

**Analysis
of
Boston 7
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**Prepared
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Analysis of Boston 7

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Game Description:

Boston 7 is a casino game in which the Player is playing against the Dealer using a standard 52-card deck. To begin play, the Player makes two equal sized wagers - the Ante and the 1st Wager. Each Player and the Dealer will then each be dealt 3 cards face down. The Player may review his hand and then must either Fold (forfeiting his Ante and 1st Wager) or make an additional wager, called the 2nd Wager, equal to the 1st Wager.

If the Player does not Fold, he will receive an additional 4 cards face down. The Dealer will also deal himself an additional 4 cards face down. At this point, the Dealer will reveal his 7 cards and make the best possible 5-card poker hand from these cards. The Player will also use his 7 cards to make his best possible 5-card poker hand.

The wagers are settled as follows:

1st and 2nd Wagers - If the Player's hand beats the Dealer's hand, the Player will be paid even money. If the Dealer's hand beats the Player's hand, the wagers are lost. If the Player and Dealer tie - the wagers are pushed.

Ante Wager - If the Dealer's hand beats the Player hand, the Player will lose his original Ante Wager, but will still be paid an Ante Bonus according to one of the paytables below. If the Player's hand beats the Dealer's hand then his Ante Wager will be pushed and he will be paid an Ante Bonus according to one of the paytables below.

| Paytables for "1-1-1" Betting Structure | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Hand | B7-01 Pays* | B7-02 Pays* | B7-03 Pays* | B7-04 Pays* | B7-05 Pays* |
| 7-Card Royal Flush | \$25000 | \$25000 | \$25000 | \$25000 | NA |
| 6-Card Royal Flush | \$5000 | \$5000 | \$5000 | \$5000 | NA |
| 5-Card Royal Flush | 500 | 250 | 250 | 200 | 250 |
| Straight Flush | 100 | 100 | 100 | 50 | 50 |
| Four of a Kind | 20 | 20 | 25 | 20 | 20 |
| Full House | 4 | 4 | 4 | 4 | 4 |
| Flush | 3 | 3 | 3 | 3 | 3 |
| Straight | 2 | 2 | 2 | 2 | 2 |
| Three of a Kind | 1 | 1 | 1 | 1 | 1 |
| Payback | 97.6169% | 97.3590% | 97.5875% | 96.8432% | 96.6571% |
| House Advantage | 2.3831% | 2.6410% | 2.4125% | 3.1568% | 3.3429% |

* Payouts do NOT include the return of the original wager which is won or lost based on the showdown with the Dealer. All payouts are odds payouts except those of the 7-Card and 6-Card Royal which are FIXED payouts

Appendix A describes a game variant where the betting structure is different
 Appendix B describes a game variant where the Ante Wager is settled differently
 Appendix C describes an optional sidebet based on the Player's initial 3 cards

Analysis Methodolog:

Based on the betting structure, a Player must have an expectation of winning 20% of the hands after seeing his original 3 cards, ignoring the impact of the Ante Bonus (which can only serve to lower this % even further).

A computer program was created that played 10,000 random hands for each of the 22,100 possible 3-card deal for the Player. The frequency of the Player winning was tabulated for each of these 22,100 ways to determine the proper Player Strategy.

This program determined that it is in the Player's best interest to never Fold.

Thus, the Player and Dealer each have an equal probability of winning each hand as each is dealt an identical number of cards. A computer program was created that played 100 million completely random hands to determine the frequency of ties, which impacts the overall payback of the game.

Lastly, a program was created that dealt each possible 7-card deal from a 52-card deck to determine the frequency that the Ante Bonus would be paid.

Results:

Knowing that the Player should never fold, the payback calculation becomes very easy. We simply take the probability of winning and pushing and multiply each by the payout of each occurrence. We then account for the Ante Bonus by multiplying the frequency of each paying hand by the payout of that hand and summing up these values. As the minimum wager for the Ante Bonus is \$2, the amount used for the 7-Card Royal Flush is 12,500 and the amount used for the 6-Card Royal Flush is 2,500, which equates to a \$25,000 and \$5,000 payoff respectively. The calculations are shown below:

| Payback Calculation - Paytable B7-01 | | | |
|--------------------------------------|-------------|-------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 7-Card Royal Flush | 0.00000299% | 12500 | 0.0374% |
| 6-Card Royal Flush | 0.00013454% | 2500 | 0.3364% |
| 5-Card Royal Flush | 0.00309453% | 500 | 1.5473% |
| Straight Flush | 0.02785075% | 100 | 2.7851% |
| Four of a Kind | 0.16806723% | 20 | 3.3613% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 2 | 9.2388% |
| Three of a Kind | 4.82986975% | 1 | 4.8299% |
| Total | | | 292.4769% |
| Payback (Total / Avg Wager) | | | 97.4923% |
| House Advantage | | | 2.5077% |

| Payback Calculation - Paytable B7-02 | | | |
|--------------------------------------|-------------|-------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 7-Card Royal Flush | 0.00000299% | 12500 | 0.0374% |
| 6-Card Royal Flush | 0.00013454% | 2500 | 0.3364% |
| 5-Card Royal Flush | 0.00309453% | 250 | 0.7736% |
| Straight Flush | 0.02785075% | 100 | 2.7851% |
| Four of a Kind | 0.16806723% | 20 | 3.3613% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 2 | 9.2388% |
| Three of a Kind | 4.82986975% | 1 | 4.8299% |
| Total | | | 291.7032% |
| Payback (Total / Avg Wager) | | | 97.2344% |
| House Advantage | | | 2.7656% |

| Payback Calculation - Paytable B7-03 | | | |
|--------------------------------------|-------------|-------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 7-Card Royal Flush | 0.00000299% | 12500 | 0.0374% |
| 6-Card Royal Flush | 0.00013454% | 2500 | 0.3364% |
| 5-Card Royal Flush | 0.00309453% | 250 | 0.7736% |
| Straight Flush | 0.02785075% | 100 | 2.7851% |
| Four of a Kind | 0.16806723% | 25 | 4.2017% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 2 | 9.2388% |
| Three of a Kind | 4.82986975% | 1 | 4.8299% |
| Total | | | 292.5436% |
| Payback (Total / Avg Wager) | | | 97.5145% |
| House Advantage | | | 2.4855% |

| Payback Calculation - Paytable B7-04 | | | |
|--------------------------------------|-------------|-------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 7-Card Royal Flush | 0.00000299% | 12500 | 0.0374% |
| 6-Card Royal Flush | 0.00013454% | 2500 | 0.3364% |
| 5-Card Royal Flush | 0.00309453% | 200 | 0.6189% |
| Straight Flush | 0.02785075% | 50 | 1.3925% |
| Four of a Kind | 0.16806723% | 20 | 3.3613% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 2 | 9.2388% |
| Three of a Kind | 4.82986975% | 1 | 4.8299% |
| Total | | | 290.1560% |
| Payback (Total / Avg Wager) | | | 96.7187% |
| House Advantage | | | 3.2813% |

| Payback Calculation - Paytable B7-05 | | | |
|--------------------------------------|-------------|------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 5-Card+ Royal Flush | 0.00323206% | 250 | 0.8080% |
| Straight Flush | 0.02785075% | 50 | 1.3925% |
| Four of a Kind | 0.16806723% | 20 | 3.3613% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 2 | 9.2388% |
| Three of a Kind | 4.82986975% | 1 | 4.8299% |
| Total | | | 289.9713% |
| Payback (Total / Avg Wager) | | | 96.6571% |
| House Advantage | | | 3.3429% |

The Impact of Larger Wagers

Normally, the size of the wager does not impact the overall payback. However, since a portion of the overall payback is based on a flat dollar amount and not a payable, larger wagers will reduce the overall payback. In the case of Boston 7, this applies to the top two paying hands for paytables B7-01 through B7-04.

Because these payouts are fixed dollar amounts and not odds payouts, as the wager amount goes up, the equivalent odds payout goes down. Thus if the Player wagers \$2 and gets a Natural 7-Card Royal, he will be paid \$25,000 or 12,500 for 1. However, if he wagers \$5, he will still be paid \$25,000 but this will equate to 5000 for 1. This in turn reduces the contribution rate of this hand by 60% to 2/5th of the contribution rate of a \$2 wager. In the case of Boston 7, this would reduce the contribution rates of the top two hands to 0.0149% and 0.1345%, respectively. Together these add to 0.1495% as compared to 0.3737% for a \$2 wager, for a difference of 0.2242%. This will be divided by the average wager to create an impact on the payback of 0.0747%. Thus the payback will be reduced (and the house advantage increased) by 0.0747% when the Player chooses to make a \$5 wager instead of a \$2 wager.

As the wager increases beyond \$5 the payback will be reduced further. It can NEVER be reduced by more than the 0.1246% (.3737% divided by the average wager) that the two hands contribute to the overall payback with a \$2 wager.

Boston 7
Appendix A
Alternate Betting Structure

Boston 7 can also be played using a slightly different betting structure. In this version of the game, the 1st Wager is twice the size of the Ante and the 2nd Wager must be equal in size to 1st Wager. In theory, this could change the playing strategy as it now requires that the Player win at least approximately 22.2% of the hands after seeing his first three cards (instead of 20%). Using the same program used for the base version of the game, we find that this threshold does NOT change the strategy and the Player should still NEVER fold.

The same process was followed as for the base game and the following paytables were created:

| Paytables for "1-2-2" Betting Structure Variation | | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Hand | B7A-01 Pays* | B7A-02 Pays* | B7A-03 Pays* | B7A-04 Pays* | B7A-05 Pays* |
| 7-Card Royal Flush | \$25000 | \$25000 | \$25000 | \$25000 | NA |
| 6-Card Royal Flush | \$5000 | \$5000 | \$5000 | \$5000 | NA |
| 5-Card Royal Flush | 200 | 250 | 500 | 200 | 250 |
| Straight Flush | 100 | 100 | 100 | 50 | 50 |
| Four of a Kind | 20 | 20 | 20 | 20 | 20 |
| Full House | 4 | 4 | 4 | 4 | 4 |
| Flush | 3 | 3 | 3 | 3 | 3 |
| Straight | 1 | 2 | 2 | 2 | 2 |
| Three of a Kind | NA | NA | NA | 1 | 1 |
| Payback | 96.4946% | 97.4494% | 97.6041% | 98.1059% | 97.9943% |
| House Advantage | 3.5054% | 2.5506% | 2.3959% | 1.8941% | 2.0057% |

* Payouts do NOT include the return of the original wager which is won or lost based on the showdown with the Dealer. All payouts are odds payouts except those of the 7-Card and 6-Card Royal which are FIXED payouts

The payback calculations for each of the above paytables are shown in the tables below (again the minimum wager is assumed to be \$2 so 12500 and 2500 are used for the top two pays for paytables B7A-01 through B7A-04):

| Payback Calculation - Paytable B7A-01 | | | |
|---------------------------------------|-------------|-------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 9 | 442.0808% |
| Player Pushes | 1.7598% | 5 | 8.7991% |
| 7-Card Royal Flush | 0.00000299% | 12500 | 0.0374% |
| 6-Card Royal Flush | 0.00013454% | 2500 | 0.3364% |
| 5-Card Royal Flush | 0.00309453% | 200 | 0.6189% |
| Straight Flush | 0.02785075% | 100 | 2.7851% |
| Four of a Kind | 0.16806723% | 20 | 3.3613% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 1 | 4.6194% |
| Total | | | 482.0993% |
| Payback (Total / Avg Wager) | | | 96.4199% |
| House Advantage | | | 3.5801% |

| Payback Calculation - Paytable B7A-02 | | | |
|---------------------------------------|-------------|-------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 9 | 442.0808% |
| Player Pushes | 1.7598% | 5 | 8.7991% |
| 7-Card Royal Flush | 0.00000299% | 12500 | 0.0374% |
| 6-Card Royal Flush | 0.00013454% | 2500 | 0.3364% |
| 5-Card Royal Flush | 0.00309453% | 250 | 0.7736% |
| Straight Flush | 0.02785075% | 100 | 2.7851% |
| Four of a Kind | 0.16806723% | 20 | 3.3613% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 2 | 9.2388% |
| Total | | | 486.7187% |
| Payback (Total / Avg Wager) | | | 97.3437% |
| House Advantage | | | 2.6563% |

| Payback Calculation - Paytable B7A-03 | | | |
|---------------------------------------|-------------|-------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 9 | 442.0808% |
| Player Pushes | 1.7598% | 5 | 8.7991% |
| 7-Card Royal Flush | 0.00000299% | 12500 | 0.0374% |
| 6-Card Royal Flush | 0.00013454% | 2500 | 0.3364% |
| 5-Card Royal Flush | 0.00309453% | 500 | 1.5473% |
| Straight Flush | 0.02785075% | 100 | 2.7851% |
| Four of a Kind | 0.16806723% | 20 | 3.3613% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 2 | 9.2388% |
| Total | | | 487.6471% |
| Payback (Total / Avg Wager) | | | 97.5294% |
| House Advantage | | | 2.4706% |

| Payback Calculation - Paytable B7A-04 | | | |
|---------------------------------------|-------------|-------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 9 | 442.0808% |
| Player Pushes | 1.7598% | 5 | 8.7991% |
| 7-Card Royal Flush | 0.00000299% | 12500 | 0.0374% |
| 6-Card Royal Flush | 0.00013454% | 2500 | 0.3364% |
| 5-Card Royal Flush | 0.00309453% | 200 | 0.6189% |
| Straight Flush | 0.02785075% | 50 | 1.3925% |
| Four of a Kind | 0.16806723% | 20 | 3.3613% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 2 | 9.2388% |
| Three of a Kind | 4.82986975% | 1 | 4.8299% |
| Total | | | 490.0312% |
| Payback (Total / Avg Wager) | | | 98.0312% |
| House Advantage | | | 1.9688% |

| Payback Calculation - Paytable B7A-05 | | | |
|---------------------------------------|-------------|------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 9 | 442.0808% |
| Player Pushes | 1.7598% | 5 | 8.7991% |
| 5-Card+ Royal Flush | 0.00323206% | 250 | 0.8080% |
| Straight Flush | 0.02785075% | 50 | 1.3925% |
| Four of a Kind | 0.16806723% | 20 | 3.3613% |
| Full House | 2.59610227% | 4 | 10.3844% |
| Flush | 3.02549412% | 3 | 9.0765% |
| Straight | 4.61938209% | 2 | 9.2388% |
| Three of a Kind | 4.82986975% | 1 | 4.8299% |
| Total | | | 489.9713% |
| Payback (Total / Avg Wager) | | | 97.9943% |
| House Advantage | | | 2.0057% |

The Impact of Larger Wagers

As described in the main body of the report, as a Player chooses to make a wager greater than the minimum wager, the payback of the game will decrease. As the average wager for this variant of the game is 5 (instead of 3 for the base game), the impact will be slightly different.

However, no matter how large a wager the Player makes can the impact be larger than the contribution these two hands make to the overall payback (after dividing by the average wager) which is 0.0747%.

Appendix B Alternate Method for Ante Wager Resolution

A mathematical analysis was also done on an alternate method for resolving the Ante Wager. In the base game, the Player wins according to the paytable regardless of how he does in the showdown with the Dealer. In this variation, the Player is paid ONLY if his hand beats the Dealer as well.

For this variation, rather than using the standard distribution for 5-card hands from a 7-card deal from a 52-card deck, a computer simulation was performed which tracked the rank of the Player's winning hand. As would be expected, the higher ranking hands win the overwhelming majority of the time and the frequencies are little changed.

Several paytables have been created for this variation and they are shown below (all assume that the Ante, 1st Wager and 2nd Wager are of equal size as described in the main body of this report):

| Paytables for "Player Must Win" Variation | | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Hand | B7B-01 Pays* | B7B-02 Pays* | B7B-03 Pays* | B7B-04 Pays* | B7B-05 Pays* |
| 5-Card Royal Flush | 250 | 250 | 200 | 200 | 250 |
| Straight Flush | 100 | 100 | 50 | 100 | 50 |
| Four of a Kind | 20 | 20 | 20 | 20 | 20 |
| Full House | 4 | 4 | 4 | 4 | 4 |
| Flush | 3 | 3 | 3 | 3 | 3 |
| Straight | 2 | 2 | 2 | 2 | 2 |
| Three of a Kind | 2 | 1 | 2 | 1 | 1 |
| Payback | 97.8483% | 96.4501% | 97.3272% | 96.3979% | 95.9289% |
| House Advantage | 2.1517% | 3.5499% | 2.6728% | 3.6021% | 4.0711% |

* Original wager is returned ONLY if the Player beats the Dealer. All payouts are X FOR 1

The payback calculations for each of the above paytables are shown in the tables below:

| Payback Calculation - Paytable B7B-01 | | | |
|---------------------------------------|-----------|------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 5-Card+ Royal Flush | 0.0031% | 250 | 0.7833% |
| Straight Flush | 0.0281% | 100 | 2.8138% |
| Four of a Kind | 0.1687% | 20 | 3.3747% |
| Full House | 2.5523% | 4 | 10.2091% |
| Flush | 2.8696% | 3 | 8.6088% |
| Straight | 4.2431% | 2 | 8.4861% |
| Three of a Kind | 4.1947% | 2 | 8.3893% |
| Total | | | 293.5450% |
| Payback (Total / Avg Wager) | | | 97.8483% |
| House Advantage | | | 2.1517% |

| Payback Calculation - Paytable B7B-02 | | | |
|---------------------------------------|-----------|------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 5-Card+ Royal Flush | 0.0031% | 250 | 0.7833% |
| Straight Flush | 0.0281% | 50 | 2.8138% |
| Four of a Kind | 0.1687% | 20 | 3.3747% |
| Full House | 2.5523% | 4 | 10.2091% |
| Flush | 2.8696% | 3 | 8.6088% |
| Straight | 4.2431% | 2 | 8.4861% |
| Three of a Kind | 4.1947% | 1 | 4.1947% |
| Total | | | 289.3504% |
| Payback (Total / Avg Wager) | | | 96.4501% |
| House Advantage | | | 3.5499% |

| Payback Calculation - Paytable B7B-03 | | | |
|---------------------------------------|-----------|------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 5-Card+ Royal Flush | 0.0031% | 200 | 0.6266% |
| Straight Flush | 0.0281% | 50 | 1.4069% |
| Four of a Kind | 0.1687% | 20 | 3.3747% |
| Full House | 2.5523% | 4 | 10.2091% |
| Flush | 2.8696% | 3 | 8.6088% |
| Straight | 4.2431% | 2 | 8.4861% |
| Three of a Kind | 4.1947% | 2 | 8.3893% |
| Total | | | 291.9815% |
| Payback (Total / Avg Wager) | | | 97.3272% |
| House Advantage | | | 2.6728% |

| Payback Calculation - Paytable B7B-04 | | | |
|---------------------------------------|-----------|------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 5-Card+ Royal Flush | 0.0031% | 200 | 0.6266% |
| Straight Flush | 0.0281% | 50 | 2.8138% |
| Four of a Kind | 0.1687% | 20 | 3.3747% |
| Full House | 2.5523% | 4 | 10.2091% |
| Flush | 2.8696% | 3 | 8.6088% |
| Straight | 4.2431% | 2 | 8.4861% |
| Three of a Kind | 4.1947% | 1 | 4.1947% |
| Total | | | 289.1937% |
| Payback (Total / Avg Wager) | | | 96.3979% |
| House Advantage | | | 3.6021% |

| Payback Calculation - Paytable B7B-05 | | | |
|---------------------------------------|-----------|------|--------------|
| | Frequency | Pays | Contribution |
| Player Wins | 49.1201% | 5 | 245.6005% |
| Player Pushes | 1.7598% | 3 | 5.2794% |
| 5-Card+ Royal Flush | 0.0031% | 200 | 0.6266% |
| Straight Flush | 0.0281% | 50 | 1.4069% |
| Four of a Kind | 0.1687% | 20 | 3.3747% |
| Full House | 2.5523% | 4 | 10.2091% |
| Flush | 2.8696% | 3 | 8.6088% |
| Straight | 4.2431% | 2 | 8.4861% |
| Three of a Kind | 4.1947% | 1 | 4.1947% |
| Total | | | 287.7868% |
| Payback (Total / Avg Wager) | | | 95.9289% |
| House Advantage | | | 4.0711% |

Boston 7
Appendix C
Optional 3-Card Sidebet

Regardless of any of the previous options, Boston 7 may be offered with an optional 3-card sidebet based on the Player's first 3 cards. If the Player's initial 3 cards achieve a hand rank of a Pair or Better, he will be paid according to one of the following paytables:

| Hand | B7S-01 Pays* | B7S-02 Pays* | B7S-03 Pays* | B7S-04 Pays* |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| Royal Flush | NA | NA | NA | 100 |
| Straight Flush | 40 | 40 | 40 | 40 |
| Three of a Kind | 30 | 30 | 30 | 30 |
| Straight | 6 | 6 | 5 | 5 |
| Flush | 4 | 3 | 4 | 4 |
| Pair | 1 | 1 | 1 | 1 |
| Payback | 97.6833% | 92.7240% | 94.4253% | 95.5113% |
| House Advantage | 2.3167% | 7.2760% | 5.5765% | 4.4887% |

* Original wage is returned as well. All payouts are X TO 1

| Hand | B7S-05 Pays* | B7S-06 Pays* | B7S-07 Pays* | B7S-08 Pays* |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| Royal Flush | 50 | 100 | 100 | 100 |
| Straight Flush | 40 | 40 | 50 | 40 |
| Three of a Kind | 30 | 30 | 30 | 25 |
| Straight | 6 | 6 | 6 | 6 |
| Flush | 3 | 3 | 3 | 4 |
| Pair | 1 | 1 | 1 | 1 |
| Payback | 92.9050% | 93.8100% | 95.8009% | 97.5928% |
| House Advantage | 7.0950% | 6.1900% | 4.1991% | 2.4072% |

* Original wage is returned as well. All payouts are X TO 1

To calculate the payback of the sidebet, a computer program was created which tabulated the rank of all 3-card hands from a 52-card deck. The calculations for each of the above paytables can be found in the following tables:

| Payback Calculation - Paytable B7S-01 | | | |
|---------------------------------------|-----------|-------|--------------|
| | Frequency | Pays* | Contribution |
| Straight Flush | 0.2172% | 41 | 8.9050% |
| Three of a Kind | 0.2353% | 31 | 7.2941% |
| Straight | 3.2579% | 7 | 22.8054% |
| Flush | 4.9593% | 5 | 24.7964% |
| Pair | 16.9412% | 2 | 33.8824% |
| Total | 25.6109% | | 97.6833% |

* Includes the return of the original wager

| Payback Calculation - Paytable B7S-02 | | | |
|---------------------------------------|-----------|-------|--------------|
| | Frequency | Pays* | Contribution |
| Straight Flush | 0.2172% | 41 | 8.9050% |
| Three of a Kind | 0.2353% | 31 | 7.2941% |
| Straight | 3.2579% | 7 | 22.8054% |
| Flush | 4.9593% | 4 | 19.8371% |
| Pair | 16.9412% | 2 | 33.8824% |
| Total | 25.6109% | | 92.7240% |

* Includes the return of the original wager

| Payback Calculation - Paytable B7S-03 | | | |
|---------------------------------------|-----------|-------|--------------|
| | Frequency | Pays* | Contribution |
| Straight Flush | 0.2172% | 41 | 8.9050% |
| Three of a Kind | 0.2353% | 31 | 7.2941% |
| Straight | 3.2579% | 6 | 19.5475% |
| Flush | 4.9593% | 5 | 24.7964% |
| Pair | 16.9412% | 2 | 33.8824% |
| Total | 25.6109% | | 94.4253% |

* Includes the return of the original wager

| Payback Calculation - Paytable B7S-04 | | | |
|---------------------------------------|-----------------|-------|-----------------|
| | Frequency | Pays* | Contribution |
| Royal Flush | 0.0181% | 101 | 1.8281% |
| Straight Flush | 0.1991% | 41 | 8.1629% |
| Three of a Kind | 0.2353% | 31 | 7.2941% |
| Straight | 3.2579% | 6 | 19.5475% |
| Flush | 4.9593% | 5 | 24.7964% |
| Pair | 16.9412% | 2 | 33.8824% |
| Total | 25.6109% | | 95.5113% |

* Includes the return of the original wager

| Payback Calculation - Paytable B7S-05 | | | |
|---------------------------------------|-----------------|-------|-----------------|
| | Frequency | Pays* | Contribution |
| Royal Flush | 0.0181% | 51 | 0.9231% |
| Straight Flush | 0.1991% | 41 | 8.1629% |
| Three of a Kind | 0.2353% | 31 | 7.2941% |
| Straight | 3.2579% | 7 | 22.8054% |
| Flush | 4.9593% | 4 | 19.8371% |
| Pair | 16.9412% | 2 | 33.8824% |
| Total | 25.6109% | | 92.9050% |

* Includes the return of the original wager

| Payback Calculation - Paytable B7S-06 | | | |
|---------------------------------------|-----------------|-------|-----------------|
| | Frequency | Pays* | Contribution |
| Royal Flush | 0.0181% | 101 | 1.8281% |
| Straight Flush | 0.1991% | 41 | 8.1629% |
| Three of a Kind | 0.2353% | 31 | 7.2941% |
| Straight | 3.2579% | 7 | 22.8054% |
| Flush | 4.9593% | 4 | 19.8371% |
| Pair | 16.9412% | 2 | 33.8824% |
| Total | 25.6109% | | 93.8100% |

* Includes the return of the original wager

| Payback Calculation - Paytable B7S-07 | | | |
|---------------------------------------|-----------------|-------|-----------------|
| | Frequency | Pays* | Contribution |
| Royal Flush | 0.0181% | 101 | 1.8281% |
| Straight Flush | 0.1991% | 51 | 10.1538% |
| Three of a Kind | 0.2353% | 31 | 7.2941% |
| Straight | 3.2579% | 7 | 22.8054% |
| Flush | 4.9593% | 4 | 19.8371% |
| Pair | 16.9412% | 2 | 33.8824% |
| Total | 25.6109% | | 95.8009% |

* Includes the return of the original wager

| Payback Calculation - Paytable B7S-08 | | | |
|---------------------------------------|-----------------|-------|-----------------|
| | Frequency | Pays* | Contribution |
| Royal Flush | 0.0181% | 101 | 1.8281% |
| Straight Flush | 0.1991% | 41 | 8.1629% |
| Three of a Kind | 0.2353% | 26 | 6.1176% |
| Straight | 3.2579% | 7 | 22.8054% |
| Flush | 4.9593% | 5 | 24.7964% |
| Pair | 16.9412% | 2 | 33.8824% |
| Total | 25.6109% | | 97.5928% |

* Includes the return of the original wager

The win frequency for the Optional 3-Card sidebet is 25.6109%