Introduction

The Spectrum™ Wi-Fi clock series features easy-to-follow setup instructions built into the clock. This guide gives an overview of the process, and also provides an area to record common settings ahead-of-time for setup at the clock's final location. This document is intended to help IT staff and contractors prepare for clock installation and finish the setup as quickly as possible.

Requirements

1) The clock setup can be performed with any laptop, tablet, or phone with built-in Wi-Fi.
2) The building's Wi-Fi network must support open, WEP, WPA, or WPA2 security with shared passwords. Note that 802.1x networks are not currently supported.
3) "Captive portal" guest networks that require a password may block the clock's access to our Internet time servers[1].
4) The network firewall must allow outbound NTP/SNTP traffic (UDP port 123)

Important Settings

The following settings should be obtained before installing the clock.

Setting Name	Setting Value	Notes
Wi-Fi Network Name (Also known as SSID)		Wi-Fi network can be WEP, WPA, WPA2 or open.
Wi-Fi Network Password		Network password is optional on open networks.
Clock Password		Optional password for clock's internal webpage. Default is blank, and it can be left blank if desired.
Time Server		Recommended value[2] for clock status reporting is *time.natsco.net*

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[1] If a captive portal is installed, we recommend using an alternate non-guest network, or making a firewall exception for SNTP network traffic pass through the captive portal.

[2] A different server can be used if syncing to internal time servers is required. In this case, contact natsco support for instructions on enabling cloud supervision using a local check-in server.

Setup Procedure

It is best to perform the clock setup on-site with the actual network to which the clocks will be connecting. This will ensure correct operation.

1) On a phone, tablet, or laptop open a web browser and navigate to http://natsco.link
2) Press "let's go".
3) Remove the shipping pin from the back of the clock, then insert batteries or power. The light on the back will start blinking.
4) Press *Next* to go to the connection screen. At first, it will say "checking" or "not connected" at the bottom. Join your phone/laptop to the Wi-Fi network called *Timewise<Serial No.>*, where the "Serial No" is the serial number printed on the back of the clock on the top-right of the label.
   a. Your phone/laptop is now directly connected to the clock.
   b. Any notices about "No Internet" access should be dismissed.
5) Return to your web browser. It should now say "connected". Press the *Next* button.
6) You are now browsing the clock's local web page. Follow the prompts, and enter the information from the front of this guide.
7) Once you get to the "Save Settings" page, press the *Save* button. The clock will attempt to join the building's Wi-Fi network. During this process, your phone/laptop may disconnect from the clock. Simply re-connect using your phone/laptop Wi-Fi settings menus.
8) Once the "success" screen appears, it will take 10-20 minutes for the clock to resynchronize. Record the clocks serial number and room location. Press the *New Clock* button to continue on to the next clock. Follow the prompts to connect to the next clock's internal Wi-Fi network. You'll be able to immediately save the same settings from the original clock.
9) When all clocks have been configured, go to http://cloud.natsco.net to register the clocks for monitoring. You'll need the room locations from step (8).

Status Light

Next to the button on the back of the clock is a status light. This will blink red, green, or both in a code, pause for a second, and then blink the code again. See the table on the right.

Resetting to Defaults

Restore to default network settings by holding the button for 10 seconds. Let go when you get RED/GREEN lights blinking together. Wait 15 seconds and then restart the setup.

Factory Mode

If you hold the button for >20 seconds, you will enter factory mode, which sets the clock to between 11:00 and 3:00. If your clock is in this mode, press and hold the button for 3 seconds and then release. The clock will then return to normal operation.

Code	Meaning
1 Red	Starting up.
2 Red	Wrong Wi-Fi password.
3 Red	Cannot find Wi-Fi network.
4 Red	Connect failed / Could not get IP Address.
5 Red	Unit is on the network, but has not yet contacted the time server. Check firewall.
6 Green	Unit is online and connected to the time server.