



Simplex Ethernet Clock
Power Over Ethernet (POE)



Simplex® Ethernet PoE Clock FAQ



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How do I log into my clock to configure it?

To configure your PoE clock, you must know its IP address. (If you are uncertain of its address, see [How can I determine my clock's IP address?](#) for information on how to identify it.) You can then log into the clock from a PC using telnet:

1. From the Windows Start Menu, choose Run.
2. When the Run window appears, type **cmd** and press Enter.
3. When the command line window appears, type a telnet command like this where you substitute for `xxx.xxx.xxx.xxx` the known IP address on your network of the PoE clock:

```
telnet xxx.xxx.xxx.xxx
```

The clock login prompt appears:

```
Inova Digital Clock  
Welcome to OnTime Clock Version 1.1.H
```

```
iclock login:
```

Additionally, the clock's service light begins to blink.

4. Enter the clock's login ID (the default is **iclock**). The clock's password prompt appears:

```
iclock password:
```

5. Enter the clock's password (the default is **timely**). The clock's telnet prompt appears:

```
iclock />
```

You can now enter a telnet command option to configure the clock. See the answers to any of these questions for more information on the available telnet command options:

- [What are the basic steps for configuring my clock?](#)
- [What telnet command options are useful when first setting up my clock?](#)
- [What telnet command options are useful for troubleshooting?](#)

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What are the basic steps for configuring my clock?

The following are the basic steps for configuring a PoE clock via a telnet session. The configuration items and related options are summarized in this table and explained in more detail in the numbered steps that follow. For more information on how to install your clock, see the *Simple® Ethernet OnTime Clock Installation Guide*, which can be downloaded from www.simplex.inovanetworks.com.

| Configuration Items | Options [default] |
|-----------------------|---|
| IP Address | Static or DHCP [DHCP] |
| Time Zone | UTC +12 to -11 [-5] |
| Daylight Savings Time | North America, Europe, None, Custom [North America] |
| Time source | SNTP server by hostname or IP address [ntp.inovasolutions.com] |

| Format Items | Options [default] |
|-----------------|--|
| Time format | 12 or 24 hour [12] |
| AM/PM Indicator | On or Off [Off] |
| Colons | On or Off [On] |
| Clock hostname | Default or user assigned [iclock] |

1. Logging into the Clock

Before you can log into your clock from a PC using telnet, you must know the clock's IP address. If you are uncertain of its address, see [How can I determine my clock's IP address?](#) for information on how to identify it.

Next, from the Windows Start Menu, choose Run. When the Run window appears, type:

```
telnet xxx.xxx.xxx.xxx
```

where `xxx.xxx.xxx.xxx` is the known IP address of the clock.

At the *iclock login:* prompt, enter the Login ID [**default=iclock**] and press Enter.

At the *iclock password:* prompt enter the Password [**default=timely**] and press Enter. You will then see the following clock command prompt where you can enter telnet command options.

```
iclock/>
```

2. Clock Setup

These are the steps to change the basic factory default configuration settings. At the clock prompt, enter the telnet command option shown in the table.

A. Clock IP Address – Use this step to change the clock's static IP address or hostname.

| Item | Telnet command options |
|----------------|---|
| IP Address | ipconfig -a xxx.xxx.xxx.xxx -m yyy.yyy.yyy.yyy -g zzz.zzz.zzz.zzz where <i>xxx.xxx.xxx.xxx</i> is the assigned static IP address, <i>yyy.yyy.yyy.yyy</i> is the subnet mask, and <i>zzz.zzz.zzz.zzz</i> is the gateway address. The <i>-g</i> option with gateway address is only required if the clock is outside the local subnet (thus requiring more than one hop of Ethernet communication). See your IT support personnel to determine whether this option is appropriate for your network. Note that a space must be used before <i>-a</i> , <i>-m</i> and <i>-g</i> . |
| Clock hostname | ipconfig -h <i>hostname</i> where <i>hostname</i> is the new hostname for the clock. You will be prompted Y/N to proceed. Enter Y and the hostname will be changed and the telnet session terminated. |

Note: Only lowercase telnet command options are recognized. If you use upper- or mixed-case, you will see the error **ERROR: Unknown command**.

B. Time Source Setting – Use this step to change the time source setting for the clock. The time source setting can be either a hostname or IP address of a time server accessed via the Internet or your intranet.

| Item | Telnet command options |
|----------------------------|--|
| Time source, by IP address | sntp -h xxx.xxx.xxx.xxx where the <i>xxx.xxx.xxx.xxx</i> is the assigned static IP address of the time server. Note the space before and after <i>-h</i> . |
| Time source, by hostname | sntp -h <i>hostname</i> where <i>hostname</i> is the hostname of the time server. Note the space before and after <i>-h</i> . |

C. Time Zone Setting – Coordinated Universal Time (UTC) is a high-precision atomic time standard. Time zones around the world are expressed as positive or negative offsets from UTC. The default time zone setting for the clock is UTC -5, which is the time zone for (GMT -5) Eastern Time (US & Canada). You can change this setting with the following command:

| Item | Telnet command options |
|-----------|---|
| Time Zone | timezone -N [or] timezone +N where N=the time zone offset from UTC, -11 to +12. |

Note: If you're not sure what time zone offset to use, check the time zone value used on a Windows PC on your network; double-click on the time in the Windows service tray (in the lower-right corner of your screen) and choose the Time Zone tab.

D. Daylight Saving Time Setting – By default the clock is set to observe Daylight Saving Time (DST) for the United States and Canada, and a configuration command is available for changing this setting to Europe. If you require that your clock observe DST for another geographical location, you can customize the DST setting using the `-rule` command option (the `-raw` command option for firmware version 1.1F and earlier). For more information on DST as well as detailed instructions on what settings to use with the `-rule` command option and an online calculator to help you easily determine them, see www.simplex.inovanetworks.com.

| Item | Telnet command options |
|--|--|
| Daylight Savings Time <i>United States & Canada</i> | dst -us Note the space before <code>-us</code> . |
| Daylight Savings Time <i>European Union</i> | dst -eu Note the space before <code>-eu</code> . |
| Daylight Savings Time <i>None</i> | dst -none Note the space before <code>-none</code> . |
| Daylight Savings Time <i>Custom Setting (for areas with different rules than the US, Canada, or EU)</i> | dst -rule startDOW startDay startMonth startTime endDOW endDay endMonth endTime where the codes for start-stop day/month/times are as follows: <i>startDOW, endDOW</i> – Change on this Day of the Week (1 = Sunday .. 7 = Saturday, 0 means use exact Day of Month) <i>startDay, endDay</i> – Change on this DOW on or after this Day of the Month (-1 means last DOW of the month) <i>startMonth, endMonth</i> – Change in this Month of the Year (0 = January .. 11 = December) <i>startTime, endTime</i> – Change at this Local time in hours (0 = Midnight .. 23 = 11 pm) Example: The DST rule for the US/Canada is: DST starts on the second Sunday in March at 2 am local time and ends on the first Sunday in November at 2 am local time rule: 1 8 2 2 1 1 10 2 For detailed instructions and an online calculator to help determine the proper settings, see. |

Note: If you upgrade your clock's firmware from a previous version, you must enter the DST `-us` command option via a telnet session in order for the new DST rule to take effect.

3. Configuring the Clock Display

The following table lists the telnet command options that are available for controlling the clock's time format. At the clock prompt, enter one of the options to have it immediately take effect.

| Item | Telnet command options |
|----------------------|--|
| Time format 12/24 | display -t 24 Sets 24 hour display. Note the space before and after -t. display -t 12 Sets 12 hour display. Note the space before and after -t. |
| AM/PM Indicator | display -p off Turns off pm indicator. Note the space before and after -p. display -p on Turns on pm indicator. Note the space before and after -p. |
| Colons On/Off | display -c off Turns off colons. Note the space before and after -c. display -c on Turns on colons. Note the space before and after -c. |

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What telnet command options are useful when first setting up my clock?

The following table summarizes the telnet command options that you typically use when first setting up your clock for use on a network. The order in which the commands appear is the rough order in which you'd execute them. (For information how to initiate a telnet session with the clock, see [How do I log into my clock to configure it?](#)) To execute a command option, type it at the clock's telnet command prompt (`iclock />`) and press Enter.

Note: Only lowercase telnet command options are recognized. If you use upper- or mixed-case, you will see the error **ERROR: Unknown command**.

| TASK | TELNET COMMAND OPTIONS |
|---------------------------------------|---|
| View or configure clock's IP settings | View clock's current IP settings: ipconfig Use DHCP to lease an IP address and retrieve network settings: ipconfig -d Use the specified fixed IP address: ipconfig -a xxx.xxx.xxx.xxx -m yyy.yyy.yyy.yyy -g zzz.zzz.zzz.zzz |

| | |
|---|--|
| | <p>where <i>xxx.xxx.xxx.xxx</i> is the IP address, <i>yyy.yyy.yyy.yyy</i> is the subnet mask, and <i>zzz.zzz.zzz.zzz</i> is the gateway address. (Ignored if DHCP is enabled.)</p> <p>Note: When using the -a option, you must also use the -m option.</p> <p>Change the hostname of the clock:</p> <p>ipconfig -h <i>hostname</i></p> <p>where <i>hostname</i> is the new hostname.</p> |
| <p>View current SNTP settings or change time server setting</p> | <p>To view the current time server and other SNTP settings:</p> <p>sntp</p> <p>To change the time server the clock synchs with:</p> <p>sntp -h <i>xxx.xxx.xxx.xxx</i></p> <p>where <i>xxx.xxx.xxx.xxx</i> is the hostname or IP address of the desired time server.</p> <p>To trigger an immediate SNTP time synchronization attempt:</p> <p>sntp -s</p> |
| <p>Change time zone</p> | <p>To view the clock's current time zone setting:</p> <p>timezone</p> <p>To change the clock's time zone setting:</p> <p>timezone #</p> <p>where # is the desired + or - time zone offset in the range -11 to +12. For example, to set the time zone for (GMT -5) Eastern Time (US & Canada), you would use</p> <p>timezone -5</p> <p>Note: If you're not sure what time zone offset to use, check the time zone value used on a Windows PC on your network; double-click on the time in the Windows service tray (in the lower-right corner of your screen) and choose the Time Zone tab.</p> |

View or change the Daylight Saving Time (DST) setting

To view the current Daylight Saving Time setting:

dst

Disable Daylight Saving Time adjustment:

dst -none

Enable Daylight Saving Time for the United States or Canada:

dst -us

Enable Daylight Saving Time for the European Union or United Kingdom:

dst -eu

To enable DST for other geographic regions (use `-raw` instead of `-` rule for firmware versions 1.1F and earlier):

dst -rule *startDOW startDay startMonth startTime endDOW endDay endMonth endTime*

where the codes for start-stop day/month/times are as follows:

startDOW, endDOW – Change on this Day of the Week (1 = Sunday .. 7 = Saturday, 0 means use exact Day of Month)

startDay, endDay – Change on this DOW on or after this Day of the Month (-1 means last DOW of the month)

startMonth, endMonth – Change in this Month of the Year (0 = January .. 11 = December)

startTime, endTime – Change at this Local time in hours (0 = Midnight .. 23 = 11 pm)

Example:

The DST rule for the US/Canada is:

DST starts on the second Sunday in March at 2 am local time

and ends on the first Sunday in November at 2 am local time

rule: 1 8 2 2 1 1 10 2

For detailed instructions and an online calculator to help determine the proper codes for a given geographic region, see www.simplex.inovanetworks.com.

| | |
|------------------------------------|---|
| View or configure display settings | <p>To view the clock's current display settings:</p> <p>display</p> <p>Change to 12-hour or 24-hour time format:</p> <p>display -t 12 24</p> <p>To show/hide seconds:</p> <p>display -s on off</p> <p>Turn the AM/PM indicator on/off:</p> <p>display -p on off</p> <p>The indicator is a light in the upper left corner that is turned on during PM hours. For a six-digit display with seconds turned off, the seconds numerals will display A(AM) or P(PM).</p> <p>To show/hide the colon between hours and minutes:</p> <p>display -c on off</p> |
|------------------------------------|---|

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What telnet command options are useful for troubleshooting?

The following table provides a summary of the telnet command options that you might use to troubleshoot a PoE clock. To execute an option, type it at the telnet command prompt (`iclock />`) and press Enter. (For information how to initiate a telnet session with the clock, see [How do I log into my clock to configure it?](#)) For example, type `?` and press Enter to see a list of the clock's available telnet command options.

Note: Only lowercase telnet command options are recognized. If you use upper- or mixed-case, you will see the error **ERROR: Unknown command.**

| TASK | RELATED COMMANDS |
|-----------------------------|---|
| Get help for clock commands | <p>To see a list of all the telnet command options for which help is available:</p> <p>?</p> <p>To see help for a particular command option, type the command option followed by <code>?</code>. For example, to see help for the display option:</p> <p>display ?</p> |

| | |
|---|--|
| Display all Address Resolution Protocol (ARP) cache entries | arp |
| Display all configuration settings for clock | config |
| Get help on clock commands | <p>To see a list of all the telnet command options for which help is available:</p> <p>help</p> <p>To see help for a particular command option, type help followed by the command option. For example, to see help for the display option:</p> <p>help display</p> |
| View log on session screen or enable/disable logging | <p>To view the log on the session screen:</p> <p>log</p> <p>To enable/disable logging:</p> <p>log on off</p> |
| List all TCP connections | netstat |
| Display info to diagnose DNS problem with SNTP server | <p>nslookup <i>SNTPServerName</i></p> <p>where <i>SNTPServerName</i> is the hostname or IP address of an SNTP server.</p> |
| Update clock firmware | <p>update <i>tftp_server filename</i></p> <p>where <i>tftp_server</i> is the hostname or IP address of the tftp server to retrieve the update file from and <i>filename</i> is the file containing the new firmware code in tbin2 format.</p> |
| Change password used for telnet logins | <p>user -p xxxxxxxx</p> <p>where xxxxxxxx is the new password.</p> |
| Reboot the clock | Reboot |

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What if my clock is not picking up time from an SNTP server?

If your clock is not picking up time from an SNTP (Simple Network Time Protocol) server, try these steps in order:

- **telnet** – From a PC, see if you can telnet into the clock. For example, use a command like this where you substitute for `xxx.xxx.xxx.xxx` the known IP address on your network of the PoE clock:

```
telnet xxx.xxx.xxx.xxx
```

Example:

```
C:\> telnet 192.168.1.1
```

If you are unable to start a telnet session with the clock even after rebooting the clock several times, it could be that the telnet session is failing; see [What if my clock is not accepting a telnet connection?](#)

- **nslookup** – From a PC, telnet into the clock and use the `nslookup` option to display information that you can use to diagnose a possible Domain Name System (DNS) infrastructure problem with the SNTP server. For example, use a command like this where you substitute for `SNTPServerName` the actual hostname of your chosen SNTP server:

```
nslookup SNTPServerName
```

Example:

```
iclock login: iclock
iclock password:
iclock /> nslookup nist1.dc.certifiedtime.com
HostName: nist1.dc.certifiedtime.com
nist1.dc.certifiedtime.com/216.200.93.8
```

```
iclock />
```

- **sntp -s** – From a PC, telnet into the clock and use the `sntp -s` option to immediately synch the clock to the SNTP time server, as follows:

```
sntp -s
```

(Be sure there is a space between `sntp` and `-s`.)

The clock displays SNTP settings and immediately attempts a time synchronization with the current SNTP Server. (The default SNTP time server is `sntp.inovasolutions.com`. You can specify an alternate time server hostname using the `sntp -h` option.)

Example:

```
iclock login: iclock
iclock password:
iclock /> sntp -s
```

The SNTP Time Server is configured as:

```
# SNTP Configuration
SntpHost=192.168.1.13
SntpPort=123
SntpUpdateTimeSec=1000
SntpTimeoutMS=10000
SntpRetryTimeMS=90000
```

```
iclock />
```

- **portqry** – Use Microsoft’s portqry tool on a PC to troubleshoot TCP/IP connectivity issues. It is particularly useful for clocks when checking for connectivity to an SNTP server, because it allows you to verify whether routers on a network are open to UDP port 123 (NTP). The tool is available at <http://support.microsoft.com/kb/832919>.

For example, the following session checks the port status for UDP port 123 (NTP) on a local PC. Here the -n setting is used to specify the name of the system query, -p specifies the protocol (TCP is the default), and -e specifies the port number (which should be 123 for the SNTP port).

Example:

```
C:\PortQryV2>portqry -n ntp.inovasolutions.com -p UDP -e 123
```

```
Querying target system called:
```

```
ntp.inovasolutions.com
```

```
Attempting to resolve name to IP address...
```

```
Name resolved to 192.168.1.13
```

```
querying...
```

```
UDP port 123 (ntp service): LISTENING or FILTERED
```

```
C:\PortQryV2>
```

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How do I get the latest clock firmware?

The latest clock firmware can be found on the PoE clock support website:
www.simplex.inovanetworks.com.

Note: Do not upgrade clocks with 1.0x firmware. PoE clocks with any version of 1.0x firmware (1.0 C or 1.0 G) are special demo units and, therefore, *cannot* be upgraded to any version of 1.1x production firmware. Upgrading a demo unit to 1.1x production firmware will render the PoE clock unusable and require it to be shipped back to the <http://simplexgrinnell.ia/technicalservices/> to be reformatted. See [How can I determine my clock's firmware version number?](#) for more information on how to determine your clock's firmware version.

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How can I determine my clock's firmware version number?

To see your clock's firmware version number, telnet to the clock. You will then see a banner showing the firmware version, like this:

```
Inova Corporation Digital Clock  
Welcome to OnTime Clock Version 1.1.H
```

Note: Do not upgrade clocks with 1.0x firmware. PoE clocks with any version of 1.0 firmware (1.0 C or 1.0 G) are special demo units and, therefore, *cannot* be upgraded to any version of 1.1x production firmware. Upgrading a demo unit to 1.1x production firmware will render the PoE clock unusable and require it to be shipped back to the <http://simplexgrinnell.ia/technicalservices/> to be reformatted.

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How do I load new firmware onto my PoE clock?

To upload new firmware onto your PoE clock, you must use a TFTP server. There are a number of shareware and freeware TFTP servers available over the Internet. For example, here are links to two such servers:

- PumpKIN: kin.klever.net/pumpkin/
- SolarWinds Software: www.solarwinds.net

Note: TFTP stands for “Trivial File Transfer Protocol.” A TFTP Server is *not* an FTP server. TFTP and FTP are different protocols.

Once the TFTP server is set up on a PC on your network, copy the new firmware release image file into the appropriate TFTP server directory, which is usually the TFTP root directory. See the documentation for your TFTP server for details.

Note: Do not upgrade clocks with 1.0x firmware. PoE clocks with any version of 1.0 firmware (1.0 C or 1.0 G) are special demo units and, therefore, *cannot* be upgraded to any version of 1.1x production firmware. Upgrading a demo unit to 1.1x production firmware will render the PoE clock unusable and require it to be shipped back to the <http://simplexgrinnell.ia/technicalservices/> to be reformatted.

Here is an overview of the process for updating your clock's firmware once the new firmware release is available on the TFTP server:

1. Initiate a telnet session to the clock and log in (see [How do I log into my clock to configure it?](#) for more details); the service light begins to blink.

Example:

```
iclock login: iclock
iclock password:
iclock />
```

2. Using the `update` command option, enter the IP address or hostname of the TFTP server and the filename of the firmware image file.

Example:

```
update tftp_server filename.tbin2
```

where `tftp_server` is the hostname or IP address of the TFTP server to retrieve the update file from and `filename.tbin2` is the file containing the new firmware code in tbin2 format, which will look something like this:

```
InovaClock_1_1_h.tbin2.
```

Here's what the clock does after you've initiated the update:

- The clock automatically begins downloading the new firmware.
- If the firmware download is successful, the clock shuts down the telnet session, blanks the clock display (including the service light), and updates the firmware image stored in flash. (Estimated duration <12 seconds.)
- The clock reboots using the newly stored firmware image.

Note: Updating the firmware does not alter the existing firmware settings. In other words, the existing settings for the IP address, time zone, Daylight Saving Time, time source, etc. will all remain the same as before. This means, for example, that if you upgrade your clock's firmware from a previous version in order to take advantage of new DST changes supported by the firmware, you must enter the `DST -us` command option via a telnet session in order for the new DST rule to take effect.

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What if my clock is not accepting a telnet connection?

If you find that your clock is not accepting a telnet connection or is accepting a telnet connection only sporadically, it may be due to a bug in the early versions of the clock firmware. Upgrade your clock's firmware to the latest version. Directions for downloading the latest clock firmware can be found on the clock support website: www.simplex.inovanetworks.com.

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How do I change my clock from DHCP to IP addressing?

Suppose you've recently changed your network from using dynamic IP addresses (via DHCP) to static IP addresses. Now you want to change your clock's firmware settings from using DHCP to using a static IP address. However, because you no longer have a DHCP server available over the network, you are unable to access your clock via telnet (because it has not been allocated an IP address) to change the clock's firmware settings. What do you do?

In a situation like this, the best option is to hook the clock up to a local "bench-style" network that has a DHCP server. Doing so will allow a dynamic IP address to be allocated to the clock, which will then make it possible for you to telnet to the clock and change its firmware settings using the ipconfig command option.

If this option does not work for you, you can return the clock using <http://simplexgrinnell.ia/technicalservices/>, where we can enter a static IP address for you for a service charge.

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How do I set my clock's IP address?

To enter a fixed IP address into your clock's firmware, start a telnet session with the clock (see [How do I log into my clock to configure it?](#) for more details) and use the following command option:

```
ipconfig -a xxx.xxx.xxx.xxx -m yyy.yyy.yyy.yyy -g zzz.zzz.zzz.zzz
```

where xxx.xxx.xxx.xxx is the IP address, yyy.yyy.yyy.yyy is the subnet mask, and zzz.zzz.zzz.zzz is the gateway address.

The `-g` option with gateway address is only required if the clock is outside the local subnet (thus requiring more than one hop of Ethernet communication). See your IT support personnel to determine whether this option is appropriate for your network.

Note: When using the `-a` option, you must also use the `-m` option.

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How do I set my PoE clock for dynamic IP addressing (via DHCP)?

To set your PoE clock for dynamic IP addressing – i.e., to have an IP address automatically allocated to it via DHCP – you must telnet to the clock and use the `ipconfig` command option, as follows:

```
ipconfig -d
```

After rebooting the clock, it will use DHCP to lease an IP address and retrieve network settings.

Note: By default, clocks are set for DHCP addressing.

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How do I set my PoE clock's time zone?

To change your clock's time zone, telnet to the clock from a PC and then use the following command option:

```
timezone #
```

where # is the desired + or - time zone offset in the range -11 to +12. For example, to set the time zone for (GMT -5) Eastern Time (US & Canada), you would use:

```
timezone -5
```

Note: If you're not sure what time zone offset to use, check the time zone value used on a Windows PC on your network; double-click on the time in the Windows service tray (in the lower-right corner of your screen) and choose the Time Zone tab.

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How do I set Daylight Saving Time on my clock?

To change your clock's Daylight Saving Time (DST) time zone setting, telnet to the clock and then use the `dst` command option with the appropriate argument.

Note: While in Daylight Saving Time, one hour is added to the time display.

For example, to enable Daylight Saving Time for the United States or Canada, use this command:

```
dst -us
```

To enable Daylight Saving Time for the European Union or United Kingdom, use this command:

```
dst -eu
```

To enable DST for a regions another geographic region, you can customize the DST setting using the `-rule` command option (the `-raw` command option for firmware version 1.1F and earlier). For example, the DST rule for the US/Canada is: *DST starts on the second Sunday in March at 2 am local time and ends on the first Sunday in November at 2 am local time.* To apply this setting to the clock, you would use this telnet command:

```
dst -rule 1 8 2 2 1 1 10 2
```

For more information on DST as well as detailed instructions on what settings to use with the `-rule` command option and an online calculator to help you easily determine them, see www.simplex.inovanetworks.com.

To disable the Daylight Saving Time adjustment, use this command:

```
dst -none
```

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What if my clock is set for DHCP, but there is no DHCP server available on the network?

If your clock's firmware is set for DHCP addressing but there is no DHCP server available on the network, you will need to change the clock's firmware setting to use a static IP address instead.

In a situation like this, the best option is to hook the clock up to a local “bench-style” network that has a DHCP server. Doing so will allow a dynamic IP address to be allocated to the clock, which will then make it possible for you to telnet to the clock and change its firmware settings using the ipconfig command option to assign a static IP address.

If this option does not work for you, another option is to return the clock to Simplex Grinnell, where we can enter a static IP address for you.

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What if my clock is set to a static address that is unusable (unroutable) on my network?

If your clock’s firmware is set for an IP address that is unusable (unroutable) on your network, you have two options:

1. Set up a “bench-style” network that will support the clock’s current IP address; you can then telnet to the clock and change its IP address.
2. Return the clock to Simplex Grinnell where we can reset the IP address for you for a support charge.

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How do I access the clock log for diagnostics?

The way to view your clock’s log for diagnostic purposes is to first log into the clock using telnet. Next, use the following option to enable logging:

```
log on
```

From that point on, whenever you use the `log` command option, you will see the log’s contents. Here’s an example telnet session with the contents of a sample log file (with the IP, subnet mask, and gateway addresses masked):

```
Inova Corporation Digital Clock  
Welcome to OnTime Clock Version 1.1.H
```

```
clock login: iclock  
clock password:  
clock /> log  
User Logging is currently: Enabled
```

The log file contains:

```
Thu Jan 01 00:00:01 GMT 1970 : -----Logging is Enabled-----  
Thu Jan 01 00:00:01 GMT 1970 : -= Inova OnTime Clock Version 1.1.H =-  
Thu Jan 01 00:00:01 GMT 1970 : Beginning initialization...
```

```
Thu Jan 01 00:00:02 GMT 1970 : Changing Tick Reload Value from: 62872 to: 62875
Thu Jan 01 00:00:02 GMT 1970 : Initializing shell commands...
Thu Jan 01 00:00:02 GMT 1970 : Command Initialization Done.
Thu Jan 01 00:00:02 GMT 1970 : Reading configuration from: clock_config.props
Thu Jan 01 00:00:03 GMT 1970 : Writing Config file. Length: 1016
Thu Jan 01 00:00:09 GMT 1970 : Finished loading the configuration from file.
Thu Jan 01 00:00:09 GMT 1970 : Creating the ClockDisplayUpdater.
Thu Jan 01 00:00:10 GMT 1970 : Clock Display: Displaying clock in 12 hour mode
Thu Jan 01 00:00:10 GMT 1970 : with seconds, and with am/pm
Thu Jan 01 00:00:10 GMT 1970 : Clock Display: Timezone: java.util.SimpleTimeZone
[id=-18000000,offset=-18000000,dstSavings=3600000,useDaylight=true,startYear=0,star
tartMonth=3,startDay=1,startDayOfWeek=1,startTime=7200000,endMonth=9,endDay=-1,endi
ndDayOfWeek=1,endTime=7200000]
Thu Jan 01 00:00:11 GMT 1970 : We are NOT in Daylight Saving Time.
Thu Jan 01 00:00:11 GMT 1970 : [System Msg]: ClockDisplayUpdater started.
Thu Jan 01 00:00:11 GMT 1970 : Configuring network settings...
Thu Jan 01 00:00:12 GMT 1970 : Configuring Fixed IP Address: xxx.xxx.xxx.xxx
Thu Jan 01 00:00:12 GMT 1970 : with Subnet Mask: yyy.yyy.yyy.yyy
Thu Jan 01 00:00:12 GMT 1970 : and gateway: zzz.zzz.zzz.zzz
Thu Jan 01 00:00:12 GMT 1970 : Setting domain name:
Thu Jan 01 00:00:13 GMT 1970 : Setting primary DNS: 0.0.0.0
Thu Jan 01 00:00:13 GMT 1970 : Setting secondary DNS: 0.0.0.0
Thu Jan 01 00:00:13 GMT 1970 : Setting DNS Timeout value (ms): 0
Thu Jan 01 00:00:13 GMT 1970 : Creating the Time Server...
Thu Jan 01 00:00:13 GMT 1970 : Time Server Configured: UpdateInterval=1000 sec
Thu Jan 01 00:00:13 GMT 1970 : RetryTime=90000 ms=
Thu Jan 01 00:00:14 GMT 1970 : [System Msg]: Time Server started.
Thu Jan 01 00:00:14 GMT 1970 : Clock IP Address bytes: [off=0 len=4] 0C 05 37 99

Thu Jan 01 00:00:14 GMT 1970 : Starting up Telnet server...
Thu Jan 01 00:00:15 GMT 1970 : [System Msg]: Telnet server started.
Mon Nov 20 19:44:21 GMT 2006 : Setting hostname: clock
Mon Nov 20 19:44:21 GMT 2006 : Network configuration Done.
Mon Nov 20 19:44:38 GMT 2006 : Accepted new telnet session: Thread[Thread-3,5,main]
```

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What if the SNTP Server is set but the time displayed is hours off?

Suppose you have properly set up your clock to get the time from an SNTP server, but you notice that the time displayed on the clock is hours off from the time you'd expect to see. The likely reason is that although SNTP sets UTC time (a.k.a., GMT), you need to set the time zone offset to the appropriate value in order to see the proper time on your clock. To set the time zone offset, you must telnet to the clock from a PC and use a command like this:

```
timezone #
```

where # is the desired + or - time zone offset in the range -11 to +12. For example, to set the time zone for (GMT -5) Eastern Time (US & Canada), you would use:

```
timezone -5
```

Note: If you're not sure what time zone offset to use, check the time zone value used on a Windows PC on your network; double-click on the time in the Windows service tray (in the lower-right corner of your screen) and choose the Time Zone tab.

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How can I determine my clock's IP address?

If you're uncertain of your clock's IP address, the easiest way to determine it is to reboot the clock by disconnecting the Ethernet cable from the clock, thus removing its source of power, and then reconnecting the cable to restore power. As the clock boots up, you will see its assigned IP address (if it has one), which will appear on the display as a set of four numbers one after the other in sequence.

If you do not see an IP address, the likely reason is that the clock is set for DHCP but there is no DHCP server available over the network. For some ideas on what to do, see [What if my clock is set for DHCP, but there is no DHCP server available on the network?](#)

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How can I tell if my clock will make the transition to the new US & Canadian DST rules in March 2007?

From 1966 to 2006, the United States has observed Daylight Saving Time (DST) from the first Sunday in April until the last Sunday in October. Because of the *Energy Policy Act of 2005*, beginning in 2007, the US begins observing DST from *the second Sunday in March until the first Sunday in November*. Most of Canada will also observe the new period.

These DST changes apply to the US and Canada only. Other countries and regions in the world are not affected by these DST rule changes.

PoE clocks shipped with firmware version 1.1H (released in December 2006) and later will automatically support the new DST rules and need no special action on your part. However, clocks with earlier firmware versions can make the transition to the new US & Canadian DST rules only if you take one of the following actions:

1. Start a telnet session with the clock and send it the appropriate `dst -raw` command.

Here are the steps:

- a. Log into the clock from a PC using telnet. (See [How do I log into my clock to configure it?](#) if you're not sure how.)
- b. At the telnet command prompt (`iclock />`), type the following command and press Enter:

```
dst -raw 1 8 2 2 1 1 10 2
```

Note: The above command is used for the United States and Canada. If your clock is located in another geographic region, you will likely need to use a different set of command codes to establish the proper DST setting. For detailed instructions on what command codes to use with the `-raw` command option and an online calculator to help you easily determine them, go to www.simplex.inovanetworks.com.

2. Upgrade your clock's firmware to the latest version and then use the `dst -us` command option via a telnet session in order for the new DST rule to take effect. Directions for downloading the latest clock firmware can be found on the PoE clock support website: www.simplex.inovanetworks.com.

Note: If you upgrade your clock's firmware to the latest version but do not take the step of issuing the `dst -us` telnet command option to it, your clock will retain the older DST rules and, therefore, will not automatically observe the new DST rules.

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What do I do if my clock is not getting power?

When you plug a PoE device like the clock onto the end of the LAN cable, the switch senses it and begins a series of handshakes to determine if it should source 48VDC power to the device at the far end. If those handshakes do not occur, or if the sequence is incorrect, then the switch just provides normal Ethernet service (a data link). There will be no detectable power on the line even though there is a PoE switch providing the data link.

Note: The power consumption of the clock is below 802.3af limits of 15.4W.

Here are some things to try when your clock is not getting power:

1. Make sure the switch meets the 802.3af standard of a minimum of 15.4W.
2. Make sure that switch port you are using offers power. With some switches, individual ports can be configured to either offer power or not; additionally, the priority of telephone ports can be set higher than non-telephone ports.
3. Try upgrading the firmware on the switch. This step has proven effective for a number of customers.
4. Try the clock with a single port power injector, just to make sure the clock didn't take a shipping hit. You can purchase one of these from Simplex Grinnell if you don't have one.
5. Try other ports in your switch, or other switches.
6. Try placing the clock right next to the switch and use a patch cable to connect the clock to the switch port.
7. Make sure the LAN cable run is 100m or less. Exceeding this cable length will starve any PoE device of power.

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