BM, Dmr, GG, Hol, Pln, SA, Sac, SR,
Stk, Sol
Fer (5)
Pom (8)
Massachusetts: GBF, Nmp (5)
Mexico: AC
Nebraska: Aks (2)
New Mexico: Alb (2)

Track Abbreviations

All track abbreviations are listed alphabetically with their full name, state and track category.

Unlisted Tracks

Most probably are very minor small tracks, fair circuits, etc. and usually very short meets. Either 1) use Tc for main tracks on their list, or 2) use Tc₃ most are so small their class is nearly non-existent.

FINAL COMMENTS

In summary, our handicapping procedure is based on the Established Class Principle; we feel that this is the most important single factor in handicapping. In theory, if all the horses in a race are in top condition and going all out, the order of finish should correspond to the class ratings. This, of course, will never happen*—some of the horses will not be in shape, others may be entered for conditioning purposes only. The purpose of the qualifying rules is thus to 1) eliminate high risk races, and 2) to eliminate horses who are not in shape and not serious contenders. The ratings with the properly applied rules will then provide the user with the desired statistical edge in his wagering.

There are of course many types of race-goers, varying in degree of experience, seriousness, and resulting success. To the novice, the casual, and the regular but unsuccessful attendee we recommend that you absorb the contents of this booklet, and then stick literally to the rules. If in doubt, pass the race. The unplayable races are pure gambles, avoid them, and you can become a winner!

To the regular and successful attendee and to the true pro, we recommend that you compare the Kel-Co results with your own. From past experience we know many of you will switch completely, while others will adapt our class principle into your own procedures.

If you don't fully understand the use of the Kel-Co Computer, please advise us and we will attempt to clear up any problem.

*Note: We were overly conservative here. Since the original writing in 1971, it has happened several times. In particular, on the day of Secretariat's Preakness race, we were guests at the Railbird Club at Arlington