

When a problem arises, be it a threat of violence or a medical crisis, the pen transmits a silent signal to a nearby receiver. Within an institution, apartment or office building, the receiver may be one of many that are wired to a central console that will display the exact location of the emergency. With smaller systems, the receiver can sound an alarm, initiate an automatic telephone call, or activate any other type of equipment including doors, lights, machinery, etc. Sentry Products Inc., San Jose, refined the original system and now sells it under NASA license.

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Skid-Resistance Research

Skidding causes many traffic accidents. Streets and highways with skid-resisting surfaces reduce the incidence of such accidents. In fact, resurfacing roads to improve skid resistance is now required by federal law. Skid resistance is measured by road testing with specially equipped skid trailers. A project underway at NASA-Langley may considerably reduce the cost of skid trailers, thus making them more widely available to highway departments.

For testing the skid resistance of aircraft runways, Langley engineers developed a relatively inexpensive test vehicle and a "pulsed braking" technique that is now being applied experimentally to road testing. The vehicle is a standard automobile modified to incorporate instrumentation, special test tires and valves, and a trailing fifth wheel for monitoring distance and velocity. The instrumentation includes a low-cost meter, a set of accelerometers that sense motion changes, and a chart recorder.

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A NASA-developed five-wheeled vehicle serves as a mobile laboratory for testing roadway skid resistance. It does a job comparable to more expensive test vehicles, but at a fraction of the cost. Cost is a big factor to many communities, which need skid resistance data for improving road surfaces but can't afford highly expensive skid trailers and their elaborate instrumentation.



Last year the Langley vehicle was comparison-tested on seven different road surfaces at the Texas Transportation Institute. Results exceeded expectations. Accuracy of this new car in measuring highway skid resistance correlated almost exactly with that of a fully equipped test van provided by the Federal Highway Administration.

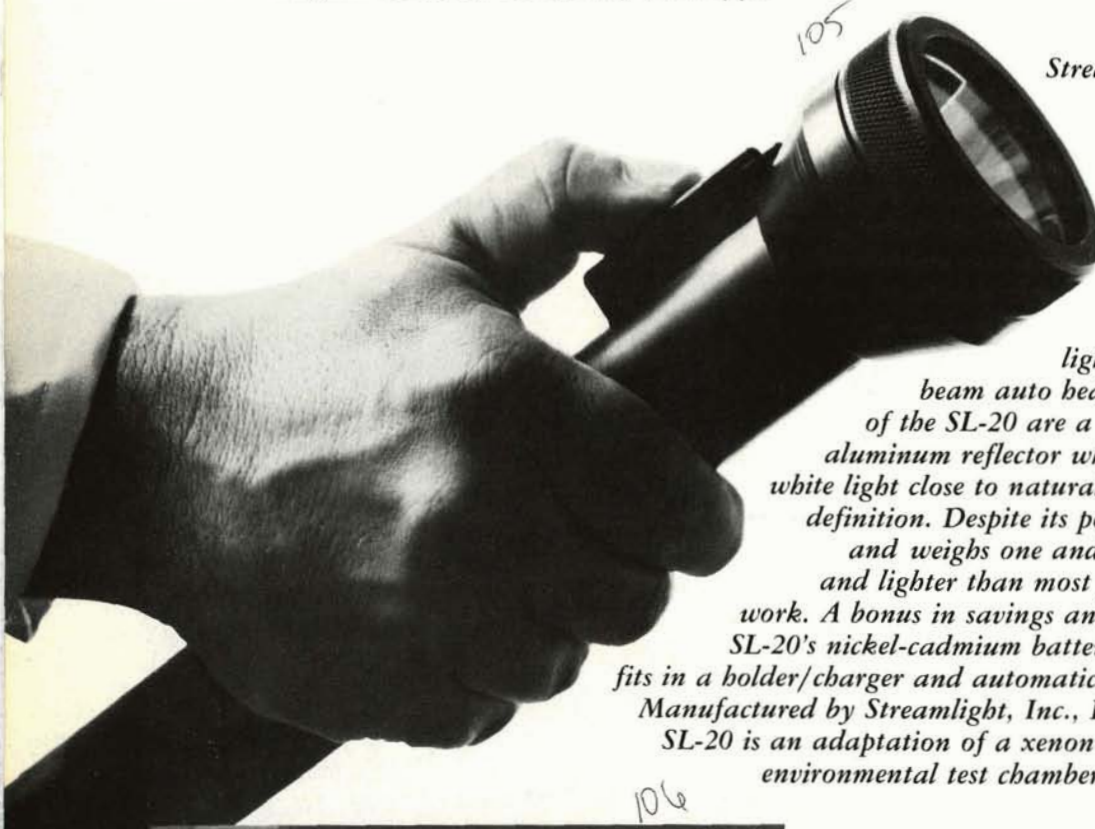
Emergency Lighting

A lighting system originally developed for NASA's Apollo and Skylab manned spacecraft resulted in an industrial spinoff and creation of a whole new company to produce and market the product line. The company is UDEC Corp., Waltham, Mass.

UDEC's "Multi-Mode" electronic lighting systems are designed for plant emergency and supple-

mental use, such as night lighting, "always-on" stairwell lights and illuminated exit signs. Their advantages stem from the qualities demanded for spacecraft installation: extremely high light output with very low energy drain, compactness, light weight, and high reliability.

The Multi-Mode system includes long-life fluorescent lamps operated by electronic circuitry, a sealed battery that needs no maintenance for 10 years, and a solid-state battery charger. A typical emergency installation consists of a master module with battery and an eight watt lamp, together with four remote "Satellight" modules powered by the master's battery. This installation can automatically supply illumination sufficient to read a newspaper in



Stream Lite-20, produced primarily for use by law enforcement and other security agencies, is nine times more powerful than a home two-cell flashlight and five times as powerful as five-cell lights. It defines objects and people clearly at three and a half times the range of a conventional flashlight; users say it is like having a low beam auto headlight in your hand. Key elements of the SL-20 are a tungsten-halogen bulb and a spun aluminum reflector which combine to produce a brilliant white light close to natural sunlight, together with very sharp definition. Despite its power, the SL-20 is only a foot long and weighs one and three-quarter pounds; it is shorter and lighter than most five-cell flashlights used in security work. A bonus in savings and dependability is the fact that the SL-20's nickel-cadmium batteries are rechargeable; the flashlight fits in a holder/charger and automatically charges itself when not in use. Manufactured by Streamlight, Inc., King of Prussia, Pennsylvania, the SL-20 is an adaptation of a xenon arc lamp developed for the Apollo environmental test chamber at NASA's Johnson Space Center.



any part of a 20,000 square foot plant, insuring employee safety in the event of a main power black-out.

As a night lighting system for maintenance or security, UDEC fixtures can bypass the battery and operate on normal current at a fraction of the energy demand of conventional night lighting. Industrial customers have realized savings of better than ninety percent with UDEC night lights. UDEC started as a basement industry in 1972 but the company has already sold more than 1,000 lighting systems to building operators.