

## Wireless Communications

Wireless Communications can utilize a variety of different radio technologies depending on the customer, security requirements, transmission distances, and local area limitations. CDT engineering can provide a variety of solutions for wireless communication for all the *Empact Series* display systems.

### Licensed Channel

Wireless communications can utilize a licensed radio channel authorized and approved by the FCC or the NTIA. This method of communications provides a powerful, reliable and secure communications means. However, the equipment must be compliant with FCC rules and a formal radio license must be coordinated and issued. This communications means is useful when substantial radio frequency power is required for the application. Please contact our office for more licensing information.

### Unlicensed Channel

Many communications systems, notably those using fixed point-to-point communications, can utilize an unlicensed radio transmission system. There are a number of radio frequencies and technologies available for this communications system such as 29 MHz, 900 MHz, 2400 MHz, and 5800 MHz. Spread spectrum communications and encrypted techniques are available when necessary. Please contact our office for further technical information for your application.

### Special Purpose Communications

Certain projects require unusual communications technologies. For example, to achieve wide area coverage, a communications system based on a cellular telephone system, radio common carrier, wide area data network, or satellite coverage may be necessary. Our past experience has included systems using these technologies. If you feel you have a project requiring a unique communications system, please contact us to discuss your special requirements.



Antenna Installation



## About Us

CDT has been designing and manufacturing display systems for the security industry since 1987. Our displays are installed and operating in 47 U.S. states and in foreign countries. We pride ourselves in providing customer service and engineering support for special projects. Many of our displays are custom fabricated to match the size and interconnection requirements of the project. That is why we feature a variety of display types and mounting options that can be interconnected with ANY of our communications protocols. Our engineering staff has over 85 years combined experience designing and building control and annunciation systems.

CDT has many years of specifying the right communications method for a project, whether it is wired or wireless. If you need wireless communications, you may need a license. CDT can also help with providing all the paperwork and technical information to guarantee you the proper radio license.

CDT maintains records of every system delivery completed since 1991. All of this project information is maintained for you, the customer, at no additional cost and is available to you at any time.

Our references are available for past projects. Please contact us with the details of your project.

## DISPLAY SYSTEMS FOR FIRST RESPONDERS AND DEDICATED PATROLS

IP addressability available on all systems



Custom designed, engineered, and manufactured display systems for the security industry.

Display Configurations vs. Communications Methods

Each project always seems to have special requirements. To accommodate these custom requirements, CDT has developed several different display designs that can be coupled with one of several communications methods. For example, a control room can have a large wall-mounted display hard-wired connected to the central control system, several smaller displays located in remote monitoring points connected with a fiber-optic data connection, and radio-connected displays mounted in patrol vehicles. The following describes the various display types and communications methods that can be combined into a unique system.

Vehicle Displays

CDT *Empact Series* radio-graphic vehicle-mounted displays have been operating in patrol vehicles since 1991. Based on a simple, yet rugged, design, these displays have stood the test of time. Most of the display systems delivered over these many years are still operating, and CDT continues to offer technical support and repair services for even the oldest systems. Many of our customers have told us that our displays have become the standard of the industry. Many companies which at one time provided custom display systems have since chosen to purchase our systems.

Solid State Lamp Displays

We began manufacturing rugged vehicle-mounted displays using high intensity solid state lamps in 1991. These displays have proved that they can take the abuse of every day use, enduring the vibration of roving patrol vehicles. Since that time, these displays have also been used in confined spaces, such as gun towers and remote monitoring posts. Each display is housed in a heavy duty drawn aluminum enclosure with military style connectors for wiring connections. The front panel display, typically a graphic representation of the protected area, is manufactured on 3/16" polycarbonate material with the display and working printed on the reverse side for protection. The display panel is specially printed to allow backlighting for nighttime viewing. A non-glare surface is applied to the display panel and an integral enclosure sunshield improves daytime viewing. A rubber gasket seals the display panel to the enclosure. When specifying this display system, ask for the MP2500 display system. Contact us or visit our website for detailed information and specifications.



Mobile Map Plus

Flat Panel Video Displays

Our compact flat panel solid state displays enable flexible and animated graphic presentations small enough to install in a vehicle and rugged enough to withstand the operating conditions and temperatures. The display is manufactured using a special high intensity flat panel video monitor that is bright enough for daytime viewing and automatically dims for nighttime viewing. The graphic display presentation is custom programmed and held in nonvolatile solid state memory within the display. The display can be almost anything that you desire to display. For example, secure areas can be shown in green; alarm areas in red; and structures, including fences, in other colors. Upon alarm, the alarmed area can flash in any color. Audible signals and voice announcements can accompany alarm signals. When specifying this display system, ask for the MP8500 display system. Contact us or visit our website for detailed information and specifications.



Flat Panel Display

Scrolling Alpha-Numeric Displays

Our scrolling displays are used when a very small display is required but must also relay important alarm information. Our typical scrolling display is approximately 8" long by 2" tall and can be wall-, console-, or vehicle dash-mounted. Upon receiving an alarm, the predetermined alarm message is displayed in 1/2-inch high intensity lettering. The display flashes the alarm information along with an audible signal until the audible alarm is silenced. Once silenced, the alarm will continue to be displayed until reset by the central control point. When specifying this display system, ask for the MP4500 display system.



Scrolling Display

Control Point Displays

Control point displays are typically larger than those used in remote points and vehicles. However, since they may be mounted in any location, CDT provides the same communications options with each of these display types.

Wall-mounted - High Security

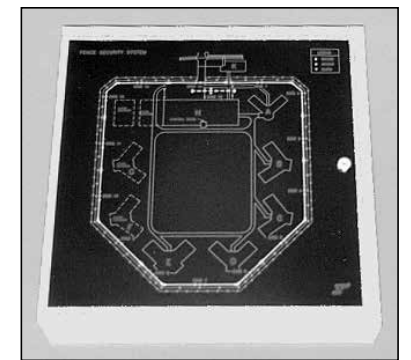
*Empact Series* high security displays are typically installed where tampering is possible or harsh conditions exist. High security displays feature a 16-gauge metal enclosure with a 3/16" aluminum graphic panel/hinged door combination with integral key lock. The graphic display is reverse silk-screened on a 20-mil thick non-glare polycarbonate material. The graphic display can be manufactured with up to 11 different colors. High intensity solid state lamps of various colors, typically red, green and yellow, are mounted on the reverse side, behind the polycarbonate surface for further protection. The lamp driving components are mounted inside the high security enclosure. A variety of front panel switches, both mechanical and solid state, are available. When specifying this display system, ask for the WM100 series display system. Contact us or visit our website for detailed information and specifications.

Console Mounted

*Empact Series* console-mounted displays are very similar to control room displays except the panels are manufactured for console or rack mounting and there is no enclosure. The panel material is 1/8" aluminum. The graphic display is reverse silk-screened on non-glare polycarbonate material. All control room display panel options are available on the console-mounted display systems.

Wired Communications

Wired communications, sometimes called "hard-wired connections" is often provided for alarm system interface in those cases when the alarm system contains discrete alarm outputs for each alarm condition, such as a programmable logic control (PLC) system. In these cases, communications consists of the support electronics and interface terminals to accept the control system interface wiring. The CDT engineering department will design and document the interface required based on the alarm system output capabilities. When specifying this display system, ask for the WM series interconnection system.



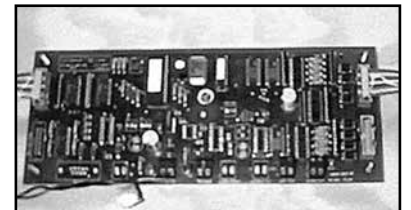
Graphic Display

Customer-owned Communications Interface

Many times the customer has a control system that includes interface circuitry that is capable of driving lamps directly. In these cases, CDT engineering can mount the customer interface directly within the display system and provide all lamp and wiring connections. CDT maintains a library of interfaces for many major control system manufacturers. When specifying this communications method, ask for the CW series interconnection system.

Computer-connected Communications

Many control systems include a computer interface which is capable of providing alarm information in data form. CDT manufactures a software-driven Graphic Interface Unit (GIU). The GIU is capable of receiving the alarm information via computer data stream from RS-232, RS-422, RS-485, and USB 2.0 protocols, decoding the data and displaying the alarm information on any of our display systems. CDT engineering has completed software for several common computer interfaces. In certain cases, the customer will provide wired inputs and require a "smart" interface that can interpret the wired alarm signals and provide an interactive alarm display. The GIU is capable of wired inputs and can be programmed to solve these interfaces. When specifying this communications method, ask for the GIU series interconnection system.



GIU Circuit Board

Ethernet TCP/IP Network Communications

Some customers have an alarm system using internet TCP/IP communications. CDT manufactures a TCP/IP (RJ-45) interface system that functions very similarly to our GIU system. When specifying this communications method, ask for the GIU-IP series interconnection system and our IP-based display system brochure.