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## GC-CC-01

### Geiger Counter Coincidence Detector

Our coincidence circuit has two pulse inputs and one pulse output. When two pulses are presented on the inputs at the same time, an output pulse is generated. Coincidence circuits are used in nuclear physics experiments. Two examples of applications for a coincidence circuit is a gamma ray telescope and a quantum entanglement experiment.

The concept of the "method of coincidence" was developed by German physicist Walther Bothe in 1929, for which he received the 1954 Nobel Prize in Physics. Bruno Rossi invented the first electronic coincidence circuit in 1930.

1. Plug one end of the male to male mono cable into the Data Output jack of the Geiger counter and the other end into the Pulse input of the Coincidence Detector (the 2 jacks on the left side of the unit). Repeat for both Geiger Counters.
2. Turn on the Coincidence Detector using the power switch on the right side of the unit. The green LED will turn on. You may also choose to turn on the left switch for audio.
3. Turn on both Geiger Counters.
4. The coincidence circuit is expecting to receive a 5V TTL pulse\* from two separate detectors. If the pulses occur within approximately 0.1 millisecond, the detector will register a coincidence.

\* If you are using one of our Digital Geiger Counters (GCA-07, GCA-06 or GCA-03 series), the Geiger counter is set to output serial data as a default. To switch to pulse data, refer to the appendix of the Geiger Counter Manual.

***"Serving a Mission of Moving Science Forward"***