

# WASHINGTON STATE GAMBLING COMMISSION



## SHUFFLER Submission Checklist

Manufacturer:

Name and type of equipment:

Manufacturer representative name:

Manufacturer representative contact information:

### WSGC only:

Submission #:

Date review begins:

Electronic Gambling Lab (EGL) representative:

Estimated hours to complete: 40 hours

### Objective:

Our objective is to obtain detailed information about the equipment and to provide information about the minimum standards so that security, reliability, and integrity of the equipment are achieved. When manufacturers perform their own analysis of the equipment and provide this information to us, it often results in fewer questions to the manufacturer during testing and may reduce the overall review time. This checklist is a compilation of Washington laws and rules, best practices, and industry standards.

### Definitions:

Authentication	Process of determining if the source of the program is legitimate and valid.
Card Recognition	Ability to determine or recognize card information such as rank and suit.
Critical Memory	Memory locations storing data that is considered vital to the continued proper operation of the equipment. The contents of critical memory may include, but not be limited to, shuffler configuration data and game configuration data.
Electronic Card Shuffler	Electronic equipment that, at a minimum, has the capability to randomly rearrange a deck or decks of playing cards to completely eliminate any pattern(s) of the playing cards.
Electrostatic Interference (ESI)	Physical property of being able to create electronic interference to equipment by either discharging static electricity onto the surface of the unit (such as from a user) or via a main power or communication cable (from lightning, for example).
Error Condition	An internal or external event which results in an unexpected operational behavior or state.

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External Tools	Trouble shooting programs that connect to the shuffler only via the Ethernet or USB port which are limited to laptops, tablets, USB products, or similar products approved by us.
Non Volatile Memory	Computer memory that can retain stored information even when powered off.
Random Number Generator (RNG)	Hardware, software, or a combination of equipment for generating number values that exhibit characteristics of randomness.
Shuffle	Procedure of randomizing a deck or decks of playing cards to eliminate any prior pattern(s) introduced to the playing cards.
Verification	Process of checking that the content of the shuffler software is not corrupted.
Volatile Memory	Computer memory that requires power to maintain stored information;

<p><i>The following sections must be completed by the Manufacturer. We require complete detailed answers – attach additional sheets, if necessary. Yes/no answers will not be accepted.</i></p>		<p><i>WSGC Reviewer</i></p>
<p><b>I. Shuffler Functionality</b></p>		
<p>A. Review shuffler functionality:</p>		
<p>1. Provide detail on how the shuffler meets the requirement of completely eliminating any patterns introduced to the playing cards.</p>		
<p>2. Provide detail on how the shuffler refrains from leaving any markings or causing any damage to the playing cards that may help a player to identify any of the cards during normal shuffling operation.</p>		
<p>3. The shuffler must not reveal the face value of cards at any time while in operation. Explain how your shuffler meets this requirement.</p>		
<p>4. If the shuffler records logs, history and errors, provide detail on what you have done to ensure accurate records.</p>		

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<p>5. Provide detail on how the shuffler indicates the current type of game being shuffled or dealt if it is capable of shuffling or dealing more than one type of game.</p>	
<p>6. Provide a list or attach documentation of all functions and features available on this shuffler.</p> <p>Note: "Available" functions and features are those capable of being activated by anyone after equipment has been delivered to the operator.</p>	
<p><b>II. Software Requirements</b></p>	
<p>A. Non Volatile Memory:</p>	
<p>1. Provide detail on how the shuffler's non volatile memory storage is maintained by a methodology that enables errors to be identified and corrected in most circumstances.</p>	
<p>B. Program Requirements:</p>	
<p>1. Provide detail on how the shuffler software programs, including the RNG, are stored in media that prevent unauthorized access or alteration.</p>	
<p>2. Provide detail on how PINS or passwords, if used, are protected and inaccessible.</p>	
<p>3. Provide detail on whether the shuffler includes effective measures to ensure only authorized personnel can access restricted or sensitive settings within the software.</p>	

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<p>C. Independent Program Verification:</p>	
<p>1. Provide detail about the ability to allow for independent authentication of the shuffler’s program (firmware and/or software). This authentication must provide a means for regulatory personnel to verify that the firmware and/or software operating on the shuffler is approved.</p>	
<p>D. Communications:</p>	
<p>1. Provide detail about the networking capabilities of the shuffler.</p>	
<p>2. Provide detail about any external maintenance tool that will be connected to the shuffler for standard maintenance and how you ensure it will only be connected through a closed network.</p> <p>(WAC 230-16-151 – Standard maintenance and external tool requirements)</p>	
<p>E. Restricted Access:</p>	
<p>1. Provide detail about how unused internal and external ports can be disabled or sealed to prevent unauthorized access.</p>	
<p>2. Provide detail on the peripheral equipment used with shufflers, including but not limited to, display monitors and input tools. Provide detail on how they work and how you ensure they work accurately.</p>	
<p>3. Provide detail on how the peripheral equipment uses secure communication protocols and how the equipment is resistant to tampering and unauthorized access?</p>	

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<p>F. Error Condition, Interruption and Resumption:</p>	
<p>1. Provide detail about any indicators to signify the occurrence of an error condition. If the shuffler has a display screen, provide detail about the messages displayed describing the type of error.</p>	
<p>2. Provide detail about the operation of the shuffler during an error condition. If an error condition causes the shuffler to malfunction, the shuffler must stop operating until the error condition is cleared).</p>	
<p>G. Random Number Generator (RNG):</p>	
<p>1. Explain how the RNG ensures the shuffling outcomes are:</p> <ul style="list-style-type: none"> <li>a. Statistically random;</li>   <li>b. Uniformly distributed, and</li>   <li>c. Unpredictable.</li> </ul>	
<p>2. Provide detail about testing completed to ensure results of the RNG are accurately translated by the physical mechanisms of the shuffler.</p>	
<p>H. Card Recognition:</p>	
<p>1. Describe in detail any card recognition functionality and how you ensure accuracy.</p>	
<p>2. Provide detail on any security measures that prevent a person or equipment from viewing information about cards which has not yet been revealed to all participants in a game.</p> <p>Note: Card recognition information that has not yet been revealed must be stored in a volatile and secure memory space within the physical confines of the shuffler.</p>	

<b>III. Hardware Requirements</b>	
A. Equipment Identification:	
<p>1. The shuffler must be identifiable with at least the following information:</p> <ul style="list-style-type: none"> <li>a. Name of the manufacturer;</li>   <li>b. Unique serial number; and</li>   <li>c. Model number;</li> </ul> <p>Provide the location of this information on the system.</p>	
B. Electronic Interface:	
<p>1. What mechanisms are in place to ensure the equipment is completely immune to human body electrostatic discharges for components exposed to player and dealer contact?</p>	
C. Equipment Physical Construction:	
<p>1. Provide detail on the construction of the body of the shuffler. What material is used? Are all loose panels secured in a way to ensure that they have not been tampered with and do not conceal any hidden compartments?</p>	
<p>2. Provide detail on how the shuffler is constructed in a manner that prevents unauthorized access to any critical area that includes software or hardware that impacts shuffle results.</p>	
<p><b>IV. WSGC only:</b> Notes and additional testing parameters if needed.</p>	