



TM-Manager Application

** Installation and Operation Manual **

Version 1.03

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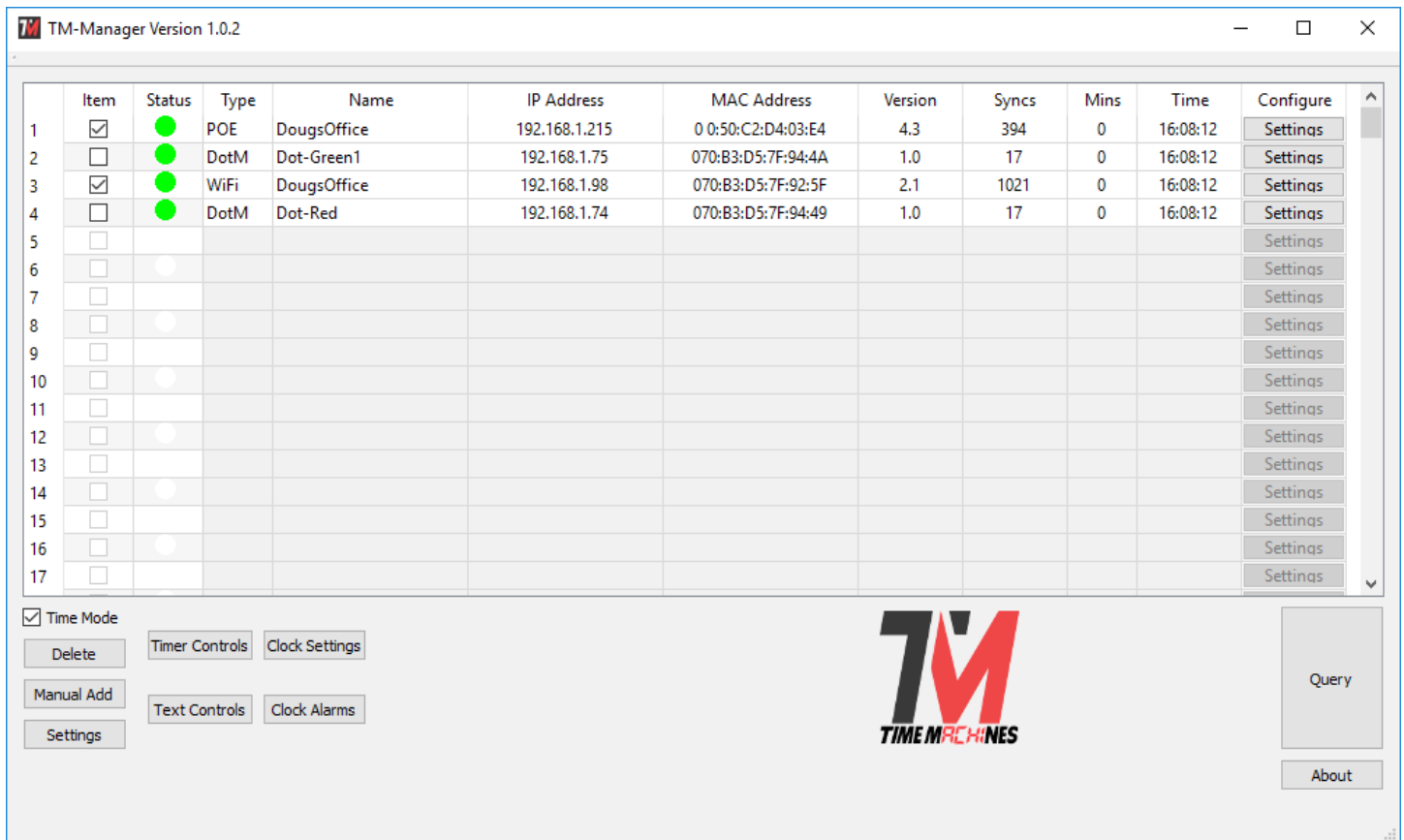
1 Introduction

The TimeMachines TM-Manager Windows application is used for monitoring and configuring a growing number of TimeMachines products including POE and WiFi Clocks, and the Dot-Matrix displays. It has the ability to discover the devices on the network, monitor the function of the individual devices, update the most common of their parameters, control their timer functions across multiple devices simultaneously, and display text message on multiple Dot-Matrix displays enabling a cost effective mass notification option.

2 Installation

Installation of the TM-Manager application is like any other windows application. Launch the installer and follow the directions. Double-click the desktop icon to start the application and bring up the main window.

3 Main Window Overview



The Main Window shows an overview of all known devices that have been found through discovery or direct entry. There is a significant amount of information available from this screen and setting options.

3.1 Main Window Overview

The columns of the main window give a great deal of information about each device. The column meanings are as follows.

3.1.1 Item Column

The first column contains a checkbox that allows the user to select this device for multiple device operations like timer controls, text displays, global parameter updates, and alarm setting updates.

3.1.2 Status Column

The status column is a Red, Yellow, Green indication of the status of the device. If a device is functioning normally, updating its time regularly, and responding to status queries from TM-Manager, this indicator will be green. If there is a potential problem, it will turn yellow, and if it has failed to respond or isn't updating its sync count often enough, it will turn Red. See the “Mins” column information for additional information.

The indicator has slightly different meanings for the TM1000A. A red indicator is displayed if the GPS is not locked. A yellow indicator is used if the TM1000A hasn't incremented its NTP Lookup count for a period of time. This may or may not indicate an issue, but may simply be caused by low traffic to the TM1000A.

3.1.3 Type Column

The Type column displays the type of device reported when queried. This can be a POE clock, WiFi clock, Dot-Matrix display, or as of version 1.03 a TM1000A time server.

3.1.4 Name Column

The Name column displays the name of the device as set in the devices web page. This field is editable and when the cursor leaves the field after a change, it will immediately be updated on the device. Generally it would reflect the location of the device, or some other identifying value.

3.1.5 IP Address Column

This is the IP address of the device as reported when queried.

3.1.6 MAC Address Column

This is the MAC address of the device as reported when queried.

3.1.7 Version Column

This is the software version of the device as reported when queried.

3.1.8 Syncs Column

Syncs is the number of times the clock has synced with a time source since being powered on or last reset. In the case of the TM1000A, it is the number of NTP sync requests received and served.

3.1.9 Mins Column

The Mins column shows the amount of time since a device last responded to a query for status. This will increment until a response is received. Response time greater than 10 minutes and less than 15 minutes will

turn the status indicator Yellow. If it goes above 15 minutes, the Status LED will turn Red. A general query is sent every 6 minutes.

3.1.10 Time Column

The Time column shows the approximate time currently displayed on the clock. If the clock has a time zone error, then this will be reflected here. It is updated each time a device responds to a query, but is incremented by an internal 1 second timer in the TM-Manager software. It is generally pretty accurate, but not synced to NTP time as the clocks are.

3.1.11 Configure Column

The Configure column holds a settings button that when clicked will open a browser window directly to the associated device. The user can then log in to the device and update parameters as needed. By default, Google Chrome is set as the browser. It can be changed in the application settings to another browser.

3.1.12 Query Button

When clicked, this button will send a broadcast to the IP address set in the Settings dialog. All clocks that receive the broadcast will respond back to the source, which is the TM-Manager computer, so that they can be located. If the device is already in the displayed list, it will have its information updated.

3.1.13 About Button

The About button displays information about the TM-Manager application and contact information for TimeMachines.

3.1.14 Delete Button

The delete button will remove all devices that are checked in the Item column. No data is lost in this process. If the device subsequently responds to a Query, it will be re-added to the list.

3.1.15 Manual Add Button

The Manual Add button allows a device's IP address to be manually entered. This may be useful if a device does not respond to the Query button because it is on another subnet. Periodic status is done through UDP IP uni-cast messaging, so as long as the device is at an IP address that is routable on the network, devices outside of the local broadcast domain can be monitored. The list of IP addresses is saved when the application is closed and will re-appear when the application is opened. Other fields will be filled in as queries are completed.

3.1.16 Time Mode Checkbox

At times, some displays may be in timer or text display modes. To return them to time display, this check box can be toggled and all devices that are checked in the Item column will be reset to display time from whatever mode they might have been in.

3.1.17 Timer Controls Button

This button opens the multi-device timer control. See that section of the manual for more information on how to utilize it.

3.1.18 Text Controls Button

This button opens the multi-device text control. See that section of the manual for more information on how to utilize it.

3.1.19 Clock Settings Button

This button allows update of the most common clock parameters to all checked devices. See the Clock Settings section of this document for more information.

3.1.20 Clock Alarms Button

This button allows update of the alarm settings of all checked devices. See the Clock Settings section of this document for more information.

3.1.21 Setting Button

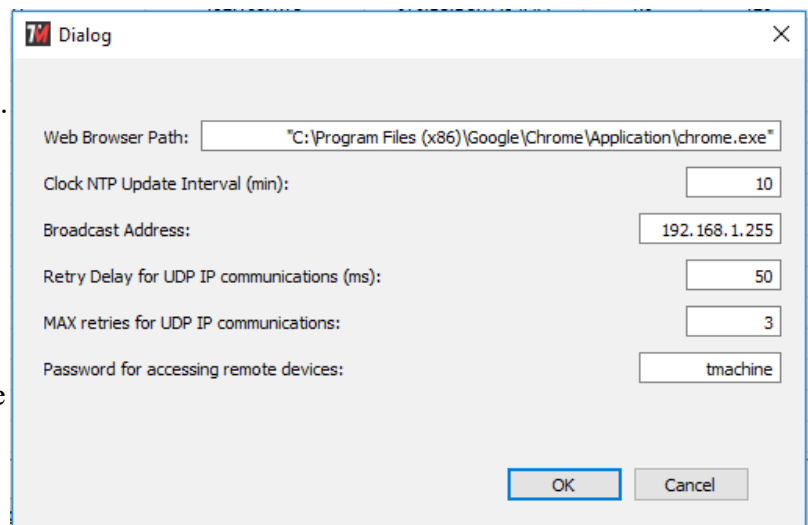
This button opens the dialog box for TM-Manager application settings. See the section of this document on the meanings of those settings.

3.2 Application Settings

There are a few settings that can be reached by clicking the “Settings” button on the main screen. The dialog to the right will be displayed.

3.2.1 Web Browser Path

This setting is the path and program name of an internet browser. By default set to Google Chrome's default installation location, but can be changed to any other browser location desired. When the “Settings” button on a given row of the main window is clicked, the IP address of the device is appended to this path and a browser is opened to enable a quick connection for all the settings of a given device.



3.2.2 Clock NTP Update Interval

This setting should generally match the setting of the clocks. TM-Manager checks each clock in the main window to see that its “Syncs” count is increasing. If this setting is lower than that of the clocks, TM-Manager will think that an update of the time has not occurred and will mark the device as having a possible fault.

***Note: This value is not used at this time and the assumption is that the clocks are set to a 10 minute or less update interval.

3.2.3 Broadcast Address

This setting controls the address used for broadcasting queries. A broadcast is sent to a specific port on the network and all TimeMachines displays will respond to it allowing the TM-Manager application to locate clocks

on the local LAN segment. Once the devices are discovered, UDP IP query messages are sent uni-cast to each individual clock to maintain status. The broadcast address will generally be the local subnet address with a 255 in the octets that are variable on the local subnet. Consult your IT staff for more information on how this should be set.

3.2.4 Retry Delay for UDP IP Communications

Timer and Text displays to multiple devices are done with UDP-IP uni-cast messages. There is a simple acknowledgment sent from the devices for these messages. This setting is the amount of time allowed to pass before a retry is sent if the Ack hasn't been received. If devices are spread across a wide area network, or a busy WiFi network, then this value may need to be increased. If un-reliable control of timer functions is observed, try increasing this value.

3.2.5 MAX retries for UDP IP Communications

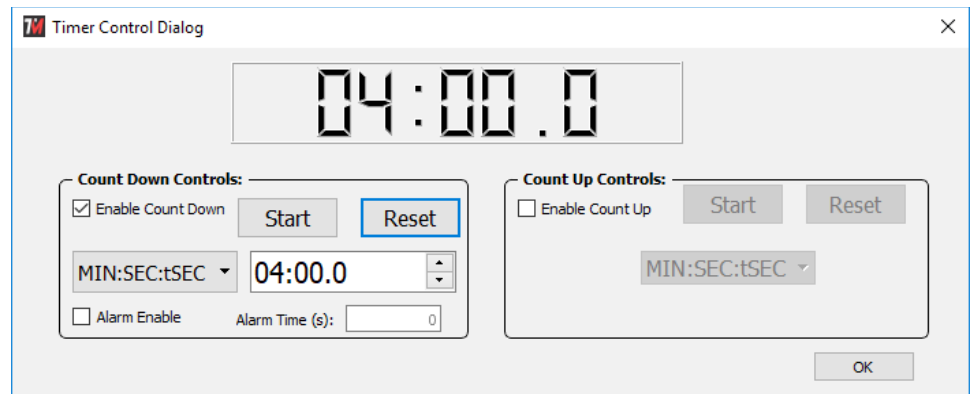
This setting works with UDP Retry delay and controls how many times the message will be resent if the acknowledgment isn't received within the timeout setting.

3.2.6 Password for accessing remote devices

This setting is used to authenticate TM-Manager for setting updates to the devices. It should match the password on the clocks being updated.

3.3 Timer Controls

The timer control dialog allows simultaneous control of all of the displays that are checked when the Timer Control dialog is entered. It supports control of both count-up and count-down features of the clocks as well as displaying the approximate time of the currently active timing function.



***Note: The time displayed in this dialog is maintained on the local machine running TM-Manager and is not synchronized to the displays. If the dialog is closed after a timing event is started, TM-Manager will not be able to display the timer time again. Re-opening the timer control will allow the event to be stopped or reset, and a different grouping of devices can be run independently.

3.3.1 Count Down Controls

Enable the Count-Down controls by checking the checkbox in that section. There are two display modes that can be used, one that displays Minutes:Seconds:Tenths of seconds (and hundredths when stopped) and a second that displays Hours:Minutes:Seconds, use the pulldown to select the one desired. The preset can be edited and the alarm relay can be energized for a programmable period of time at the end of the count down. Once the desired settings are made, click the Reset button to pre-load them to the selected devices. The Start button can

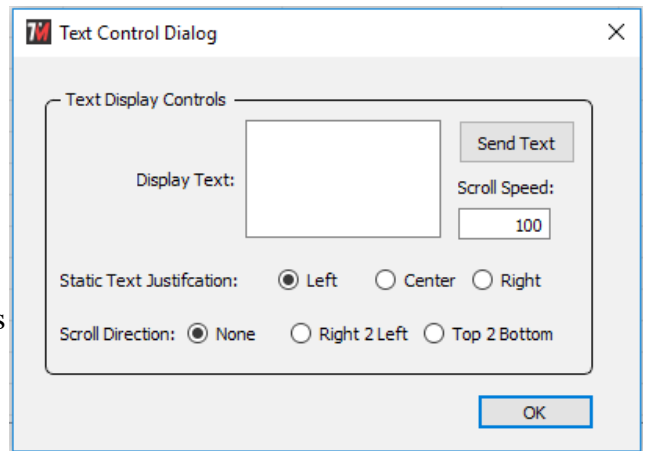
now be clicked to start the count-down on all selected devices. It can be paused while running as well. All devices will be closely synchronized, although each device maintains its own timing.

3.3.2 Count Up Controls

The Count-Up features can be enabled by checking the corresponding checkbox. Once the controls are active there are two formats of time display; one that displays Minutes:Seconds:Tenths of seconds (and hundredths when stopped) and a second that displays Hours:Minutes:Seconds, use the pulldown to select the one desired. The count-up can be controlled using the Start button and Reset to zero using the reset button.

3.4 Text Controls

The Text Control Dialog allows simultaneous control of all of the displays that are checked when the Text Control dialog is entered. This feature is only active for TimeMachines Dot-Matrix display products. The Dot-Matrix displays have the ability to display static and scrolling text. This can be controlled from the web page of the individual device as well.



3.4.1 Display Text

This is the text that will be displayed. The entry field supports single line text for Right to Left scrolling, as well as Multi-Line entries (carriage-return between lines) for Top to Bottom scrolling. The Dot-Matrix does not reformat the text for best display, it is up to the user to format it within this entry field.

3.4.2 Scroll Speed

This is a number between 0 and 999 that controls the speed of horizontal and vertical scrolling. A lower number is faster and a higher number is slower. 60 is a good default to start with.

3.4.3 Static Text Justification

When displaying a specific static word, the Dot-Matrix will attempt to place the entire word/phrase on the display and may adjust to a smaller font if the default Arial won't fit. This setting controls whether the word is Left, Center, or Right justified.

3.4.4 Scroll Direction

Using scrolling, longer messages can be displayed. When scrolling, use this setting to control the direction of the scroll.

3.4.5 Send Button

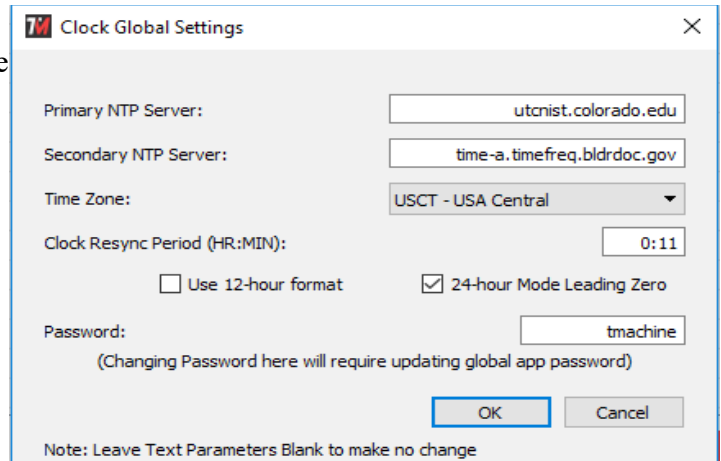
The Send button is used to update the display with the parameters for text display that are currently set on the web page.

3.5 Clock Settings Dialog

The Clock Settings Dialog allows setup of parameters that are typically common across multiple devices on the network. When this dialog is opened, it will affect all devices that were checked in the Item column of the main window.

The value of the parameters within the devices themselves are not read and displayed in this dialog, the update is one direction only, from TM-Manager to the devices. The settings in this dialog are stored on the TM-Manager computer when the application is closed.

Each of the parameters are explained in the individual product manuals available for download at <http://www.timemachinescorp.com>.



The parameters will be updated to each device when OK is clicked. A progress meter will be displayed on the main window during the update process.

3.6 Alarm Settings Dialog

The Alarm Settings Dialog allows setup of the alarm parameters of each device that is checked when the dialog is opened from the main window.

The alarm settings within the devices themselves are not read and displayed in this dialog, the update is one direction only, from TM-Manager to the devices. The settings in this dialog are stored on the TM-Manager computer when the application is closed.

The alarm relay feature is explained in the individual product manuals available for download at <http://www.timemachinescorp.com>.

The alarm parameters will be updated to each device when OK is clicked. A progress meter will be displayed on the main window during the update process. There is quite a bit of data posted to each device and each device gets several posts to be completed, so it does take a bit to update multiple devices.

