Blackjack Bet and Play Simulator

1.0 Introduction

Blackjack Bet and Play Simulator can be used to develop, test and practice a Play Strategy and a corresponding Bet Strategy for playing the game of Blackjack or Spanish 21. Set the Bet Strategy using mathematical formulas or by establishing pre-set bets, based upon results (Loss or Gain) on the previous hand. Automatically set Basic Blackjack Play Strategy or your own variation, for any combination of typical Game Rules. Up to twenty (20) setups of Rules, Play Strategy and Bet Strategy can be saved within the application.

1.1 Application Basics

In Test mode, the simulator will run a series of hands based on Game Rules, Play Strategy and Bet Strategy set by the user. As a simulation progresses, current Balance versus Hand Number is plotted and displayed on a graph. Results and statistics are listed to evaluate the effectiveness of the system in producing winning results. To optimize a system, adjust Bet and Play strategies to result in a gradual increase in balance with minimal variations. In Practice mode, monitor the simulation as bets are wagered, cards are displayed, decisions are made, and results are shown.

1.2 Using the Application

Navigate through the application and open strategy windows by using the menu and tool bar buttons at the top of the main application window.

Menu and Tool Bar

In the **Game Rules** window, set any combination of Blackjack rules by which to run the simulation.

In **Play Strategy** windows, set play decisions for all possible hands against any dealer up card according to set Game Rules.

In **Bet Strategy** windows, set bet strategy to use in the simulation. Bets can be **Pre-Set** or **Calculated**.

Using the **Save** dialog box, the current setup of selected rules, play strategy and bet strategy can be saved within the application. Up to (20) setups can be saved.

Using the **Import** dialog box, a previously saved setup of game rules, play strategy and bet strategy can be imported for strategy adjustments and simulation runs.

Minimize the application by clicking the **Minimize** button at the top right corner of the main application window. Close the application by clicking the **Close** button at the top right corner, or by using the **Exit** button within the **File** menu.

Help regarding a specific topic in any window can be displayed by clicking ❓ next to the topic.

2.0 Game Rules

In the **Game Rules** window, set any combination of Blackjack rules by which to run the simulation. When a previously saved setup is imported, the game rules are automatically set according to the imported setup.

Game Rules
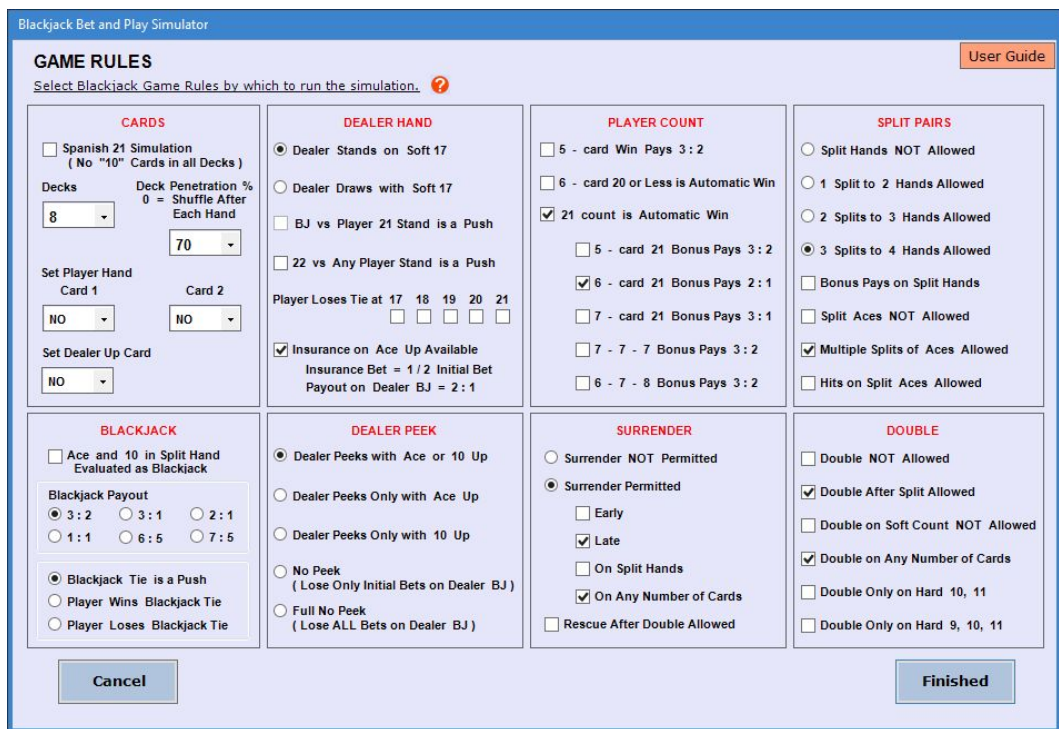
After all rules have been set, click the **Finished** button to keep the selections and return to the main application window. If a simulation is in progress, it will be reset.

To discard any changes made to the rules and return to the main application window, click the **Cancel** button. If a simulation is in progress, it can then be continued from the point where it was stopped.

2.1 Rule Options

Spanish 21 Simulation (No "10" Cards in all Decks)
Run Spanish 21 Simulations. All four "10" cards in each deck are not used, so each deck consists of 48 cards.

Decks
The number of card decks shuffled together to simulate the game. Set from 1 to 8 decks.

Deck Penetration %
The percentage of cards used before a shuffle occurs. Set at 0, 30, 40, 50, 60, 70, or 80 percent. Shuffle occurs after set penetration is reached and the hand in progress is completed. Zero "0" Deck Penetration signifies a shuffle after each hand is completed.

Set Player Hand
The first and second card dealt to Player can be set for every hand simulated to analyze and practice play strategy for specific dealt hands. If a card is set, a shuffle of all cards occurs after each hand is completed.

Set Dealer Up Card
The first card dealt to Dealer can be set for every hand simulated to analyze and practice play strategy for a specific Dealer Up Card. If the card is set, a shuffle of all cards occurs after each hand is completed.

Ace and 10 in Split Hand Evaluated as Blackjack
When the first two cards in a split hand consist of an Ace and a
10-count card, the hand is evaluated as a Blackjack.

Blackjack Payout
The amount paid to the Player for a Blackjack, set as a ratio to the
amount of the Bet. Select ratio as 3:2, 3:1, 2:1, 1:1, 6:5 or 7:5

Blackjack Tie is a Push
When both Player and Dealer have Blackjack, the result is neither a
Player win nor a loss.

Player Wins Blackjack Tie
When both Player and Dealer have Blackjack, the Player wins.

Player Loses Blackjack Tie
When both Player and Dealer have Blackjack, the Player loses.

Dealer Stands on Soft 17
With one Ace counted as 11 points, Dealer must Stand with
Hand count equal to or greater than 17.

Dealer Draws With Soft 17
With one Ace counted as 11 points, Dealer must must draw a card
with hand count of 17 and Stand with count greater than 17.

BJ vs Player 21 Stand is a Push
When the Dealer has a Blackjack and Player Stand count is 21,
the result is a push.

22 vs Any Player Stand is a Push
When the Dealer hand count is 22, all Player hands left standing result
in a push, except any split hands evaluated as Blackjack.

Player Loses Tie at 17, 18, 19, 20, 21
When Player and Dealer stand on the same count
(17, 18, 19, 20 and/or 21), Player loses the standing Bet.

Insurance on Ace Up Available
When Dealer Up Card is an Ace, Player may bet half the Initial Bet that
the hole card will be a 10 (resulting in a Blackjack). If Dealer has
Blackjack, payout is 2 : 1 on the Insurance Bet.

Dealer Peeks With Ace or 10 Up
Dealer checks for Blackjack before any play, if the up card is Ace or 10.
If Dealer has Blackjack, the Player loses immediately.

Dealer Peeks Only With Ace Up
Dealer checks for Blackjack before any play, only if the up card is an
Ace . If Dealer has Blackjack, the Player loses immediately. If the
Dealer up card is 10 and the face-down card turns out to be an Ace,
the hand is counted as Blackjack and Player can lose all bets placed on
the original hand and any split hands.

Dealer Peeks Only With 10 Up
Dealer checks for Blackjack before any play, only if the up card is a
10 - count . If Dealer has Blackjack, the Player loses immediately. If
the Dealer up card is an Ace and the face-down card turns out to be
a 10 , the hand is counted as Blackjack and Player can lose all bets
placed on the original hand and any split hands.

No Peek (Lose Only Initial Bets on Dealer Blackjack)
Dealer checks for Blackjack only after Player finishes play. If the Dealer
has Blackjack, Player can lose only the Initial Bet placed on the original
hand and any split hands.

Full No Peek (Lose All Bets on Dealer Blackjack)
Dealer checks for Blackjack only after Player finishes play. If the Dealer
has Blackjack, Player can lose ALL bets placed on the original hand and
any split hands.

5 - Card Win Pays 3 : 2
When Player stands with (5) cards or more, has not Doubled, and wins
the hand, payout is 3 : 2 on Initial Bet.

6 - Card 20 or Less is Automatic Win
When Player stands on 20 or less with (6) cards or more, player wins
automatically and payout is 1 : 1 on the standing Bet amount.

21 Count is Automatic Win
When Player stands on 21, Player wins automatically and
payout is 1 : 1 on the standing Bet amount.

5 - Card 21 Bonus Pays 3 : 2
When Player stands on 21 with (5) cards and has not Doubled, Player
automatically wins the hand and payout is 3 : 2 on Initial Bet.

6 - Card 21 Bonus Pays 2 : 1
When Player stands on 21 with (6) cards and has not Doubled,
Player automatically wins the hand and payout is 2 : 1 on Initial Bet.

7 - Card 21 Bonus Pays 3 : 1
When Player stands on 21 with (7) cards or more and has not Doubled,
Player automatically wins the hand and payout is 3 : 1 on Initial Bet.

7 - 7 - 7 Bonus Pays 3 : 2
When Player stands on 21 with (3) "7" cards, Player automatically wins
and payout is 3 : 2 on Initial Bet.

6 - 7 - 8 Bonus Pays 3 : 2
When Player stands on 21 with a "6" , "7" and "8", Player
automatically wins and payout is 3 : 2 on Initial Bet.

Surrender NOT Permitted
  Player cannot surrender the hand and forfeit half the Initial Bet
  at any time.

Surrender Permitted (Early)
  Player can surrender a hand and forfeit half the Initial Bet before the
  Dealer checks for Blackjack.

Surrender Permitted (Late)
  Player can surrender the dealt hand and forfeit half the Initial Bet only
  after the Dealer checks for, and does not have Blackjack.

Surrender Permitted (On Split Hands)
  Player can surrender a split hand and forfeit half the Initial Bet.

Surrender Permitted (On Any Number of Cards)
  Player can surrender and forfeit half the Initial Bet after a hand is hit.

Rescue After Double Allowed
  Player can surrender (Rescue) a hand and forfeit half the standing Bet
  after the Initial Bet is Doubled and one additional card is drawn.

SURRENDER
- ○ Surrender NOT Permitted
- ◉ Surrender Permitted
    - ☐ Early
    - ☑ Late
    - ☐ On Split Hands
    - ☑ On Any Number of Cards
- ☐ Rescue After Double Allowed

Split Hands NOT Allowed
  Player cannot split cards of the same value to make another hand.

1 Split to 2 Hands Allowed
  The maximum number of pairs Player is allowed to split is
  (1), resulting in (2) split hands.

2 Splits to 3 Hands Allowed
  The maximum number of pairs Player is allowed to split is
  (2), resulting in (3) split hands.

3 Splits to 4 Hands Allowed
  The maximum number of pairs Player is allowed to split is
  (3), resulting in (4) split hands.

Bonus Pays on Split Hands
  Bonus payments according to Player Count Rules are honored
  on both dealt hands and split hands.

Split Aces NOT Allowed
  Aces in the Player Dealt Hand cannot be split to make another hand.

Multiple Splits of Aces Allowed
  When a pair of Aces are split and another Ace is drawn,
  Player can re-split them to make another hand.

Hit on Split Aces Allowed
  Player can take multiple hits on split hands created by splitting Aces.

SPLIT PAIRS
- ○ Split Hands NOT Allowed
- ○ 1 Split to 2 Hands Allowed
- ○ 2 Splits to 3 Hands Allowed
- ◉ 3 Splits to 4 Hands Allowed
- ☐ Bonus Pays on Split Hands
- ☐ Split Aces NOT Allowed
- ☑ Multiple Splits of Aces Allowed
- ☐ Hits on Split Aces Allowed

Double NOT Allowed
  Player cannot double the Initial Bet on any hand.

Double After Split Allowed
  Player can double the Initial Bet and draw only one additional card
  on a split hand.

Double On Soft Count NOT Allowed
  Player cannot double the Initial Bet and draw only one additional card
  on a soft count.

Double On Any Number of Cards
  Player can double the Initial Bet and draw only one additional card
  after a hand is hit.

Double Only On Hard 10 or 11
  Player can double the Initial Bet and draw only one additional card
  on a hard count of 10 or 11 only.

Double Only On Hard 9, 10 or 11
  Player can double the Initial Bet and draw only one additional card
  on a hard count of 9, 10 or 11 only.

DOUBLE
- ☐ Double NOT Allowed
- ☑ Double After Split Allowed
- ☐ Double on Soft Count NOT Allowed
- ☑ Double on Any Number of Cards
- ☐ Double Only on Hard 10, 11
- ☐ Double Only on Hard 9, 10, 11

3.0 Play Strategy

All combinations of player cards and the dealer's up card are contained in (4) tables:

> **Dealt Hand - First 2 Cards**
> **Dealt Hand - After Hit**
> **Split Hand - First 2 Cards (No Further Splits)**
> **Split Hand - After Hit**

Play Strategy can be set for all decisions that occur based on the dealer's up card. As a guide in setting appropriate strategy, only sensible options are made available for each possible player hand or count in accordance with logical play. These **Strategy Options** are indicated for each player hand or count below the table. For reference, a summary of the set Game Rules is displayed on each strategy window.

To change **Play Strategy** for a particular hand or count against a specific **Dealer Up Card**, click the button in the table at the strategy to be changed until the desired strategy is indicated on the button. Only strategy options that are available, according to set Game Rules, will appear as a selection on the button. To change strategy for a particular player hand or count against all dealer up cards, click on an available **Strategy Option** below the table. All strategy buttons above the option will be changed accordingly. Unavailable options, according to set Game Rules, are not enabled.

3.1 Strategy for Dealt Hand - First 2 Cards

The strategy table **Play Strategy for Dealt Hand - First 2 Cards** includes options for Hit, Stand, Double, Split Pairs, Surrender and Insurance. Strategies are grouped according to type of player hand:

> **Hard Count (no Pairs)**
> **Soft Count (one Ace in hand)**
> **Pairs**

All split hands are generated according to this strategy table until the permitted number of split hands are dealt. After all split hands are dealt, the strategy table **Play Strategy for Split Hand – First 2 Cards (No Further Splits)** is used.

Play Strategy for Dealt Hand – First 2 Cards

If **Insurance** is available according to the set Game Rules, an Insurance Bet can be wagered against a Dealer Ace Up card. To have the simulation wager an insurance bet for a particular hand or count, click the button in the Insurance row of the table to display an **"I"** for that hand or count. Display of a dash **"-"** on a button in the Insurance row indicates that an Insurance Bet will not be wagered for that particular hand or count. To set the same Insurance strategy for all hands and counts, click the **INSURANCE** option below the table. All buttons will display an **"I"** or a dash **"-"**. If Insurance is not available per set Game Rules, the Insurance option is not enabled, and all Insurance buttons will display a dash **"-"**.

After the Play Strategy has been adjusted, click the **Finished** button to keep the settings and return to the main application window. If a simulation is in progress, it will be reset.

To discard any adjustments made to the Play Strategy and return to the main application window, click the **Cancel** button. A simulation in progress can then be continued from the point where it was stopped.

3.2 Strategy for Dealt Hand - After Hit

The strategy table **Play Strategy For Dealt Hand After Hit** includes options For Hit, Stand, Double, Surrender and Rescue After Double. The strategy applies to the initial dealt hand after the first hit and successive hits. Strategies are grouped according to the Player's hand count:

> **Hard Count (no Aces in hand or all Aces counted as 1 point)**
> **Soft Count (one Ace in hand counted as 1 or 11 points)**

Play Strategy for Dealt Hand after Hit

After the Play Strategy has been adjusted, click the **Finished** button to keep the settings and return to the main application window. If a simulation is in progress, it will be reset.

To discard any adjustments made to the Play Strategy and return to the main application window, click the **Cancel** button. A simulation in progress can then be continued from the point where it was stopped.

3.3 Strategy for Split Hand - First 2 Cards (No Further Splits)

The strategy table **Play Strategy for Split Hand – First 2 Cards** includes options for Hit, Stand, Double and Surrender. Strategies are grouped according to the Player's hand count:

> **Hard Count (no Ace in hand)**
> **Soft Count (at least one Ace in hand)**

All split hands (first 2 cards) are generated according to the strategy set for the initial Dealt Hand until the permitted number of split hands are dealt. Therefore, the strategy for a dealt split hand does not address pairs. If the game rules are set for no splitting, the strategy windows for a split hand are not accessible.

Play Strategy for Split Hand – First 2 Cards

After the Play Strategy has been adjusted, click the **Finished** button to keep the settings and return to the main application window. If a simulation is in progress, it will be reset.

To discard any adjustments made to the Play Strategy and return to the main application window, click the **Cancel** button. A simulation in progress can then be continued from the point where it was stopped.

3.4 Strategy for Split Hand - After Hit

The strategy table **Play Strategy For Split Hand After Hit** includes options for Hit, Stand, Double, Surrender and Rescue After Double. The strategy applies to all split hands after the first hit and successive hits. Strategies are grouped according to the Player's hand count:

> **Hard Count (no Aces in hand or all Aces counted as 1 point)**
> **Soft Count (one Ace in hand counted as 1 or 11 points)**

Play Strategy for Split Hand after Hit

After the Play Strategy has been adjusted, click the **Finished** button to keep the settings and return to the main application window. If a simulation is in progress, it will be reset.

To discard any adjustments made to the Play Strategy and return to the main application window, click the **Cancel** button. A simulation in progress can then be continued from the point where it was stopped.

3.5 Basic Play Strategy

Basic Play Strategy, based on statistical analysis and probabilities, can be loaded into the strategy tables to account for all combinations of selected rules. To set Basic Play Strategy, click the button **Set Basic Strategy** in the **Play Strategy** dropdown at the top of the main application window or within the **File** menu. After **Basic Play Strategy** is set, all play strategy tables are changed accordingly. The strategies can then be adjusted by opening each Play Strategy window.

4.0 Bet Strategy

Either **Calculated Bet Strategy** or **Pre-Set Bet Strategy** can be used in a simulation. **Calculated Bet Strategy** uses formulas established to calculate the Bet on the next hand, based on either a gain or loss on the previous hand. **Pre-Set Bet Strategy** uses a pre-determined Bet on each hand, depending on gain or loss as result of the previous hand. Set the type of bet strategy to use during the simulation by selecting either **Calculated** or **Pre-Set** in the simulation control box on the main application window.

4.1 Pre-Set Bets

In the **Pre-Set Bet Strategy** window, set the **PRIMARY PROGRESSION** in the column on the left side of the chart for **Loss** or **Win**. The Secondary Progression rows in the chart will be automatically set to the opposite of what is set for the Primary Progression. Set the **RETURN TO PRIMARY PROGRESSION** to either **Revert to Start Bet** or **Advance to next Bet**. The **RED** direction lines and arrows extending from the Secondary Progression change accordingly.

Set **BANKROLL** (100 - 100,000) for the amount to be shown as **Balance** at the start of the simulation.

Set **LOSS LIMIT** (1 - 100,000) and **PROFIT GOAL** (1 - 100,000) to establish limits within which to utilize the Bet Strategy. When outcome of a hand results in either **Loss Limit** or **Profit Goal** reached, the Bet for the next hand and position in the chart reverts back to the **Start Bet**. The Bet on each hand is determined by setting bets to be wagered after each loss or gain in the strategy chart. If neither gain nor loss occurs on the hand (**Balance** does not change), position in the chart and the Bet wagered on the next hand remains the same. Bets can be set from 1 to 1000.

Set **Start Bet** for the Bet wagered on the first hand of the simulation. Following the downward pointing arrows in the **PRIMARY PROGRESSION** column, set bets for as many as (8) successive hands having the same result (Loss or Gain). With the last text box set as **"To Start"**, the Bet for that hand and the position in the chart reverts back to the **Start Bet**. Following the right pointing arrows in the **SECONDARY PROGRESSION** rows, set Bets for as many as (8) successive hands having the same result (Loss or Gain). With the last text box set as **"To Start"**, the Bet for that hand and the position in the chart will revert back to the **Start Bet**.

Pre-Set Bet Strategy
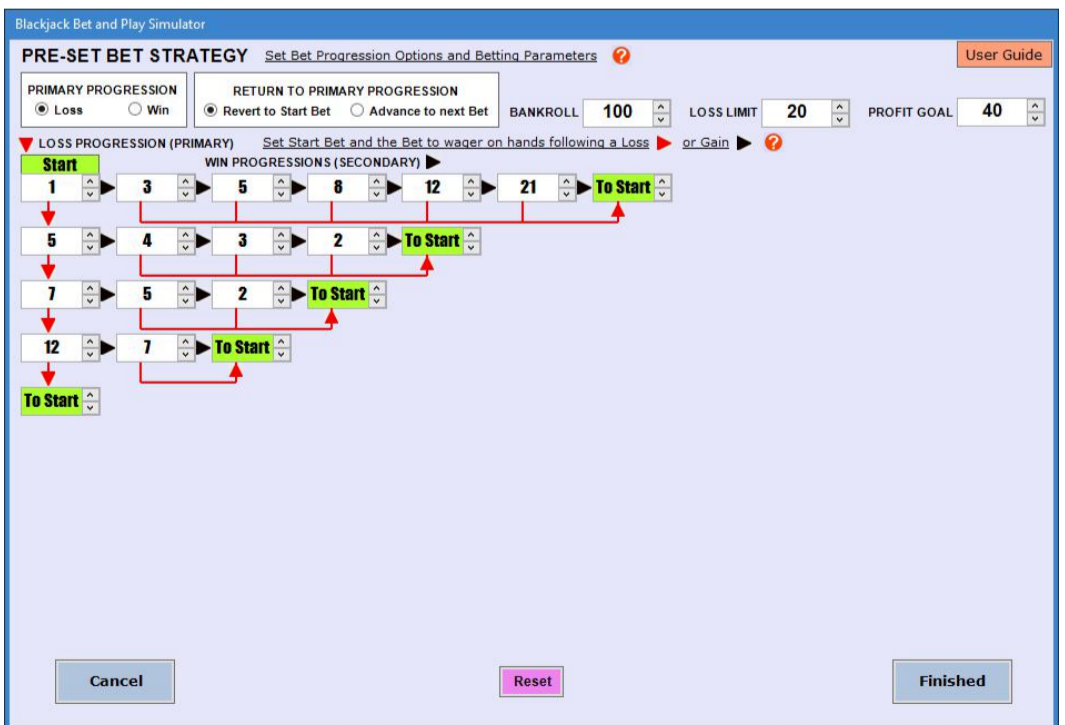
After the Bet Strategy has been adjusted, click the **Finished** button to keep the settings and return to the main application window. If a simulation is in progress, it will be reset.

To discard any adjustments made to the Bet Strategy and return to the main application window, click the **Cancel** button. A simulation in progress can then be continued from the point where it was stopped.

4.2 Calculated Bets

In the **Calculated Bet Strategy** window, select a Basic Betting System to set up from the following choices.

User Setup :	Configure your own Betting System
D'Alembert:	Wager the **START BET** (one unit) on the first hand. Increase the Bet by one unit after a Loss. Decrease the Bet by one unit after a Gain.
Oscar's Grind:	Wager the **START BET** (one unit) on the first hand. Increase the Bet by one unit after a Gain, but to no more than what is needed to reach a profit of one unit. Wager the **START BET** after profit of one unit is reached. Wager the same Bet after any Loss.
Martingale:	Wager the **START BET** on the first hand. Double the Bet after a Loss. Wager the **START BET** after any Gain.
Paroli:	Wager the **START BET** on the first hand. Double the Bet after a Gain. Wager the **START BET** after any Loss.

Set **BANKROLL** (100 – 100,000) for the amount to be shown as **Balance** at the start of the simulation.

Set **START BET** (1 – 10,000) for the Bet wagered on the first hand of the simulation. Set **MINIMUM BET** (1 – 10,000) and **MAXIMUM BET** (1 – 100,000) to establish a range of bets to wager. The **MINIMUM BET** input box is disabled for Oscar's Grind, Martingale, and Paroli Betting Systems.

Set **LOSS LIMIT** (1 – 100,000) and **PROFIT GOAL** (1 – 100,000) to establish limits within which to utilize the formulas. When outcome of a hand results in either **Loss Limit** or **Profit Goal** reached, the Bet for the next hand reverts back to the **START BET**. The **PROFIT GOAL** input box is disabled for Oscar's Grind Betting System.

Separate formulas are set up for calculating the Bet, depending on **Loss** or **Gain** as a result of the previous hand. Select a formula based on whether the Bet wagered on each hand after a Net Loss and after a Net Gain is to be determined by a calculation based on the <u>Initial Bet</u> wagered on the previous hand or by the <u>Net Result</u> on the previous hand. To determine the Bet to be wagered on the next hand, set a factor by which the previous <u>Initial Bet</u> or <u>Net Result</u> will be multiplied, and an amount to either **Add** to or **Subtract** from that result. (The formula input boxes are enabled only when a **"User Setup"** Betting System is selected.) Check the appropriate box to continue to wager the **MAXIMUM BET** or **MINIMUM BET** after Net Losses, when the calculated Bet is outside the min/max range, until a Net Gain occurs. Check the appropriate box to continue to wager the **MAXIMUM BET** or **MINIMUM BET** after Net Gains, when the calculated Bet is outside the min/max range, until a Net Loss occurs. Otherwise, the Bet to be wagered for the next hand reverts back to the **START BET**. If a Loss or a Gain does not occur, (**Balance** does not change) the Bet on the next hand remains the same.

To limit the Calculated Bet so that **LOSS LIMIT** is not exceeded as result of a Loss of the Bet on the next hand, check the box labeled **"Limit Bet so Loss Limit is not exceeded on a Loss"**. To limit the Calculated Bet so that **PROFIT GOAL** is not exceeded as result of a Gain by the Bet amount on the next hand, check the box labeled **"Limit Bet so Profit Goal is not exceeded on a Gain"**. This box is checked and disabled if Oscar's Grind Betting System is selected. To round the Calculated Bet to a whole number, check the box labeled **"Round Up to Whole Number"** or the box labeled **"Round Down to a Whole Number"**.

<p align="center">Calculated Bet Strategy</p>

Example:
> In the formula to calculate the bet on the next hand after a Gain, the factor by which to multiply the previous Bet is set at 2 and the "Add" amount is set at 1. In the formula for bet strategy after a Loss, the factor by which to multiply the previous Bet is set at 3 and the "Subtract" amount is set at 4. If the Bet wagered on the previous hand was 5 and the result of the hand is a Gain in Balance, the Bet wagered on the next hand will be (2 x 5) + 1 = 11. If that hand results in a Gain, the Bet wagered on the following hand will be (2 x 11) + 1 = 23. But, if the hand results in a Loss, the formula set up for the next bet following a Loss is utilized, and the Bet will be (3 x 23) - 4 = 65.

After the Bet Strategy has been adjusted, click the **Finished** button to keep the settings and return to the main application window. If a simulation is in progress, it will be reset. To discard any adjustments made to the Bet Strategy and return to the main application window, click the **Cancel** button. A simulation in progress can then be continued from the point where it was stopped.

5.0 Simulation

Control the simulation in the control box at the lower right corner of the main application window. Set the **MODE** to **Test** or **Practice**. Set the **BET STRATEGY** to **Calculated** or **Pre-Set**. The number of **HANDS** to run continuously can be set from 1 to 100,000. But, when the graph is shown after all hands are run, number of **HANDS** can be set from 1 to 1,000,000.

When in **Practice** mode, the time delay between display of each card, decision and result can be adjusted by moving the **PRACTICE SPEED** slider. The delay can be set from less than 1 second to approximately 5 seconds, and can be adjusted before the simulation is started, or during the run.

With **BET STRATEGY** set to **Calculated**, the simulation will use a formula established in the Calculated Bet Strategy window to calculate the Bet wagered on a hand, based on either a loss or gain as result of the previous hand. With **BET STRATEGY** set to **Pre-Set**, the simulation will use the pre-set bets established in the Pre-Set Bet Strategy window to determine the Bet wagered on each hand, depending on loss or gain as result of the previous hand. The **BET STRAGTEGY** set to be used by the simulation can be accessed by right clicking the Bet Strategy that has been selected for use in the control box.

Click the **Start** button to run a simulation. During a simulation run, the Start button will change to a **Continue** button. Click the **Stop** button to stop the simulation. Click the **Continue** button to restart the simulation from the point where it was stopped. Click the **Reset** button to clear the graph or cards, and to zero all results and statistics. Various **STOP POINTS** can be set, as desired.

5.1 Test Mode

In **Test** mode, the simulation will run at fast speed, and a graph of **Balance** versus **Dealt Hand Number** is displayed. The graph can be set to show the data during the simulation, or after all hands have been run. Speed of the simulation depends on computer processing speed, and is not adjustable. However, showing the graph after all hands have been run will reduce the run-time for a large number of hands. To develop a winning system, adjust Bet and Play Strategy to result in a gradual increase in balance with minimal variations. Open any of the Strategy windows when the simulation is not running by using the menu or tool-bar buttons at the top of the window. When the graph is generated during the simulation, it can be set to stop if **Profit Goal**, **Loss Limit**, **Minimum Bet** or **Maximum Bet** is reached; or when **Bankroll** is depleted. **Game Statistics**, **Strategy Results**, and a listing of **Gain and Loss Runs** are tracked as the simulation progresses. View these numbers by clicking the appropriate tab. Betting parameters, as set in Bet Strategy, are also displayed.

Game Statistics

DEALT HANDS	454	SPLIT HANDS	12
INITIAL BET	1.00	DOUBLED BETS	59
TOTAL BET	2.00	HANDS WON / LOST	204 / 231
NET RESULT	+ 2.00	HANDS PUSHED	31
OVERALL WIN %	43.777	PLAYER BJ / DEALER BJ	25 / 23
DOUBLED WIN %	64.407	MAX RUN PLAYER BJ	2
PLAYER BUST %	12.017	MAX RUN DEALER BJ	2
DEALER BUST %	21.586	MAX RUN PLAYER BUST	3
SURRENDER %	6.223	MAX RUN DEALER BUST	4
BALANCE	209.00	BALANCE +/-	+ 30.00

Strategy Results

PROFIT GOAL MET / LOSS LIMIT REACHED	8 / 7
# OF NET GAINS / # OF NET LOSSES	197 / 213
TOTAL OF GAINS / TOTAL OF LOSSES	+ 1085.50 / - 941.00
MAX RUN OF GAINS / MAX RUN OF LOSSES	7 / 9
TOTAL OF ALL BETS WAGERED	2261.00
AVERAGE INITIAL BET PER DEALT HAND	4.35
AVERAGE TOTAL BET PER DEALT HAND	4.98
AVERAGE NET RESULT PER DEALT HAND	+ 0.32
PLAYER EDGE (+) OR DEALER EDGE (-)	+ 7.31 %
AVERAGE GAIN (+) OR LOSS (-) PER AVERAGE TOTAL BET	+ 6.39 %

Gain / Loss Runs

RUN	COUNT	GAINS	% TOTAL	COUNT	LOSSES	% TOTAL
1	62	279.00	47.81	52	53.50	10.93
2	30	156.50	26.82	33	116.50	23.80
3	9	61.00	10.45	12	84.00	17.16
4	4	35.00	6.00	6	70.50	14.40
5	4	34.00	5.83	5	94.50	19.31
6	1	9.50	1.63	2	46.50	9.50
7	1	8.50	1.46	1	24.00	4.90
8	0	0.00	0.00	0	0.00	0.00
9	0	0.00	0.00	0	0.00	0.00
10	0	0.00	0.00	0	0.00	0.00
11	0	0.00	0.00	0	0.00	0.00

Main Application Window – Test Mode

5.2 Practice Mode

In **Practice** mode, the simulation will run at an adjustable speed. All player and dealer cards are displayed for each hand. A message appears when Dealer checks for Blackjack and when a card shuffle occurs. Amount of bet, insurance bet, hand counts, player decisions, and results of the hand are displayed as the simulation progresses. Open any of the Strategy windows when the simulation is not running by using the menu or tool bar buttons at the top of the window. The simulation can be set to stop if **Profit Goal**, **Loss Limit**, **Minimum Bet** or **Maximum Bet** is reached, or when **Bankroll** is depleted. Key statistics and betting parameters are displayed as the simulation progresses. (See 5.1 Test Mode)

When the **BET STRATEGY** is set as **Calculated**, a message is displayed when the **Profit Goal** is reached or the **Loss Limit** is reached. When this happens, the Bet on the next hand will be the value of the **Start Bet**. A message is also displayed when the **Minimum Bet** or the **Maximum Bet** is reached. When this happens, the Bet on the next hand will be the value of the **Start Bet**.

When the **BET STRATEGY** is set as **Pre-Set**, a message is displayed when the **Profit Goal** is reached or the **Loss Limit** is reached. When this happens, the Bet on the next hand and position in the Bet Strategy chart will be the **Start Bet**.

Progress toward Profit Goal or Loss Limit is displayed as **BALANCE +/-** since last reverting to the Start Bet due to reaching the Profit Goal or reaching the Loss Limit. When the Profit Goal is reached or the Loss Limit is reached, the bet wagered on the next hand will be the Start Bet and **BALANCE +/-** is reset to zero.

Main Application Window – Practice Mode

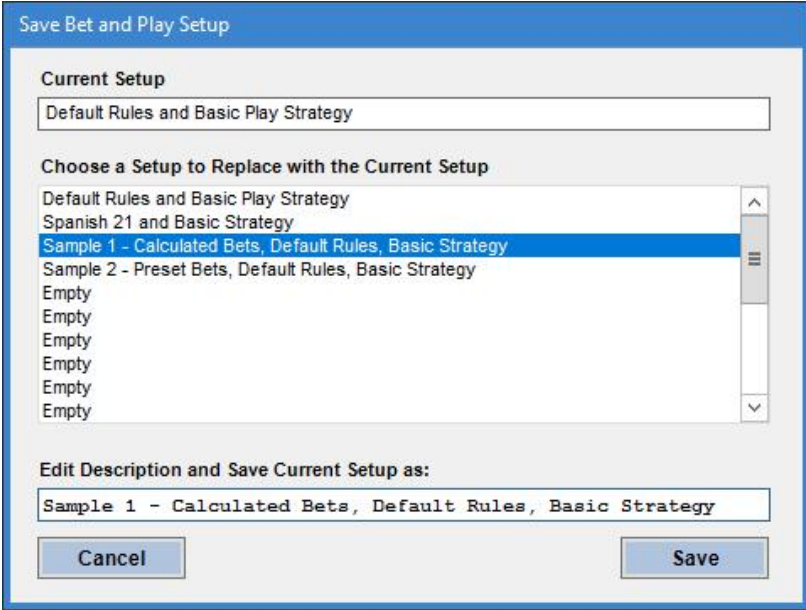## 6.0 <u>Save a Setup</u>

To **Save** the current setup of game rules, play strategy and bet strategy open the **Save Bet and Play Setup** dialog box by clicking the **Save** button in the tool bar or in the File menu at the top of the main application window. In the dialog box, the description of the **Current Setup** is displayed. In the list box, choose a **Setup** to replace with the **Current Setup**. Edit the description in the text box, if desired, then click the **Save** button. A message will indicate that the current rules and strategies were saved. Click the OK button. Up to (20) setups can be saved.

To exit the dialog box before saving a setup, click the **Cancel** button.

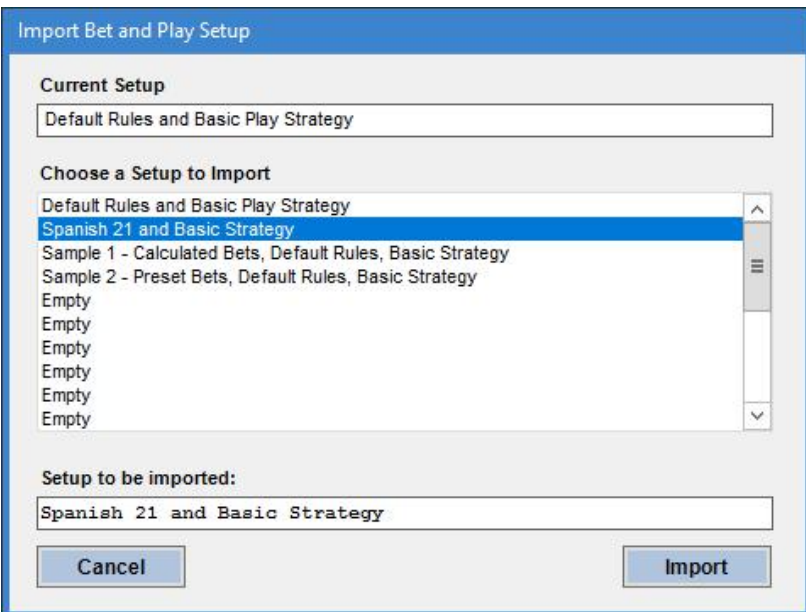**Save Bet and Play Setup Dialog Box**

7.0 <u>Import a Setup</u>

To **Import** a previously saved setup of game rules, play strategy and bet strategy, open the **Import Bet and Play Setup** dialog box by clicking the **Import** button in the tool bar or in the File menu at the top of the main application window. In the dialog box, the description of the **Current Setup** is displayed. In the list box, choose a **Setup** to import, then click the **Import** Button. A message will indicate that the setup was imported. Click the **OK** button. Game Rules, play strategy and bet strategy will then be set according to the imported setup.

To exit the dialog box before importing a setup, click the **Cancel** button.

Sample setups of game rules, play strategy and bet strategy have been loaded into the application for importing, further development and testing.

Import Bet and Play Setup Dialog Box