



GOLDEN 21 is the BLACKJACK side wager that turns your Blackjack hands into WINNING POKER hands! ONE, TWO, SIX and EIGHT deck versions available.

To start the game, players place the Blackjack wager and the OPTIONAL **GOLDEN 21** wager.

Dealing procedure is the same as Blackjack and the **GOLDEN 21** wager is resolved after the player has received their first TWO cards,
PLAYS INDEPENDENT OF THE OUTCOME OF THE DEALERS HAND.

PAID AGAINST THE **GOLDEN 21** PAY-TABLE
(MULTIPLE PAY-TABLES AVAILABLE)

ONLY HIGHEST HAND IS PAID

The standard game of Blackjack continues after the **GOLDEN 21** wager is resolved.

ALL BLACKJACK HOUSE RULES APPLY

DOUBLE

DECK



GLI®

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February 3, 2014

Mr. Merrill Sparago, M.D.
President
Score Gaming
10850 Wilshire Blvd., Suite 850
Los Angeles, CA 90024

Re: **Mathematical Analysis of *Golden 21 (Double Deck)* (Gaming Laboratories International, LLC Proposal LO-20131231-01 dated December 31, 2013)**

REF: LO-00-SCO-14-01

Dear Mr. Sparago,

As per Score Gaming's request, please find **Gaming Laboratories International, LLC's (GLI)** math analysis for the table game side bet, *Golden 21 (Double Deck)*.

This report only verifies the mathematical aspects of this game and DOES NOT offer an opinion as to whether or not this game is currently authorized for use in any jurisdiction.

Game Description

Golden 21 is a side bet to be played in conjunction with a two-deck blackjack game. Game play begins with players placing the required underlying blackjack game wager and placing the optional *Golden 21* side bet. After all bets are placed, players receive two cards and the dealer receives cards according to the configured blackjack table rules. At this time, the *Golden 21* side bet is resolved against a paytable.

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The paytables for *Golden 21* are as follows:

Table 1. *Golden 21* Paytables

Hand	Paytable				
	A	B	C	D	E
Blackjack	3 to 2	3 to 2	3 to 2	3 to 2	2 to 1
Suited Blackjack	3 to 2	3 to 2	3 to 2	3 to 2	2 to 1
Straight	1 to 1	1 to 1	1 to 1	1 to 1	1 to 1
Pair	3 to 1	3 to 1	2 to 1	2 to 1	3 to 1
Straight Flush	5 to 1	6 to 1	6 to 1	6 to 1	6 to 1
Suited A-K	25 to 1	30 to 1	40 to 1	50 to 1	25 to 1
All Others	Lose	Lose	Lose	Lose	Lose

After the *Golden 21* wagers are resolved, the underlying blackjack game continues following the configured table rules.

Mathematical Analysis

The analysis for the *Golden 21* side bet was performed using probability theory. Since the side bet is independent of the blackjack wager, no analysis of the underlying blackjack game was performed. The hits and probabilities for all game outcomes are listed in [Table 2](#).

Table 2. *Golden 21* Hits and Probabilities

Hand	Hits	Probability
Blackjack	192	0.035848
Suited Blackjack	48	0.008962
Straight	576	0.107543
Pair	364	0.067961
Straight Flush	192	0.035848
Suited A-K	16	0.002987
All Others	3968	0.740851
Totals	5356	1.000000

Using these probabilities, the expected values for each payable and hand type were calculated, as listed in Table 3.

Table 3. *Golden 21* Expected Values

Hand	Expected Value by Paytable				
	A	B	C	D	E
Blackjack	0.053771	0.053771	0.053771	0.053771	0.071695
Suited Blackjack	0.013443	0.013443	0.013443	0.013443	0.017924
Straight	0.107543	0.107543	0.107543	0.107543	0.107543
Pair	0.203883	0.203883	0.135922	0.135922	0.203883
Straight Flush	0.179238	0.215086	0.215086	0.215086	0.215086
Suited A-K	0.074683	0.089619	0.119492	0.149365	0.074683
All Others	-0.740851	-0.740851	-0.740851	-0.740851	-0.740851
Totals	-0.108290	-0.057506	-0.095594	-0.065721	-0.050037

Using these expected values, the return to player (RTP) and house edge (HE) were calculated for each payable. These percentages are summarized in Table 4.

Table 4. *Golden 21* Summary

Paytable	RTP	HE
A	89.17%	10.83%
B	94.25%	5.75%
C	90.44%	9.56%
D	93.43%	6.57%
E	95.00%	5.00%

A card-counting analysis has not been performed on this submission. As such, the analysis was performed assuming that the player has no knowledge of deck composition from game to game other than the original parameters.

Mr. Sparago
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Summary

Since *Golden 21* is a side bet, players should not place the wager as all payable configurations result in a positive house expectation. Should players elect to place the wager, they will observe the highest return of 95.00% while playing payable E, which provides the house with an edge of 5.00%. The house will observe the highest edge when configuring the game with payable A, which provides the house with an edge of 10.83%, equivalent to a return to player of 89.17%.

Please refer to the attached Terms and Conditions which apply to the information being provided within this report.

Should you have any questions, please feel free to contact our office.

Sincerely,
GAMING LABORATORIES INTERNATIONAL, LLC



Christine M. Gallo
Vice President of Technical Compliance and Quality Assurance

Enclosure

el



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WIN MORE WITH GOLDEN 21!
...NOT SO GREAT BLACKJACK HAND?
GOLDEN 21 TO THE RESCUE!



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Place the OPTIONAL "GOLDEN 21"
side wager and if your FIRST 2 CARDS
create a POKER HAND or a BLACKJACK,
YOU WIN!

BLACKJACK.....	PAYS	3:2
STRAIGHT.....	PAYS	1:1
PAIR.....	PAYS	2:1
STRAIGHT FLUSH.....	PAYS	6:1
GOLDEN 21.....	PAYS	40:1
(ACE / KING SUITED)		

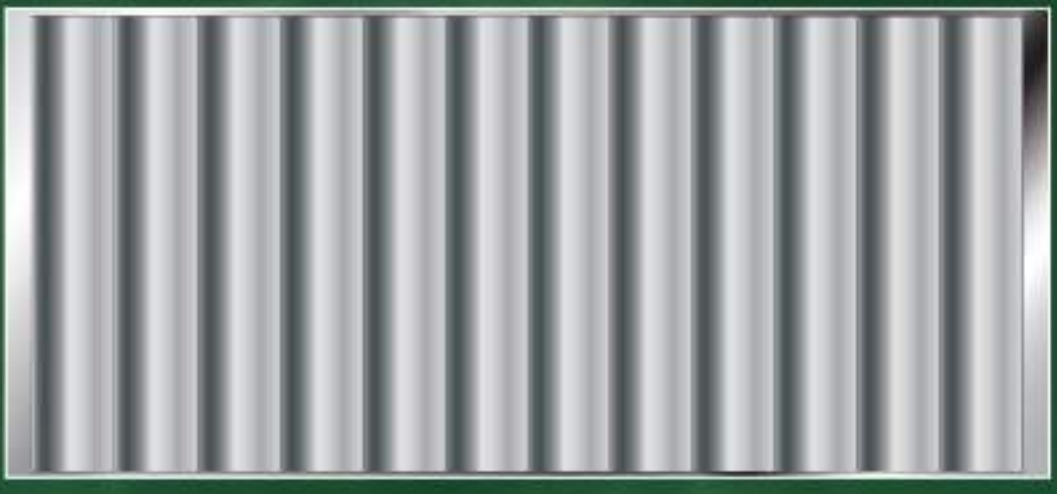
*PLAYS INDEPENDENT OF THE
OUTCOME OF THE DEALERS HAND*

ALL BLACKJACK HOUSE RULES APPLY



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