

HOUSE WAY PAI GOW Poker
Bonus Side Bets Analysis

Prepared for

John Feola
New Vision Gaming
5 Samuel Phelps Way
North Reading, MA 01864

Office 978 - 664 - 1515

Cell 617 - 852 - 7732

Fax 978 - 664 - 5117

www.newvisiongaming.com

By
Stanley Ko
GAMBOLOGY
P. O. Box 82225
Las Vegas, NV 89180
702-258-9685

WWW.GAMBOLOGY.COM

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House Way Pai Gow Poker is a new casino table game developed by New Vision Gaming. Players have the option of placing three Pai Gow bets along with three Bonus Bets. The game is dealt from a single standard deck of cards with a joker and can be played by up to 6 players on a standard blackjack-size table. The joker can be used as an Ace or to complete a straight, flush and straight flush.

As with traditional Pai Gow Poker a 5% commission is charged to all winning Pai Gow Poker bets. No commission is charged on any winning Bonus Bets.

House Way Pai Gow Poker provides a game where no knowledge of the rules of Pai Gow Poker will be necessary to play the game.

Players have the option of wagering on three separate Pai Gow Poker hands as well as three separate Bonus bets. Players can only make bonus bets on hand(s) that they make Pai Gow Poker bets on.

To play the game, players only have to choose one out of the three Pai Gow Poker hands. Bonus Bets will be optional for the player to participate in. There will be three circles with the following names for players to place their wagers on, hand 1, hand 2, and hand 3. Each of the three Pai Gow Poker hands will have a correlating Bonus spot representing each of the Pai Gow Poker hands for each player to make an optional bonus bet.

To start the game players choose which number(s) they believe will be a winning hand. Players choosing to make a bonus bet must also place their bet(s) at this time.

After all wagers have been placed, the dealer will deal one Banker hand and three player hands. Both the Banker hand and the player hands will be arranged by the dealer using the casino's House Way of setting the cards to determine the winner. The Banker hand is first to be revealed and arranged according to the casino's House Way. After arranging the Banker hand, player hand number 1 will be revealed. Hand 2 and Hand 3 will repeat this procedure comparing their hand to the banker hand.

Players that have wagered on qualifying bonus hand(s) will be paid according to one of the following Pai Gow Poker Bonus pay tables:

Pai Gow Poker Bonus Pay Tables

Hand Type	Table A	Table B	Table C
5 Aces	1000	500	500
Royal Flush	250	250	200
Straight Flush	50	50	40
Four of a Kind	25	25	25
Full House	5	5	5
Flush	4	4	4
Three of a Kind	3	3	3
Straight	2	2	2

Hand Type	Table D	Table E
5 Aces	500	500
Royal Flush	200	200
Straight Flush	50	50
Straight Flush with Joker	30	30
Four of a Kind	25	25
Full House	5	6
Flush	4	4
Three of a Kind	3	3
Straight	2	2

All payoff odds are "to 1."

Pai Gow Poker Bonus Bet

There are $C_{53,7} = 154,143,080$ ways to deal seven cards from a 53-card deck. A computer program was written to determine the probability distribution below.

Pay Table A

Hand Type	Ways	Probability in %	Pay	Contribution in %
5 Aces	1128	0.00073179	1000	0.731788
Royal Flush	26132	0.01695308	250	4.238270
Straight Flush	184832	0.11990937	50	5.995469
Four of a Kind	307472	0.19947182	25	4.986795
Full House	4188528	2.71729876	5	13.586494
Flush	6172088	4.00412915	4	16.016517
Three of a Kind	7672500	4.97751829	3	14.932555
Straight	11034204	7.15841671	2	14.316833
Nothing	124556196	80.80557103	-1	-80.805571
Total	154143080	100.00000000		-6.000851

Pay Table B

Hand Type	Ways	Probability in %	Pay	Contribution in %
5 Aces	1128	0.00073179	500	0.365894
Royal Flush	26132	0.01695308	250	4.238270
Straight Flush	184832	0.11990937	50	5.995469
Four of a Kind	307472	0.19947182	25	4.986795
Full House	4188528	2.71729876	5	13.586494
Flush	6172088	4.00412915	4	16.016517
Three of a Kind	7672500	4.97751829	3	14.932555
Straight	11034204	7.15841671	2	14.316833
Nothing	124556196	80.80557103	-1	-80.805571
Total	154143080	100.00000000		-6.366744

Pay Table C

Hand Type	Ways	Probability in %	Pay	Contribution in %
5 Aces	1128	0.00073179	500	0.365894
Royal Flush	26132	0.01695308	200	3.390616
Straight Flush	184832	0.11990937	40	4.796375
Four of a Kind	307472	0.19947182	25	4.986795
Full House	4188528	2.71729876	5	13.586494
Flush	6172088	4.00412915	4	16.016517
Three of a Kind	7672500	4.97751829	3	14.932555
Straight	11034204	7.15841671	2	14.316833
Nothing	124556196	80.80557103	-1	-80.805571
Total	154143080	100.00000000		-8.413492

Pay Table D

Hand Type	Ways	Probability in %	Pay	Contribution in %
5 Aces	1128	0.00073179	500	0.365894
Royal Flush	26132	0.01695308	200	3.390616
Straight Flush	38728	0.02512471	50	1.256235
St. Flush with Joker	146104	0.09478466	30	2.843540
Four of a Kind	307472	0.19947182	25	4.986795
Full House	4188528	2.71729876	5	13.586494
Flush	6172088	4.00412915	4	16.016517
Three of a Kind	7672500	4.97751829	3	14.932555
Straight	11034204	7.15841671	2	14.316833
Nothing	124556196	80.80557103	-1	-80.805571
Total	154143080	100.00000000		-9.110092

Pay Table E

Hand Type	Ways	Probability in %	Pay	Contribution in %
5 Aces	1128	0.00073179	500	0.365894
Royal Flush	26132	0.01695308	200	3.390616
Straight Flush	38728	0.02512471	50	1.256235
St. Flush with Joker	146104	0.09478466	30	2.843540
Four of a Kind	307472	0.19947182	25	4.986795
Full House	4188528	2.71729876	6	16.303793
Flush	6172088	4.00412915	4	16.016517
Three of a Kind	7672500	4.97751829	3	14.932555
Straight	11034204	7.15841671	2	14.316833
Nothing	124556196	80.80557103	-1	-80.805571
Total	154143080	100.00000000		-6.392793

The hit frequency is 19.19%.

A Summary of House Advantages

Pay Table	A	B	C	D	E
House Advantage	6.00%	6.37%	8.41%	9.11%	6.39%

As in traditional Pai Gow Poker, the house advantage on the regular Pai Gow bet should be between 2.4% and 2.8%, depending on the house-way strategy.

House Way Pai Gow Poker should enhance player appeal for Pai Gow Poker players where only even money payoffs are possible. For players who thrill at winning a large bonus award, the three bonus side bets should give them a chance to take a shot at it.