



SAPLING WIRELESS MESSAGING CLOCK SYSTEM

Sapling Wireless Messaging Clock System

Many facilities utilize a synchronized clock system to enjoy the benefits of having uniform and accurate time displayed throughout the facility. Some benefits include maximizing efficiency and productivity, and automatic adjustments for daylight saving time eliminating the need to set the clocks manually twice a year.

Many of these same facilities also require an easy method to send urgent notifications to its occupants. Some examples include:

Lockdown Tornado Alert Fire All Clear Evacuate

Sapling has developed a synchronized clock that will also act as a message board to display various pre-set messages, rather than having two separate systems installed in offices, classrooms, and hallways.



Sapling Wireless Messaging Clock System

SYSTEM DESCRIPTION

The Sapling Wireless Messaging Clock System consists of a Sapling Messaging Master Clock with a transmitter, a Sapling Master Input Box, and wirelessly synchronized clocks/message displays.

The master clock transmits the time data or the selected message to the clocks in a wireless manner, eliminating the need to run communication wires between the clocks. In addition, since the master clock generates the data being transmitted, the system does not rely on existing facility Wi-Fi or Bluetooth infrastructures.

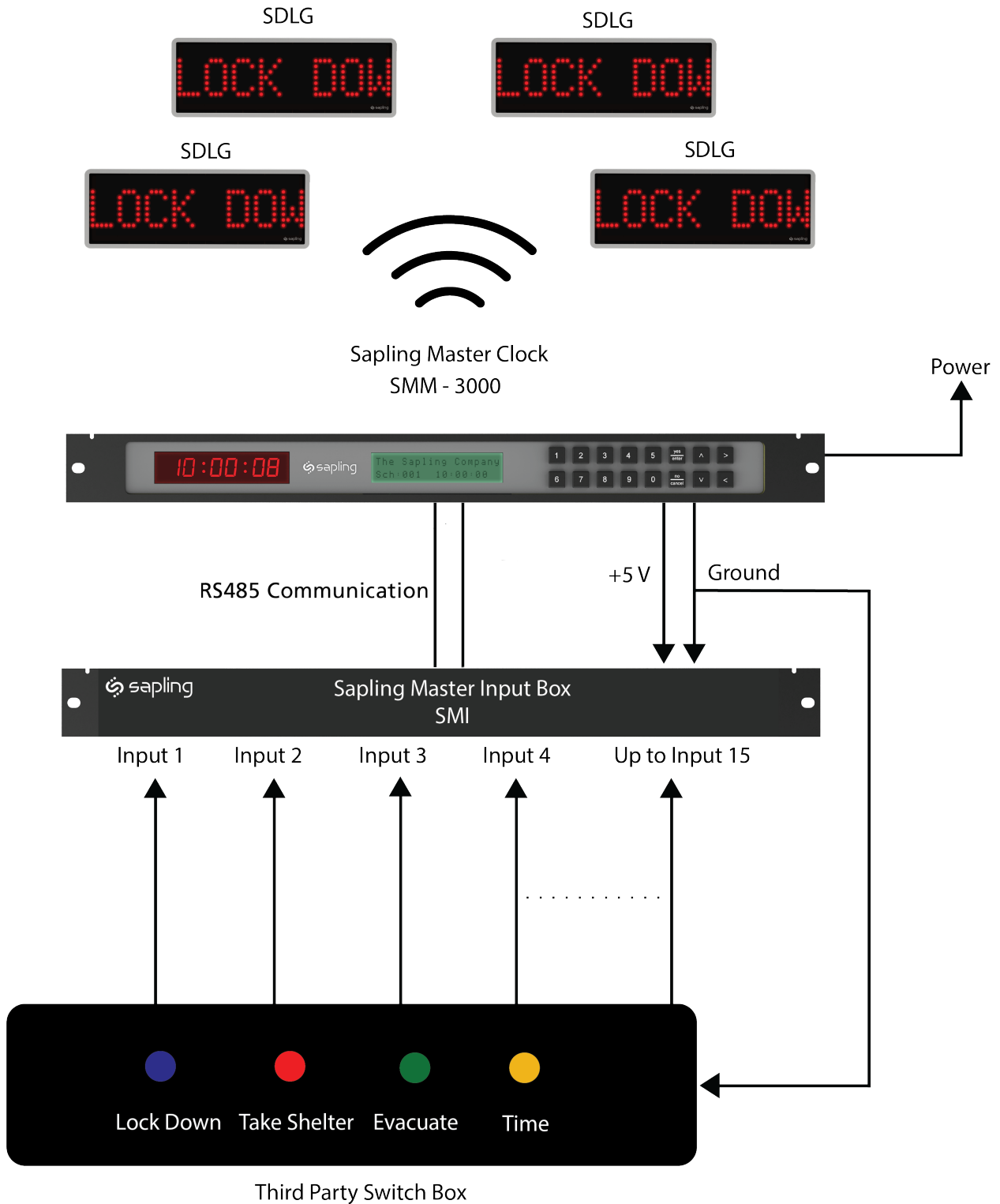
Along with the standard functionality of a synchronized wireless clock—displaying uniform and accurate time throughout the facility—the system also has the ability to display up to 15 user-programmable messages. Longer messages will scroll across the display at a configurable speed.

The Sapling Master Input Box is designed to interface with any third-party system that can provide a contact closure such as an emergency switch, switchbox, fire alarm, security system, intercom system, and so on. Each input is dedicated to a specific message, which will be displayed upon being triggered. The messages are programmed into the clocks using software provided along with the system.

Each Sapling Wireless Messaging Clock has a built-in repeater, allowing each clock to receive and retransmit the time data or messages sent by the master clock. This unique feature extends the signal range far beyond the master clock's transmitter and increases redundancy as data can take multiple paths to reach distant clocks. The system utilizes frequency-hopping technology, ensuring the highest level of reliability.

The Sapling Wireless Messaging Clock System is the perfect solution for organizations seeking a convenient method to quickly relay messages throughout a building.

System Line Drawing



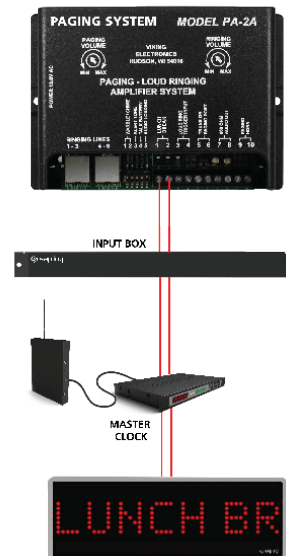
Other Options

The Sapling Master Input Box (SMI) can accept a contact closure from any 3rd party device that may provide a contact closure. Common scenarios can be implemented by using the below options:

- **Option One:** Interfacing with a third party switch panel.



- **Option Two:** Interfacing with any third party intercom/paging system that can provide a contact closure.

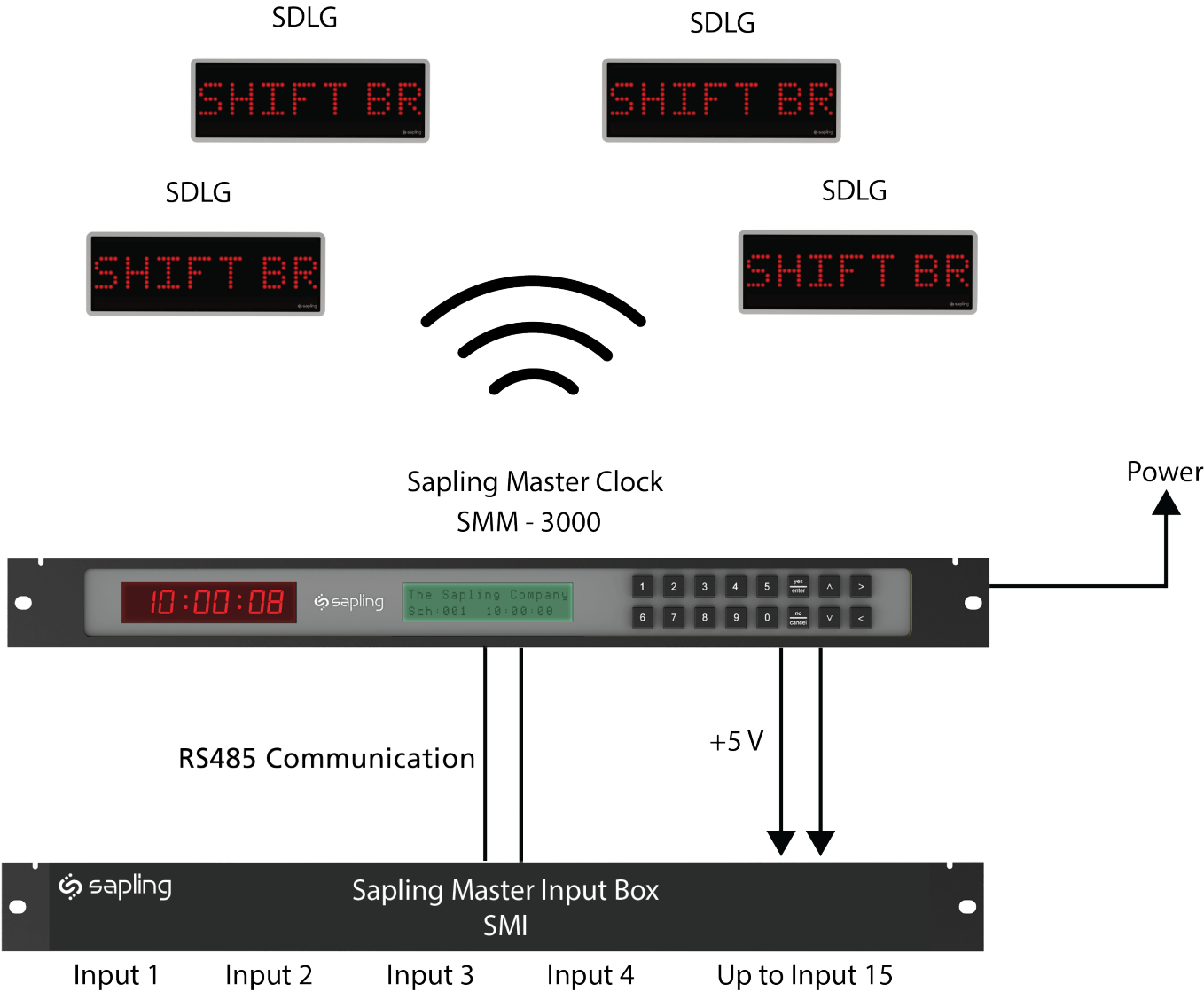


- **Option Three:** With any wireless smart switch that can provide a contact closure.



Prescheduled Messages

Sapling Master Clock triggers prescheduled messages for shift breaks or lunch breaks or any other prescheduled message by using its programmable relays.



Sapling Wireless Messaging Clock System Advantages

- **Advanced Messaging Capabilities** – Set up to 15 customized messages for the clocks to display to keep your facility organized and fully alert.
- **Built-in Repeater in Each Secondary Clock** - A unique feature of the system is that each wireless message clock not only receives the data (time and messages), it also retransmits the data to the surrounding message clocks in its area.
- **Superior Coverage** - The Sapling Wireless Messaging Clock System is not limited to the master clock's transmitter range because each message clock has a built-in repeater. The data signal is relayed to remote clocks, allowing vast coverage within a facility without the need to purchase multiple master clocks or repeaters.
- **System Redundancy** - Each message clock can receive the data signal from multiple directions and sources, including nearby clocks, clocks on the floors above and below, and from Sapling Repeaters and Master Clocks.
- **System Reliability** - Sapling utilizes frequency-hopping technology to transmit and receive the data. This ensures that the clocks in the system receive accurate time with no interference.
- **No FCC License Needed** - Since the Sapling Wireless Messaging Clock System operates in the license-free frequency range, no FCC license is required to operate the master clock's transmitter or the secondary clocks' repeaters. This eliminates the application process and the cost associated with obtaining a license.
- **Cost Efficiency** - Without the need to run wires between the clocks, installation and maintenance costs are greatly reduced. Sapling's digital clocks are offered in 24 V, 110 VAC, and 230 VAC power options.
- **Advanced Master Clock** - The Sapling Master Clock comes with a built-in web interface to allow easy access and easy setup from any computer in the facility via LAN.
- The Sapling Wireless Messaging Clock System does not rely on the facility network infrastructure.

Applications

The Sapling Wireless Messaging Clock System is an ideal solution for schools, universities, government buildings, manufacturing plants, hospitals, business offices, or any facility seeking accurate time displays and a reliable method of relaying emergency messages to all corners of a building in real time.

Any message can be set for the clocks to display. Each message can be set as a static or scrolling message depending on the message length.

Messages can be customized by the user. Common messages may include:

1. Tornado Warning
2. Inclement Weather
3. Take Cover
4. Evacuate
5. Lockdown
6. Fire
7. Early Dismissal
8. Flood Warning
9. Earthquake
10. Code Blue
11. All Clear
12. Operation in Progress
13. Test in Progress
14. Lunch Break
15. Shift Break
16. Input 16 is dedicated to command the clocks to stop displaying the message and display time



Set Up to 15 Unique Configurable Messages!

SDLG Digital

Sapling's SDLG wireless messaging clocks are available with a bright red display. They incorporate microprocessor-based functionality and an integrated real-time clock. All clocks feature an elegant and stylish design and time is displayed with 6 digits (00:00:00) and 2.5" characters.

FEATURES

- Receives time correction and messages wirelessly
- Scrolling message capability
 - o 15 configurable messages
 - o Configurable message scrolling speed
- Available with 2.5" (6.35 cm) characters; 6 digit time display
- Red display
- 12 or 24 hour time
- Provided with mounting hardware for easy installation
- Immediate correction for time change
- Internal antenna
- Microprocessor-based clock
- FCC Compliant per FCC part 15, Section 15,247

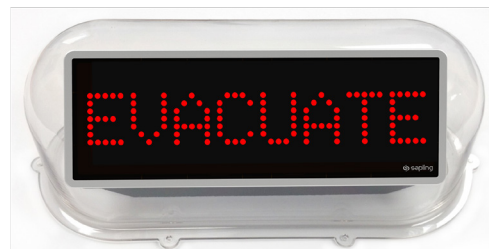


Accessories

Sapling offers different accessories to accommodate various project needs. These include:

OPTIONAL ACCESSORIES

- Elapsed Timer Control Panel
- Temperature Sensor
- Wire Guards
- Clear Protective Covers
- USB Programming Cable (required for Sapling Wireless Messaging Clock System)
- Flag Mount and Double Mount Mounting Pole



Shown above are some images of the Message Clock's optional accessories.

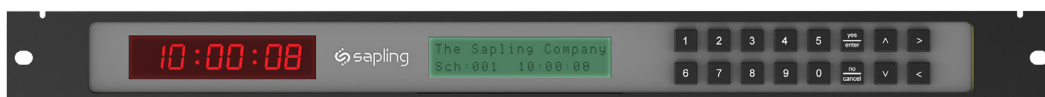
SMM Series Master Clock

The Sapling Wireless Messaging Clock System begins with Sapling's SMM Series Master Clock. The SMM 3000 Series comes with a front LED and LCD display as well as a keypad to allow for advanced programming. The SMM 3000 model comes with eight programmable relays (zones) to control third party systems via a contact closure (such as a school bell system).

All Sapling Master Clocks come with a built-in web interface to allow easy setup and programming from any computer in the facility via LAN. By default, the master clock receives the time data via the internet from up to ten preprogrammed (user changeable) third party NTP Servers for superior accuracy and redundancy. The master clock is also offered with an optional GPS receiver as an additional source for receiving accurate time. In addition, the master clock has a built-in real-time clock and can send an email alert when communication with the accurate time source(s) is lost.

HIGHLIGHTS

- Available in rack mount housing
- LED display for a clear, accurate read out
- 2 x 8 rubber button keyboard for easy programming
- Intuitive built-in web interface allows the system administrator to configure all the settings of the SMM Series Master Clock easily from the convenience of any computer on the same network
- Interfaces with Sapling Master Input Box via RS485 to receive and transmit message codes
- Provides time correction to Sapling SDLG Message Display Clocks, Sapling SALG Wireless Analog Clocks, and Sapling SBLG Wireless Digital Clocks
- RJ45 input for web interface access and synchronization to any (S)NTP/NTP server



SMM Series Master Clock

HIGHLIGHTS

- Ability to store up to 10 different NTP server IP addresses or domain names for continuous accurate time and redundancy
- Automatically switches from one accurate time source to another in case of a communication failure
- Blinking LED on master clock front panel to visually indicate a communication failure with the NTP server or GPS time source
- The master clock can be programmed to send an email alert when communication with the accurate time source has failed, when the master clock has been rebooted, and more
- Eight configurable auxiliary relays which control other systems by closing a relay at predetermined times.
 - 255 schedule (group of events) and 800 event capabilities (such as triggering bells)
 - Two programmable closure durations per relay
- Control wired clock systems or wired and wireless clock systems simultaneously
- 12 or 24 hour display
- Automatic, fully customizable Daylight Saving Time updates, if applicable
- Selectable UTC/GMT offset
- Bias seconds option - offsetting the master clock to adjust the time plus or minus a few seconds or minutes to fit the application, while it is still receiving accurate time input
- DHCP Capable
- Proprietary RS485 input and output for time synchronization
- Microprocessor based
- Ten year battery backup for keeping time and master clock settings in the event of a power outage

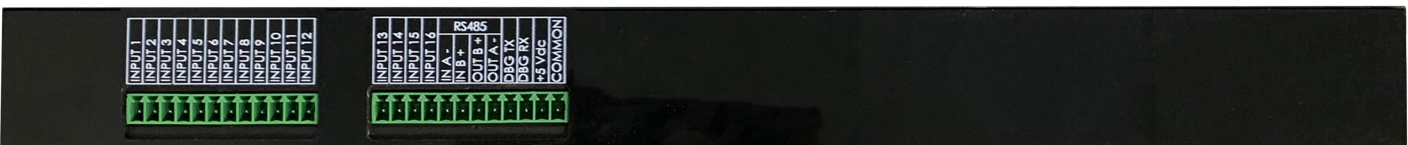
OPTIONAL FEATURES

- GPS input for accurate time synchronization
- NTP server upgrade
- Pre-scheduled countdown feature

Sapling Input Box/Repeaters

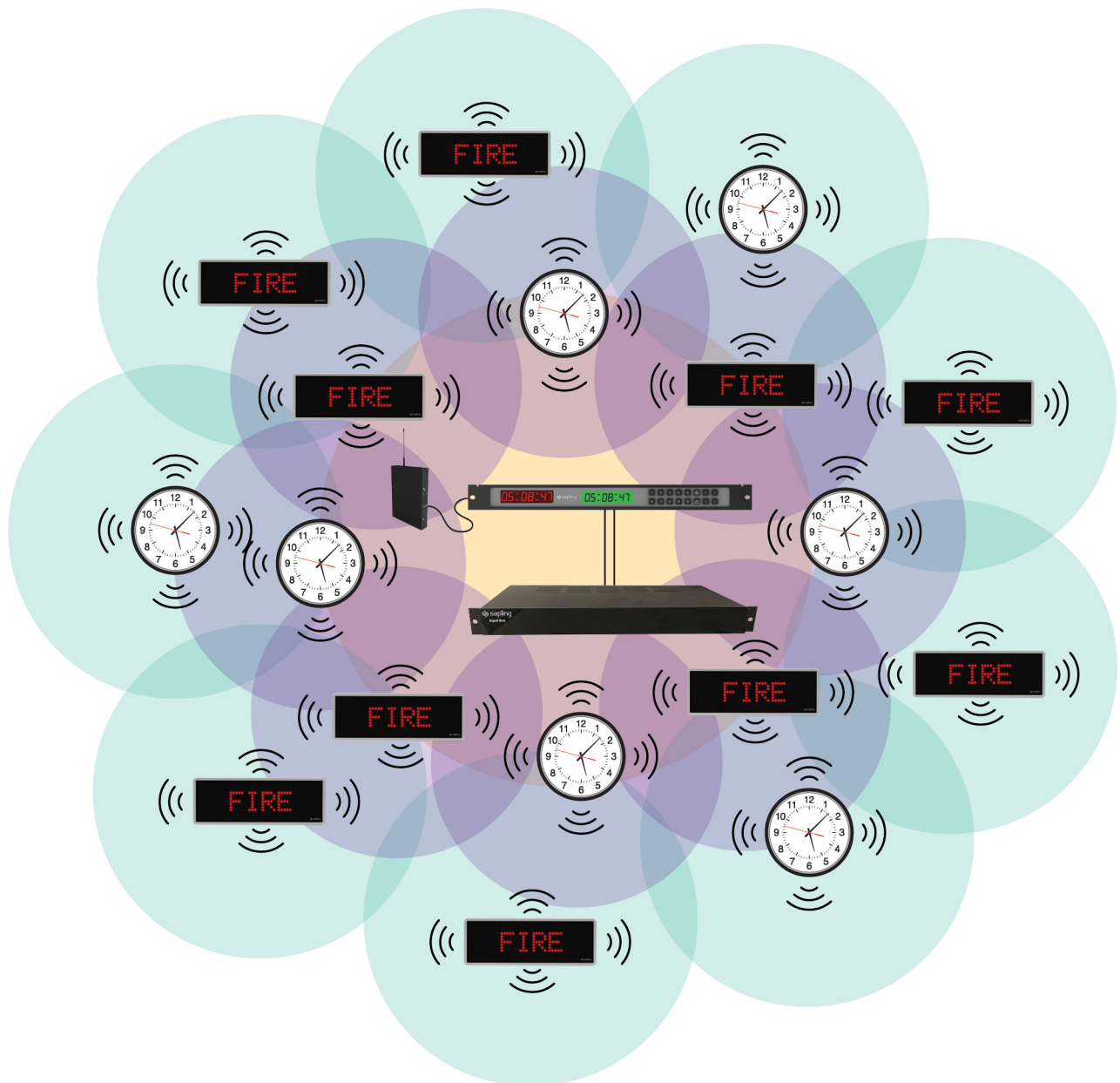
SAPLING MASTER INPUT BOX

Sapling's Master Input Box is a standard component of the Sapling Wireless Messaging Clock System connected to the Sapling Master Clock. The input box contains 15 ports to receive a contact closure from any emergency switch or from any third-party system, and one additional port dedicated to sending the clocks back to time. When an input is triggered, the input box sends a code to the master clock via RS485 to indicate which message has been triggered, allowing the master clock to transmit the correct message command to the clocks.



Sapling Message Clock System Flexibility

The wireless message clock system may also include the SALG analog wireless clock which is offered with 24VAC/VDC, 110VAC, 230VAC or battery operated powering options allowing to add more clocks to the system.



[About Us]

The Sapling Company is a global leader in engineering and manufacturing advanced synchronized clock systems. We have earned a reputation both in the USA and international markets for our superior technology, quality and reliability. For more information about Sapling Synchronized Clock Systems and the Time Zone Clock, please visit our website: www.sapling-inc.com



[Contact]

Office: 670 Louis Drive
Warminster, Pennsylvania 18974, USA

Phone: +1.215.322.6063

Fax: +1.215.322.8498

Website: www.sapling-inc.com

Email: info@sapling-inc.com

Sapling

*a global leader in engineering & manufacturing
quality synchronized clock systems since 1993*