SAPLING
HEALTHCARE
SOLUTIONS

Synchronized Clock System

THE CONCEPT

A synchronized clock system provides the same, exact time to all clocks in a building or facility. 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 people in the facility, (staff, patients and visitors), operating on the same time. In turn, the facility maximizes efficiency, productivity and helps avoid legal issues.

- Automatic correction of Daylight Saving Time change (where applicable)

- After a power failure all clocks will display the correct time

- Reduce maintenance costs

- Keep your facility in compliance with regulations (where applicable)

- Utilize a digital clock to act as an elapsed timer

- Utilize a digital clock to view room temperature

- Synchronize other systems in the facility by upgrading the master clock to act as an NTP server

- Integrate a Time Zone Clock for regional and global time awareness

THE IMPORTANCE OF HAVING ONE IN A HOSPITAL OR IN A HEALTHCARE FACILITY

According to extensive research, having a synchronized clock system in a hospital is vital! Here are just a few examples:

According to the Patient Safety Authority of Pennsylvania,

"Clock synchronization issues can pose hazards to both patients and staff." [1]

According to publication of the Association of Anesthetists of Great Britain and Ireland during an inspection:

"The average discrepancy between clocks encountered during a single patient pathway through theatres was over 19 min (range 1 min 51 sec to 58min 56 sec)." [2]

In reference to an Elsevier publication:

"Use of multiple timepieces for recording time data during the same event, and wide variation in coherence & precision of timepieces bring into question the ability to use time intervals to evaluate resuscitation practice in the hospital." [3]

A SYNCHRONIZED CLOCK SYSTEM IN YOUR FACILITY SHOULD NOT BE CONSIDERED OPTIONAL - IT IS VITAL!

[1] http://www.patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2012/Dec%3B9(4)/Pages/143.aspx
[2] http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2044.2008.05598.x/pdf
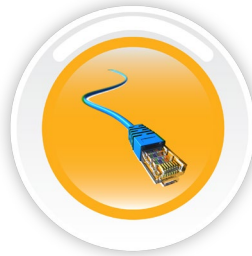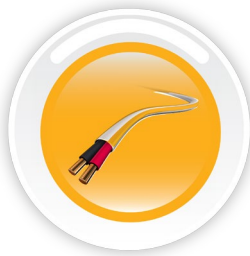[3] https://www.researchgate.net/publication/7821437_When_minutes_count_-_The_fallacy_of_accurate_time_documentation_during_in-hospital_resuscitation

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
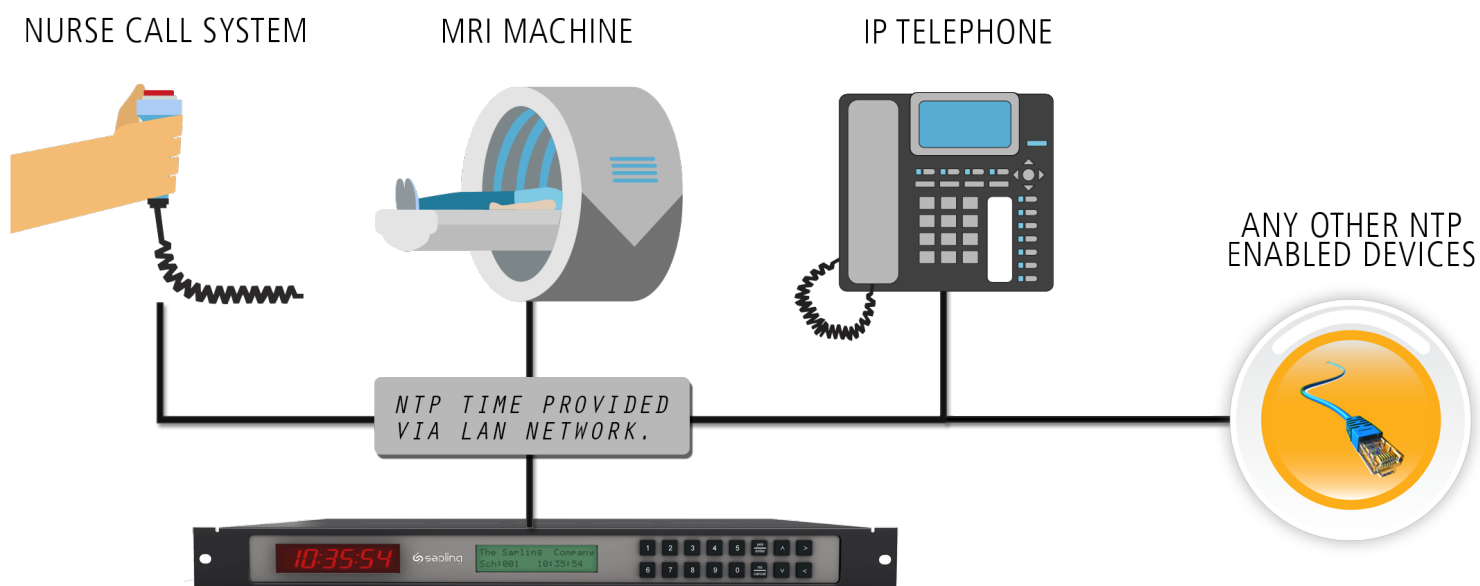
ADVANCED CAPABILITIES

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

NURSE CALL SYSTEM   MRI MACHINE   IP TELEPHONE

ANY OTHER NTP
ENABLED DEVICES

NTP TIME PROVIDED
VIA LAN NETWORK.

10:35:54

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.

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 nurses, doctors and emergency staff to trigger a count up or a countdown in places like operating rooms.

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

- Code Blue Situations*
- Operating Rooms
- Emergency Rooms
- Dispensing Medication
- Administering Anesthesia
- Accurate Record Keeping to Avoid Legal Issues

*Code blue: An emergency situation announced in a hospital or institution in which a patient is in cardiopulmonary arrest, requiring staff to rush to the specific location and begin immediate resuscitative efforts.

ELAPSED TIMER BUTTONS KIT

The Elapsed Timer Control Panel is offered with four push buttons as standard. An additional kit with configurable buttons is also available: **SBD-ELT-BUT-0**

Two-Color Display Solution

Some applications might require two digital displays – one dedicated to show the time while the other is dedicated to act as an elapsed timer. For these applications, Sapling recommends using a red display for displaying the time, while the elapsed timer display will be green, white or amber.

LED COLOR OPTIONS

red	white	green	amber

STANDARD LED

Interfacing with a Nurse Call System

Sapling also offers an Elapsed Timer that may interface with a nurse call system and automatically trigger a count up or count down. This feature is commonly used for code blue scenarios, eliminating the need to trigger a count-up manually by pressing on the control panel. This ability reduces steps in emergency situations, increases accuracy and can eliminate delays in the activation of a count up.

Listed below are a few reasons why healthcare facilities would benefit by interfacing their nurse call system with Sapling's 3300 Series digital clocks:

IMPROVES PATIENT SAFETY

- Automatically starts a count up when the nurse call system is triggered, saving precious seconds at a critical time
- Provides caregivers with vital information about how long a patient has been at Code Blue status
- Increases accuracy and reliability when the process is completely automated

DRIVES EFFICIENCY

- Helps deliver efficient, high quality care
- Assists in keeping track of how long it took staff to respond to an emergency

IMPROVES PATIENT SATISFACTION

- Enables a seamless process where a caregiver does not need to manually start the elapsed timer, avoiding delay in the activation of the count up
- Helps provide enhanced caregiver responsiveness in an environment that is more conducive to providing a better overall experience

Please view our Elapsed Timer video clip at: **sapling-inc.com/video-library**

Accessories

00:00:00

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

12:30   24C   75F

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 show the temperature for 3 seconds, alternating.

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

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

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Sapling

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

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Synchronized Clock Systems