



**INSTITUTE FOR TESTING AND CERTIFICATION Inc.**  
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## CERTIFICATION REPORT

Test Certificate for RNG Testing  
No.: 11108133

**Issued to Applicant:** Amatic Industries GmbH  
Traunsteinstrasse 12  
A – 4845 Rutzenmoos  
Austria

**Subject of Inspection:** Random Number Generator (RNG):  
RNG Windows

**Scope of inspection:** RNG Evaluation in accordance with  
the Methodology applied by ITC

**Test Engineers:** Mr. Ivan Dvořák, Mr. Martin Kořínek

**Result of inspection:** Satisfactory

**Issue Date:** 26 October 2011



  
Michal Plešr

Head of gambling games certification



## **RNG description**

The Random Number Generator (RNG) is an Implementation of the KISS Algorithm by George Marsaglia and Arif Zaman.

This remarkably short and fast generator combines 3 different simple generators and has a period of around  $10^{37}$  i.e. it will start repeating the same sequence of numbers after that many calls. It is necessary to set the seed values (at least x, y and z need to be changed) to random starting values else it will always generate the same sequence of numbers in the program. Avoid setting the seeds to zero or small numbers in general – it is advised to choose large “complex” seed values

A nice consequence of combining different RNGs is that a statistical flaw in any one of the component generators is likely to be covered up by the other generators. Combining different RNGs is now considered sound practice in designing good RNGs by many experts in the field. KISS RNG represents the minimum acceptable standard in random number generation.

### **The Seed:**

At Construction of the RNG the Seed is set with different time parameters (Performance Counter, Milliseconds).

### **Shuffling:**

The RNG itself shows good test results, but nevertheless the parameters for the RNG are shuffled within everygame.

In every game there are periodic cycles where the system checks the buttons, additional credits, errors...with the global CheckError() method the RNG parameters are shuffled!