SAPLING EDUCATION SOLUTIONS

Synchronized Clock System

THE CONCEPT

A synchronized clock system provides the same, exact time to all clocks in a building or campus. Typically, the system will begin with a master clock which sends time data to the secondary clocks in the facility. Throughout the day, the secondary clocks will receive the time periodically to ensure there is no deviation from the accurate time.

The Main Benefits

- Keep all teachers, students and service providers operating on the same time. In turn, the facility maximizes efficiency and productivity.
- Automatic correction of Daylight Saving Time change (where applicable)
- After a power failure all clocks will display the correct time
- Reduce maintenance costs
- Have the master clock trigger the school bell system at predetermined times
- Have the master clock send prescheduled countdowns in between classes
- Utilize a digital clock to act as an elapsed timer to time exams
- Synchronize other systems in the facility by upgrading the master clock to act as an NTP server

THE IMPORTANCE OF HAVING ONE IN A SCHOOL OR UNIVERSITY

According to extensive research, having a synchronized clock system in an educational facility is a necessity! Here are just a few examples:

"What matters for learning is maximizing academic learning time. Increasing the time available for learning (by increasing the length of the school day or year) is not likely to be productive unless the time is used to engage students productively by learning." [1]

"Transition are the 'interval between any two activities.' Therefore, transitions occur between classes (before and after a class) and within class periods (between activities). Using transition time effectively is a cost-free way of maximizing instructional time." [2]

A SYNCHRONIZED CLOCK SYSTEM IN YOUR FACILITY SHOULD NOT BE CONSIDERED OPTIONAL

- IT IS ESSENTIAL!

[1] "The Power of a Great Education: PSEA's 20/20 Vision for the Future." (January 2010). http://www.psea.org/uploadedFiles/LegislationAndPolitics/Vision/Vision_MaximizeInstructionalTime.pdf

[2] Nix. S. (March 2008). "Out of the Hallway, Into the Classroom." Principal Leadership. http://www.nassp.org/Portals/0/content/57053.pdf

Types of Systems

Sapling offers different types of synchronized clock systems in order to accommodate various facilities' layouts and requirements:

- **Wired Clock System –** An economical solution for new facilities and retrofit
- **Wireless Clock System –** Flexible installation for existing facilities
- **TalkBack Clock System –** Self diagnostic capabilities with the benefits of a Wireless System
- **IP-PoE Clock System –** Easily interfaces with the facility's LAN allowing maximum control of the system
- **Wi-Fi Clock System –** A great solution for environments utilizing existing Wi-Fi infrastructure

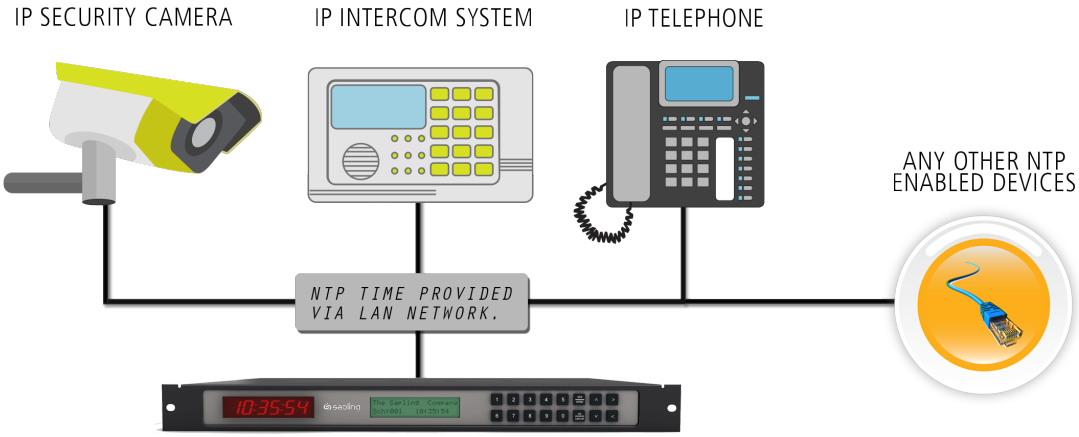
ADVANCED CAPABILITIES

Sapling offers different types of synchronized clock systems to accommodate various project needs and facility infrastructures. Some users require the ability to remotely monitor all clocks in the system without the need to physically go to each and every clock and check its status. Three of our systems allow the user to monitor the clocks: the TalkBack Wireless System, the IP-PoE System, and the Wi-Fi System. In these systems, each clock can perform self-diagnostics for various functionalities, which the user can view from the comfort of their computer. This will eliminate the need to physically supervise the system or wait until someone points out a display error or a low battery issue.

INTERFACING WITH EXISTING CLOCK SYSTEMS

Sapling can also offer clocks that will interface with existing older clock systems, and therefore allowing the facility to upgrade the system and benefit from the advantages of newer technology. For example, you can upgrade an old wired system by interfacing it with a new Sapling Wireless System. As another solution, use Sapling clocks as a direct replacement for an existing system.

NTP Master Clock

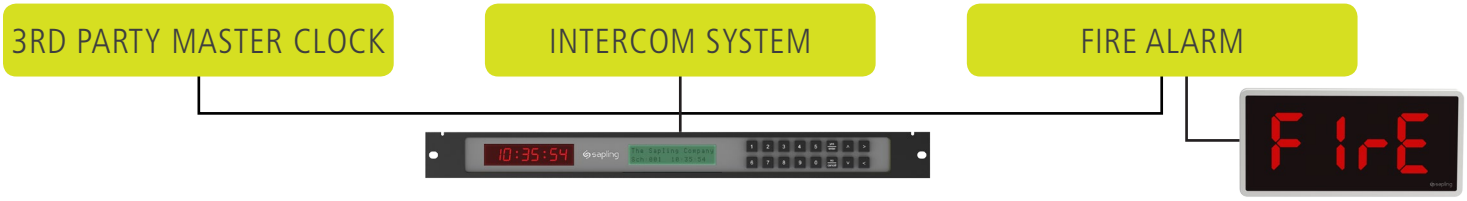


Sapling offers an NTP Master Clock Server that may provide the time data to IP devices in the facility such as:

- Security cameras
- Phones
- Intercoms
- Time & attendance
- And more

This way, the clocks and other devices that are capable of receiving NTP time data will be synchronized together.

OTHER INTERFACING OPTIONS



- Interface with Fire System to trigger "fire" display in a 2-Wire, Wireless & TalkBack System
- Provide a contact closure or a protocol to synchronize an intercom systems
- Interface with existing third party master clock system to send or receive time

Prescheduled Countdown Feature

SAPLING MASTER CLOCK COMMANDING PRESCHEDULED COUNTDOWNS IN BETWEEN CLASSES

A Prescheduled Countdown is used when there is a need for **all digital clocks** in the system to perform a countdown at the same time. This feature is a Sapling Master Clock optional feature that is offered along with our 2-Wire System, the Wireless System and the TalkBack Wireless System (IP-PoE Clocks are not offered with a prescheduled countdown option). It is used in between classes in schools to show students and teachers how much time they have until the next class starts.

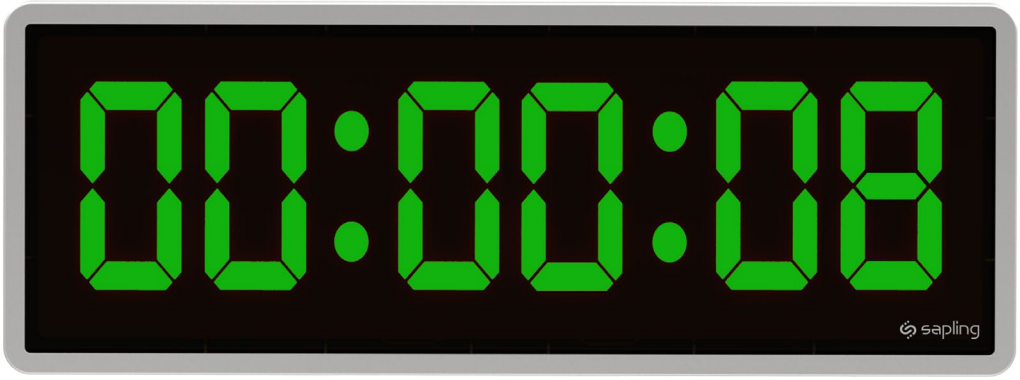
This will allow the master clock to command all digital clocks in the system to start the countdown at prescheduled times. For example: every Monday to Friday from 9:00:00 am till 9:10:00 and from 10:30:00 am till 10:45:00 am and from 12:30:00 pm till 1:00:00 pm, etc.

Sapling Elapsed Timer

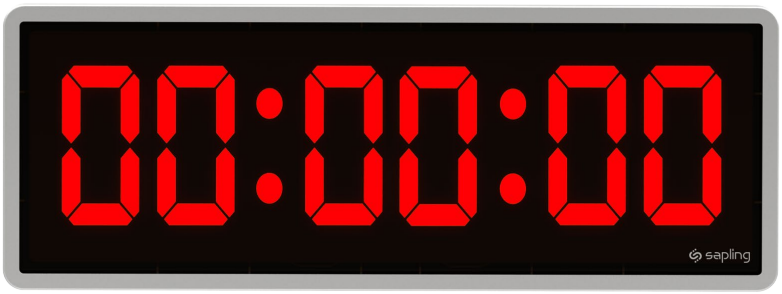
Sapling offers an Elapsed Timer solution consisting of a digital clock interfacing with an Elapsed Timer Control Panel accessory. The Elapsed Timer allows a teacher to trigger a real-time count up or a countdown.

The Elapsed Timers are the perfect solution for various applications and are commonly used for:

- Timing an exam in class
- Timing presentations
- Timing lectures
- Timing games in gymnasiums
- Timing fire or emergency drills



Accessories



BUZZ

** Buzzer is measured at 85 decibels in an open-air environment.*

SAPLING BUZZER ACCESSORY

In addition to the standard features of our Elapsed Timer, Sapling also offers a solution for audibly alerting the end of a countdown with the purchase of an optional internal buzzer. Used in conjunction with a Sapling 3300 digital clock, the buzzer accessory, which is powered by the clock, is triggered when the Elapsed Timer reaches 00:00:00. The buzzer will produce an additional indication that the countdown has ended by creating an 85* decibel tone selectable from 1 to 60 seconds.

Buzzer part number: **A-BUZZ-3300-1**

TIME

TEMPERATURE

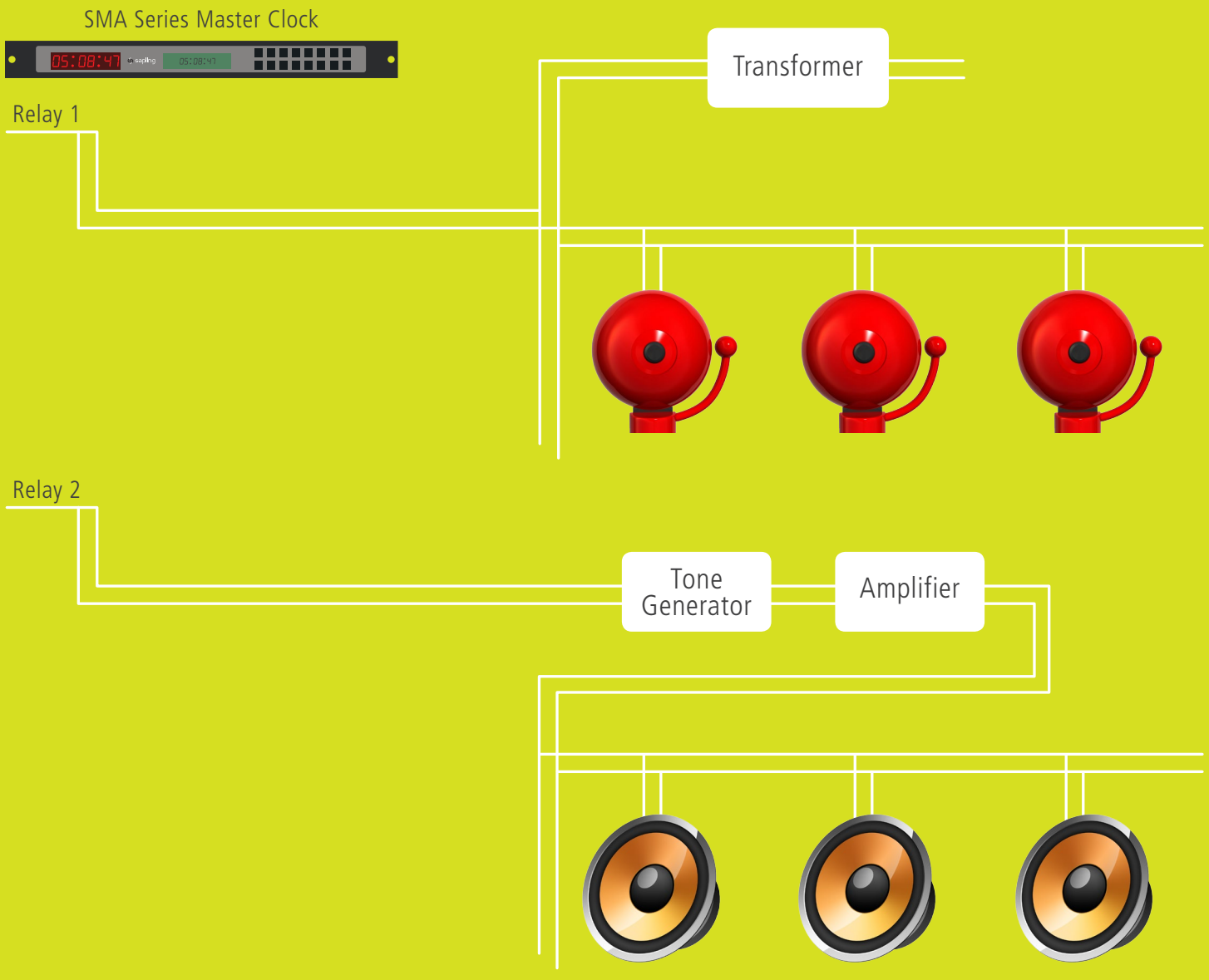
SAPLING TEMPERATURE SENSOR

Sapling Digital Clocks may also display the room temperature by interfacing with a temperature sensor. The temperature on the clock can be displayed in either Fahrenheit or Celsius and the user can designate how long the time will be displayed and how long the temperature will be displayed. For example, the clock can show the time for 7 seconds and then show the temperature for 3 seconds, alternating.

Temperature Sensor part number: **SBD-TEMP-000-0**

Controlling the School Bell System

A master clock can be offered with programmable relays (zones) that can trigger third party systems via a contact closure, such as mechanical bells or a tone generator. The master clock can activate the bells at predetermined times according to class and break schedules.



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: marketing@sapling-inc.com

Sapling

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

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