



Training Manual

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Overview

Draw 'n Shoot 21 combines variations of *Blackjack* and *Craps* in a single game. Players may play either game or both games simultaneously. Six decks of regular playing cards and two six-sided dice housed in a Pai Gow cup are used to play the game on a standard blackjack table with seven player spaces. All bets are played against a pay table.

Players use one or more cards plus one roll of two community dice to make their '21' scores, and use the same roll *plus* the first card dealt to play 'QuickCraps.' The cards count the same as in *Blackjack*. The dice count their face values. All bets are settled at the end of the game when the dice are revealed.

21 Rules (*Dicey Blackjack*)

1. Players make a wager on the ante betting spot (labeled '1' on the layout).
2. The dealer gives each player one card face up.
3. At this point, players may raise two or three times their ante (double or triple). Wagers should be placed on the raise betting spot (labeled '2').
4. After making the raise decision, each player in turn gives the dealer either a STAND (play with the first card only) or HIT (draw additional cards) signal in the normal blackjack fashion.
5. The dealer places all hit cards, if any, on the table face up in front of the player just below the first card dealt.
6. The dealer shakes the dice cup and removes its cover to reveal the outcome of the roll.
7. The dealer calculates each player's score by adding the dice total to the total of the player's card(s).
8. Players win and are paid 2 to 1 if they get a blackjack, defined as any score of 21 made with a single card and roll. Players win and are paid 6 to 5 for any other score of 21. They win and are paid 1 to 1 if they score 18, 19 or 20. They push their wager(s) if they score 17. Players lose if they score lower than 17 or higher than 21. All payouts apply to both the ante and raise bets.

Craps Rules (*QuickCraps*)

1. Players make a wager on the Craps betting spot.
2. When the dice are rolled, players automatically win even money if the dice turn up any Craps (2, 3 or 12), and push or win if the dice turn up seven. If the dice turn up any other number, players 'make their point' and win if their card (first dealt for '21' players) is equal in rank to the dice total (referred to as a match); otherwise, they lose. The match card for a roll of 11 is the Ace.
3. All bets are settled according to the Craps pay table.

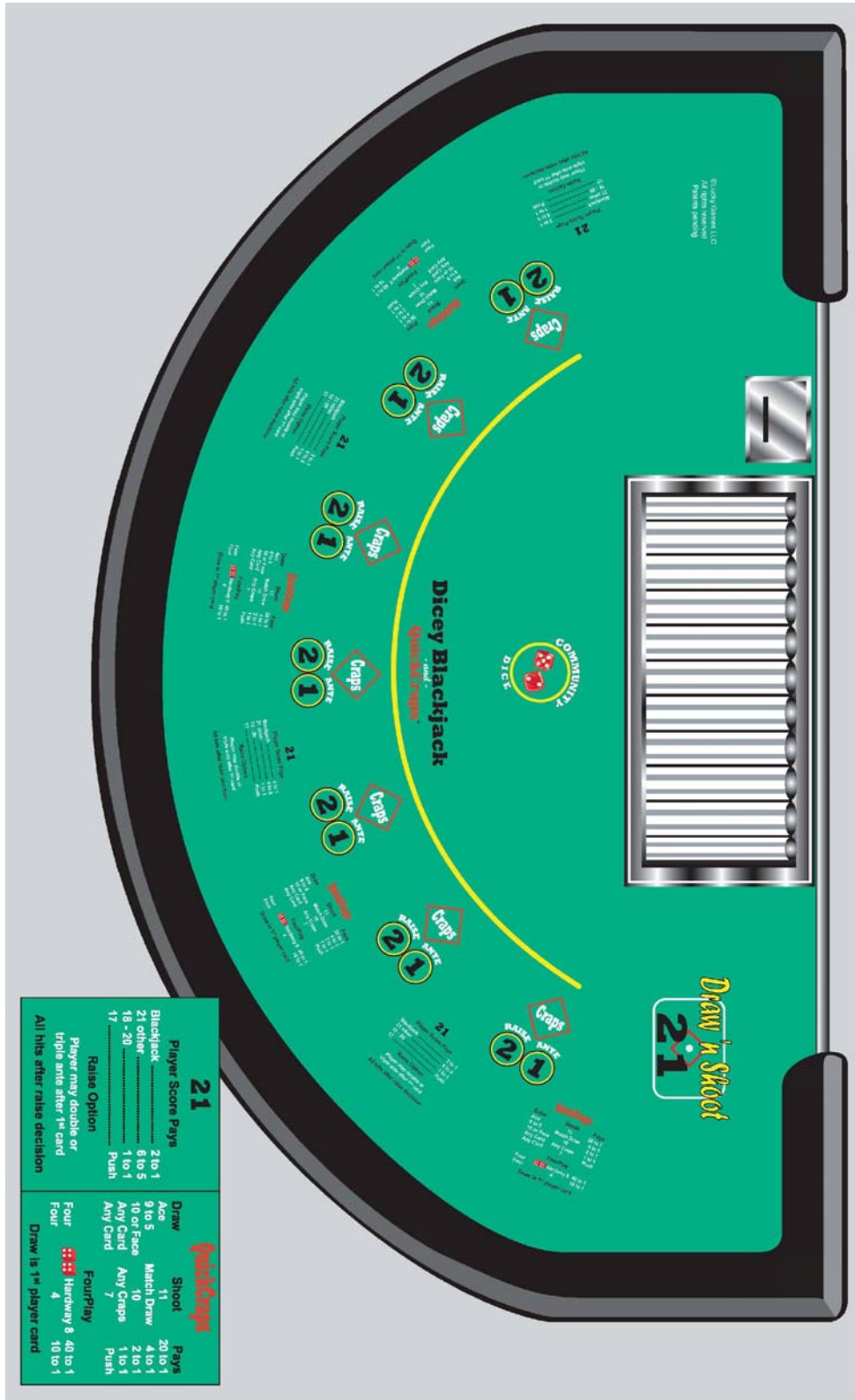
Recommended Dealing Procedures

1. Shuffle six decks of cards and place them in a shoe. Cut at a point that will allow approximately five decks to be dealt before reshuffling.
2. Make sure that all bets are placed correctly. Players may place a wager on the '21' ante spot (labeled '1' on the layout), the Craps betting spot, or both. All bets must be within the posted table minimum and maximum.
3. Working from left to right, deal one card face up to each player. For players who are playing both bets or Craps only, deal the first card laterally above the player space and any hit cards vertically in the normal fashion. This clearly identifies the card used for the Craps bet, and is the only card dealt to Craps only players. For players who are not playing Craps, deal all cards in the normal fashion.
4. From left to right, prompt players in turn to make their *raise* and *stand/hit* decisions.
 - Players may raise their ante wager by up to 2 times the original amount (double or triple). The wager should be placed on the raise betting spot (labeled '2').
 - After making their raise decisions, players signal their stand or hit decisions in the normal blackjack fashion. Players may hit until their cards reach a hard total of 19 or over.
5. Turn and shake at least three times the Pai Gow cup (shaker) containing the dice. Then place the shaker down near the center of the table and remove its cover to reveal the dice.
6. Announce the total of the dice.
7. If the dice total is 2, 3, 7 or 12, the roll is either a push or automatic winner for all Craps players, so proceed to Step 8 below. If the dice total is any other number, compare the number to each Craps player's first card. If there is no match, collect the losing bet and then proceed to Step 8 below. (The match card for a roll of 11 is the Ace.)
8. Working from right to left, settle all remaining bets with each player in turn as described below.
 - Pay winning Craps bets according to the 'QuickCraps' pay table.
 - Calculate the player's '21' score by adding together the total of the player's card(s) and the two community dice and 'take or pay' bets according to the '21' pay table. Odds apply equally to both the ant and raise wagers.
 - Place the used card(s) in the discard tray facedown.
9. Cover the shaker to end the round.

Exceptions

In jurisdictions where a skill game is required, the '21' ante wager is required and QuickCraps may be played as a side bet.

Table Layout



Pay Tables

21

Player Score Pays	
Blackjack	2 to 1
21 other	6 to 5
18 - 20	1 to 1
17	Push

Raise Option

Player may double or triple ante after 1st card

All hits after raise decision

QuickCraps

Draw	Shoot	Pays
Ace	11	20 to 1
9 to 5	Match Draw	4 to 1
10 or Face	10	2 to 1
Any Card	Any Craps	1 to 1
Any Card	7	Push

FourPlay

Four	 Hardway 8	40 to 1
Four	4	10 to 1

Draw is 1st player card

Single Player Space

Dicey Blackjack
- and -
QuickCraps


Craps

RAISE ANTE 2 1

QuickCraps

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Raise Option

Player may double or triple ante after 1st card

All hits after raise decision

Appendix – Math Supplement

The 21 bet:

Summary of House Edge Calculation						Return Table			
1st Card	p	EV	Value	Raise	BS Value	Result (EV)	p	p * EV	Volatility
A:	0.07692	0.22222	0.01709	2	0.051282	Lose 3 units	0.2342	-0.7026	2.1077
2:	0.07692	0.01600	0.00123	2	0.003692	Lose 1 unit	0.2591	-0.2591	0.2591
3:	0.07692	0.01861	0.00143	2	0.004296	Push	0.1137	0.0000	0.0000
4:	0.07692	-0.01177	-0.00091	0	-0.000905	Win 1 unit	0.1240	0.1240	0.1240
5:	0.07692	-0.07762	-0.00597	0	-0.005971	Win 1.2 units	0.0397	0.0476	0.0571
6:	0.07692	-0.15699	-0.01208	0	-0.012076	Win 2 units	0.0021	0.0043	0.0085
7:	0.07692	-0.24135	-0.01857	0	-0.018566	Win 3 units	0.1880	0.5640	1.6920
8:	0.07692	-0.31538	-0.02426	0	-0.02426	Win 3.6 units	0.0158	0.0569	0.2048
9:	0.07692	-0.27778	-0.02137	0	-0.021368	Win 6 units	0.0235	0.1408	0.8450
X:	0.30769	0.00000	0.00000	2	0		1	-0.0241	5.30 Variance
TOTALS	1	Return:	-6.34%	1.077	-2.39%				2.30 Std Dev

Average wager: 2.08 units
 Element of risk: 1.16%
 Average # cards per player: 2.17

As shown in the tables above, the house will win, on average, an amount equal to 2.41% of the initial amount wagered, and 1.16% of the total amount wagered, assuming optimal play and raise strategy.

NOTE: The house edge calculation of 2.39% is a theoretical based on an infinite deck spreadsheet model; the return table reflecting a 2.41% edge is based on a simulation run of one billion rounds of play assuming six decks.

Player odds are:

Win even money - 31.2%; Win 6:5 – 5.5%; Win 2:1 – 2.6%; Push – 11.4%; Lose – 49.3%

Basic Strategy:

Optimal strategy for playing the '21' bet is as follows:

- ❖ Players have an advantage when they draw a first card Ace, 2, or 3 and should raise the maximum amount. Basic strategy is neutral with respect to a ten card draw, in which case the odds are even.
- ❖ Players should always hit on hard card totals 8 and lower and stand on hard totals 9 and higher.
- ❖ Players should always hit on soft card totals of 15, 16, 17 and 18, and stand on all other soft counts. (A soft count, or total, is one that includes an Ace that can be counted as 11 or 1.)

The Craps bet:

QuickCraps Math Table for Recommended Pay Schedule

QuickCraps					
<u>Draw</u>	<u>Roll</u>	<u>p</u>	<u>EV</u>	<u>p*EV</u>	<u>Volatility</u>
Any Card	7	0.15385	0	0.00000	0.00000
Any Card	Any Craps	0.11111	1	0.11111	0.11111
Ten or Face	10	0.02564	2	0.05128	0.10256
6, 8	Match Draw	0.02137	4	0.08547	0.34188
7	7	0.01282	4	0.05128	0.20513
5, 9	Match Draw	0.01709	4	0.06838	0.27350
Ace	11	0.00427	20	0.08547	1.70940
4	4	0.00641	10	0.06410	0.64103
4	Hardway 8	0.00214	40	0.08547	3.41880
4-5-6-8-9-T-A	No Match	<u>0.64530</u>	-1	<u>-0.64530</u>	<u>0.64530</u>
		<u>1.00000</u>		<u>-0.04274</u>	<u>7.45</u> Variance
			<i>House Edge:</i>	<u>4.27%</u>	<u>2.73</u> Std Deviation
				<i>Hit Rate:</i>	One out of every 2.8 rolls.
				<i>Make Point:</i>	One out of every 11.1 rolls.

For the recommended payable, the house will win, on average, an amount equal to 4.27% of the amount wagered. Odds of winning any payout are 20%, odds of pushing 15%, and odds of losing 65%.

Alternate pay tables are available. Below is one option:

<u>Draw</u>	<u>Roll</u>	<u>p</u>	<u>EV</u>	<u>p*EV</u>	<u>Volatility</u>
Any Card	7	0.15385	0	0.00000	0.00000
Any Card	Any Craps	0.11111	1	0.11111	0.11111
Ten or Face	10	0.02564	3	0.07692	0.23077
6, 8	Match Draw	0.02137	6	0.12821	0.76923
7	7	0.01282	0	0.00000	0.00000
5, 9	Match Draw	0.01709	6	0.10256	0.61538
Ace	11	0.00427	12	0.05128	0.61538
4	4	0.00641	8	0.05128	0.41026
4	Hardway 8	0.00214	40	0.08547	3.41880
4-5-6-8-9-T-A	No Match	<u>0.64530</u>	-1	<u>-0.64530</u>	<u>0.64530</u>
		<u>1.00000</u>		<u>-0.03846</u>	<u>6.82</u> Variance
			<i>House Edge:</i>	<u>3.85%</u>	<u>2.61</u> Std Deviation
				<i>Hit Rate:</i>	One out of every 2.8 rolls.
				<i>Make Point:</i>	One out of every 11.1 rolls.