

# Quantum Random Number Generator Network Appliance



High Performance. Superior Entropy. Network Attached.

Crypta Labs introduces its first network attached, standalone Quantum Random Number Generator solution. QRNG Technology to provide the strongest seed possible for cryptographic operations, analytical modelling or any other operation requiring the highest standard of entropy.

## Quantum Random Numbers for your Network Users

Featuring dual QRNGs, our appliance offers 2 Ethernet ports for easy connection. Our Quantum Optics Module (QOM) technology, coupled with onboard processing capabilities in an easily integrated package to produce a usable random output which betters our competitors in both quality and robustness. Embedded code means no operating system and zero vulnerable attack surfaces. Ensuring true verifiable secure entropy.

### Quantum powered

QRNG modes offer RAW or Post-Processed output

### Robust & Reliable

Highest quality output in real world environment

### High Performance

Over 1,900 random numbers p/s per port.

### Easily Adoptable

19" form factor and easy to use interface

## Tomorrows technology for a safer today

Current Pseudorandom (PRNG) and hardware True (TRNG) number generation technologies have intrinsic vulnerabilities.

PRNG's can be subject to algorithmic attacks. TRNGs have throughput speed limitations, especially in different environmental conditions, which leave a question mark over their suitability in demanding networks such as those emerging in next generation infrastructure projects in smart cities.

Our QRNG technology is robust in any environment and contains health monitoring and in-the-field calibration techniques to ensure output quality is never compromised.



## Cutting edge QRNG Technology

Crypta Labs QOM technology utilises a light source and photon detector which is calibrated to measure quantum noise. This raw noise is then passed through our QEngine technology - Health tests and Post Processing functions which were designed from the ground up to limit performance loss from the photon capture to delivery of a random number which has been independently verified to pass tests from both NIST as well as the demanding TESTU01 suites.

## Why Choose Crypta Labs

- Best quality RNG output in the market - proven by independent testing Universities
- Designed and built for tomorrows threats
- Designed for use in the real world
- Tamper protection and health monitoring at the core
- Configurable in clusters for greater performance
- Built in line with NIST standards



## Device Specification

Model	QRNG Appliance v1			
Quantum Random Number Generator				
<b>Output Mode</b>	RAW / NIST compliant			
Performance*	Number Size	Access Time	Speed	Numbers per second
	256 bit	67us	0.49Mbit/s	1,914
	384 bit	67us	0.74Mbit/s	1,927
	512 bit	67us	0.98Mbit/s	1,914
	1024 bit	67us	1.96Mbit/s	1,914
	8192 bit	150us	13.65Mbit/s	1,666
Real time Health Monitoring	Yes			
Redundancy	2 x Onboard QRNG's			
Size	482mm X 44.4mm X 400mm (WxHxD)			
Weight	3kg (Approx)			
<b>Power</b>				
Voltage Input	220V/110V AC			
Recommended operating Temperature	-30°C ~ +85°C			
Max operating Temperature	-40°C ~ +125°C			
<b>Interface</b>				
Ethernet	2 x UTP 100-base-T			
Protocol	TCP / UDP			

\*Assumes TCP QuickACK OS configuration