

CHAMPION POKER

TEXAS HOLD'EM

Procedures & Training

GAMING ENTERTAINMENT, INC.
4054 Dean Martin Drive, Las Vegas, Nevada 89103

Procedures & Training Guidelines for Champion Poker™

PLAYING THE GAME

Champion Poker Texas Hold 'Em, is played on a Blackjack style table with a standard deck of 52 cards. In front of each player's table spot there are three wagering areas, **Pot Bet, Hold 'Em Bonus and Ante Blind**. Players must bet on the Hold 'Em Bonus game and Ante Blind in order to play Texas Hold 'Em. **The Pot Bet wager is optional, if offered by the house.** The Ante Blind Texas Hold 'Em wager must equal the Hold 'Em Bonus wager. The Pot Bet, if offered, must be equal to the table limit minimum. Hold 'Em wagers are settled in the usual poker fashion.

After the initial wagers are placed the dealer deals each player and himself two (2) cards face down. Then he deals out five (5) total Community Cards face down, in the spots marked Flop, Turn and River. After viewing their two hole cards Players must decide to "Play or Fold" the Texas Hold 'Em wager. If a player chooses to play, he will place a bet in the "Play or Fold" circle equal to his "Ante Blind" bet. If the player chooses not to play, he will forfeit his "Ante Blind" wager. The Hold 'Em Bonus wager remains in action whether or not the player folds. Once the play/fold decision is made the dealer then exposes the three (3) Flop Community Cards. Now players will need to determine if they want to "Check, Bet or Raise" the Texas Hold 'Em wager. The player may check, bet an amount equal to the Ante, or raise by betting an amount equal to 2x the Ante. Once each player has checked, bet or raised, the dealer will proceed to expose the final two (2) cards known as the Turn and the River. Once the three (3) Flop cards, Turn and River are exposed the dealer will expose his hole cards and announce his hand. The dealer will now settle all Hold 'Em Bonus wagers based on the posted pay table and then compare his best five-card poker hand vs. each player's best five-card poker hand where the higher of the *Dealer* and *Player* hands wins. Ties are pushes. The winning player is paid even money on all wagers, i.e., the "Ante Blind" wager, "Play or Fold" wager, and, if made, the "Check, Bet or Raise" wager. Once the dealer settles all wagers he will then settle the Pot Bet.

OPTIONAL PLAYER BANKED POT

The operator may allow each player to place an optional Pot Bet wager which is equal to the table limit minimum. The dealer awards the pot to the player with the best five-card hand out of seven. Only players who have made the optional additional wager for the player banked pot are eligible to win that pot. The pot bet is awarded after all other wagers are settled.

BETTING FOR THE DEALER

Management at each casino will make the final determination on bets (tips) for the dealer.

HOW IS THE GAME DEALT

The game may be dealt by hand or by automatic shuffler. If being dealt by hand, this is the recommended method:

Deal By Hand

The dealer will shuffle the deck using the house procedure for single deck shuffling. Upon completion of the shuffling process, the dealer will cut the deck using a one-handed “poker” cut, cutting the deck and placing the top half of the deck onto a cut card. Using the same hand, the dealer will grasp the bottom half of the deck and place it on top of the first half of the deck. The dealer will pick up the deck and begin dealing each player and himself two (2) cards face down in the appropriate boxes marked on the layout. The dealer then proceeds to deal out the remaining five (5) cards – the Flop, Turn and River face down in the appropriate boxes marked on the layout. The Dealer will burn a card before the flop, turn and river cards. The dealer removes the cut card from the bottom of the deck and places the deck stub into the discard holder.

Automatic Shuffle Machine

An automated card-shuffling device may be used at all Champion Poker, Texas Hold ‘Em tables. When using a shuffler, the casino will be permitted to use a second deck of cards to play the game provided that:

- a) The backs of the cards are of different colors.
- b) The shuffling machine is shuffling one deck while the other deck is either being dealt or used to play the game.
- c) Both decks are continuously alternated in and out of play, with each deck being used for every other round of play.

The applicable house procedure for loading cards into the shuffler will be followed.

CHAMPION POKER: HAND RANKINGS

The permissible poker hands in the game of Champion Poker, in order of highest to lowest rank will be:

- a) “**Royal Flush**” is a hand consisting of an ace, king, queen, jack and ten of the same suit.
- b) “**Straight Flush**” is a hand consisting of five (5) cards of the same suit in consecutive ranking, with king, queen, jack, ten, and nine being the highest-ranking straight flush and ace, two, three, four, five being the lowest ranking straight flush.
- c) “**Four-of-a-Kind**” is a hand consisting of four (4) cards of the same rank regardless of suit; with four (4) aces being the highest-ranking four-of-a-kind and four (4), two’s being the lowest ranking four-of-a-kind.
- d) “**Full House**” is a hand consisting of “three-of-a-kind” and a “pair”, with three (3) aces and two (2) kings being the highest ranking full house and three (3) twos and (2) threes being the lowest ranking full house.
- e) “**Flush**” is a hand consisting of five (5) cards of the same suit.
- f) “**Straight**” is a hand consisting of five (5) cards of consecutive rank, regardless of suit, with an ace, king, queen, jack and ten being the highest ranking straight and an ace, two, three, four and five being the lowest ranking straight. However, an ace may not be combined with

any other sequence of cards for purposes of determining a winning hand (e.g., queen, king, ace, two, three).

- g) **“Three-of-a-Kind”** is a hand consisting of three (3) cards of the same rank regardless of suit; with three (3) aces being the highest-ranking three-of-a-kind and three (3), two’s being the lowest ranking three-of-a-kind.
- h) **“Two pairs”** is a hand consisting of two (2) “pairs”, with two (2) aces and two (2) kings being the highest ranking two (2) pair and two (2) three’s and two (2) two’s being the lowest ranking two (2) pair.
- i) **“One pair”** is a hand consisting of two (2) cards of the same rank, regardless of suit; with two (2) aces being the highest-ranking pair and two (2), two’s being the lowest ranking pair.

WAGERS

- a) The house will decide the table limits for the Hold ‘Em Bonus game and the Ante Blind bet.
- b) The Pot Bet must equal the table limit minimum or the house may decide the Pot Bet wager amount.
- c) Each player’s two cards along with the three (3) Flop, and the Turn & River Community Cards comprises the Hold ‘Em Bonus hand with a three of a kind or better to win. The player’s Hold ‘Em Bonus wager remains in action whether or not the player folds.
- d) The dealer exposes each player’s two cards and the dealer’s two cards, along with the five (5) community cards; the game is Texas Hold ‘Em. From these seven cards the dealer and each player make the best five-card poker hand where the higher of the dealer’s and player’s hands wins. Texas Hold ‘Em wagers are settled in the usual poker fashion.
- e) All wagers at Champion Poker are made with gaming chips.

PROCEDURES FOR COMPLETION FOR A ROUND OF PLAY

- a) Each player that bets at Champion Poker, Texas Hold ‘Em, will be responsible for his own play. No other person, other than the player or the dealer, may touch the player’s wagers. Cards must be kept in full view of the players and dealer at all times and within the parameters of the table.
- b) Each player’s two (2) cards, the three (3) Flop and the Turn & River Community Cards comprises the Hold ‘Em Bonus hand with a three of a kind or better to win. The player’s Hold ‘Em Bonus wager remains in action whether or not the player folds.
- c) The optional Pot Bet wager should be settled after all other wagers.
- d) If the player chooses to play Texas Hold ‘Em the dealer exposes each player’s two cards and the dealer’s two cards, along with the five (5) community cards, the game is Texas Hold ‘Em. From these seven cards the dealer and the player make the best five-card poker hand where the higher of the dealer’s and player’s hands wins. Texas Hold ‘Em wagers are settled in the usual poker fashion.
- e) All cards are picked up, placed in the discard rack, and bets are placed for the next hand.

IRREGULARITIES

- a) If any card is found face up in the shuffler, or the deck, while the cards are being dealt, all hands will be voided and the cards will be reshuffled.
- b) If any incorrect number of cards is dealt, all hands will be voided and the cards will be reshuffled.

- c) If any of the dealer's cards are inadvertently exposed prior to the dealer revealing his cards as described above, all hands will be voided and the cards will be reshuffled.
- d) If an automated shuffle machine is being used and the device malfunctions, jams or fails to deal the appropriate number of cards; the round of play will be voided and the cards will be removed from the device, checked by a casino supervisor, and the cards will be reshuffled.
- e) All above rules in effect only if using shuffle machine.

PAY SCHEDULES
Seven Card Stud Pay Tables

HAND TYPE	Table E	Table F
Royal Flush	100	50
Straight Flush	25	25
4 of a kind	15	15
Full House	7	7
Flush	5	5
Straight	3	3
3 of a kind	2	2

All payoff odds are "to 1"

The Seven Card Stud wager remains in action whether the player folds or not.

There will be no ante bonuses.

The dealer will settle the seven card stud wager after all of the five community cards are exposed.

Pay Table "E" - the house edge is $100\% - 15.2700\% - 60.3856\% = 24.3444\%$. [RECOMMENDED]

Pay Table "F" - the house edge is $100\% - 15.2700\% - 60.1970\% = 24.5330\%$.

The hit frequency for both pay tables is 15.27%.

Overall House Edge

Pay Table	Average Bet	House Edge per Total Wager
E	$1+2.4988=3.4988$	$(24.3444\% - 14.1538\%) / 3.4988 = 2.88\%$
F	$1+2.4988=3.4988$	$(24.5330\% - 14.1538\%) / 3.4988 = 2.97\%$

Option 2 -Version 4

The purpose of this document is to present the variation wherein players, on their final action after seeing the flop, are allowed either to check, bet 1x Ante or raise to 2x Ante (the previous version also referred to the action after the flop as a "raise" but allowed only a wager equal to the Ante) and to present alternative Bonus paytables associated with this variation.

Discussion

Champion Poker utilizes two required and equal bets (the 7-card Hold 'Em Bonus wager and the Ante Blind wager) to mathematically create an overall house edge. The Bonus bet has a positive house advantage, whereas the Ante bet (and ensuing wagers associated with the Ante) has a negative house advantage. The sum of the two required and equal wagers yields an overall positive house advantage.

7-card Hold 'Em Bonus Wager

The 7-card Hold 'Em Bonus Bet is a separate wager upon the outcome of a 7-card hand, as dealt from a standard 52-card deck, compared to a payable. There is no strategy involved.

To determine hand frequencies, a combinatorial analyzer was coded, which evaluated the $52c7 = 133,784,560$ possible hand combinations. The resulting hand probabilities are applied to the payable to determine the house advantage. Below please find these results, consistent with Ko's prior analysis, and the ensuing house advantage associated with several possible paytables.

Champion Poker 7-card Hold 'Em Bonus Bet Paytables (all pays "to 1")

Hand	Probability	Paytable CH1	Paytable CH2	Paytable CH3	Paytable CH4	Paytable CH5
Royal Flush	0.00003232	100	100	100	100	100
Straight Flush	0.00027851	25	50	25	25	50
4 of a Kind	0.00168067	12	15	15	15	20
Full House	0.02596102	5	6	6	7	8
Flush	0.03025494	4	4	4	5	5
Straight	0.04619382	3	2	2	3	2
3 of a Kind	0.04829870	1	1	1	--	--
Bonus HA (Ante units)		37.92%	38.75%	39.44%	38.86%	39.35%

Summing the individual probabilities of each winning hand for any of the CH1, CH2 or CH3 paytables yields 0.1527. That is, the player will win 15.27% of the time on the 7-card Bonus Bet. This corresponds to a win frequency of **1 in 6.55 hands** for paytables CH1, CH2 or CH3. For paytables CH4 and CH5, the win frequency is 0.1044, or **1 in 9.58 hands**.

Ante / Bet / Raise Wagers

To determine the optimal strategy, we adopt a methodology similar to, although slightly different from, Ko's. To wit, we begin with the set of 134,459 unique 5-card poker hands (each with appropriate weighting), eliminating redundancies from the original $52c5 = 2,598,960$ possible hands. We utilize these unique hands as the 5-card board. For each set of 5-card boards, we choose $47c2 = 1,081$ possible player 2-card hands and $45c2 = 990$ possible dealer 2-card hands. We then cycle through each board, choosing each set of 3 of the 5 board cards to be the flop, yielding an extra factor of $5c3 = 10$ possible ways to choose the flop for a given board.

Thereafter, for each possible set of player 2-card hand plus 3-card flop, we evaluate (by cycling through the remaining board cards and possible dealer 2-card hands) the number of player wins, losses and ties at the end of the game. If the number of wins exceeds the number of losses, the player has an advantageous hand with a positive expected value, and optimally should raise (with a bet equal to 2x Ante) as the action after the flop. Otherwise, the player does not have an advantage, and so optimally should check after the flop. We find that the player should raise (2x

Ante) on 46.1% of the possible 2-card hand plus 3-card flops, and check on the rest of the hands. The expected values for proper play after the flop are saved.

Next, by stepping backward and cycling through each 2-card hand, and combinatorially summing over all individual possible 3-card flops and properly weighting the previously saved expected values, we find the player's expected value for the first action on the 2-card hand before the flop. Here, the expected value ranges from a high of 2.816 Ante units (for a pair of Aces) to a low of -0.604 Ante units (for 2,3 offsuit). Since the expected value is never less than -1 Ante unit (the outcome if the player folds), the player should always make the bet equal to the ante blind, after reviewing the first 2 cards prior to the flop. The expected values at this first action are also saved.

Finally, by summing over all possible 2-card player hands and properly weighting their expected values, we find the overall player's expected value, per original Ante Blind bet, is +0.3333 units (a house advantage of -33.33%). (We note that running the same code and allowing the player only to "raise" with 1x Ante Blind, as per version 3, yields an expected value of +0.1667 units, almost identical to Ko's result of +0.1668 units).

Overall Game

To determine the overall house advantage for Champion Poker, we combine the house advantages for the required 7-card Hold 'Em Bonus and Ante Blind wagers (the Bonus and Ante bets). Below please find these results, in each case assuming optimal play and an average bet equal to 3.922x Ante units (a wager of 1 unit for Bonus, 1 unit for Ante, 1 unit for Bet 100% of the time, and 2 units for Raise 46.1% of the time).

Champion Poker Overall House Advantage

	Paytable CH1	Paytable CH2	Paytable CH3	Paytable CH4	Paytable CH5
Bonus House Adv (Ante units)	37.92%	38.75%	39.44%	38.86%	39.35%
Ante House Adv (Ante units)	-33.33%	-33.33%	-33.33%	-33.33%	-33.33%
Overall House Adv (Ante)	4.59%	5.42%	6.11%	5.53%	6.02%
Overall House Adv (Ave Bet)	1.17%	1.38%	1.56%	1.41%	1.53%