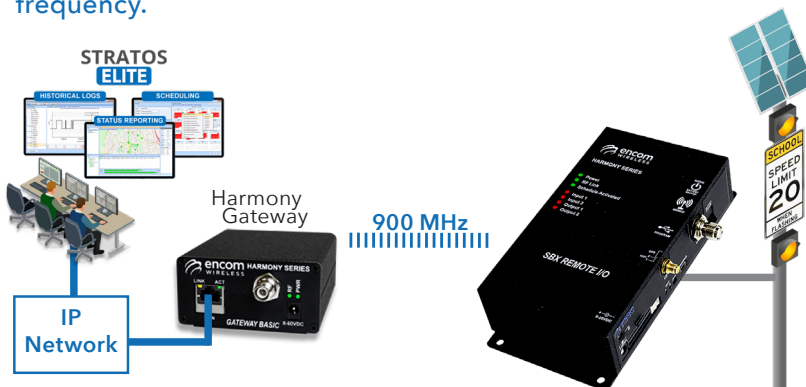The **HARMONY SBX Remote I/O** is a feature-packed device designed to add wireless control and manageability to your field devices in remote sites. It comes with a full 1 Watt trasmitter and a 900 MHz Frequency Hopping Spread Spectrum (FHSS) radio that can communicate with any of Encom's Harmony Gateway products at ranges of up to 20 miles.

The SBX:

- is perfect for remotely controlling, scheduling, and monitoring remote school zone beacons
- can detect and send an alarm to users on events such as a beacon lamp failure, low battery voltage, loss of A/C power and many others
- works with a variety of sensors using two digital and two analog I/O's for flexible application

Example Application

Harmony SBX wired to School Zone speed limit warning beacon, communicating with a Harmony Gateway radio over 900 MHz frequency.

Configuring, Controlling and Monitoring your Encom equipment is EASY with ControlPAK and Stratos I/O!
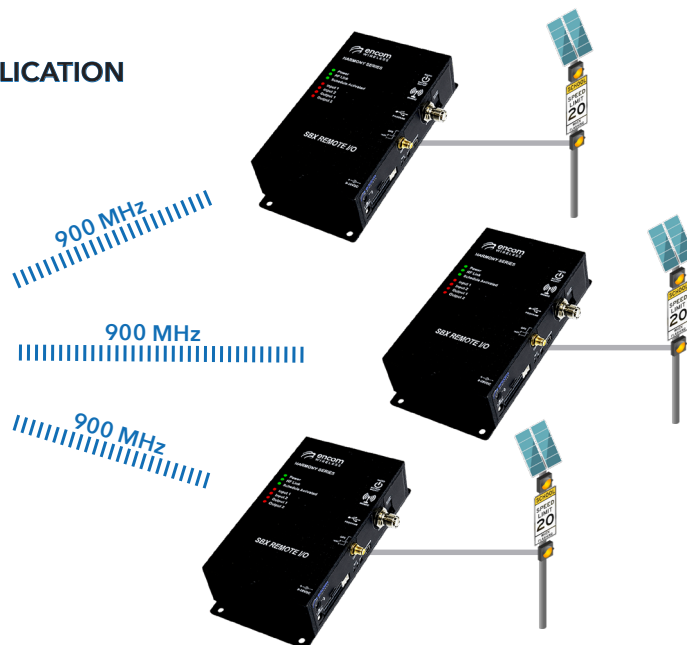

KEY FEATURES

- Cellular modem compatible
- Internal device memory holds up to 16 schedules / 7-day plan / 365-day calendar
- Calendars permanently stored in the device allow for autonomous operation
- Integrated real-time clock with maintenance-free super cap backup & automatic DST/leap year adjustment
- Event logging capabilities
- Integrated GPS for precise geolocation
- High-visibility LED indicators provide at-a-glance status info
- Easily change schedules and set temporary overrides remotely

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STRATOS ELITE

HISTORICAL LOGS SCHEDULING

STATUS REPORTING

TYPICAL APPLICATION

IP Network

HARMONY GATEWAY

900 MHz

900 MHz

900 MHz

GENERAL SPECIFICATIONS	
Input Power:	6–30 VDC or 100–240 VAC
Power Consumption:	35 mA @ 12 VDC
LED indicators:	PWR, RF Link, Schedule Status, Input 1 to 2 and Output 1 to 2
Operating Temperature:	-40˚F to 176˚F (-40˚C to 80˚C), up to 95% humidity
Enclosure:	Aluminum, Black Powder Coat 3.75" W x 1.75" H x 7.5" D

900 MHz RADIO SPECIFICATIONS	
Technology:	Frequency-hopping spread spectrum (FHSS) with repeater capability
Frequency Range:	902–928 MHz, ISM Band
Output Power:	1 mW, 10 mW, 100 mW, 1000 mW
Receiver Sensitivity:	-110 dBm @ 10-6BER
Error Checking:	32-bit CRC
Encryption:	32-bit
Antenna Port:	RP TNC-F
Certification:	FCC, Industry Canada

CONNECTIVITY	
Programming port	USB 2.0, Mini-B Receptacle
900 MHz Radio	Yes
GPS	Yes
Configuration, Monitoring & Control	Stratos Elite and ControlPAK
Protocol	Proprietary

ORDERING OPTIONS

- **SBX Remote IO**: Wireless I/O Controller w/ 900 MHz FHSS radio
- **BH-3200A**: Harmony CPC Cable Harness (DC only - Standard pinout)
- **BH-3200C**: Harmony CPC Cable Harness (DC only – TXDOT specs)
- **BH-3201**: Harmony CPC A/C Module (Standard pinout)
- **BH-3201A**: Harmony CPC A/C Module (TXDOT specs)
- **EH-500-AC KIT**: Harmony SBX Remote, AC, Panel KIT
- **EH-500-DC KIT**: Harmony SBX Remote, DC, Solar, Panel KIT

INDUSTRIAL I/O	
Digital Inputs	2
Digital Input Range	0 to 30 V (ground activated)
Digital Outputs	2
Digital Output Range	Open collector (3 to 30 VDC, max. 500 mA) or SPDT 15 amp relay
Analog Input	2, o to 50 VDC, 12-bit resolution
Analog Output	2, o to 5 VDC, 12-bit resolution
I/O Connectors	Flying leads

REMOTE SITE MONITORING FUNCTIONS	
Input voltage and current	monitoring + logging
Beacon lamp On/Off status	monitoring + logging
Beacon lamp On current	monitoring + logging
Solar panel voltage	monitoring + logging
Battery current	charge/discharge monitoring+logging
Temperature	monitoring + logging
Receive signal strength	monitoring + logging
GPS location	monitoring
Beacon lamp fail	detect + alarm
Low battery voltage	detect + alarm
Solar panel disconnect	detect + alarm
Battery disconnect	detect + alarm
Loss of A/C	detect + alarm
Integrated battery backup	Yes
Number of calendars	16
Calendar periods	365 days
Event/calendar	16
Manual override	Yes

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