encom WIRELESS

The safe2school system

Centralized Wireless School Zone Flashing Beacon Management System

Simple, Versatile Control

The ENCOM **safe2school** system provides city-wide and state-wide centralized control and monitoring capabilities for all 110 V AC and 12 V DC solar-powered School Zone Flashing Beacons. Replace obsolete pager-controlled and stand-alone time switches and upgrade to a powerful 900 MHz ENCOM wireless system with no ongoing costs.

Eliminate the hassles of poorly working pager networks, costly site visits, and manually inputting school zone schedules into stand-alone time switches with the **safe2school** system from ENCOM Wireless.

Designed for new and existing installations, the **safe2school** system is a complete, end-to-end wireless solution that integrates with all flashing-beacon assemblies.

The safe2school system consists of three major components:

Zone Watch Software

Central Management Software that provides a simple-to-use interface for monitoring and controlling all school-zone beacons from one central location. Schedules can be created or modified with Zone Watch. Scheduled events are programmable by year, month, day, start time, duration or day of the week, including morning and afternoon flash cycles, early dismissal days, holidays and special events. Schedule updates can be downloaded to groups of beacons with a touch of a button. Confirmation of schedule receipt, along with beacon health status, is available in a user-friendly, intuitive interface. Manual override functions are also available.

WEB I/O

The WEB I/O is built around ENCOM's powerful 900 MHz master radio and contains a built-in web server to communicate with up to 255 remote Wireless Beacon Control Units (WBCU) within a 20-mile radius. The WEB I/O is IP enabled, so it can be connected anywhere on a wireless or wired LAN to achieve communications throughout your municipality. This feature allows for distributed communications architecture and ensures reliable connectivity over wide areas, even with challenging terrain.

WBCU (Wireless Beacon Control Unit)

At the heart of every WBCU is ENCOM's industry-leading 900 MHz remote radio along with an integrated real-time clock with battery backup. The WBCU has been designed as a "plug-and-play" replacement for existing stand-alone or pager-controlled time switches and is pin-for-pin compatible with existing cabinet wiring, minimizing installation time. Each WBCU contains two relay outputs for seamless integration into new and existing flashing beacon systems. Up to 255 WBCUs will communicate with each WEB I/O master radio and all have the ability to store a 365-day schedule for school-zone flashing-beacon events. The WBCU stores the school-zone schedule internally and will operate autonomously in the event of communication loss with the WEB I/O. The WBCU operates with 12 V DC solar and 110 V AC systems.

ZONE WATCH SOFTWARE

• Create, modify, download and upload schedules to all WBCUs;

• Monitor beacon health of all remote beacons;

• Manual control/override of individual or groups of beacons;

• Password protected.

WEB I/O

• 900 Mhz ENCOM FHSS Master radio;

• 10/100 Ethernet Port (IP Addresable) Built-in Web server;

• Network time server synchronization ensures accurate time;

• Synchronizes time with remotes every two seconds;

• Contains two hard-wired inputs and two outputs for control of local flashing beacons.
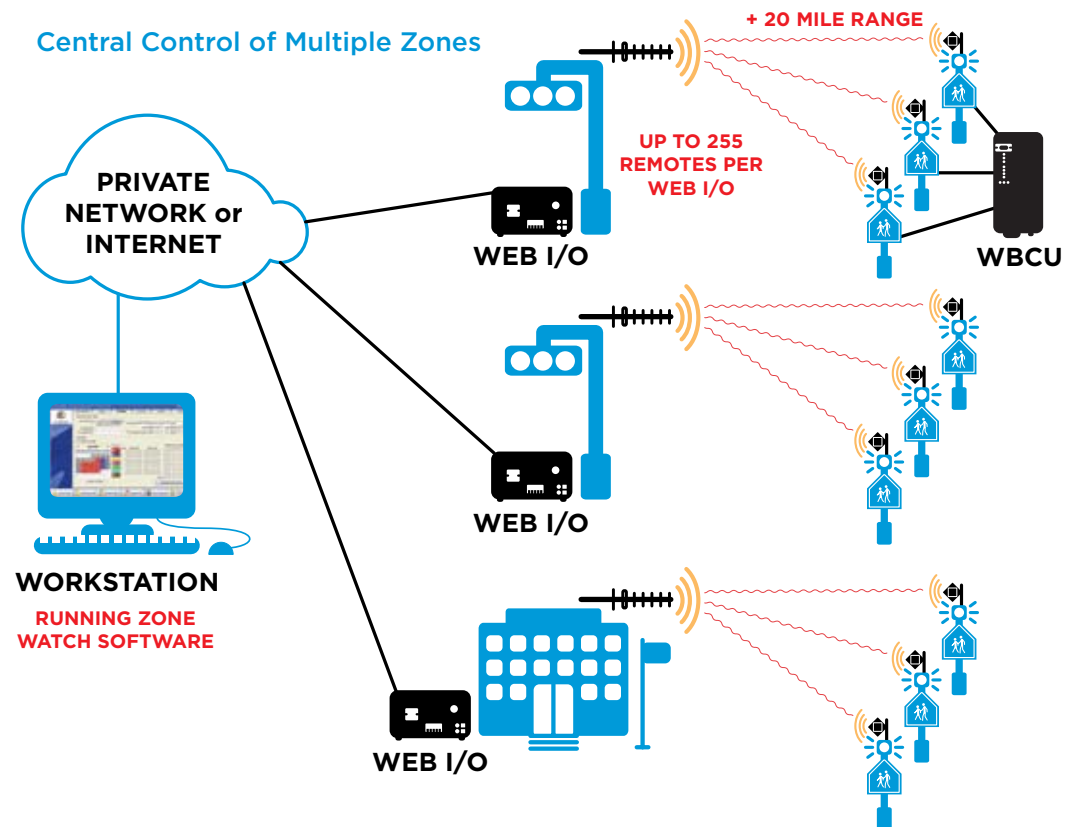
WBCU

• Powerful 900 MHz FHSS Remote radio;

• Integrated real-time clock with battery backup;

• Yearly schedule stored in non-volatile memory;

• Manual override/test buttons;

• Two hardwired inputs for auxiliary equipment such as push buttons;

• Drop-in replacement for RTC, NAZTEC and ELTEC time switches;

• 6-30 V DC and 110 V AC operation;

• Environmentally hardened -40˚F to 176˚F (-40˚C to 80˚C)

safe2school features:

• **safe2school** is a centralized, wireless, flashing-beacon management system;

• Two-way 900 MHz dedicated communications network;

• Eliminate ongoing costs;

• Replace obsolete pager-controlled time switches;

• Upgrade stand-alone time switches to centralized 900 MHz wireless control;

• Upload, verify and download schedules from a central location;

• Remotely monitor flashing-beacon health and flashing-beacon status;

• Ethernet-based communications system;

• Compatible with 12 V DC and 110 V AC systems.

Central Control of Multiple Zones

+ 20 MILE RANGE

UP TO 255 REMOTES PER WEB I/O

PRIVATE NETWORK or INTERNET

WEB I/O

WBCU

WORKSTATION
RUNNING ZONE WATCH SOFTWARE

WEB I/O

WEB I/O

About ENCOM:

ENCOM, based in Calgary, Canada, provides field-proven, cost-effective wireless data solutions for municipal and industrial clients, with applications in the areas of:

- Intelligent Transportation Systems
- Public safety communications
- Municipal corporate security and IT networks
- Water and waste water management
- Electrical utilities
- Oil and gas

encom WIRELESS

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RADIO SPECIFICATIONS

Technology	Frequency-hopping spread-spectrum technology (FHSS)
Frequency Range	902-928 MHz
Output Power	1 mW, 10 mW, 100 mW, 1000 mW
Software Programmable	Yes
Available Hop Patterns	64
Number of RF Channels	128
RF Channel Spacing	200 KHz
Error Checking	16 bit-CRC
Encryption	16 bit
Receiver Sensitivity / ER	-110 dBm @ 10-6 BER
System Gain	145 dBm
Antenna Port	RP TNC-F
Certification	FCC, Industry Canada
Operating Modes	Transceiver
System Configurations	Point-to-point, point-to-multipoint, multipoint-to-point, multipoint-to-multipoint

ZONE WATCH SOFTWARE SPECIFICATIONS

	Requires Windows XP or newer

WEB I/O SPECIFICATIONS

Power Requirements	**Voltage:** 8-30 V DC **Current Draw:** 75 mA @ 12 V DC
Operating Environment	-40°F to 176°F (-40°C to 80°C)
Ethernet Interface	10/100 Fast Ethernet connection
Web Server	Requires Internet Explorer 7.0 or newer
Remote Control Functions	Manual ON/OFF control of individual beacons, groups of beacons or entire zone.
Scheduled Operation	Scheduled events can be programmable by year, month, day, start time, duration or day of the week; including morning and afternoon flash cycles, early dismissal days, holidays and special events. **Scheduled events can be programmed using the web interface or with ControlPAK software.**
900 MHz Radio Specs	See above.
Contact Closure Specs	• Two inputs (ground activated or up to +24 V DC activated) • Two open collector outputs
Security	Numerous permission levels are available to provide flexibility for operators of the system.

WBCU SPECIFICATIONS

Input Power	6-30 V DC or 120 V AC
Backup Power	For 12 V DC applications
Memory	Non-volatile memory
Outputs	Two SPDT relays rated at 15 Amp 12 V DC or 120 V AC resistive loads.
Power Consumption (@ 12 V DC)	**Standby:** 14 mA **1 Relay Active:** 47 mA **2 Relays Active:** 80 mA
Time Synch	Synchronizes with WEB I/O every 2 seconds.
Dimensions	3.7" x 7.5" x 1.55"
Operating Environment	-40°F to 176°F (-40°C to 80°C)

WBCU INTERFACE SPECIFICATIONS

Programming Port	DB-9 male (RS-232)
Data and Power	CPC quick connect or terminal block
Wireless	Rev.Pol TNC Male