

The Personal Annunciation Device alerts its wearer to a criticality accident, is smaller than a pager, and can be easily adapted for use in biological or chemical events where rapid notification is crucial.

The PAD may very well be the world's smallest self-arming multiple-use accident notification device. The prototype of the nonnuclear-based, radio frequency receiver is about the size of a car key fob, making it easy to wear over an extended time. It also has a provision for personal accountability through radio frequency identification (RFID) technology.

R&D Magazine recognized the PAD as one of 2007's most significant technological innovations, awarding it with the prestigious R&D 100 Award.

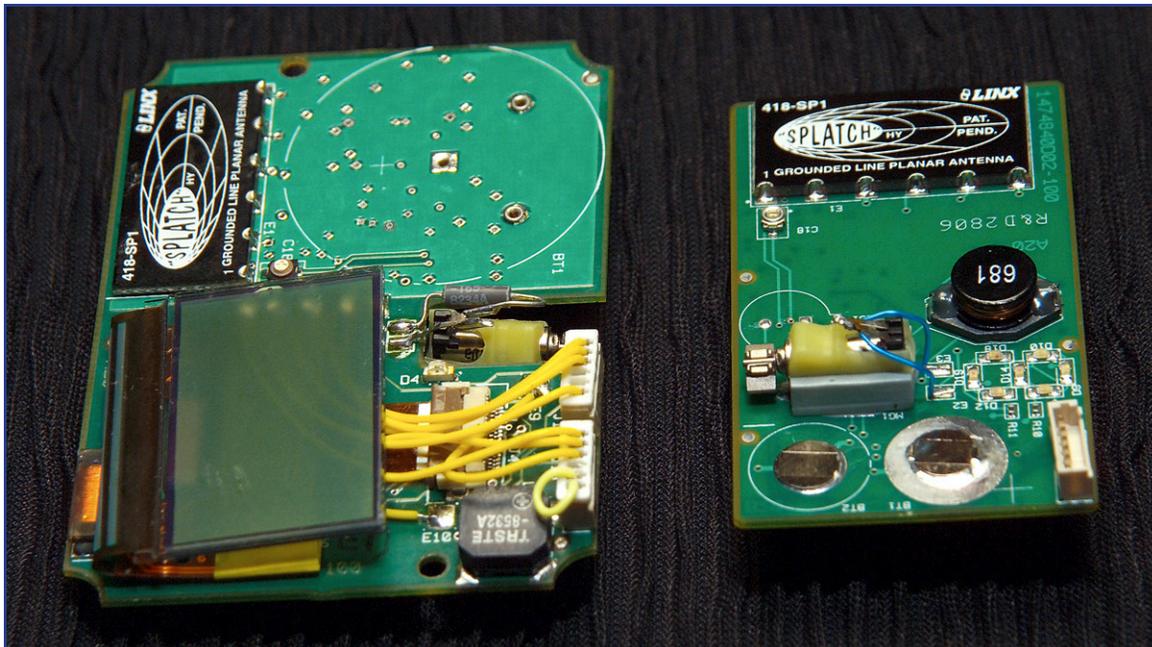
This is the first time personal wireless technology has been integrated into a safety-related nuclear

accident alert system. The PAD provides for a personal alert over a much wider area than portable detection devices.

The Y-12 National Security Complex conceived and led the effort to develop the PAD in response to the need for personal radiation detection instruments as notification devices within the National Nuclear Security Administration's Nuclear Security Enterprise. Y-12 collaborated with Oak Ridge National Laboratory (ORNL) and the Kansas City Plant (KCP) to complete the prototype. ORNL provided a micro-power radio, and KCP was responsible for packaging the PAD receiver components. Y-12 then integrated the prototype into existing plant systems.



Not even the size of a pager, the PAD may be the smallest self-arming multiple-use accident notification device.



The PAD has concurrent alarms, displays building information and alarm status, and contains embedded "intelligence" for enhanced reliability.

BENEFITS

- Has concurrent alarms (vibrations, light, sound)
- Displays building information
- Displays alarm status
- Contains embedded self-checking or "intelligence" for enhanced reliability (gives user information on battery life and signals)
- Smaller than a pager
- Uses commercially available parts
- Secure
- Reliable
- Requires little human interface
- Ensures annunciation where audibility is required
- Improves personal accountability through RFID technology

FUTURE APPLICATIONS

The PAD can be easily adapted for chemical, biological, or any other hazard events where traditional notification means are not adequate and rapid alert and accountability are required.

Subsequent generations of the PAD aim to be 50% smaller as well as even more user friendly.

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