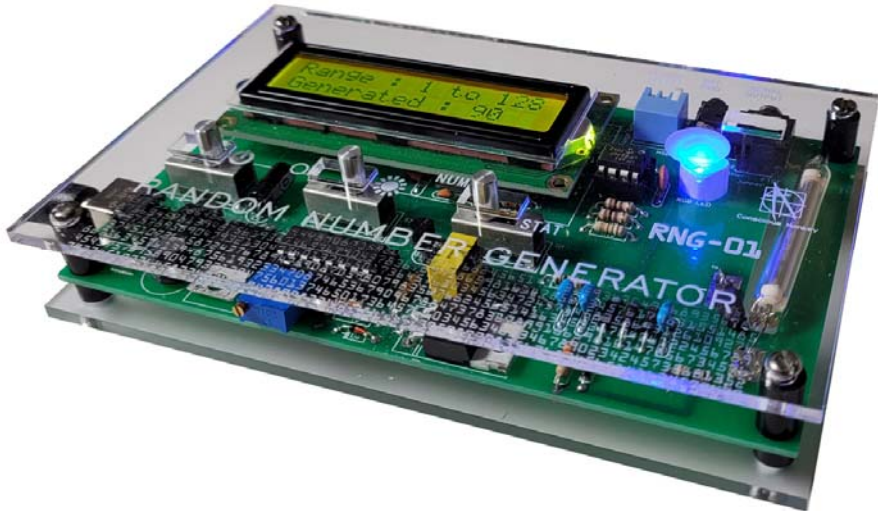




**Conscious Monkey™
Technologies**

Users Guide

**RNG-01
Stand-Alone
Random Number Generator**



Transparent Case

Important Safety Warning

By using this product, you agree not to hold Images SI Inc. liable for any injury or damage related to the use or to the performance of this product. This product is not designed for, and should not be used in, applications where the malfunction of the product could cause injury or damage.

High Voltage Safety

High voltage discharges and shocks can cause injury and/or death. Do not touch the +450 VDC power supply terminals to the GM tube.

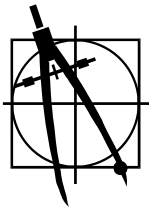


This unit is intended for use by adults. Children should not operate this device!

Contacting Images SI Inc.

You can check the Images SI website at <http://www.imagesco.com/> for latest information about the Stand Alone Random Number Generator

We would be delighted to hear from you about your project and your experience with our Random Number Generator. Tell us what we did well, what we could improve, what you would like to see in the future, or anything else you would like to say!



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Images' Stand-Alone Random Number Generator is a lab quality random number generator. It uses the immutable randomness of background radioactivity to generate random numbers. Quantum mechanics states that the nuclear decay of atoms, are fundamentally random and cannot be predicted. Our device contains a mini-Geiger counter that detects background radiation. The detection of a radioactive particle is a random event. The built-in PIC microcontroller uses this random event is used to produce a random number.

Figure 1



The controls on the front panels are on-off, LCD backlight, and NUM-STAT switch.

When you turn on the RNG-01 the LCD start up screen will show “Random Number Generators, see Figure 2 below.

Figure 2



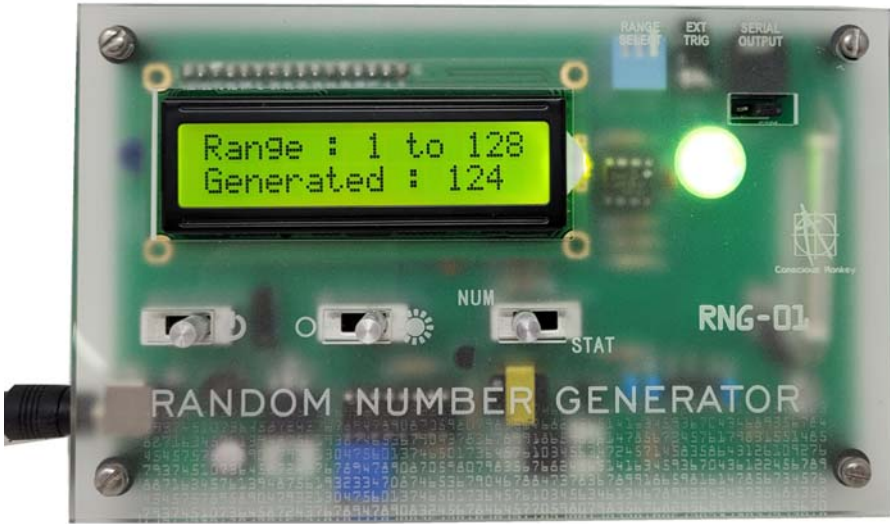


Figure 3

The start up screen will remain on the LCD until the first radioactive particle is detected. In NUM mode the RNG-01 will display the range on the top LCD line and the random number generated on the second LCD line, see Figure 3. In STAT Mode the random numbers are tallied inside four bins.

The random numbers are displayed on the LCD screen and is sent out serially through a 3.5mm stereo port located at the back of the generator.

PIN 1	PIN 2	PIN 3	RANGE
Down	Down	Down	1 to 2
Down	Down	Up	1 to 4
Down	Up	Up	1 to 8
Down	Up	Down	1 to 16
Up	Up	Down	1 to 32
Up	Up	Up	1 to 64
Up	Down	Down	1 to 128
Up	Down	Up	1 to 128

TABLE 1



Range Selection and Use

The Random Number Generator can generate random numbers within number ranges from 1-2 to 1-128. See Table 1 for available ranges. The number range is selected by using the four position dip switches (S1) located on the back of the RNG-01, see Figure 4. Push the individual switch PIN positions up or down in accordance with the ranges shown in the table 1. Pin 4 is not used in the range selection. Select the range before turning on the RNG-01. If the range select is changed while the RNG-01 is on, the range select will not take effect until the RNG-01 is turned off and back on.

After the range is selected you can turn on the RNG-01.

NUM Mode

Place the NUM/STAT switch to the NUM. This displays the range selected and the random number generated with each particle detection.

Once powered on, the RGB LED will cycle through four colors and the text "Random Number Generator" will be displayed on the LCD screen, see Figure 2. Once a random number is generated the screen will display the selected range on the top line and the Random Number on the bottom line (see Figures 1 and 3). The lit LED color will correspond to the random number generated.

The Random Number Generator (RNG) will produce approximately one to three random numbers every minute from background radiation. These true random numbers are useful for data encryption (cryptography), statistical mechanics, probability, gaming, neural networks and disorder systems, etc.

When using the NUM Mode, the range 1-4 provides a one to one correspondence between the number generated and the lit color of the LED; 1 = RED, Blue = 2, Green = 3 and Amber = 4.



Figure 5

When other ranges are chosen the LED color lit (or tallied in STAT mode) will be properly assigned to the random number. For instance on the range of 1-128, Red will be lit (or tallied) on the following numbers; 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57, 61, 65, 69, 73, 77, 81, 85, 89, 93, 97, 101, 105, 109, 113, 117, 121, and 125.

For Blue add +1 to the Red number list. For Green add +2 to the Red number list. For Amber add +3 to the Red number list.

The random number generated is sent out serially on the serial port whether the RNG is in the NUM Number or STAT Statistics Mode.

STAT Mode

The STAT Statistics mode allows you to see the tally (statistical data) of the random numbers generated. The tallies of random numbers are accumulated in the four colors bins displayed, R, B,G and A. The random numbers assigned to each color bin are the same as detailed above for the lighting of LED's in response to the random number generated.

When entering the Statistics function the display will again read "Random Number Generator" across the display screen and the LED will flash through each color. When the first particle is detected, one of four colors will light (red, blue, green, and amber). The display screen will now tally the total number of times each color appears. See Figure 5.

Serial Output

The serial output is a 3.5 mm stereo jack that mates to a 3.5 mm stereo plug. The ran-

dom number generated is sent out on this port as a single byte. The communication specifications are 9600 Baud inverted, 8 data bits, no parity and one stop bit. Serial data can be sent to the tip or ring using jumper setting, see Figure 6. Default is tip.



External Trigger

Figure 6

The external trigger is a 3.5 mm mono jack that mates to a 3.5 mm plug. When a plug is inserted into the external trigger port the built in Geiger counter is disconnected from the random number generator. An external trigger will now generate the generation of a random number. The trigger will fire on a +5V pulse provided on the tip of the 3.5 mm plug. A common ground should be connected to the sleeve of the 3.5 mm plug.

Figure 7 shows the completed Random Number Generator without cover. Figure 8 is the schematic of the Stand Alone Random Number generator.

The kit generates high voltage (450 VDC) to power the GM tube used in the Geiger section of the board. This entire HV section should be painted with insulator paint or covering like corona dope to prevent accidental shocks when touching the unenclosed board.

Module derives its power from a 6-9VDC power supply. Power is regulated on board to 5V.



Figure 7

ESP /PSI Applications

The Random Number Generator is a thought-provoking tool that allows the user to perform their own PSI experiments. The lab quality Random Number Generator (RNG) provides the platform to test and verify the current research result in many parapsychology journals and texts.

Does the human mind have the capability to influence the output of the RNG? The mind's ability to influence machines and probability at the quantum level has been shown to be statistically valid .

The Random Number Generator provides a reliable testing platform extrasensory perception (ESP).

The heart of the RNG-01 is a miniature Geiger counter whose detection of radioactive particles triggers the generation of true random numbers. Each random number generated will light an LED in one of four colors: red, green, blue, and yellow. While this setup might appear trivial, it is not. True random numbers are used to test for different aspects of PSI phenomena accurately.

Test for Precognition: Precognition is the knowledge of something in advance of its occurrence, especially by extrasensory perception; also called clairvoyance.

Test for Psychokinesis (PK): Psychokinesis is the movement or influence of physical objects by the mind without use of physical means, also called PK.

Test for Telepathy: Telepathy is the communication between minds by some means other than sensory perception.

To run PSI experiments you need Images PSI Testing software and a compatible USB/TTL cable. If your TTL cable was included with your RNG-01, you need to install the driver for the USB cable. The drivers may be found on the following page.

USB TTL Serial Cable



USB TTL Serial Cable allow easy interfacing to devices over USB.

The USB TTL Serial cable provide connectivity between USB and serial UART interfaces at 5V.

3.5mm audio jack output. Connector configuration:

- tip - TxD
- ring - RxD
- sleeve - GND

Cable with audio jack connector with +5V based TxD and RxD signalling

Free PSI Testing software can be download from the following page

<https://www.imagesco.com/psi/psi-science-lamp.html#software>

Installing the Software Package(s)

Begin by installing the appropriate drivers for the USB/TTL cable included with the purchase of the software program and/or cable. These drivers may also be downloaded from the Images website at:

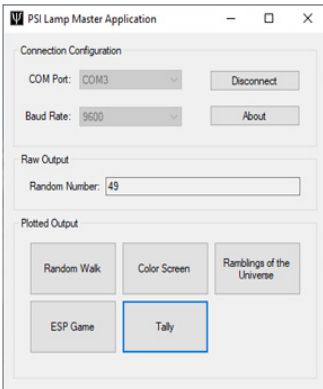
<https://www.imagesco.com/semiconductors/usb-3.5mm.html>

Once the drivers are installed, restart your computer and then plug the cable into an available USB port.



Now install the PSI Testing Software program on your computer. The RNG-01 has TTL serial output.. Connect the RNG-01 to the computers serial port using the USB TTL serial cable.

Set the random number range on the RNG-01, see page 4. The RNG-01 must be on and connected to the computer for the PSI program to begin graphing. Start the PSI program. Set the COM port to the COM port of the USB/TTL cable, and hit the Connect button. As each random number is generated by the RNG-01, that



Master Program

The master program sets up the communication parameters between the PSI Lamp (or random number generator) and the Windows PC. All available COM ports are shown in the COM Port: pull down. You must select the COM port where the USB/TTL cable has established it's COM port communication. The baud rate is 9600.

Once the proper COM port is selected, click on the Connect button to begin communication.

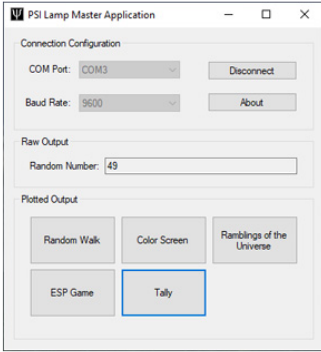
The Raw output provides the current random number generated by the device.

The Plotted Output allows you to select one or all programs to plot simultaneously.

number should show in the Raw Output text file. The RNG only generates 1-2 numbers per minute, so you will need to wait for a random number to be generated for it to show in the program. If the RNG generated a number and it doesn't show in the program you probably selected the wrong COM port in the program.

The random number shown in the Raw Data text box, should match exactly with the random number shown on the RNG-01 LCD display.

Once the program is connected properly to the RNG-01, you can select one of the



Master Program

The master program sets up the communication parameters between the PSI Lamp (or random number generator) and the Windows PC. All available COM ports are shown in the COM Port: pull down. You must select the COM port where the USB/TTL cable has established its COM port communication. The baud rate is 9600.

Once the proper COM port is selected, click on the Connect button to begin communication.

The Raw output provides the current random number generated by the device.

The Plotted Output allows you to select one or all programs to plot simultaneously.

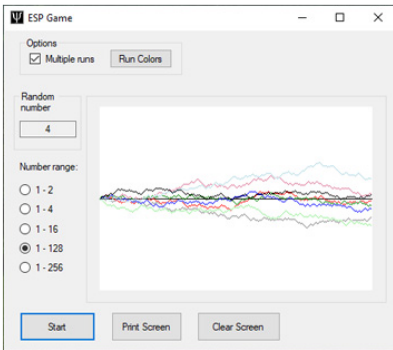
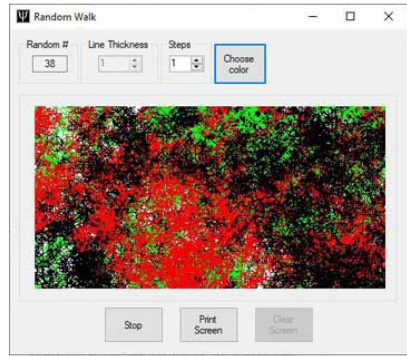
Random Walk

Random Walk is a line generating program. Each random number generated selects a direction for the line to move. The line moves slowly in that direction until the next random number is generated where the line may (or may not) change directions.

The line thickness may be modified with the line thickness box only before the plot begins

The speed of the line can be increased at any time by increasing the steps in the Steps box.

The line color can be changed at any time by clicking on the "Choose color" button.

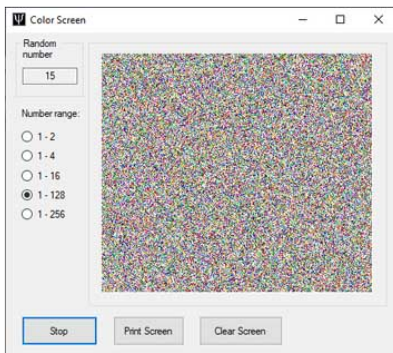
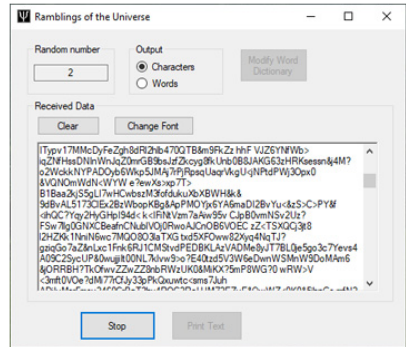


ESP Game

The ESP game is a micro-psychokinesis experiment. The user attempts to make the line go up or down. The user can set for single runs or multiple runs. The line colors in multiple runs may be change using the "Run Colors" button.

Ramblings of the Universe

In this game random numbers select either ASCII characters or phrases. It has been said that a monkey hitting keys randomly on a typewriter given an infinite amount of time could render the complete works of William Shakespeare. I don't know whether this game will generate a work of Shakespeare, but given an infinite amount of time, who knows?



Color Screen

Originally this game is a random number check.

Each random number generated places a colored pixel on a line. The line increments pixel by pixel from the left to the right side of the screen for each random number generated. When the line reaches the end of the screen, it begins again one pixel down from the previous line, on the left side and repeats in this manner.

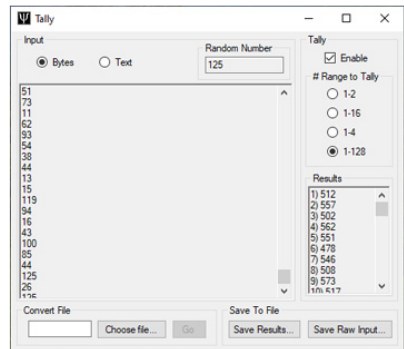
Eventually, the entire screen will be filled with randomly colored pixels. If the numbers generated are not random, it is believed that patterns would be discernable in the colored pixels on the screen.

Tally

Tally is a number distribution check. In theory the random numbers will be evenly distributed across the range of numbers generate.

Tally is set up by selecting the number range of the random numbers the program will be tallying. When the first random number is received, the program creates a counting bin for each number in the range. As random numbers are generated, the program tallies how many times each random number is generated. The number bins, with the tally information is shown in the results window.

The data from Tally can be exported in to a spreadsheet like Excel, where the distribution can be checked using the spreadsheet functions.



Writing Your Own Interface Software

Writing your own software to read the data from the RNG-01, or PSI Science Lamp, is possible. The data is outputted from a 3.5 MM stereo jack, as shown on the device. The +5V serial data is sent out as a single byte number with the following specifications: 9600 Baud, Inverted, 8 data bits, no parity, and one stop bit.

These parameters are for anyone wishing to read the data from the RNG-01 or PSI Science Lamp.

This page has a color check chart for the Random Number Generator. This chart is useful when performing manual PSI experiments. The booklet describing these experiments has not been release, but is expected by the end of 2024. Contact Images SI Inc. for updates on this manual.

Random Number Generator—Color Test Chart

RED	BLUE (+1)	GREEN (+2)	YELLOW (+3)
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100
101	102	103	104
105	106	107	108
109	110	111	112
113	114	115	116
117	118	119	120
121	122	123	124
125	126	127	128