NEWEST COST BREAKTHROUGH FOR CHANGEABLE-MESSAGE MATRIX SIGNS

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Information Concepts, Inc., recently installed in Norfolk, Virginia, an outdoor display system incorporating a new and advanced technology that may offer to traffic engineers a low-cost and highly efficient matrix changeable-message sign for traffic control. Since its inception in 1965, ICI has designed and installed or is currently installing other display systems, as follows:

1. Computer-activated outdoor display system for retail advertising at the Military Circle Shopping Mall in Norfolk, Virginia;

2. Computer-activated major league baseball and football scoreboard display system for the Oakland Athletics and the Oakland Raiders;

3. Computer system to control an existing scoreboard display system for the New York Mets and the New York Jets;

4. IBM Golf Trailer, mobile computer-activated sports scoring and information display system;

5. Computer-activated motorcar scoring and display system for the Ontario Motor Speedway;

6. Computer-activated municipal and U.S. government securities display system for Chase Manhattan Bank; and

7. Computer-activated commodities display system for the Chicago Mercantile Exchange.

Rather than light bulbs with all their inherent problems, we use reflective light that reduces operating and maintenance costs, yet provides a clear and highly visible message. We use Ferranti-Packard reflective disks that are positioned upon command to form alphabetic and numeric characters that are visible under all lighting and weather conditions. Reflecting sunlight in daytime and a light source at night, this display technology has many advantages when used for traffic control.

1. Low initial cost—Light bulbs are not used and, therefore, large transformers and heavy power distribution cables are not required. Displays are lightweight so that simple, attractive structural supports can be used.

2. Low operating cost—Power consumption is negligible. Monthly power costs approximate a tenth of the power costs for a comparable display using light bulbs. The

ICI systems operate either automatically or manually. Messages entered into the system can be displayed automatically for as long as desired. Without the heat and limited life problems of light bulbs, which need periodic replacement, ICI systems require little maintenance expense. The life of each reflective disk is in the order of 20 million operations. Displays are enclosed in a weathertight and vandal-proof plexiglass shield.

3. High operational efficiency—ICI systems operate remotely over telephone lines and can be activated by a computer or a standard teletype, located anywhere convenient for its operation. Solid-state control equipment provides excellent reliability as well as versatility. Complete messages or individual words or lines can be changed in less than 2 sec; attention is ensured by highlighting the messages through a novel range of formats. The display reflects light; therefore, the brighter the light source is, the more brilliant the display is. In direct sunlight, the visibility is so striking that reflective disks exceed the viewability of 100-W lamps and also provide an excellent peripheral viewing angle up to 160 deg.

4. High program flexibility—Configurations for traffic control are quite flexible in size and format. Standard character sizes are available including 4.2, 12, 18, and 42 in. in height. As many lines and characters of information can be displayed as the location requirements dictate. Reflective disks can be obtained in a wide range of colors; thus, standard color codes for traffic applications can be met.

As a demonstration of the effectiveness and reliability of this display technology, Ferranti-Packard installed cross and arrow lane-control signs for the Toronto Highway Traffic Department more than 3 years ago. The signs have operated without fault, and not a single maintenance call has yet been made.

In summary, the ICI display systems, which utilize Ferranti-Packard reflective disks, offer traffic control engineers a changeable-message matrix concept that has the following features: reflective light rather than incandescent light, minimal operating and maintenance expense, high degree of message visibility under all lighting and weather conditions, and long life and high reliability.