Sapling Wireless Clocks

sapling
ingeniously in sync

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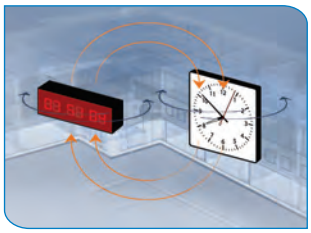
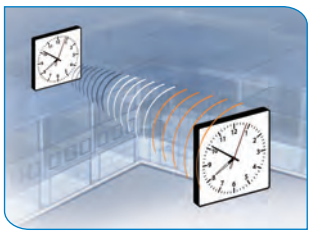
The Sapling Advantage



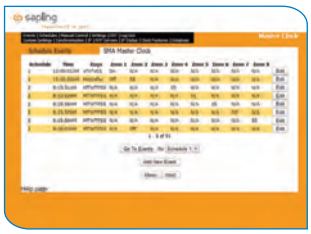
EACH CLOCK HAS A REPEATER BUILT-IN - Since each clock has a repeater built right into each unit, there is no need for high power transmitters and repeaters. Each clock receives the wireless signal and sends out the time to its neighboring clock, making Sapling's system unique and extremely accurate.

RECEIVES SIGNAL FROM MULTIPLE PATHS - Since each clock has a repeater built-in, the wireless signal can be received from any clock in the signal's radius.



PATENTED FREQUENCY-HOPPING TECHNOLOGY - This patented technology allows each clock to frequency hop the transmission to all of the surrounding clocks, enabling it to receive the correct time, even if there is interference on any of the frequencies.

NO FCC LICENSE - With Sapling's wireless clocks operating on an open frequency range, there is no need to purchase costly FCC licenses, saving you thousands of dollars over the life of the system.



WEB-BASED MASTER CLOCK - Program our web-based SMA Series Master Clock from anywhere with an internet connection. Its user-friendly web interface is simple to use and can be setup within minutes.

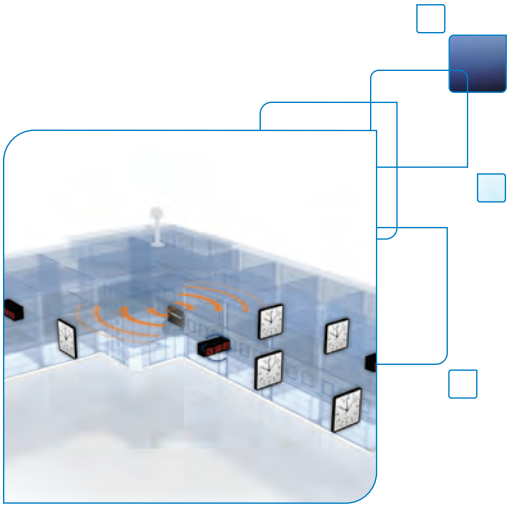
FULLY COMPLIANT - All of Sapling's wireless clocks have UL, cUL and FCC approval or pending status.

"We installed over 100 of the wireless synchronized clocks in our district two years ago and haven't had one single problem. They are mission critical, reliable and key to effective scheduling within the district."

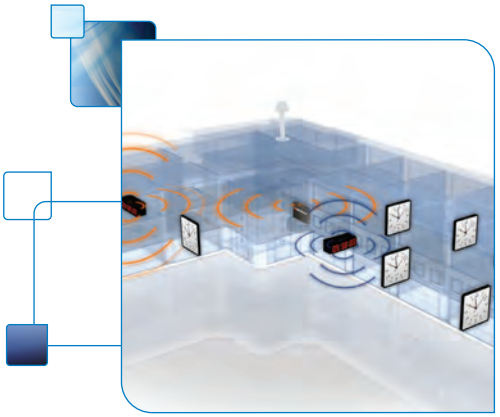
Richard Follmer, Technology Coordinator, North Hanover Township Schools

Wireless System Description

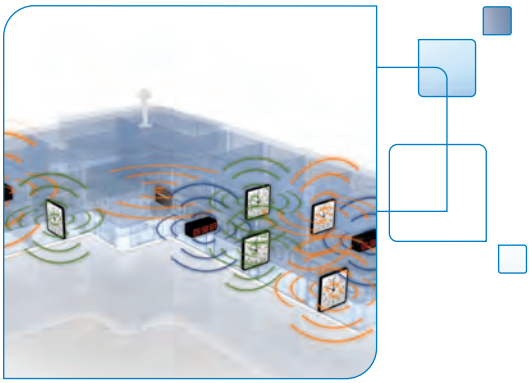
1 Install and program the SMA Wireless Master Clock



2 The SMA Series Wireless Master Clock sends out the signal to the clocks in its radius



3 The clocks receive the signal and then send the signal to the surrounding clocks



4 The surrounding clocks receive the signal and retransmit the time to the clocks in its radius

Sapling's Wireless Clock System is the embodiment of innovation and reliability. Eliminating wiring throughout an entire facility can save you thousands of dollars on installation and also allows for retrofitting of an existing installation. While most wireless systems are limited to the range of the transmitter, Sapling's is not.

Our ingenious technology allows each clock to act as a transceiver, meaning the secondary clocks both receive and retransmit the signal, maximizing signal transmission distances. Because of the way this technology is utilized, the more clocks in an area increases the quality of the signal.

The system starts with the SMA Series Wireless Master Clock which can receive time from any SNTP/NTP server or even a GPS satellite. The master clock then sends out a wireless signal to the analog and/or digital wireless clocks using Sapling's frequency-hopping technology. Once the slave clocks receive the signal, it is then retransmitted to any of the clocks in the surrounding areas.

Working on **Sapling's patented 915-928 MHz frequency-hopping technology**, our system requires no FCC license, eliminating extraneous fees. The Wireless System allows multiple secondary clocks to use the same frequency range without interfering with other wireless products.

SBL Series Wireless Digital Clocks

Sapling's SBL Series gives you the answer to your wireless digital clock needs. Working in conjunction with the SMA Series Wireless Master Clock, the SBL Series integrates seamlessly with the SAL-2 Series Wireless Analog Clocks. Working on Sapling's 915-928 MHz frequency-hopping technology, the digital clocks will receive and transmit the signal once a minute.

The innovative 915-928 MHz frequency-hopping technology allows for a better and clearer signal even if there is interference in one of the frequencies. Not only can each clock receive the wireless signal, it also transmits the signal which eliminates the need for many repeaters. The digital clocks are offered in a wide array of models featuring 2.5" or 4" high characters, as well as four or six digit displays.

- Receives and transmits the signal once a minute
- Each clock acts as a transceiver
- Internal antenna
- Counts down between classes or breaks with optional SMA 3000 Series Master Clock software
- Elapsed timer capabilities with Sapling's Elapsed Timer (3200/3300 Series)
- 915-928 MHz frequency-hopping technology
- Immediate correction for time change
- Available in different sizes
  - 2.5" display
  - 4" display
  - Four digit display
  - Six digit display
- 12 or 24 hour format
- Two levels of adjustable brightness
- Loss of communication alert
- Bright LED display

SAL-2 Series Wireless Analog Clocks

Sapling's innovative SAL-2 Series Wireless Clocks incorporate multi-function software as well as a microprocessor based movement. Every clock is a transceiver, meaning it both receives the signal and retransmits it to the surrounding clocks. Since every clock is a transceiver, the clocks can not only get the time from the main transmitter, but also from the surrounding clocks.

Sapling wireless clocks transmit a stream of data every two hours (standard) or four hours (economy) on the battery operated (2 D-cells) model, and every minute on the 24V, 110V and 220V models. These clocks include automatic calibration, as well as enhanced diagnostic functionality that allows the user to view the quality of the signal, amount of time since the clock last received a signal, a comprehensive analysis of the clock itself and remaining battery life.

- Each clock acts as a repeater and transmitter
- 915-928 MHz frequency-hopping technology
- Frequent correction
  - Receiving and transmission rate every two hours (normal mode) or four hours (economy mode) for battery operation
  - Receiving and transmission rate of once a minute for 24V, 110V or 220V
- Internal antenna
- Improved sensitivity over SAL-1 Series (previous model)
- Enhanced diagnostic mode for informing the user of battery level, signal strength, and complete testing of the movement
- Quick correction for time change (max. 5 minutes)
- Ideal for renovation projects using existing wiring or for new installations
- FCC Compliant, FCC part 15 Section 15,247

2011 Winner* GOOD DESIGN

Winner of the 2011 Good Design Award

*As awarded by The Chicago Athenaeum: Museum of Architecture and Design. In the Permanent Design Collection of The Chicago Athenaeum: Museum of Architecture and Design.

Wireless Repeater

The Wireless Repeater is an ideal choice for extending the Sapling wireless signal when longer distances between clocks are present. Upon receipt of the wireless signal from the main transmitter or any Sapling clock in the field, the repeater can transmit up to a mile in open space which enables a broad transmission range to the subsequent slave clocks. The signal is transmitted once a minute and is capable of sending it to the SAL-2 Series Analog Wireless Clocks and the SBL Series Digital Wireless Clocks.

Network Wireless Repeater

The Network Repeater is the perfect solution for wireless systems in a campus or multiple building environments. The Network Repeater receives its time from the main transmitter in the system via a TCP/IP connection and transmits the signal out to the SAL-2 Series Analog Clocks and the SBL Series Digital Clocks. This feature allows the Network Repeater to not have to be within the wireless range of the main transmitter in the building. Boasting a slim profile design, the Network Repeater is capable of being mounted in a variety of different locations.

- TCP/IP connection for integration with the main transmitter
- Powerful transmission range - transmits up to a mile in open space!
- Compact, slim design makes the Network Repeater versatile for mounting
- Works on Sapling's 915–928 MHz frequency-hopping technology
- Transmits the Sapling wireless signal to the SAL-2 Series Analog Wireless Clocks and the SBL Series Digital Wireless Clocks

SMA Series Wireless Master Clock

Sapling's SMA Series Wireless Master Clock is available in both a 2000 and 3000 version. The 3000 Series comes fully equipped with a crisp LED readout and a backlit, two line LCD display. Programming the SMA 3000 with up to 800 events is a breeze, thanks to the 2x8 rubber tactile keypad. The SMA 2000 Series features a bright LED display with two push buttons for simple programming.

The SMA Series comes standard with SNTP/NTP capability for synchronization to any SNTP/NTP time source, or an optional GPS can be added for UTC synchronization.

The SMA Series has a variety of additional options that can be purchased separately such as a fully functional web interface for controlling the master clock from any computer so schedules or features can be changed from anywhere. Other options include a SNTP/NTP server option that other devices can point to in order to receive time, or the ability to handle up to eight auxiliary relays which can be used for programming bell schedules, lights, and more.

Standard Features

- LED display for a clear, accurate readout
- Two line, backlit LCD display with 20 characters per line with 2x8 rubber tactile keypad (SMA 3000 only)
- RJ45 input for synchronization to any SNTP/NTP server
- Wireless transmitter/repeater for correction of the Sapling wireless clocks
- Control wired and wireless systems simultaneously
- Interfaces with other systems
- 12 or 24 hour mode
- Automatic biannual Daylight Saving Time changes
- Bias seconds option for adjusting the time to fit your application, while still receiving an input
- RS485 input and output for time synchronization
- Two relays for simultaneous correction of two synchronous wired clock systems

SMA Series Options

- GPS input for UTC synchronization
- Four or eight configurable auxiliary relays with 800 event capability (SMA 3000 only)
- Web interface software upgrade
  - Extremely intuitive graphical user interface that allows the user to configure all of the settings of the SMA Series Master Clock
  - Control all of the IP settings
  - View the complete list of pre-programmed events and schedules (SMA 3000 feature)
- SNTP/NTP Server can be used as a time source for other networked devices
- Countdown feature (SMA 3000 feature)
  - Digital clocks will count down a preset amount of time when the relay is activated