## On the Subject of Badugi

Something happened in Vegas, and it apparently didn't stay there.

- Eight cards will be dealt out onto the surface of this module, split up into two groups of four card hands. The first two cards of each hand will be shown, with the other two remaining hidden.
- Find the locations of the two given cards in the table below. (There are two copies of each card except Kings in the table.)
- The two given cards will form exactly one line of adjacent cards, horizontally, vertically, or diagonally, wrapping around as necessary. The next two cards in that line are the two hidden cards in that hand.
- Compare the two hands by the rules of Badugi, and place a chip on (select) the betting line next to the stronger of the two hands. If the two hands tie, either one of them may be picked.
- The module will disarm after three correct choices have been made. Choosing a losing hand will result in a strike and new hands being drawn, but will not reset the number of correct choices thus far.

For a brief overview of the rules of Badugi, see the Appendix on the next page.

## Table of Cards

<b>6\( \)</b>	Q♥	104	6♥	5♥	A♦	K♦	2♥	A♣	Q♦
9.	A♥	Q◆	4♠	J♠	4♥	8♥	Q♥	J♠	3♦
8♣	3♠	J♣	<b>7\</b>	10•	5♦	6♠	J♥	5♠	Q.
8♥	7♠	9♠	5♣	2♠	6♣	8.	A.	3♠	9
8	4♦	10*	2	Q♠	J♦	8	6♥	2.	3♥
A♠	K♥	10•	4.	K♣	4♠	7♥	8	10+	5♣
6	J♣	3♦	.2♣	3♣	Q.	2♥	9.	5♦	J♥
4	4♥	K♠	<b>7\</b>	6♣	5♥	Q♠	84	2	J♦
A♥	A♣	9♥	10•	4.	104	9•	9♥	3♥	5♠
<b>7</b> ♣	7♥	104	A♠	7♠	7♣	2♠	6♠	3♣	94

## Appendix—A Primer on Badugi

Badugi is a lowball poker game, where the objective is to make the worst possible hand out of the four cards that you're given. However, unlike other lowball games, only one card from each rank or suit is allowed to contribute to your hand. The ideal hand is a Badugi, in which every card differs in both rank and suit. Having one card that does not differ in rank or suit results in a three-card hand, two cards that do not differ results in a two-card hand, and so on.

Any Badugi beats any three-card hand regardless of the contents of either hand. Likewise, any three-card hand beats any two-card hand, and any two-card hand beats any single card. If both hands have the same number of valid cards, then the highest ranked cards are compared in each hand—treating Aces as the lowest rank—and the hand with the lower high card is the winner. If both hands have the same high card, the second-highest card is compared, followed by the third and fourth if necessary. If the ranks of all contributing cards are identical, the hands tie; no suit trumps any other.

Cards that did not contribute to the hand are **never** considered when comparing hands. The hands  $J \triangleq 7 \checkmark 7 \triangleq 2 \checkmark$  and  $K \checkmark J \checkmark 7 \triangleq 2 \checkmark$  tie with each other; in the former hand one of the two sevens does not contribute because they share ranks with each other, and in the latter hand the King does not contribute due to sharing a suit with the deuce. Therefore, both hands are Jack-low three card hands (Jack, Seven, Deuce).

The best possible hand is a four-low Badugi;  $A \triangleq 2 \checkmark 3 \triangleq 4 \checkmark$ , or any other combination of those ranks as long as every suit differs. The worst possible hand is a single King,  $K \triangleq K \checkmark K \triangleq K \checkmark$ .