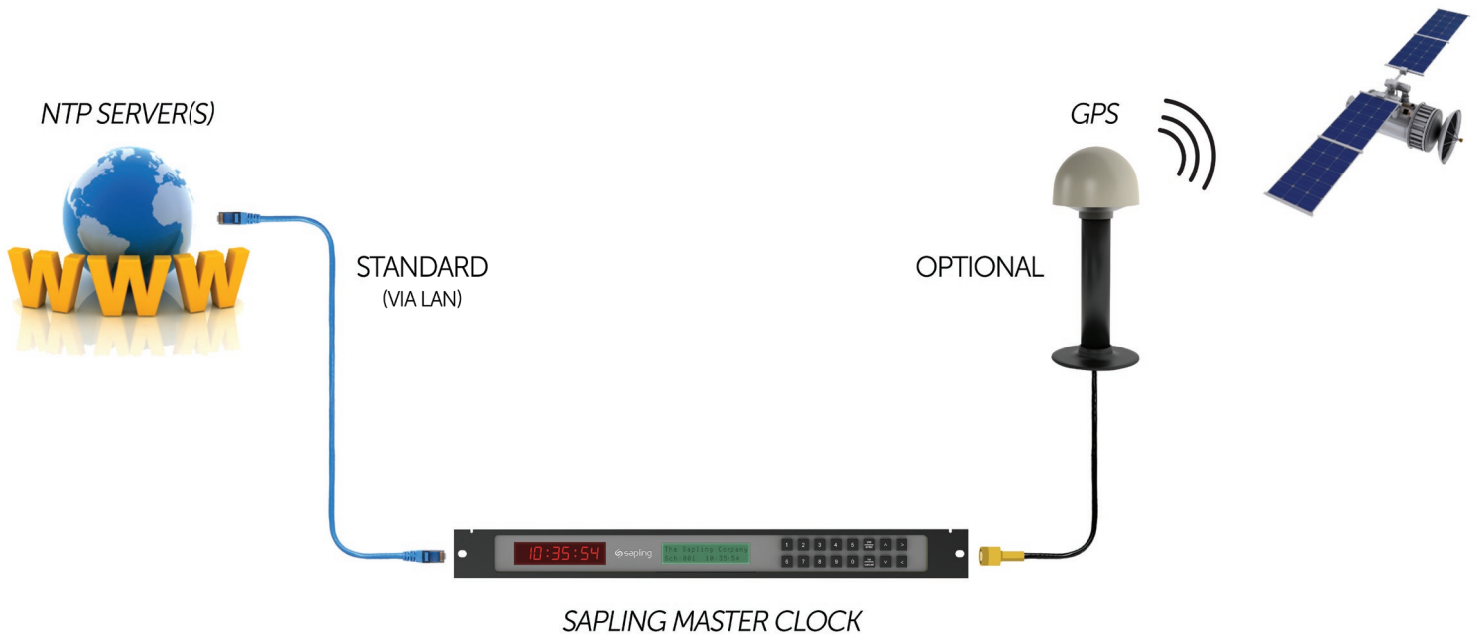




## When to Choose a Master Clock with a GPS Receiver



The Sapling Master Clock is offered with many advanced features as standard and users have the option to add even more. Depending on the project needs, users can choose which optional features should be included with the master clock.

One of the standard features offered with the Sapling Master Clock is the ability to take accurate time data from an in-house NTP server or from up to ten third party NTP servers. These third party NTP servers are located around the world and the master clock will communicate with them via the internet. The Sapling Master Clock comes pre-programmed with ten third party NTP servers, however, the user can change the third party NTP servers selected by Sapling to other NTP servers by programming their own IP addresses into the master clock. For example, if we have selected NTP servers located in the USA, Japan, Canada, etc., and the user is located in Australia, the user might prefer to change the first NTP server IP address in the master clock to a local NTP server from Australia.

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Date/Time | Events | Schedules | Manual Control | Settings | DST | Email | TalkBack Technology™ | Log Out  
System Settings | Synchronization | IP | NTP Servers | IP Status | Clock Features | Database

Master Clock

NTP Servers

Marketing - Oren

Retry Failed Server After:  Updates

1st Server Address:

2nd Server Address:

3rd Server Address:

4th Server Address:

5th Server Address:

6th Server Address:

7th Server Address:

8th Server Address:

9th Server Address:

10th Server Address:

Rotate Servers:

## Why Ten NTP Servers?

The reason that all Sapling Master Clocks come with the ability to receive time data from ten NTP servers is for added redundancy and reliability. This means that if communication with one of the NTP servers is down or there are issues communicating time data, the master clock will automatically attempt to communicate with the next NTP server on its list. In the event the master clock is unable to receive the time from the primary time source or any of its redundant time sources, it will still provide the time to the secondary clocks in the system based on its internal real-time clock so all clocks in the system will still show uniform time.

For facilities where time is extremely critical or the internet is unreliable and there is no NTP server in-house, Sapling can provide a master clock with a GPS receiver. This optional feature will include a built-in GPS receiver (inside the master clock), a GPS cable and a GPS antenna that should be mounted on the roof of the facility. This will allow the master clock to receive accurate time from GPS satellites.



## When Time is Critical

In certain facilities, accurate, synchronized time is of the utmost importance. As standard, the Sapling Master Clock can receive accurate time data from up to ten NTP servers, but some facilities require an additional layer of redundancy.

A Sapling Master Clock with a GPS receiver is the perfect solution for a facility where precise time is absolutely essential. **In this case, the first accurate time source for the master clock would be the GPS, while the NTP servers would be the backup accurate time source as long as an internet connection is available.**

Types of facilities where accurate time is crucial and may require a master clock with a GPS receiver include:

- Airports
- Large Hospitals
- Military Bases
- Government Facilities
- Sports Arenas

## When Internet or LAN is Unavailable or Unreliable

For facilities in locations where the internet is unreliable or unavailable, or when LAN is unavailable or restricted, a Sapling Master Clock with a GPS receiver will still be able to receive accurate time from a GPS satellite to keep the facility on target. Some facilities are located in remote areas where receiving accurate time over the internet is not an option; in this case, a master clock with a GPS receiver is required to receive the accurate time.

## Summary

Sapling Master Clocks were designed for supreme reliability with the capability to take accurate time data from different time sources. For facilities where accurate time is of great importance, or facilities where LAN and internet are not available or unreliable, the optional GPS receiver should be selected for the Sapling Master Clock to ensure the facility is provided with precise time. For more information about Sapling Master Clocks, please visit our [website](#).