



## Help for Pyroware Craps

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## Craps Rules

The following items provide information on the game of Craps as it is played in most modern Casinos. It is designed so a Novice can learn the game of Craps and play the game without drawing the inevitable snide Dealers' remarks and snickers from the onlookers! If you know how to play Craps, see [Game play](#) for help on running the program.

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## Game Play

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# Automatics

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## Basic Craps

Dice is one of the oldest gambling games in existence, and Craps, in its present form, is probably the most exciting Casino game offered. As a bonus, it offers players some of the best odds of any game. Possibly the only other games of chance which offer similar odds are Bacarat and EXPERTLY played Blackjack. Don't fool yourself by concluding you are a Blackjack expert... It requires a thorough knowledge of procedures based on the Dealer's exposed card, while in Craps, gaining reasonable odds requires only the knowledge of which bets to avoid. A disadvantage of Craps (or an advantage, based on your point of view!) is that it is a fast game. Large sums can be won or lost quickly, especially compared to any card game. This can be moderated by your style of play.

Craps can appear intimidating, but is in its basic form a simple game. When a game begins and the dice are Coming Out, you are hoping (with a Passline bet) that the shooter will roll either a 7 or an 11. If he succeeds, your Passline bet is doubled and returned to you. If the shooter rolls a 2, 3, or 12, ("Craps"), you lose your Passline bet, and another game begins. Any other roll becomes that shooter's Point, and Passline bets are frozen. The shooter continues to roll. If he succeeds in rolling his Point BEFORE he rolls another 7, all Passline bets are winners, and the dice are once again coming out. If he rolls a 7 before he again rolls his Point, all Passline bets are losers. This is the dreaded "Seven Out". An example: Carol approaches the Craps table and notices that the dice are coming out. She places a Passline bet, and rolls the dice. The outcome of the roll is a "5". This is now her point. Carol rolls several more times, and manages to roll another 5 before a 7 appears. Carol wins, as do all players who played the Passline. Notice that the only possible Points are 4, 5, 6, 8, 9, and 10.

The Pass bet with odds and the Come bet with odds (as well as the "don't" bets) are the best bets in Craps. Other bets are offered, and if played in moderation are a lot of fun. Typical Proposition bets (hardways, Craps-Eleven, etc) are losers by a 10% to 15% margin. Passline bets with odds and Come bets with odds, by contrast, favor the house by only 1.4%! In a nutshell... Proposition bets are fun, but do not rely on them for the bulk of your betting. The next time you are playing in a real casino, listen to the barking of the Stick Man as he aggressively peddles the proposition bets. He does this for a reason!



## Coming Out

A Craps "hand" begins when the dice are "coming out". This means a Point has not been established, and players are actively placing Pass bets, Field bets, Don't Pass bets, and *one roll* Proposition bets. You can tell when the dice are coming out in several ways: The most obvious... Players are placing Pass bets; *the point marker, which has "OUT" on one side and "POINT" on the other, is off of the field of play with the "OUT" side showing*; and the Stick Man is soliciting bets with a "Coming Out!" call.

Normally, players at a game take turns rolling the dice, with each player continuing to roll until a Seven-out is thrown. The dice then pass to the next player in a clockwise direction. When it's your turn to roll, you must have a Pass bet or Don't Pass bet on the board to roll. Make your roll with confidence, and bounce the dice off of the opposite bumpers. Don't knock over stacks of chips or the dealer won't be your friend.



## Pass Bets

The Pass bet is the basic bet in a craps game. You place a Pass bet by setting your chips in the area of the table labeled "Pass". A 2, 3, or 12 (Craps) come out roll will result in the loss of your Pass bet. A 7 or 11 (a "natural") is a winning roll. Any other roll becomes the "Point", and only if a shooter rolls his point again before another 7 will your Pass bet be a winner.

The table minimum is all that is required, but optimum betting will usually require a minimum of \$3 to allow the placement of Pass odds. You may place a Pass bet prior to ANY roll of the dice, but it is foolish to do so unless the dice are coming out. The reason... for the actual coming out roll, the odds favor YOU, the player, with a passline bet. After the point is established, the House has the edge. It is for this reason that you are allowed to place a Passline bet at any time, but are not allowed to remove a Passline bet once a point has been established.



## Come Bets

The Come bet is another variation of a Pass bet, except the come bet is placed only after the point is established. Place your Come bet, as a stack of checks (the proper name for "chips"), in the area labeled "Come". If the next roll of the dice is a 7 or 11, your Come bet is an even money winner... 2, 3, or 12, a loser. Note that the rules for winning is the same as the come out roll for the Pass bet. With any other roll, however, your Come bet is moved to that number. The next time that number is rolled, your Come bet (at that particular number) is a winner! If the shooter rolls a 7 (seven out), the "numbered" Come bet is lost, and the dice are coming out.

Like the Pass bet, you cannot remove a Come bet after it has been placed. Note that if you play several Come bets in a row, during a long hand (many rolls before the seven out), you will maintain your positions on the numbers, and it is during these long hands that the big bucks are made.

See Odds Bets



## Field Bets

The Field bet is probably the simplest bet at the Craps table. It may be placed at any time between rolls, and the very next roll determines the outcome of the bet. Notice the numbers contained within the "Field" on the table... if any of these numbers are rolled, your bet is doubled and returned to you. The rare 2 and 12 rolls are rewarded with a 2 to 1 payoff. If you are intimidated playing a real Craps game, the Field is a good place to start while observing the flow of the game. The House advantage on the Field bet is approximately 5.6% when the 2 and 12 are doubled.

## Odds Bets

Playing odds is probably the most confusing part of Craps for a beginner, but Odds bets are the best bet in the Casino. The House returns a *correct* payoff on the odds portion of the bet... in other words, the Casino has *no advantage* for that portion of your bet!

You may play odds on Pass or Come bets only after a point has been established. Everyone knows that 7 is the most probable roll, and as you deviate from 7, the occurrence diminishes. For example, a 5 is less common than a 7. If a shooter's point is a 4, it is only fitting that he should be rewarded if he rolls another scarce 4 before the more common 7. You can realize this reward through the passline odds bet, which is nothing more than a certain pile of checks placed just behind your passline bet. The House will pay the following on the odds bet if the shooter rolls his point:

For a 4 or 10:	2 to 1
For a 5 or 9:	3 to 2
For a 6 or 8:	6 to 5

A typical House will allow 2X (2 times) odds, which means your odds bet cannot exceed 2X your pass or come point bet. Here are two examples: You bet \$5 on the passline, and the shooter rolls a 4. You may now place a \$10 maximum odds bet. The shooter rolls his point, and you will receive \$5 for the passline bet, and your odds bet, at 2 to 1, will yield \$30 total (your original \$10, plus \$20, which is the 2 to 1 payoff). If the shooter loses (rolls a 7 before a 4), you lose your pass bet AND the odds bet as well.

The second example can be trickier... you place a \$3 pass bet, and the point rolled is a 6. Notice that the House pays 6 to 5 on an odds bet when the point is 6 or 8. If you place the legal limit bet of \$6 (remember, 2X odds) the house will not pay you  $6/5 \times 6$ , which is \$7.20. It will round down to \$7, since they don't want to mess with petty change. To maximize your winnings, make your 6 or 8 passline odds bet a multiple of five as close as possible to the 2X limit. If your pass bet is \$3 and the point is 6 or 8, \$5 is the best odds bet. ( $6/5$  of \$5 = \$6, plus your original \$5, = \$11 total returned to you for the odds portion of your bet.) Whew!

Placement of odds for your come bets is done in a similar manner. After the Come bet is moved to a number, determine the amount of your odds bet and place the checks on the table. Ask for "odds on the eight" (or whatever the number). The dealer will move the checks to your bet. Unlike the straight Pass and Come bets, *odds may be removed at any point in a game*. For your Pass odds, simply remove them from the table. For the Come point odds, ask the Dealer and he will return them to you. Don't reach for them, or the Craps crew and the Pit Boss will get very excited!



## Place Bets

Place bets are a simple way to get in on the numbered bet action immediately without having to place several successive Come bets. Place bets may be placed at any time... however, unless you direct otherwise, they are not "working" on the comeout roll, and only pay (and are at risk) after a point has been established. Place bets are played ("placed") directly on the number you believe will be rolled before a 7-out. To place a bet, announce "\$6 on the eight", or whatever number you wish to play. If that number is rolled before a seven, you are a winner. Typical payoffs are 9 to 5 on the four and ten, 7 to 5 on the five and nine, and 7 to 6 on the six and eight. The House advantage on these bets are 6.7%, 4.0%, and only 1.52% respectively. Obviously, you do much better on Place bets if you concentrate only on the six and eight.

Note that you will not realize these percentages if you play an incorrect number of chips. Like odds bets, the house will not deal in partial payoffs, and will round down to the nearest whole unit. For example, if you bet \$5 on the six and subsequently win, the payoff, at 7 to 6, should be \$5.83. You will receive only \$5 for this bet. To realize proper payoffs, the Place bets on the six and eight should be in multiples of six units. At a \$1 minimum table, this would be \$6, with a payoff of \$7 at the 7 to 6 odds. The other numbers should be placed in multiples of five units.

A popular bet at \$1 minimum tables is "\$32 across the board." The dealer will divide your \$32 as follows... \$5 each on the 4, 5, 9, and 10; and \$6 each on the 6 and 8. This is the minimum necessary to realize proper payoffs for winning rolls.

After a place bet wins, you have three options... Same bet, Press, or Down. Most casinos will automatically pay you the winnings, which is the "same bet" option, but some will add the winnings to the place bet and thus more than double the bet at that particular number. At these tables, if you do not make your intentions known, the winnings, along with the original bet, will ride. Large amounts of money have been made by persons not keeping track of place bets and subsequently being taken on a long ride. Calling "same bet" will retain your original bet and pay only the winnings to you. "Press" will retain enough of the winnings on the number to produce a bet in a proper multiple and return the remainder to you. For example, a \$6 bet on the eight will yield \$13 total at 7 to 6. Call "press", and the dealer will give you \$1 and retain \$12 on the six, effectively doubling your original bet. Several "presses" and some hot dice can yield a large payoff. "Down" will remove your bet and any winnings and return it all to you. Place bets may be taken down at ANY TIME.

One further word... At all tables there are bets labeled "Big Six" and "Big Eight", which pay even money and function similar to a place bet. If the Big Six or Big Eight is thrown before a 7-out, you are a winner. Sounds good? Note that a proper place bet pays 7 to 6, not even money. This makes Big Six and Big Eight two Big Sucker bets. Play your money on a proper 6 or 8 place bet and receive superior 7 to 6 odds, please.



## Game Initialization

The first time the game is started, all optional features are set to a default setting. Primary bets are set at \$5, and Proposition Bets are set at \$1. Automatic features are all turned "off". Chip handling, dice animation, and dealer calls are all turned "on". In addition, Craps will search your Windows directory for a file named CRAPS.INI. This file is used to store your game preferences when you select SAVE SETTINGS from the main menu bar. If found, the settings will be read and your game configured for you. See [Settings](#) for detail on this file.

Some of these features (when turned "on") can, on slower PC's especially, result in unacceptably slow play. Handling of your banked chips can be eliminated by clicking "Chip Handling" under "View" to the off (unchecked) position. Your chips will no longer accumulate or decrement as play proceeds. You may reinstate it later, if you wish. The chips visible on the maximized (full screen) game accurately represent your remaining cash. The "whites" represent \$1, the reds or "nickels" are \$5 each, and the blues are \$100 each. The screen holds exactly \$8708. Any additional chips are held in reserve, off screen, and are added as needed. Change is made automatically as you bet. Also, the simple dice roll animation can be canceled by clicking "VIEW" and "ANIMATION" to the off (unchecked) position. If desired, the Dealer Calls may be turned off as well.

A bit of trivia... a Craps game is crewed by 3 to 4 Casino employees, consisting of two dealers who make change and collect bets, a Stick Man who calls the throws, and a usually dour and bored Box Man sits next to the cash box and twiddles his thumbs. The Dealers are not supposed to watch the dice... their job is to watch the bets. Therefore, it is the Stick Man who makes the colorful calls and solicits bets. To avoid mistakes, the call "Eleven" has been changed to "Yo-Eleven" to avoid confusion with the similar sounding "Seven".



## Placing Bets

Bets are placed by clicking with the mouse pointer on the portion of the playing field corresponding to the desired bet. A pile of chips will appear, with a number indicating the amount of the bet. The amount is specified by first setting your bets before placing them. Additional clicking with the left mouse button will add to the amount.

If you desire to remove a bet once it has been placed, clicking with the right mouse button on the bet will take that bet down if legal to do so. For example, clicking on a Pass bet with the right mouse button AFTER a point has been established will have no effect, as will clicking (again, with the right mouse button) on a Come bet which has been moved to a number (a Come Point). Straight Come and Field bets may be taken down with the right mouse button prior to the dice roll. When in doubt, clicking a bet with the RIGHT mouse button will remove from the table as much of the bet as is legal.

To summarize... the LEFT mouse button is used to place bets, and the RIGHT mouse button is used to remove bets. The game will determine the legality of the request according to standard Craps rules.



## Rolling the Dice

The easiest way to roll the dice is to click the "Roll 'em!" button. You may also click on the dice themselves. If you like a bit of anticipation, select "View" and "Animation" from the main menu bar for some simple dice rolling action.



## Placing Odds Bets

Playing odds on a Pass (or Don't Pass) bet is accomplished by clicking with the left mouse button on the bet *AFTER* the point has been established. Clicking on the bet *PRIOR* to a point being established results in additional cash being bet as a basic Pass (or Don't Pass) bet. Depending on the option selected for your odds betting method (discussed in the "automatics" section), you will either see an immediate odds bet placed for you, or a dialogue box will appear prompting you for information.

Placing an odds bet on your Come bet (note: they must have been moved to a number) is similar... click on the bet with the left mouse button, and you will be prompted for your odds bet.

See [Odds Bets](#) for more detail.



## Removing Odds Bets

Odds on either the Pass or Come bets may be taken down anytime. Clicking on any bet with the RIGHT mouse button will remove the odds and return the odds bet to your cash total. Odds may be replayed later by re-initiating an odds bet on that particular Pass or Come bet.



## Setting Bets

Clicking "Set Bets" on the main menu bar will display an interactive window which will allow you to set your desired bet amount for the Pass, Come, Field, and Place bets. Bets may range from 0 to \$10,000. If your cash is less than \$10,000, the maximum bet that may be entered for all bets is reduced to your cash level. For example, if you have only \$250 left, the maximum bet which may be set is \$250.

For the Pass, Come, Field, Don't Pass, and Proposition bets, you may set the bets directly in the text window, and then use the modifier buttons to quickly adjust the size of the bets. For the Place bets, you may select from the available buttons or enter the amount of your bet directly in each text window. All of the bets have "modifier" buttons which consist of "/2" and "X2", and the basic five bets have "+" and "-" modifiers as well. These will adjust the bets to your liking. The "X2" and "/2" modifiers are especially useful in two circumstances... when the dice turn hot or cold you may increase or reduce your bets immediately and easily; also, modification of your Place bets is simplified. By selecting "32 across the board" and then clicking "X2", you can rapidly increase the level of these bets and still retain favorable payoff multiples.

See [Place bets](#) for a detailed explanation of these often confusing multiples.



## Place Bet Functions

Place bets may be made by clicking on the desired number on the playing field. A pile of *whitechips* will represent your place bet. Don't confuse this bet with a moved Come bet, which is red. The amount of the bet is set with the [Set Bets window](#), available from the main menu bar.

When one of your Place bets wins the winnings are payed, but remain on the number. The dealer will announce "Same bet, press, or down?". Additionally, the place bet "control panel" will announce "Place Win", and the three option buttons will become enabled.

If nothing is done prior to the next roll, the entire bet plus its winnings will ride. This is not the smartest option, as the new bet may not be of a proper multiple to allow correct payoff. Pressing one of the three Place bet option buttons will perform the desired function.

For a detailed description of "Same bet, press, or down" options, see [Place bets](#). Note: Place bets can be taken down any time with a click of the RIGHT mouse button on the desired Place bet.



## Automatics Overview

All of the "automatic" betting functions are accessed with the "Options" selection on the main menu bar. The drop-down choices include:

**Automatic Pass Bets**

**Automatic Come Bets**

**Automatic Field Bets**

**Automatic Odds**

**Automatic Dice**

**The first three** are checked either "on" or "off", and will play for you, automatically, the desired bet when it is legal to do so.

**Automatic Odds** will, when selected, display a window of three choices, allowing several options to play your various odds bets. When first learning the game of Craps, I recommend remaining with the default (all automatics OFF) to allow you to become familiar with how Craps is played. As you become more experienced, the automatic functions will speed game play and reduce the tedium of setting large numbers of bets (Odds bets, especially).

**Automatic Dice** will display an interactive window allowing you to place the entire game in an automatic mode where thousands of rolls may be made relatively quickly.

## Automatic Pass Bets

The automatic Pass bet will, when selected, play for you your preset Pass bet whenever the dice are coming out. (The optimum moment to bet.) Note that in an actual Casino, you must play a Pass bet to roll the "bones" when it is your turn. Go ahead and roll the dice... it's a lot of fun!



## **Automatic Come Bets**

The automatic Come bet will play for you your preset Come bet prior to each roll after a point has been established. This is useful for establishing a "presence" on what you hope will be a long hand. With either automatic bet function, you may add to the bet that the computer has played for you in the normal manner, namely, clicking on the bet after it has been placed. This will add another of your preset "units" to the bet already placed by the automatic betting function.



## **Automatic Field Bets**

When selected, the Automatic Field bet will play your pre-set field bet prior to each roll of the dice. When combined with the Automatic Dice Roll feature, some interesting statistical analysis can be performed.



## Automatic Odds Bets

Selecting "Automatic Odds" from the "Options" menu will display a window of choices from which only one in each field is selectable at a time. The choices include MANUAL (default), MAXIMUM ON CLICK, and FULLY AUTOMATIC.

### **MANUAL:**

With Manual selected, clicking on subsequent bets with the left mouse button will display a small window with a suggested bet in the text box, which will be 2X odds. If you like the suggested odds bet, click ACCEPT. Otherwise, change the bet and then ACCEPT or simply CANCEL.

### **MAXIMUM ON CLICK:**

A useful setting, Max on Click allows you to place your odds bet with a single click of the left mouse button on the bet you wish to place odds. This will place for you the maximum (2X) odds bet, cash permitting. If a less-than-maximum odds bet exits, it will be increased to the legal maximum. If you desire to play less than maximum odds, you must utilize the MANUAL setting for your odds betting.

### **FULLY AUTOMATIC:**

Full Auto will place for you a maximum odds bet the moment it is legal to do so. FULLY AUTOMATIC can win (and lose) big bucks very quickly if you are a heavy Come player.

Remember, the right mouse button will remove any odds bet played previously.

See [Placing Odds Bets](#).



## Automatic Dice

AutoDice will essentially put the game on autopilot for you and roll as many times as desired without human interaction.

The automatic dice rolling feature is accessed by clicking OPTIONS and AUTOMATIC DICE from the main menu bar. A small interactive window will appear prompting you for the number of dice rolls you wish the game to execute. Unless you have selected one of the automatic betting functions, no money will exchange hands, but the game will execute the pre-set number of rolls anyhow. With an automatic bet selected, the game will run unattended at high speed, and money may change hands quickly.

### To set the number of rolls desired:

Select one of the numbered roll buttons, or enter the number of rolls directly in the text box.

### To begin rolling:

Click "GO!". The program will begin the dice run. You will see the dice being rolled continuously, and the "Roll 'em!" button on the control panel will change to a "STOP AUTOROLL" button which will halt the auto-roll sequence if clicked. If not halted manually, the program will throw the requested number of rolls, beep, and announce DICE RUN TERMINATED.

### To stop automatic rolling:

Click the STOP AUTOROLL button. The automatic dice box will again appear with the number of rolls remaining displayed in the text box. A button labeled HOLD will become enabled, and rather than GO! the large button will now read CONTINUE. You now have three choices... "Cancel" will terminate the automatic rolling sequence altogether; "Continue" will continue the dice roll sequence where it was halted; and "Hold" will remember how many rolls remain in the sequence, but return you to game play. After selecting "Hold", you may reset bets, continue play manually, or examine Statistics. To continue the Auto-roll sequence after selecting hold, re-select "Automatic Dice" from the main menu bar, and the remaining rolls will again be displayed in the text box. Click "GO!", and the sequence will resume.

While the dice are in the automatic rolling mode, the mouse pointer remains active, and you may reset the bets, select or de-select automatic bets, etc, "on the fly". For especially long sequences, you may speed the rolls by de-selecting dice animation and chip handling. Minimizing the entire game will dramatically speed the rolling.

Two further options exist... **COUNTDOWN ROLLS WHEN MINIMIZED** will display the number of rolls remaining when you minimize the game. **CANCEL OUT OF CASH WARNING** will eliminate the REMAINDER OF CASH HAS BEEN BET warning which appears when an automatic bet attempts to draw a set amount of cash from your reserve and finds it "lacking". If this box remains unchecked, the automatic rolling sequence will halt when this warning message is displayed. This may be useful to find the point where you go "bust"! Depending on the speed of your system, thousands of rolls may be executed in a relatively short time. As the number of rolls accumulates, your statistical chances of becoming a winner drop dramatically. Remember that Casinos offer the game to make money, and over the very long run, you, the player, are mathematically bound to lose. The secret of winning is to leave the game on the plus side, which, if it happens, will occur over a short run of lucky dice.

Also See: [Statistics](#)

## Statistics

Statistical information is available by selecting "Statistics" under "View" from the main menu bar. The game will analyze and display information from all preceding rolls, which includes the number of rolls, the number of concluded hands, hands won, hands lost, and the "long hand".

The number of hands is an indication of the number of those hands where a point has been established, and excludes coming out rolls which result in a natural (7 or 11) or craps (2, 3, or 12). The Long Hand, which is often tracked in some Casinos (Reno especially), is the number of rolls a shooter throws before the inevitable seven-out. The longer the hand, the larger the potential profit for Come and Place bettors. Over a dice run of several thousand, the long hand will probably be in the neighborhood of 25 to 30 rolls.

Selecting **YIELDS** on the statistics window will display a bar graph of the roll distribution, and Pass and Field bet yields. The Field yield percentage is a representation of the house (or the player) percentage over the course of the rolls thrown. Over thousands of rolls, the yield should be very close to the published value of 5.6% in favor of the House. Remember, a percentage favoring the House by ANY amount will, over time, reduce your bankroll to ZERO. You can start with a million dollars, select auto field bet, start the computer in an infinite loop, and go on a month's vacation. When you return, your million dollars will be gone, and the displayed House percentage should be approximately 4 to 6 percent. This is the advantage that the House has, over time, with EACH roll, i.e. for every dollar played, the House will collect 4 to 6 cents.

The **Pass yield** represents a theoretical player who plays nothing but passline bets and 2X odds with correct payoff multiples. As the dice begin to roll, this percentage will swing wildly for quite some time as the dice turn hot or cold, but should stabilize over MANY rolls (thousands, if not tens of thousands due to the number of rolls required for just one hand) with a minor House percentage.

The **bar graph** is a representation of the relative number of occurrences of each number thrown. As more and more rolls accumulate, the graph will assume a mathematically inevitable bell-shaped curve. Over a shorter run (typically less than 2 or 3 hundred) the curve will vary. Greater occurrences of the numbers 2, 3, 4, 9, 10, 11, and 12 will tip the field yield in the player's favor. A greater than normal occurrence of the number 7 usually will favor the house. The statistics window may be displayed concurrently with the game field, and will update real time. The yields and the bar graph, however, will update only by clicking the YIELDS button. Statistical information may be reset to zero by clicking RESET STATISTICS under the OPTIONS choice from the main menu bar. The actual resetting will occur only at the conclusion of the hand, i.e. if a point is currently established, clicking RESET STATISTICS will have no apparent effect until the dice are once again coming out. Remember, access to the statistics window is denied until there is at least a single dice roll on record.

A hand, by definition, is when a shooter establishes a point and then rolls to conclusion... either a winner (his point is rolled) or a loser ("seven out, line away...")

(a side note: these published values were used to debug the program, insuring accurate payoff and a dice throw as random as a computer can generate).

The dice are COMING OUT when a shooter has either thrown his point or has thrown a seven. The point marker puck will be off the field of play with the OUT side displayed.

The POINT is the roll a shooter has thrown and must roll again to win a passline bet. The only possible points are 4, 5, 6, 8, 9, and 10.

The PASS BET is the most basic (and one of the best) bets to make in Craps. It is normally played when the dice are coming out by placing your bet within the Passline on the playing field.

The Stick Man handles the dice with a long, curved cane and controls the flow of the game. A good Stick Man adds to the flavor of Craps with colorful calls. He'll also rap your knuckles if they stray into a forbidden portion of the playing field (just kidding!)

Pass Odds are played when a point has been established, and are really a side bet to your Pass bet. You are betting, with a Pass Odds bet, on the ability of the shooter to roll his point. Payoff multiples change with the Point... a rare 4 or 10 is much harder to roll than the dreaded 7, and pay accordingly. An EXCELLENT bet mathematically.

The Pit Boss is the bored fellow or lady who oversees a section of Games, and gets excited only at the sight of an Arab Sheik or Donald Trump.

The Box Man usually sits next to the Stick Man, and gets the enviable privilege of stuffing our hard earned cash into the vacuum of the Cash Box, where it is probably sucked directly into the pockets of the Casino owners.

## ShareWare Agreement

Craps is not free software, it is ShareWare, and requires payment for use longer than 21 days. By testing Craps for this period, you are determining if it is useful and worthwhile. If it does not meet your needs, please delete the files or pass them along. Many weeks of programming were required to produce one of the few Craps simulations for Windows in existence, and I hope that you enjoy it.

Craps in its Shareware form is not crippled in any way other than "nagging" you to register, which I detest but unfortunately is the only way to encourage registration. Please, don't be a Pirate!

### To Register:

Send Check or Money Order for \$6 U.S. to

PyroWare

1109 Manor Way

Roanoke, TX

76262

Please specify media desired, either 3.5" or 5.25" disk, and your registered version will be shipped immediately. Thank you for supporting ShareWare, which produces some fine programming examples and provides all computer users with access to affordable software.

This software is sold "as is", without any warranty as to performance or any other warranties whether expressed or implied. Because of the many hardware and software environments into which this program may be used, no warranty of fitness for a particular purpose is offered. The user must assume the entire risk of using the program. Any liability of the seller will be limited exclusively to product replacement or the refund of the registration fee.



## Proposition Bets

PROPOSITION bets are many and varied, and usually located at the center of the table. They are colorful, sometimes confusing, and when played with small amounts of cash, a lot of fun. They also make lots of money for the Casino.

Proposition bets may be divided into two basic forms... *One Roll Action Bets*, and the popular *Hardways*.

### One Roll Action

These bets are just what the name implies... one roll wonders. The bet is played by asking the Stick Man or one of the dealers to place your chips for you. Then lay the chips on the playing surface in front of the dealer. You may have observed "cool" players flipping chips like little UFO's toward the Proposition playing area while calling their bets in a Humphrey Bogart baritone. Anyone flipping or tossing chips is despised by Dealer and Stick Man alike, as their workload is increased by rounding up the little devils and stacking them on the bet.

The bet exists for exactly one roll. If the outcome of the dice is that depicted by your bet, you win the odds posted in the bet playing field... otherwise, goodbye lunch money.

These bets include

Any Craps - 7 to 1 If the outcome is 2, 3, or 12, you win... otherwise, you lose.

Any Seven - 4 to 1 What the bet implies.

Eleven - 15 to 1 Ditto.

Two Aces - 30 to 1 The snakeyeyes strike!

Use caution... some Casinos post odds for these bets at, for example, 8 *for* 1 instead of 7 *to* 1 to make the bet seem more attractive. The payoff is identical in both cases. The key to Prop Bets is *moderation*. A buck here or there is OK. Don't rely on these bets as your primary play in Craps or your stay in Nevada will be short. Typical House advantages on all Prop Bets are about 10 to 15 percent.

### Hardways

The Hardways are one of the most popular bets in Craps, and put the Casino Owner's children through expensive California colleges. Again, a buck or two is OK. Don't go overboard!

The dice rolls 4, 6, 8, and 10 can be thrown two ways: *easy* and *hard*. An easy roll is one in which the individual die do not match. For example, an easy four must be composed of a 3 and a 1. An easy six can be a 5 and a 1, or a 4 and a 2. A hard roll, on the other hand, must have matching dice. Two deuces is a Hard Four, two fives is a Hard ten, etc. If you ever ask for a Hard Five or something similar, cash your chips and go play megabucks slots... you shouldn't be playing dice!

Hardway Bets are played after a Point has been established. The bet is concluded when either the number played is thrown, or a Seven Out occurs.

**An example:** The point is 8. Joe plays a dollar on HARD EIGHT and a dollar on HARD SIX. The next roll is six *easy*. The hard six bet is a loser, and vanishes with lightning speed as the dealer sweeps your chips into the coffer. The hard eight bet is still alive. The next roll is a pair of fours, or a hard eight! Joe is a winner at 9 to 1 odds. If a Seven had been thrown, both hardway bets would have been losers.

The hardway bets can add flavor to a game and increase the payoff when, as is popular, the player plays a hardways bet which corresponds to the point. Just GO EASY on them!



## Don't Pass

Craps was originally a game played by individuals, often in seedy "sawdust" bars and in dark alleys against a wall. Without a Bank to provide capital, an individual player acted as a bank and covered bets by supplying cash which was aded by other players. Odds were created on the spot and varied from game to game. A player needed an expert's knowledge of dice odds to avoid getting burned. When Bank Craps (the modern game) began in Casinos, many of the old time players wanted to play the dice as if they, the player, were still the bank, hence the **Don't Pass** bet.

When you bet Don't Pass, you are siding with the bank and against the shooter. The rules to win are the opposite of those for the Pass Bet... if the shooter rolls a 7 or 11 on the Come Out Roll you lose. If the shooter Craps (2, 3 or 12) you win. To deny players a Bank's advantage, one of the craps numbers is *barred* from being effective, usually the 2 or the 12. If this barred number is thrown on the Come Out roll, nothing happens for the Don't player... the bet remains, neither a winner nor a loser.

### Don't Pass with Odds

Remember the odds to throw various point numbers? To reiterate:

4 or 10	2-1
5 or 9	3-2
6 or 8	6-5

Since you are now on the side of the House, you must bet, as odds, what the house would normally pay. Here are two examples, at 2X (2 times) odds: Dave plays \$10 on Don't Pass. The shooter rolls a 4. The maximum Dave is allowed to win for an odds bet is \$20 (remember, 2X odds). To get the \$20, he must play \$40 as an odds bet. If the shooter loses (seven-out), Dave gets even money for his Don't Pass bet, and the odds bet, at 2 to 1, is the previously mentioned \$20. *In all cases, your odds bet will exceed the payoff of the Casino.* Another example: Dave now plays \$5 on Don't Pass. The shooter rolls a 6. To realize a \$10 payoff for his odds, Dave must risk \$12.

Don't Pass bets, or the odds, may be taken down *any time*. It is foolish to do so, however, since once a point has been established, the odds *favor you, the player*. The overall odds for the Don't bettor are, for all practical purposes, identical to the Pass bettor.

## Settings

Craps uses a file named CRAPS.INI to store information about your game. The file will be created in your Windows directory the first time the game is played. Default settings will be written to the file, as well as a blank *Saved Games* section. As you become familiar with the game, you will want to have your personal preferences already set each time you begin another session. This can be accomplished by selecting SAVE SETTINGS from the drop-down menu. When selected, SAVE SETTINGS will save the following information to CRAPS.INI:

- Dealer Calls (on/off)
- Animation (on/off)
- Chip Handling (on/off)
- Settings Window (on/off)
- All *Automatic* options
- All bet levels
- Size and position of the Craps Window

When you start another game, these settings will be read and the game configured to your liking. SAVE SETTINGS functions very much like Program Manager's SAVE SETTINGS ON EXIT, except you don't have to exit the program to save your preferences.

NOTE: SAVE SETTINGS does not save a game. To save a game and continue playing at a future session, see [Saving/Restoring a Game](#).



## **Saving/Restoring a Game**

Selecting SAVE GAME from the drop down menu will take a perfect "snapshot" of the game you are currently playing and save it to your CRAPS.INI file. This includes all current Settings as well as your cash and any placed bets. You can then restore the game at a future date by selecting RESTORE GAME. Only one game may be saved at a time.

You can cheat with SAVE GAME, but why play a game of chance when there is no chance? Besides, Casino employees are experts at spotting cheats, and you will likely be tossed on the street by the seat of your pants!

To *Fade* is to match some of the controlling player's money with your own; this becomes the bet between the controller and the fader. Often, a game begins with a player dropping a large sheaf of cash which can be faded by any number of players until there are no more bettors or the cash pile is completely gone.