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What Is Card Counting
And
How Does It Work?

What Is Card Counting?

Card counting is a combination of ability and knowledge that allows you to play blackjack and create an advantage over the casino—and to do so legally.

There are four necessary skills you must develop:

1. **Rules:** be able to determine the rules for a particular game of blackjack and calculate the house advantage. Not all blackjack games can be beaten.
2. **Strategy:** know your decision charts for when to hit, stand, double, split, and if offered, to take Insurance and surrender.
3. **Counting Cards:** keep a running total of your advantage as the cards are dealt, by assigning simple values to each of the ten ranks.
4. **Money Management:** understand what is required for bankroll and how to bet proportionately to advantage.

A simple and effective count system is provided later in this document.

How Hard Is It?

Anyone with average intelligence can learn to count cards. Being good with numbers and having a good memory, of course, makes it easier. Even so, we must be honest with you, to play at a *professional* level is challenging. It is performance based, and that means you must learn your skills well and how to apply them effectively. Running to keep in shape is one thing, training to win the Boston Marathon is another. How far you go is up to you.

While counting is an ongoing process during play, the other skills are learned before sitting down at the table. The game of blackjack itself is not difficult to learn. However, it does take time and commitment to play the game well.

On average, in two or three weeks at perhaps an hour a day, you should be able to learn your basic strategy decisions, and how to keep a running count. Beyond that, and depending on the count system you use, you will need to learn how to convert to a *true count* by taking the running count and dividing by the number of decks that have been dealt. The more methodical you are in your training, the better you will do.

Besides the technical skills, there is one other, very important, aspect to playing successfully, and that is getting along with the casinos. If they think you are counting cards *and winning*, they will take measures against you to disrupt or stop you from playing. Dealing with this is very much part of the learning process.



How Does Card Counting Work?

Some cards favor the player while others work for the house. Counting provides a simple means of keeping track of the ratio between favorable to unfavorable cards.

By removing each card rank for a particular set of rules, and using computer simulations, we can determine the advantage that each card has for or against the player. A simple plus or negative value is then assigned each rank. This set of values is known as a **point count**.

The casino generally has a five-percent, or more, advantage over the average player. Even when counting, you will lose more hands than you win. You earn your returns by developing the skill to overcome this, by knowing when you have the advantage and betting more when the odds favor you, and less when they don't.

Rank:	2	3	4	5	6	7	8	9	T	A
♥♣♦♠	1	1	1	1	1	0	0	0	-1	-1

Why Not An Easy Progressive Betting System?

The short answer is *they don't work!*

Progressive betting systems fail in computer simulations and they fail at the tables. Over time, you will always lose with progressive betting because it requires you to increase bets during periods of negative expectation (another words, when the odds are against you).

Progressive systems generally fall into one of two methods: increase betting as you lose, or increase betting as you win. These include "31", Fibonacci, D'Alembert, Dahl's Progression, Hoyle's Press, Labouchre, and Martingale (and Reverse Martingale),

There are many variations and flavors, but nonetheless, it's the same old gambling poison.

How Much Money Can I Make?

First, if you play poorly or play the wrong tables, you will lose money.

If you use an effective counting system and play accurately, and if you pick tables with favorable rules, and if you are able to avoid casino 'heat', and if you bet optimally with a large bankroll—well, then you just might make a killing. As you can see, that's a lot of 'ifs'. Realistically, a competent counter should be able to reap a 1 to 2 percent return per money wagered. Here is an example: at fifty hands an hour, with an average bet of around 2 units, playing a 1 to 4 bet-spread, yield 1 to 2 units an hour. Of course, the larger the betting unit, the larger the return. It is also true that the larger the bet size and spread, the more scrutiny you are going to receive from the casino—since they have a tendency to notice little details like that.

What Count System Should I Use?

There are many count systems available; here are a few factors to consider:

Rank:	2	3	4	5	6	7	8	9	T	A
Level 2:	2	2	2	2	2	1	0	-1	-2	-2

How difficult is it?

A count's *level* is determined by the range of values it uses. For instance, a level-1 count will use values of -1, 0, 1; and a level-2 will include -2, -1, 0, 1, and 2, etc. Generally, the higher the count level the stronger the count. However, this does not always hold true. You must determine if the added difficulty is worth the advantage.

Counts can be balanced or unbalanced. Unbalanced counts require an offset, where you begin your running count with an offset value, rather than zero. It is a common misconception that an unbalanced count does not require a true count. Any count, balanced or unbalanced, can be strengthened by true count conversion.

Count sets that do not assign a value to the ace may require a separate side count of aces. The added complexity is substantial.

How strong is it?

Counts can be measured for their playing and strategy strengths. In theory and actual play, the difference in return among the stronger popular counts is not significant.

Here is a comparison of several ace-included counts, using a true count. The measurement is based on their betting correlation, insurance correlation, playing efficiency, and overall system rating (OSR), using *SmartCards* software, and set to a betting range of 1 to 4.

Balanced Point Counts

	2	3	4	5	6	7	8	9	T	A	BC	IC	PE	OSR
High Low	1	1	1	1	1	0	0	0	-1	-1	97	76	51	96.53
Zen	1	1	2	2	2	1	0	0	-2	-1	96	85	63	96.69
Shelley 2 AI	1	2	2	2	2	2	0	0	-2	-1	97	60	62	96.97
Extreme II	2	2	2	2	2	1	0	-1	-2	-2	99	74	55	97.58
Wong's Halves	.5	1	1	1.5	1	.5	0	-.5	-1	-1	99	72	56	97.89
Extreme III	1	2	2	3	2	1	0	-1	-2	-2	99	72	56	97.89

Unbalanced Point Counts

	2	3	4	5	6	7	8	9	T	A	BC	IC	PE	OSR
KO (-4)*	1	1	1	1	1	1	0	0	-1	-1	98	78	55	97.12
Red Seven (-2)	1	1	1	1	1	.5	0	0	-1	-1	98	78	54	97.38
Extreme Adv (-4)	2	2	2	3	2	1	0	-1	-2	-2	99	73	55	97.93

* offset per deck

How Do I Learn To Count Cards?

It is possible to learn to count with only a deck of cards, at least to a novice level.

However, this does not provide a means to measuring your performance. Without that, it is almost impossible to determine your readiness. The other limitation is that you are unable to practice many of the counting skills effectively, deck estimation being one example.

Advantages of systematic training

1. **It's easier to learn:** it's laid out step by step
2. **It's quicker:** systematic practice yields quicker results
3. **You win more:** the better you train, the better you play
4. **You know when you are ready;** without measurement you are gambling

Remember, to pass casinos scrutiny you need to be sure of your skills. You want your confidence to be based on competency, not self-hype.

Using Practice Software

There are dozens of blackjack programs available for the PC. Some are good, though most are ineffective for systematic training. In fact, with many, you waste time with irrelevant features. It is easy to get caught up in the fun of playing rather than getting your chops down. You might as well spend your time playing computer solitaire.

Our goal at **Extreme Blackjack** is to provide you the world's best tools for blackjack training, for whatever counting system you use. See us at www.extremebj.com.



Determining Advantage

Rule variation makes all the difference in whether a particular table can be beat or not. To understand rule variations we refer to Peter Griffin's *Theory of Blackjack* and begin with an assumed set of rules:

- Single deck; Dealer stands on soft 17
- 100% penetration (though not found in practice)
- Double on any two initial cards; No doubling after splitting
- Except aces, any pair can be resplit
- Blackjack pays 3 to 2; No Insurance; No Surrender

According to Griffin, this rule combination yields +.02 to the player. It is variations to these rules, including deck size, that determines player's advantage for a particular game of blackjack.

Rule Variation	Shoe Size			
	2	4	6	8
Deck size	-.32	-.48	-.54	-.57
Dealer hits soft 17	-.21	-.21	-.22	-.22
Double (any two cards except after splits = 0)				
On three or more cards	.23	.23	.22	.22
Only (8), 9, 10, 11	-.11	-.1	-.1	-.09
Only 10, 11	-.21	-.19	-.18	-.17
Double after split	.14	.14	.14	.14
Splitting (any pair, resplit all except Aces = 0)				
Any pair except aces	-.17	-.18	-.18	-.18
No splitting	-.40	-.42	-.42	-.42
Resplitting on all pairs	.06	.07	.07	.07
No resplitting	-.03	-.03	-.04	-.04
Unlimited draw on aces	.14	.14	.14	.14
Surrender (none = 0)				
Late (conventional)	.05	.07	.07	.08
" when dealer hits S17	.07	.09	.1	.1
Early	.63	.63	.63	.63
" when dealer hits S17	.71	.72	.72	.72
No Hole Card(hole card = 0)				
No hole card (European)	-.12	-.12	-.12	-.12
Dealer wins ties	-.9	-.9	-.9	-.9
Blackjack (3 to 2 payoff = 0)				
Pays 2 to 1	2.28	2.27	2.26	2.26
No bonus	-2.28	-2.27	-2.26	-2.26

Table advantage is calculated before you play. You can find current casino rules in various blackjack publications. Rule sets tend to be regional.

Remember too, how deeply a dealer deals into the deck or shoe is significant.

How Do You Convert To True Count?

Once you have mastered basic strategy, and keeping a running count, you will want to add to your arsenal by learning how to convert the running count into the **true count**. This will provide better accuracy in determining your advantage.

The true count is the running count with consideration of how many cards have been played. Taking the running count and dividing by number of decks remaining to be played yields the true count.

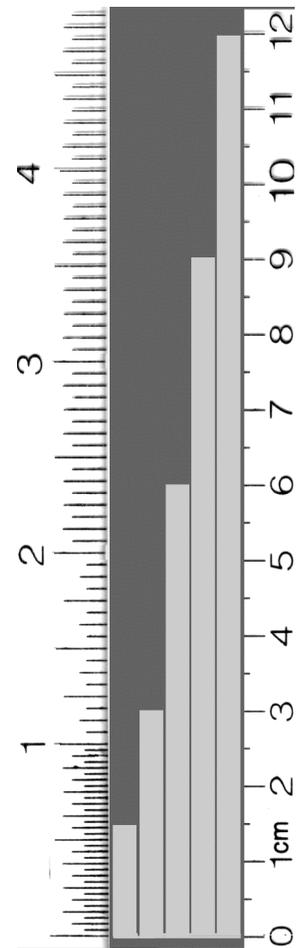
This process is simplified by learning **deck estimation**. Rather than trying to determine the exact number of cards already dealt, you can look at the **discard tray** and estimate to the nearest deck.

The figure at the right shows the heights of a single, double, four-deck, six-deck and eight-deck stack. You can see that the height of the eight-deck stack, for example, is 12 centimeters (about 4 $\frac{3}{4}$ inches).

In shoe play you can choose to estimate to the nearest whole deck, or if you prefer a little more accuracy, the nearest half-deck. In single deck play you will want to estimate to the nearest quarter deck. Remember to allow for the cards that are dealt on the table.

Here is how it works: assume you are playing with a six-deck shoe and the discard tray has about two decks in it. This means four decks remain to be played. If your running count happened to be 8, for instance, you would then divide 8 by 4 to come up with the true count of 2.

Deck estimation can be practiced by bundling deck-stacks of various sizes and then counting and dividing accordingly. However, this is one area where practice software can make a substantial difference in both the ease of learning and degree of accuracy you develop.



Safe Money Management

Do not play unless you have adequate bankroll (at least 200 times the size of your average bet). Begin conservatively, with a mild spread, such as 1 to 2 units. With experience try 1 to 4. You must overcome the table advantage by knowing what rules you are playing against, and only increase your bets when the count is sufficiently high.

You may want to consider "The Brh Systems Book" by well known Australian mathematician Brett Harris, who has pioneered many areas in blackjack math, including optimal bet spreads. Additionally, he has created three of the strongest card counting systems ever published.

www.extremebj.com

Extreme Easy Count System

If you are just starting and want a counting system with a very simple point count and a single, all-around basic strategy try the following:

Extreme Simple Point Count (traditional High-Low)

Rank:	2	3	4	5	6	7	8	9	T	A
♥♣♦♠	1	1	1	1	1	0	0	0	-1	-1

Extreme Strategy I

HARD TOTALS		Hit, otherwise Stand											
		Dealer's Up Card											
		2	3	4	5	6	7	8	9	T	A		
Player	17+												
	16						H	H	H	H	H		
	15					H	H	H	H	H			
	14				H	H	H	H	H				
	13			H	H	H	H	H					
	12	H	H				H	H	H	H	H		

DOUBLING		Double, otherwise Hit											
		Dealer's Up Card											
		2	3	4	5	6	7	8	9	T	A		
11	D	D	D	D	D	D	D	D	D	D	D		
10	D	D	D	D	D	D	D	D	D				
9			D	D	D	D							

SPLITTING		Split, else Hit or Stand											
		Dealer's Up Card											
		2	3	4	5	6	7	8	9	T	A		
AA	Sp	Sp	Sp	Sp	Sp	Sp	Sp	Sp	Sp	Sp	Sp		
TT													
99	Sp	Sp	Sp	Sp	Sp			Sp	Sp				
88	Sp	Sp	Sp	Sp	Sp	Sp	Sp	Sp	Sp	Sp			
77	Sp	Sp	Sp	Sp	Sp	Sp							
66			Sp	Sp	Sp	Sp							
44													
33				Sp	Sp	Sp	Sp						
22			Sp	Sp	Sp	Sp							

SOFT DOUBLING		Double, else Hit or Stand											
		Dealer's Up Card											
		2	3	4	5	6	7	8	9	T	A		
A8													
A7	D												
A6	D												
A5	D												
A4	D												
A3	D												
A2	D												

Rule variations include six decks, with the dealer standing on soft 17. Doubling is permitted on any two cards, except after splitting. [Count system design: Richard Reid]

Point Count and Basic Strategy