

All of the information necessary for a Valcom IP Clock to operate can be obtained through Dynamic Host Configuration Protocol (DHCP). If the IP Clock has been programmed to use DHCP for its IP address, then it will also request options from the DHCP server to set its time server, time zone, etc.

In addition to the normal DHCP settings for IP address, subnet mask and gateway, there are other options related to network time that must be set in the DHCP server. These options are outlined below. Due to the variety of DHCP servers in use, it is beyond the scope of this document to provide instructions on how to specify these options in a particular server.

- **Option 42**

NTP Servers are listed by IP address using option 42. This is a standard option defined in RFC 2132.

- **Option 100** or  
**Option 101**

Option 100 (Time zone POSIX string) or Option 101 (Time zone database reference) must be used to define the time zone for the clock display. These options are defined in RFC 4833. Either or both of these options may be used with Valcom IP devices.

Option 100 provides a POSIX text string that defines the time zone offset from UTC, along with information on Daylight Saving Time. An example of this definition for the Eastern time zone in America is

`"EST5EDT4,M3.2.0/02:00,M11.1.0/02:00"`.

This specifies a time zone 5 hours behind UTC (four hours during DST). DST starts at 2:00 am on the second Sunday in March and ends at 2:00 am on the first Sunday in November.

Option 101 provides a text string that corresponds to an entry in the TZ database. An example of this type of entry for the Eastern time zone in America is `"America/New_York"`.

The value entered must exactly match an entry in the TZ database, where it will be used to determine the UTC offset and DST information. The database is maintained by the Internet Assigned Numbers Authority (IANA) and can be referenced at <http://www.iana.org/time-zones>.