"Wireless" Traffic Control Solutions

APPLICATION: *Hawk Crossing System for Raytheon Missile Systems*
LOCATION: Tucson, Arizona, U.S.A.

Description

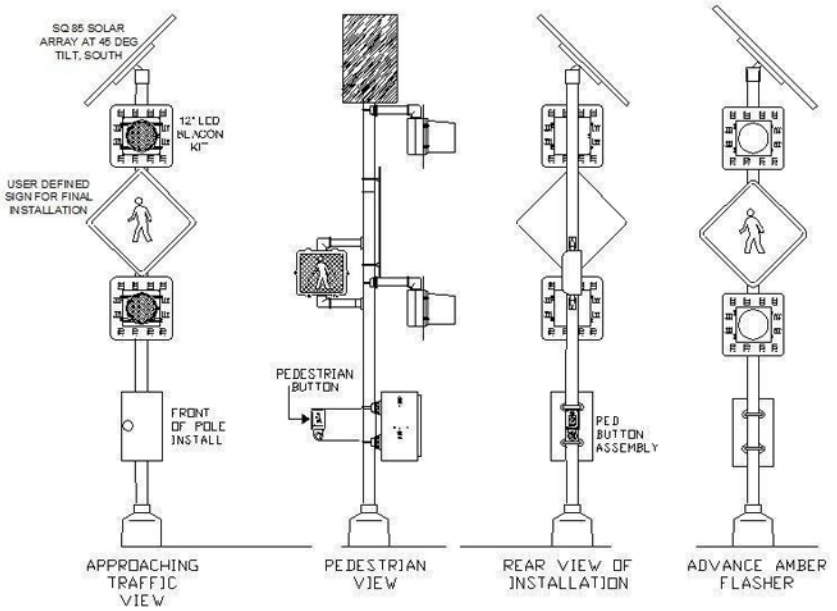
A variation of the solar-powered Hawk crossing signal has been delivered to Raytheon Missile Systems in Tucson, AZ. Each crossing consists of four poles: two red lamp poles with pedestrian indicators and two advance amber flasher poles. All units are solar-powered and linked to each other via wireless link.

The Hawk mid-block crossing system includes red and yellow lamps along with pedestrian indicators. In standby mode, the traffic beacons appear dark to the approaching traffic while the pedestrian indicator displays a Don't Walk (DW) indication to the pedestrians. When the pedestrian button is pressed, the amber lamps go to a flashing state, followed by a solid amber display while the pedestrian indicator shows a solid DW indication.

The amber lamps go dark and solid red beacons are displayed to traffic and the Walk indication is given to the pedestrian. This is followed by flashing red indications to traffic and a flashing DW indication to the pedestrian. At the conclusion of the flashing red interval, the traffic lamps go dark and the pedestrian section displays a solid DW. After the display cycle is completed the system goes into a lockout period to allow accumulated traffic to pass before another activation cycle.

The distributed version of the Hawk which Raytheon chose to install was based on separating the amber lamps from the reds. The amber lamps were located 100 to 200 feet in advance of the crossings, which were all on low speed roadways within Raytheon's facility. The units located at the crosswalk consisted of a dual 12-inch red traffic indication; DC pedestrian indication; Polara Bulldog push button and STC solar-powered control circuitry.

The advance units consist of 12-inch dual amber flashers with standard Solar Ped-X controls running modified software for this application. In standby, the system presents dark signals to approaching traffic and a solid DW to pedestrians. Upon activation, the advance amber lamps go into flash mode, the red lamps go solid



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and the DW remains solid. A field adjustable "red clear" timer was the first timing interval to run and was included to allow cars to come to a stop at the crosswalk prior to walk interval. This timer is field programmable from 3 to 20 seconds depending on vehicle speeds.

During the walk interval, the advance ambers continue to flash, the reds remain solid and the walk indication is displayed to the pedestrian. The walk interval timer can be set from 10 to 60 seconds to allow some adjustment for user needs. The DW interval then follows when the pedestrian indicator shows a flashing red DW; the red lamps go to a flashing red state and the advance amber lamps continue to flash. At the conclusion of the DW interval, the traffic lamps go dark, standby state, and the DW indication goes solid. At this time the system is prevented from triggering again for a minimum of 10 seconds, programmable to 30 seconds, to allow vehicles to clear the zone prior to another activation. Even though the amber lamps are separated from the reds, the programming used is almost identical to the Solar Ped-X Hawk software which is presently under test at STC.

Fielding this system and managing power issues required the development of a DC pedestrian indicator. The engineering staff at STC laid out the circuit boards and did the necessary development to ensure a reliable design as it will be necessary for the Solar Ped-X Hawk units to be introduced in 2010. It is projected this will be a standard product in the STC line by the end of the first quarter, 2010. STC also developed a removable handheld interface terminal which allows a user to adjust values and monitor the system operation from the master control unit located at one of the red units.

Take these steps to insure the success of your solar-powered project:

1. Location - identify the site of the application; for example, the nearest town, village or city and state.
2. Load - specify the number and size of lamps, timers or other controls (anything which draws power).
3. Duty Cycle - determine how many hours per day and which days per week the load will be drawing power.

Go to "Send us your requirements" at www.SolarTrafficControls.com/support/requirements.php for more details.

STC Systems are Cost Effective

Our solar flasher systems allow you to stretch your budget to obtain the traffic safety devices you need at affordable prices. Most systems are equivalent to the cost of obtaining an AC power drop. Battery life is typically three to six years; less expensive than grid electricity for the same period of time.

Solar Traffic Controls (STC) provides solar-powered traffic control systems for city, state and federal DOTs; police, firefighting and public works departments; facility maintenance and plant safety industries. Our primary products are solar-powered flashing beacon systems used for school zones and 24-hour applications. We also supply specialized flasher systems using environmental sensors and custom communications packages to control the flashing beacon systems. Our product spectrum also includes wireless power systems for ITS, EMS and HAR. STC's products and services are sold through a network of regional distributors who offer technical support for your project.

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