

# SAFECAST

Thank you for your interest in and support of Safecast, and for participating in the Pointcast project.

## Pointcast Project and Instrument:

The Pointcast project is intended to visualize changes in radiation levels over time at fixed locations all over the world, by installing real time radiation monitoring systems.

The Pointcast instrument can detect alpha, beta and gamma radiation. It uses a communication module (external dimensions: 120x175x60mm) either indoors or outdoors, and an outdoor dual-sensor module (external dimensions: 80x160x65mm), connected to each other by a cable. The instrument will operate with an AC adapter (5-7.5VDC 2A). The system is connected to the Internet, and the measurement data will be displayed on our webpage. (<http://realtime.safecast.org>)

Photo

Communication module

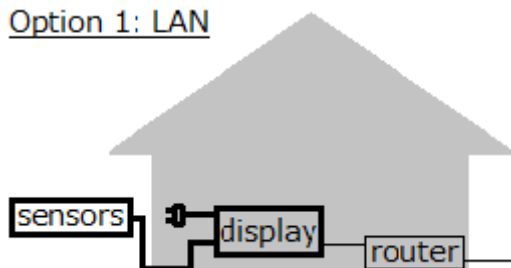
Dual Sensors module

The Pointcast instrument will be installed by Safecast volunteers.

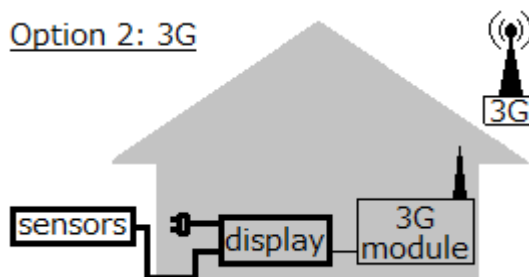
## Joining and Cooperating with the Pointcast project:

Installing the Pointcast instrument requires you to supply power, and internet access through a LAN cable. If internet access is not available at your location, Safecast can supply a 3G wireless module.

### Option 1: LAN



### Option 2: 3G



If any errors occur on the Pointcast instrument, the communication module will alert you with a red LED and beep three times.

## What the Pointcast Instrument Shows You :



On the display of the Pointcast communication module, you will be able to see the real time radiation levels detected from both sensors, in CPM and  $\mu\text{Sv/h}$ . Sensor 1 (displayed as S1) is a pancake-style Geiger-Müller tube designed to detect alpha, beta and gamma radiation. Sensor 2 (displayed as S2) is an end window type Geiger-Müller tube configured for detecting gamma radiation.

Normally, the both sensors will show approximately the same radiation levels ( $\pm 25\%$ ). If the gamma radiation level in the air is high, both will indicate the level of gamma radiation (since both sensors detect gamma radiation). However, if there are nuclides in the air that emit beta or alpha radiation, besides gamma, the pancake style sensor (S1) will likely read higher. In that case, please refer to the CPM reading, not the dose rate ( $\mu\text{S/h}$ ), because it will not be applicable for S1. Regarding Sensor 2 (S2), readings of both CPM and the dose rate are applicable.

Following “API:,” the last time at which the data was sent to our server is displayed in Greenwich Mean Time (GMT), and “PASS” means that the data was uploaded to our server successfully. For Japan time, please add nine hours.

On the last line of the display, when nothing is displayed after “STS:,” it means that the communication module is working properly. The voltage indication on the right side is the input voltage to the communication module circuit from power supply. It should be between 3.5 and 7.5 V.

On the case of the Pointcast communication module, two URLs are given for locating the real time data from each sensor online.

#### **Precautions after Installing the Pointcast Instrument:**

- Keep the Pointcast instrument away from vibration, high humidity, heat, and direct sunlight as much as possible.
- Please do not let the Pointcast instrument directly touch radioactive materials, in order to prevent contamination from distorting the readings.
- Please do not scratch or damage the mica window of the Pointcast sensor module.
- Unless requested to do so by our volunteers, please do not open, uninstall, disassemble, repair, or modify the Pointcast instrument.

#### **If You Find Any Failure of the Pointcast Instrument:**

We will request you to provide your contact information to us. A volunteer will probably contact you regarding the condition of the Pointcast instrument. In such a case, a timely response will help resolve the problem quickly. If you have a preferable day and time to be contacted, please let us know.

Our volunteers will ask you to describe the problem. Depending on the problem, we may ask you to assist in fixing the failure. In this case, your help would be appreciated.

#### **Contact Safecast Pointcast Project:**

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