TraffiCalm Systems

SafetyCalm Software

Operating Instructions

July 2023

SafetyCalm™ DFB Configuration Software Instructions

Your TraffiCalm™ LED Driver Feedback display is capable of operating indefinitely without operator intervention. However, there are times when it may be desirable to access the data gathering and configurable features of the TraffiCalm™ LED Driver Feedback display.

The SafetyCalm™ DFB Configuration Software allows simple access to the TraffiCalm™ LED Driver Feedback display's configurable features, day plans, schedules, and to view data captured by the display. Access through a Bluetooth connection is supported in TraffiCalm™ LED Driver Feedback displays.

The TraffiCalm™ LED Driver Feedback display can gather data while either providing feedback to motorists or not. Speed limits and almost all other configurable features of the TraffiCalm™ LED Driver Feedback display can be scheduled to change throughout the day. The TraffiCalm™ LED Driver Feedback display can be configured to operate external beacons, and interface to other external signaling devices or intersection controls.

TraffiCalm™ LED Driver Feedback displays comes in Full Matrix (FM) and seven segment varieties, which have different display capabilities. SafetyCalm™ DFB Configuration Software can detect the display type that it is connected with and supply the proper control dialogs automatically.

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Overview

1. Install SafetyCalm™ DFB Configuration Software onto a personal computer that has Bluetooth hardware.
2. Launch SafetyCalm™ DFB Configuration Software and select the reference number or COM port of the display to be configured.
3. Log in.
4. Define the operating conditions for the TraffiCalm™ LED Driver Feedback display using “FILE / Properties”, “EDIT / Schedule, Configurations, Passwords, and Display Setup.”
5. Get, save and clear the logs

Installing the SafetyCalm™ DFB Configuration Software

Minimum Requirements

You must be running Windows XP, Vista, 7, or 10 operating system to install SafetyCalm™ DFB Configuration Software.

Windows XP users must log on as Computer Administrator or be given administrative rights on the local PC to install the application.

Close all programs and turn off virus protection software to prevent installation conflicts. Certain virus protection software may view installation files as a potential virus and can slow system performance considerably.

Loading from CD

If your PC security settings allow it, installation should start automatically when you insert the SafetyCalm™ DFB Configuration Software CD into your CD-ROM drive. If installation does not start automatically, you can install the SafetyCalm™ DFB Configuration Software using the following procedure: Insert the SafetyCalm™ DFB Configuration Software CD into your CD-ROM drive.
From the Start menu, choose Run.
In the Run dialog, type **d:\setup**, where **d** is the letter assigned to your CD-ROM drive.
Click OK and follow the instructions on your screen.
The Setup program guides you through the installation process.

Bluetooth Setup and Minimum Requirements

All TraffiCalm™ LED Driver Feedback displays are equipped with wireless Bluetooth communication. This wireless communication allows establishing a communication link from 30 feet to 100 feet away to a personal computer (PC) equipped with Bluetooth communication. The 100 foot distance is possible with a class 1 Bluetooth adapter. The communication link can be used to program the sign settings and get the speed data using the SafetyCalm™ DFB Configuration Software on the connected computer. If your computer is not Bluetooth equipped, a Bluetooth adapter may be purchased and installed on your computer by plugging it into a USB port and following the installation instructions provided with the Bluetooth adapter. The recommended Bluetooth device should be minimum V2.1 Protocol, class 1 or 2.
Once it's installed, you'll need to "pair" the computer to the TraffiCalm™ LED Driver Feedback display(s) that you wish to communicate with.

Automatic Pairing

The SafetyCalm™ DFB Configuration Software can automatically pair your PC to the TraffiCalm™ LED Driver Feedback display assigning the COM port it uses to the next one available. In instances where you may need to pick your COM port you will have to interact with your PCs Bluetooth driver. This is usually done either during setup or in the PCs "Device Manager" dialog.

Manual Pairing

The procedures for manual Bluetooth setup vary with the publisher of the driver software. Microsoft™ provides a driver that works with many Bluetooth USB devices. However, other Bluetooth USB manufacturers may distribute Toshiba's Bluetooth driver with their product. There could be many different possibilities, and all of the dialogs will look and work differently. Refer to the directions provided with your PC or Bluetooth device for specific information and guidance in the setup and use of your Bluetooth device.

Generally speaking, this is what you'll need to do:

1. Look in the lower right "tray" of the computer screen and find the Bluetooth ICON.
2. Right Click it, and select "ENABLE Bluetooth Device"
3. While the display has power, locate yourself and the computer within 30 feet of the front of the display.
4. Right click the Bluetooth ICON again and select to "Add Connection".
5. Allow your driver to Discover Bluetooth devices. In about 1 minute, the display should update with a list of all of the Bluetooth equipped devices within 30 to 100 feet of your computer. Find the one that shows your sign's serial number, or you may see "FIRE FLY" and some numbers and letters. That is your sign. Select it.
6. Select "CONNECT".
7. If this is the first Pairing with this device, the computer will signal you with a dialog near the Bluetooth ICON that a "PIN CODE" is required. Click on the balloon to open a dialog for PIN entry. The pin code is "1234" (no quotes). Select Okay. You can pick other pin codes for greater security.
8. You may be presented with a choice of the type of connection to make. This device needs to make an SPP SERIAL connection.

Bluetooth COM Ports

Another dialog will appear that tells you what COM port the TraffiCalm™ LED Driver Feedback display has been assigned to. Pay careful attention to it, as you may need to know that COM assignment later. If your Bluetooth driver did not show you the COM port assigned number, you can find it in the PC's device manager dialog, under COM ports when you need it. You may also be able to access it under "devices and printers" selection from the "START" button menu. Just find the ICON for the sign connection under "Devices" and right click, select "Properties" and then select the "Services" tab. If you don't see "SPP SERIAL COMXXX" then the connection was not made correctly. If this occurs, turn the TraffiCalm™ LED Driver Feedback display OFF then ON and restart your computer. If that doesn't fix the problem, then delete the Bluetooth connection and then "ADD DEVICES" to pair the device with the computer.

Some Bluetooth drivers allow you to set the com port as the connection is being installed. Others have no utility for user selection of com port. In those cases, use the PC "device manager" dialog to find and change the COM setting if you need to.

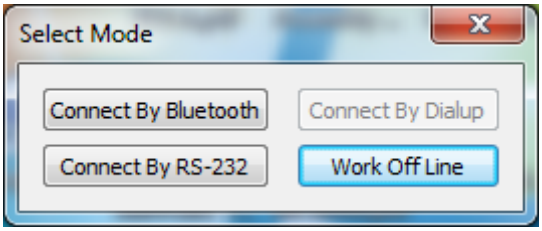
Display Access Security

The Bluetooth link PIN is one of two security layers for the communications interface. The second layer is your password. It is possible to configure the TraffiCalm™ LED Driver Feedback display's Bluetooth link to be non-discoverable after you have linked your PC with it. Caution: Once the Bluetooth link is placed in this mode, it will not be possible to create a new link to the sign. If your PC link is erased you will not be able to reconnect with the TraffiCalm™ LED Driver Feedback display without factory help.

Starting the SafetyCalm™ DFB Configuration Software

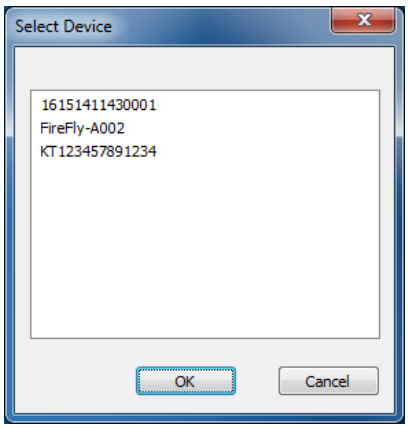
1. If the install program put a shortcut ICON on your desktop locate it and skip to step 4. 

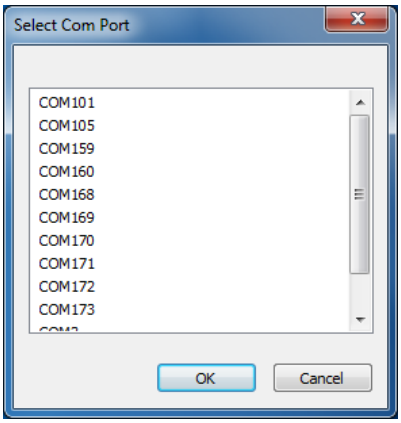
2. Locate the START button on the bottom left of your computer screen.
3. Left click it, and select “all programs” and look for “SafetyCalm Configuration”
4. Double click “SafetyCalm Configuration” to launch the program.



5. A dialog asking you to “Work Offline”, “Connect by Bluetooth”, “Connect by RS-232”, or “Connect by Dialup” will appear. Select a connect option to connect to your TraffiCalm™ LED Driver Feedback display. “Connect by Dialup” will be grayed out if no phone numbers are pre-programmed (see Modem Properties). If you select to “Work Offline” no attempt will be made to connect to a TraffiCalm™ LED Driver Feedback display, dialogs requiring display access will be unavailable, but you will be able to create configuration templates and schedules, setup phone numbers for modem connections and save them to a database for later access.

6. If you selected “Connect by Bluetooth” a dialog will appear advising you that the program is searching for Bluetooth devices.



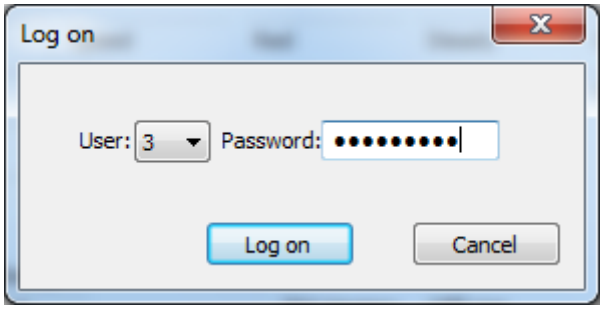


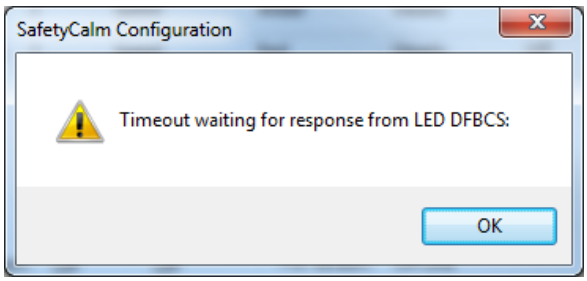
7. Depending on your PC device driver, or whether you selected “Go Online Bluetooth” or “Go Online by Serial” you may see either the “Select Device” or “Select Com Port” dialog appear with the list of nearby Bluetooth equipped devices. Select your TraffiCalm™ LED Driver Feedback display and then select OK.

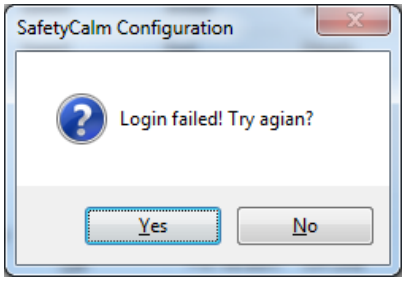
8. To connect by RS-232 (direct or transparent connection), select “Go Online by Serial” or “Connect by RS-232”. You’ll be asked to select the com port number of your serial connection. To connect this way the PC must be connected to the TraffiCalm™ LED Driver Feedback display through its auxiliary serial port using a serial cable or other devices. ***The baud rate used by this connection is as selected in the MODEM Properties Dialog.***

Hint: If you know the COM port assignment of the sign’s SPP link, then you can always select “Go Online by Serial” or “Connect by RS-232” and select the COM port number without the delay caused by “Searching for Devices” that occurs when you select “Go Online Bluetooth” or “Connect by Bluetooth”.

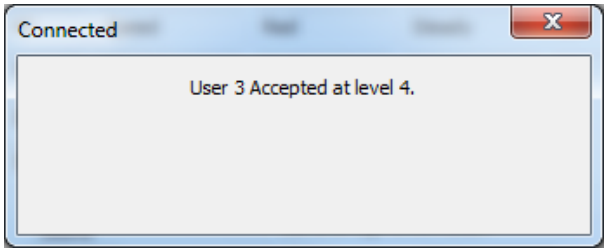
9. In a few seconds a new dialog will appear asking you to “Log on”. Select your user number and enter a valid password. The password is case sensitive and may contain special characters. (Default administrator password is User: 3, Password: 04ADMIN04).







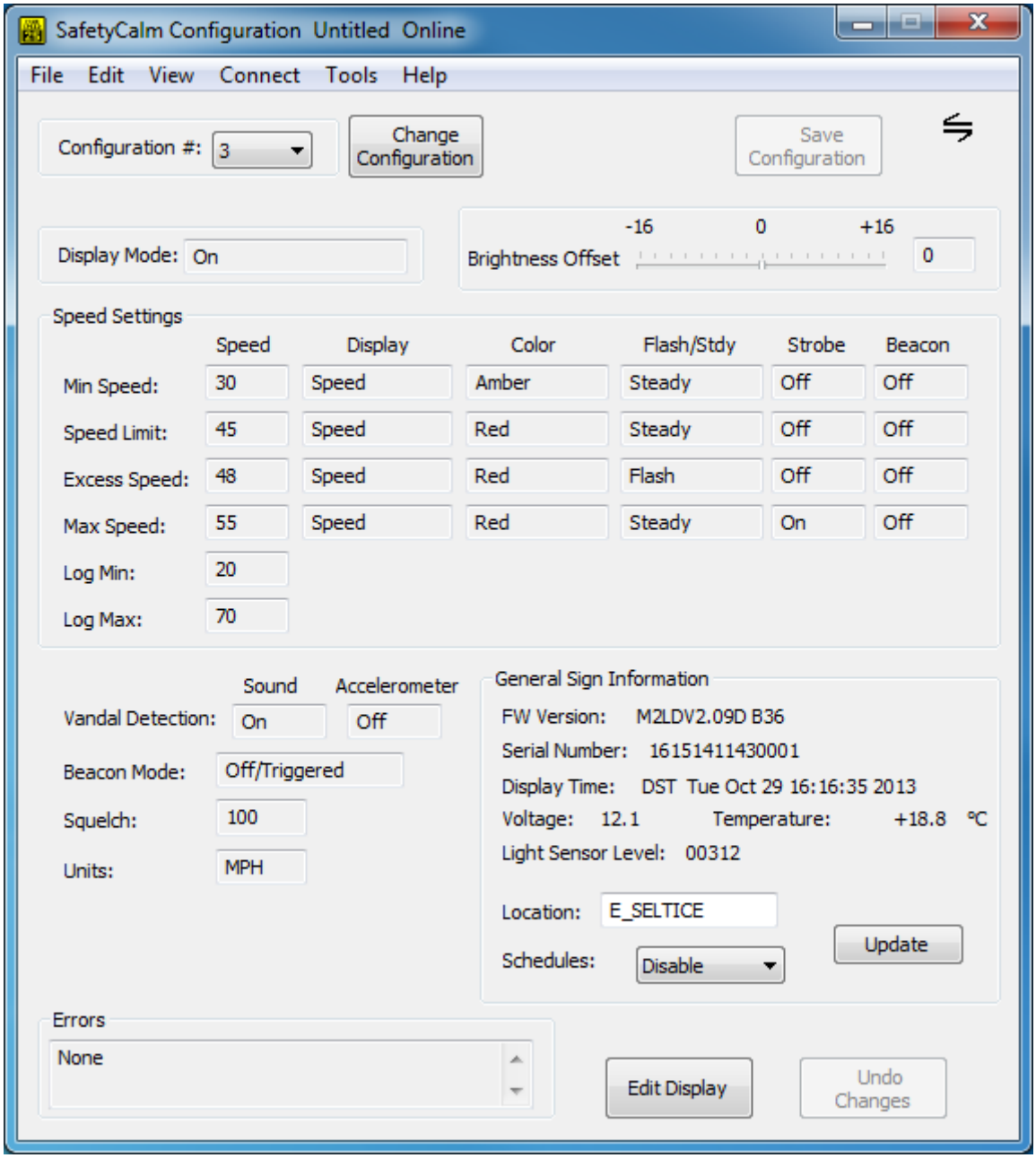
A dialog will open up that tells you that you’ve either logged in successfully, or will ask you to retry. If you get a timeout error instead, then the TraffiCalm™ LED Driver Feedback display is either out of range, turned off, has a low battery, or is not linked on the COM port that you’ve selected.



The login dialog will be accompanied by another dialog asking you to wait while the settings in the display are loaded.

After the “wait” dialog disappears you are ready to begin viewing display status and logs, and to change TraffiCalm™ LED Driver Feedback display settings, configurations and schedules.

NOTE: If you've lost your password for the TraffiCalm™ LED Driver Feedback display, call the number listed under "Getting Help" and a trained technician can help you re-establish a new password.



When you have connected successfully, the main dialog will appear, and the data fields will be populated with the current TraffiCalm™ LED Driver Feedback

display configuration. Note that in the upper right hand corner is a pair of opposite facing arrows. They blink alternately when the PC is actively transferring data to/from the display. In the lower left hand corner is a text box showing all current sign errors. It will say “none” if there are no functional errors.

Application Examples

These are intended to be simple examples to help guide the user in the initial setup of the TraffiCalm™ LED Driver Feedback display. Some adjustment to the settings shown (i.e. Squelch and Brightness) will be necessary for each unique situation. More information about these settings can be found within this document.

24/7 Application Setup

1. Check the time on the PC that will be used to connect to the TraffiCalm™ LED Driver Feedback display, and calibrate it using a known accurate source (such as a cell phone or GPS or clock with WWVB)
2. Connect to the TraffiCalm™ LED Driver Feedback display
3. From the menu bar select “EDIT” / “Display Setup”
4. Immediately select “SET CLOCK”.
5. In the main dialog select configuration 1 and “Change Configuration” button.
6. In the main dialog select configuration 1 and “Change Configuration” button. (*Note: if the configuration number field is empty then use the “Edit / Configurations” dialog to create this configuration.*)
7. Select “Edit Display” button.
8. Select “Display Mode” ON from the drop down list of choices.
9. Brightness Offset set to “0” if Solar powered, or “4” if AC powered display.
10. Set the speed thresholds and display styles.
11. Set “Vandal Detection to “OFF”

12. Set Beacon mode to “OFF/Triggered”.
13. Set Squelch to “60”
14. Set Units to MPH (Miles Per Hour) or KPH (Kilometers Per Hour).
15. Select “Update Display”
16. In the Upper Right select “Save Configuration”.
17. In menu bar “Tools” select “Maintenance”
18. Set the Power Source to “AC” or “Battery/Solar” to match the power source.

The TraffiCalm™ LED Driver Feedback display is now fully configured to operate all of the time, forever. There is no need to set the clock unless the speed or event logs are going to be accessed.

24/7 with Beacons Application Setup

1. Check the time on the PC that will be used to connect to the TraffiCalm™ LED Driver Feedback display, and calibrate it using a known accurate source (such as a cell phone or GPS or clock with WWVB)
2. Connect to the TraffiCalm™ LED Driver Feedback display
3. From the menu bar select "EDIT" / "Display Setup"
4. Immediately select "SET CLOCK".
5. In the main dialog select configuration 1 and "Change Configuration" button. (*Note: if the configuration number field is empty then use the "Edit / Configurations" dialog to create this configuration*.)
6. Select "Edit Display" button.
7. Select "Display Mode" ON from the drop down list of choices.
8. Brightness Offset set to "0" if Solar powered, or "4" if AC powered display.
9. Set the speed thresholds and display styles.
10. Set "Vandal Detection to "OFF"
11. Set Beacon mode to "ON/Alternating".
12. Set Squelch to "60"
13. Set Units to MPH (Miles Per Hour) or KPH (Kilometers Per Hour).
14. Select "Update Display"
15. In the Upper Right select "Save Configuration".
16. In menu bar "Edit" select "Display Setup"
17. Set the Power Source to "AC" or "Battery/Solar" to match the power source.

The TraffiCalm™ LED Driver Feedback display is now fully configured to operate all of the time, forever with beacons constantly flashing. There is no need to set the clock unless the speed or event logs are going to be accessed.

24/7 Operation with Periodic Speed Limit Changes Every Day

1. Check the time on the PC that will be used to connect to the TraffiCalm™ LED Driver Feedback display, and calibrate it using a known accurate source (such as a cell phone or GPS or clock with WWVB)
2. Connect to the TraffiCalm™ LED Driver Feedback display
3. From the menu bar select "EDIT" / "Display Setup"
4. Immediately select "SET CLOCK".
5. In the main dialog select configuration 1 and "Change Configuration" button. (*Note: if the configuration number field is empty then use the "Edit / Configurations" dialog to create this configuration*.)
6. Select "Edit Display" button.
7. Select "Display Mode" ON from the drop down list of choices.
8. Brightness Offset set to "0" if Solar powered, or "4" if AC powered display.
9. Set the speed thresholds and display styles.
10. Set "Vandal Detection to "OFF"
11. Set Beacon mode to "ON/Alternating".
12. Set Squelch to "60"
13. Set Units to MPH (Miles Per Hour) or KPH (Kilometers Per Hour).
14. Select "Update Display"
15. In the Upper Right select "Save Configuration".
16. In the main dialog select configuration 2 and "Change Configuration" button.
17. Select "Edit Display" button.
18. Select "Display Mode" ON from the drop down list of choices.
19. Brightness Offset set to "0" if Solar powered, or "4" if AC powered display.
20. Set the speed thresholds and display styles.
21. Set "Vandal Detection to "OFF"

22. Set Beacon mode to “ON/Alternating”.
23. Set Squelch to “60”
24. Set Units to MPH (Miles Per Hour) or KPH (Kilometers Per Hour).
25. Select “Update Display”
26. In the Upper Right select “Save Configuration”.
27. In the tool bar select “EDIT” / “SCHEDULE”
28. In “Day Plans:” check that “Day Plan 1” (red) is showing
29. Select the hours and minutes that the TraffiCalm™ LED Driver Feedback display should change to ACTIVE speed limits (example: 08:30 for 8:30AM (24HR clock))
30. In the “Command” box select “…”
31. Pick “Configuration #:” then select “2” in the drop down list and select “OK”.
32. Select “ADD”.
33. To change back to NORMAL time speed limits, set the hour and minutes. (Example: 20:30 for 8:30PM)
34. In the “Command” box select “…”
35. Pick “Configuration #:” then select “2” in the drop down list and select “OK”.
36. Select “ADD”.
37. The day plan should now show “20:30 Load Configuration 1” and “08:30 Load Configuration 2”.
38. In the upper left corner pick “Daily” and it will turn red.
39. In the lower right select “Send Schedule to Sign”.
40. When the software is done sending over the configurations and schedules it will ask if the schedule should be enabled. Answer “YES”.
41. In menu bar “Edit” select “Display Setup”
42. Set the Power Source to “AC” or “Battery/Solar” to match the power source.

The TraffiCalm™ LED Driver Feedback display is now programmed to work from configuration 1for all day every day except between 8:30AM until 8:30 PM when it works from configuration 2 instead.

Weekly School Zone Operation with Beacons and Speed Changes

1. Check the time on the PC that will be used to connect to the TraffiCalm™ LED Driver Feedback display, and calibrate it using a known accurate source (such as a cell phone or GPS or clock with WWVB)
2. Connect to the TraffiCalm™ LED Driver Feedback display
3. From the menu bar select "EDIT" / "Display Setup"
4. Immediately select "SET CLOCK".
5. In the main dialog select configuration 1 and "Change Configuration" button. (*Note: if the configuration number field is empty then use the "Edit / Configurations" dialog to create this configuration*.)
6. Select "Edit Display" button.
7. Select "Display Mode" ON from the drop down list of choices.
8. Brightness Offset set to "0" if Solar powered, or "4" if AC powered display.
9. Set the speed thresholds and display styles.
10. Set "Vandal Detection to "OFF"
11. Set Beacon mode to "ON/Alternating".
12. Set Squelch to "60"
13. Set Units to MPH (Miles Per Hour) or KPH (Kilometers Per Hour).
14. Select "Update Display"
15. In the Upper Right select "Save Configuration".
16. In the main dialog select configuration 2 and "Change Configuration" button.
17. Select "Edit Display" button.
18. Select "Display Mode" ON from the drop down list of choices.
19. Brightness Offset set to "0" if Solar powered, or "4" if AC powered display.
20. Set the speed thresholds and display styles.
21. Set "Vandal Detection to "OFF"
22. Set Beacon mode to "ON/Alternating".

23. Set Squelch to “60”
24. Set Units to MPH (Miles Per Hour) or KPH (Kilometers Per Hour).
25. Select “Update Display”
26. In the Upper Right select “Save Configuration”.
27. In the tool bar select “EDIT” / “SCHEDULE”
28. In “Day Plans:” check that “Day Plan 1” (red) is showing
29. Select the hours and minutes that the TraffiCalm™ LED Driver Feedback display should change to ACTIVE speed limits (example: 08:30 for 8:30AM (24HR clock))
30. In the “Command” box select “…”
31. Pick “Configuration #:” then select “2” in the drop down list and select “OK”.
32. Select “ADD”.
33. To change back to NORMAL time speed limits, set the hour and minutes. (Example: 20:30 for 8:30PM)
34. In the “Command” box select “…”
35. Pick “Configuration #:” then select “2” in the drop down list and select “OK”.
36. Select “ADD”.
37. Select the hours and minutes that the sign should change to ACTIVE speed limits for the afternoon (example: 14:30 for 2:30PM (24HR clock))
38. In the “Command” box select “…”
39. Pick “Configuration #:” then select “2” in the drop down list and select “OK”.
40. Select “ADD”.
41. To change back to NORMAL time speed limits, set the hour and minutes. (Example: 16:30 for 4:30PM)
42. In the “Command” box select “…”
43. Pick “Configuration #:” then select “1” in the drop down list and select “OK”.

44. Select “ADD”.

45. The day plan should now show “16:30 Load Configuration 1” and “14:30 Load Configuration 2” and “10:00 Load Configuration 1” and “8:00 Load Configuration 2”.
46. Across the top pick “Monday”, “Tuesday”, “Wednesday”, “Thursday”, and “Friday” and they will turn red.

    Define a holiday schedule day plan for the days when school will not be in session (I.e. Don’t change to Configuration 2):

47. In “Day Plans:” select “Day Plan 2” (Green)
48. Select the hours and minutes for day plan 1 event 1. (example: 08:00 for 8:00AM)
49. In the “Command” box select “…”
50. Pick “Configuration #:” then select “1” in the drop down list and select “OK”.
51. Select “ADD”.
52. Select the hours and minutes for day plan 1 event 3 example: 14:30 for 2:30PM)
53. In the “Command” box select “…”
54. Pick “Configuration #:” then select “1” in the drop down list and select “OK”.
55. Select “ADD”.
56. The day plan should now show “14:30 Load Configuration 1” and “8:00 Load Configuration 1”.
57. On the calendar, click on the days when school will not be in session. Each day will turn Green.
58. In the lower right select “Send Schedule to Sign”.

59. When the SafetyCalm™ DFB Configuration Software is done sending over the configurations and schedules it will ask if the schedule should be enabled. Answer “YES”.
60. In menu bar “Edit” select “Display Setup”
61. Set the Power Source to “AC” or “Battery/Solar” to match the power source.

The TraffiCalm™ LED Driver Feedback display is now programmed to work from configuration 1for all day every day except between 8:00AM until 10:00 AM when it works from configuration 2 instead, and from 2:30PM to 4:30PM when it works from configuration 2 instead, except on selected days when the schedule will keep the display in configuration 1.

Weekly School Zone Operation, Sign OFF Other Times

1. Check the time on the PC that will be used to connect to the TraffiCalm™ LED Driver Feedback display, and calibrate it using a known accurate source (such as a cell phone or GPS or clock with WWVB)
2. Connect to the TraffiCalm™ LED Driver Feedback display
3. From the menu bar select “EDIT” / “Display Setup”
4. Immediately select “SET CLOCK”.
5. In the main dialog select configuration 1 and “Change Configuration” button. (*Note: if the configuration number field is empty then use the “Edit / Configurations” dialog to create this configuration*.)
6. Select “Edit Display” button.
7. Select “Display Mode” ON from the drop down list of choices.
8. Brightness Offset set to “0” if Solar powered, or “4” if AC powered display.
9. Set the speed thresholds and display styles.
10. Set “Vandal Detection to “OFF”

11. Set Beacon mode to “ON/Alternating”.
12. Set Squelch to “60”
13. Set Units to MPH (Miles Per Hour) or KPH (Kilometers Per Hour).
14. Select “Update Display”
15. In the Upper Right select “Save Configuration”.
16. In the main dialog select configuration 2 and “Change Configuration” button.
17. Select “Edit Display” button.
18. Select “Display Mode” ON from the drop down list of choices.
19. Brightness Offset set to “0” if Solar powered, or “4” if AC powered display.
20. Set the speed thresholds and display styles.
21. Set “Vandal Detection to “OFF”
22. Set Beacon mode to “ON/Alternating”.
23. Set Squelch to “60”
24. Set Units to MPH (Miles Per Hour) or KPH (Kilometers Per Hour).
25. Select “Update Display”
26. In the Upper Right select “Save Configuration”.
27. In the tool bar select “EDIT” / “SCHEDULE”
28. In “Day Plans:” check that “Day Plan 1” (red) is showing
29. Select the hours and minutes that the sign should change to ACTIVE speed limits (example: 08:30 for 8:30AM (24HR clock))
30. In the “Command” box select “…”
31. To change back to OFF, set the hour and minutes. (Example: 10:00 for 10:00AM)
32. In the “Command” box select “…”
33. Pick “Configuration #:” then select “2” in the drop down list and select “OK”.
34. Select “ADD”.

35. Select the hours and minutes that the TraffiCalm™ LED Driver Feedback display should change to ACTIVE speed limits for the afternoon (example: 14:30 for 2:30PM (24HR clock))
36. In the “Command” box select “…”
37. Pick “Configuration #:” then select “1” in the drop down list and select “OK”.
38. Select “ADD”.
39. To change back to NORMAL time speed limits, set the hour and minutes. (Example: 16:30 for 4:30PM)
40. In the “Command” box select “…”
41. Pick “Configuration #:” then select “2” in the drop down list and select “OK”.
42. Select “ADD”.
43. The day plan should now show “16:30 Load Configuration 2” and “14:30 Load Configuration 1” and “10:00 Load Configuration 2” and “8:00 Load Configuration 1”.
44. Across the top pick “Monday”, “Tuesday”, “Wednesday”, “Thursday”, and “Friday” and they will turn red.

    Define a holiday schedule day plan for the days when school will not be in session (I.e. Don’t change to Configuration 1):

45. In “Day Plans:” select “Day Plan 2” (Green)
46. Select the hours and minutes for day plan 1 event 1. (example: 08:00 for 8:00AM)
47. In the “Command” box select “…”
48. Pick “Configuration #:” then select “2” in the drop down list and select “OK”.
49. Select “ADD”.

50. Select the hours and minutes for day plan 1 event 3 example: 14:30 for 2:30PM)
51. In the “Command” box select “…”
52. Pick “Configuration #:” then select “2” in the drop down list and select “OK”.
53. Select “ADD”.
54. The day plan should now show “14:30 Load Configuration 2” and “8:00 Load Configuration 2”.
55. On the calendar, click on the days when school will not be in session. Each day will turn Green.
56. In the lower right select “Send Schedule to Sign”.
57. When the SafetyCalm™ DFB Configuration Software is done sending over the configurations and schedules it will ask if the schedule should be enabled. Answer “YES”.
58. In menu bar “Edit” select “Display Setup”
59. Set the Power Source to “AC” or “Battery/Solar” to match the power source.

The TraffiCalm™ LED Driver Feedback display is now programmed to be OFF all day (configuration 2) every day except between 8:00AM until 10:00 AM when it works from configuration 1(ON) instead, and from 2:30PM to 4:30PM when it works from configuration 1 (ON) instead, except on selected days when the schedule will keep the TraffiCalm™ LED Driver Feedback display in configuration 2.

File

Open

“Open” allows a previously saved TraffiCalm™ LED Driver Feedback display database including schedules and configurations to be opened for editing both “Off-Line” or while connected to a TraffiCalm™ LED Driver Feedback display. To send a saved database to a TraffiCalm™ LED Driver Feedback display connect to the TraffiCalm™ LED Driver Feedback display first, then open the database, then go into the EDIT\Schedule dialog, and select “Send Schedule to Sign”.

Save / Save As

The currently loaded database can be saved by selecting “Save”. The SafetyCalm™ Configuration Software will use the existing or default database name. If an alternate name is desired, or if you wish to preserve the current saved database, select “Save As” instead, and a prompt will occur for an alternate path and name for the currently loaded database.

Getting / Saving a TraffiCalm™ LED DFB display Database

TraffiCalm™ LED Driver Feedback display databases can be loaded and saved for copying to other TraffiCalm™ LED Driver Feedback displays or as a backup. Connect to the TraffiCalm™ LED Driver Feedback display, go into the dialog EDIT \ Schedule, and select “Get Schedule from Sign”. When the down load is complete, you can edit the schedule and configurations before saving, or just save them as they are.

Starting a New Database

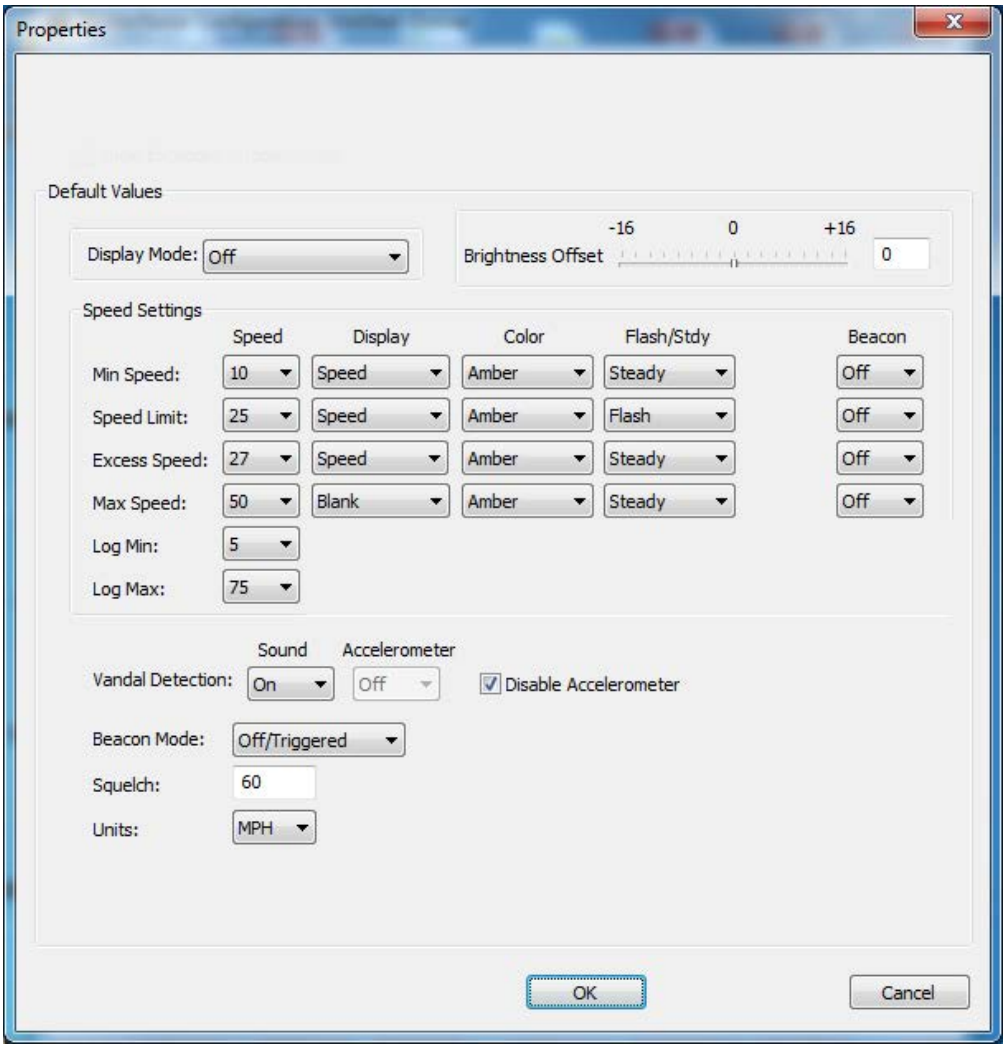
When the SafetyCalm™ DFB Configuration Software is first opened the database will be clear. Connecting to a TraffiCalm™ LED Driver Feedback display will cause the configurations to be loaded from the TraffiCalm™ LED Driver Feedback display into the open SafetyCalm™ DFB Configuration Software database, overwriting any existing configurations. Getting the schedules from the TraffiCalm™ LED Driver Feedback display will overwrite any schedule entries and configurations in the SafetyCalm™ DFB Configuration Software database.

To start a new (clean) TraffiCalm™ LED Driver Feedback display configuration database, start with the program closed and then:

A. Open the SafetyCalm™ DFB Configuration Software and select "work offline".
B. Setup the configurations and schedules the way you want them using "EDIT / CONFIGURATIONS" or "EDIT / SCHEDULE".
C. Save the database (FILE / SAVE, or SAVE AS) to the PC hard drive.
D. Connect to the TraffiCalm™ LED Driver Feedback display that you want to reconfigure.
E. Open the newly saved database (FILE / OPEN).
F. Go into "EDIT / SCHEDULES" and then "SEND SCHEDULE TO SIGN".

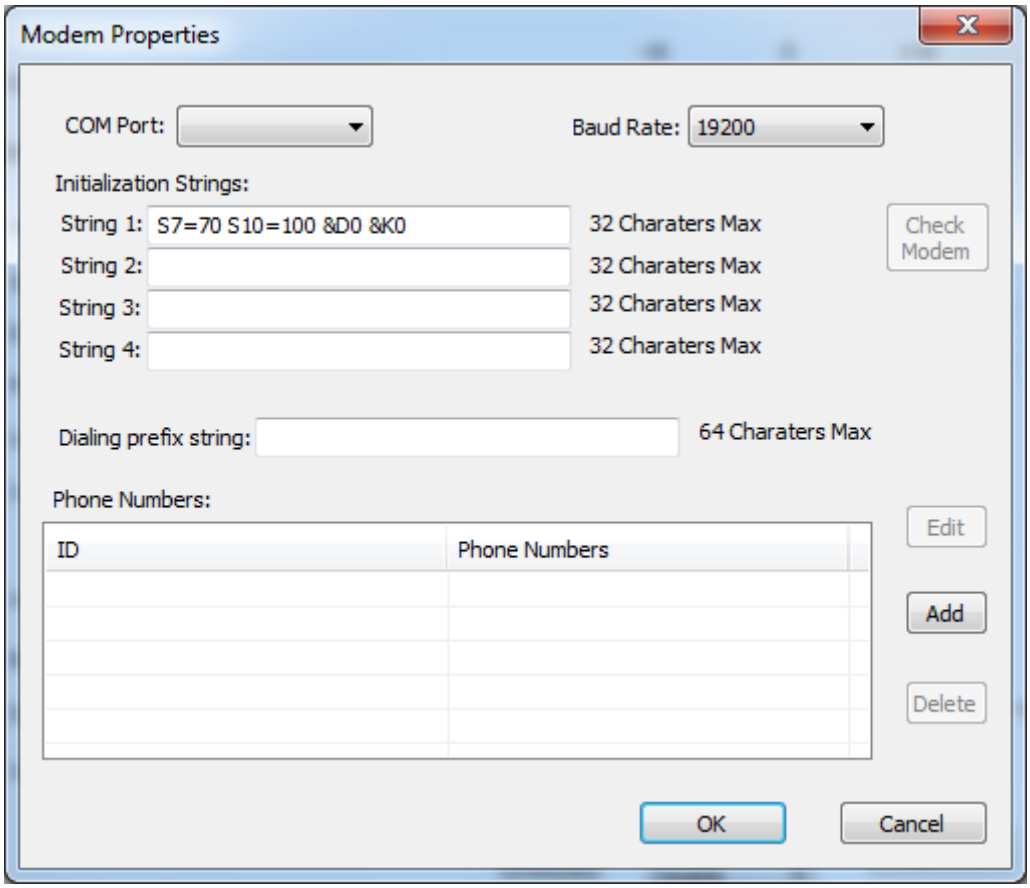
Repeat steps D through F for each additional TraffiCalm™ LED Driver Feedback display that uses this database.

Properties



The fields in this dialog (File / Properties) serve as a template for new configuration definitions. These settings are how the configuration dialog will default when a previously undefined configuration dialog is selected for editing. In the “Vandal Detection” field is a check box to “disable Accelerometer”. As only older TraffiCalm™ LED Driver Feedback displays have the accelerometer, checking this box will remove the option from appearing in other dialogs. If you are not sure if the TraffiCalm™ LED Driver Feedback display has an accelerometer, run the “Toggle Self Test” under “Tools” / “Maintenance”, and the test results will show you if you have a functioning accelerometer.

Modem Properties



To be able to make connections to TraffiCalm™ LED Driver Feedback displays equipped with POTS (Plain Old Telephone System) modems, or Cellular modems, or other types of modems that have a phone number associated with them, you need to configure the modem properties and enter a list of one or more phone numbers.

Note: If you are connecting using a hard line serial RS-232 connection, this is where you set the BAUD rate. No handshake will be used.

Set the COM port of the modem. Internal modems usually install on COM 3 but not always.

External modems appear on your serial COM ports. Look in your device manager under COM Ports to find your modem.

Set the baud rate to the highest setting your modem will support. This setting is independent of the actual connect rate. If you are having trouble with the SafetyCalm™ DFB Configuration Software sometimes not seeing the modem responses, then try the next higher baud rate.

Select “Check Modem” to make sure your modem is communicating on the indicated COM port.

Use the default initialization strings, or program your own based on your modem requirements.

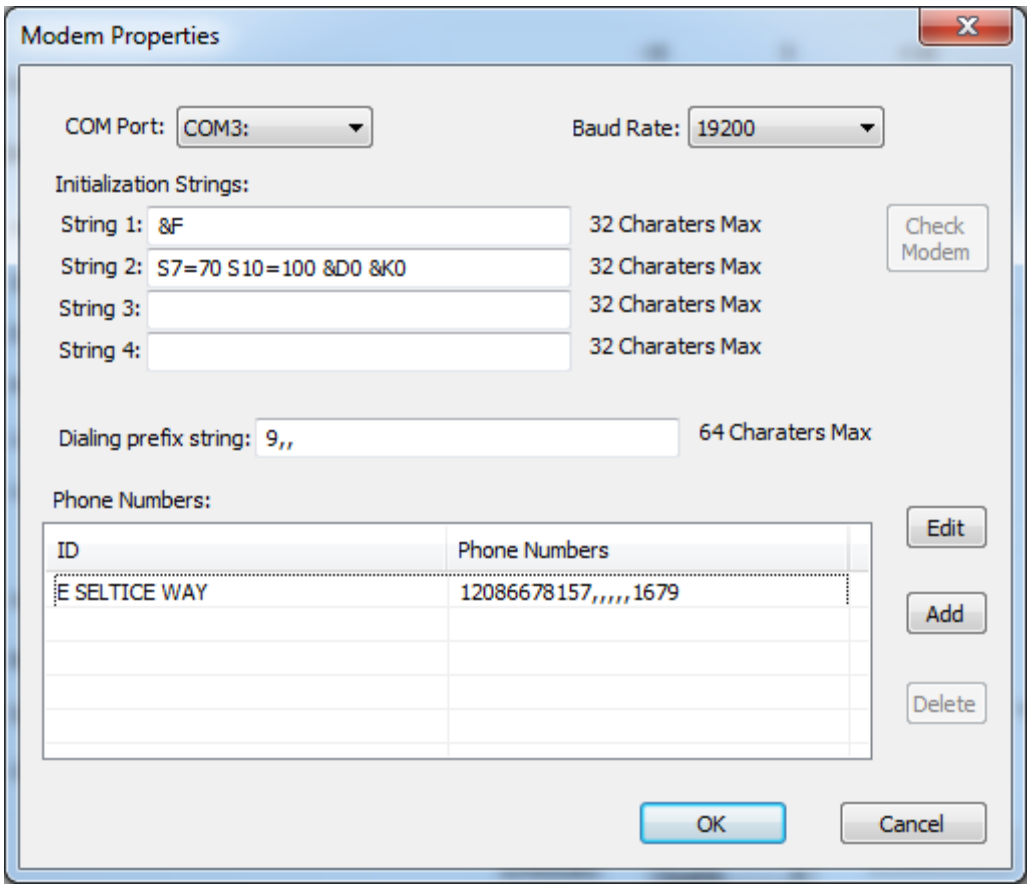
The dialing prefix field allows PBX commands for getting an outside line, and credit card phone calls or other long distance prefixes.

To enter a phone number select “ADD”. Enter a descriptive ID for the TraffiCalm™ LED Driver Feedback display so that it is easy to recognize.

Press “Tab” key to jump to the number field. Enter the full phone number including area code if long distance, or if required by your carrier.

For TraffiCalm™ LED Driver Feedback displays with modems that use Circuit Switched Data (CSD) accounts, add 4 to 5 comma’s after the phone number to ensure that the SafetyCalm™ DFB Configuration Software waits long enough for the connect message. Press “Enter” when all characters are entered.
Select “EDIT” to change entries.
Select “ Delete” to remove entries.

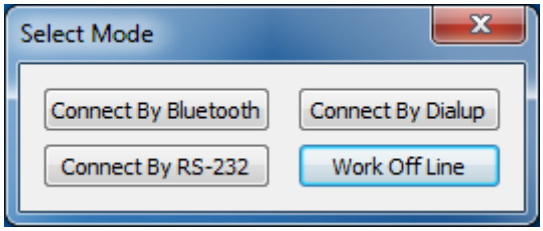
Go to “File” and “Save As” or “Save” to save the modem settings. Use a dummy Database name if you need to.

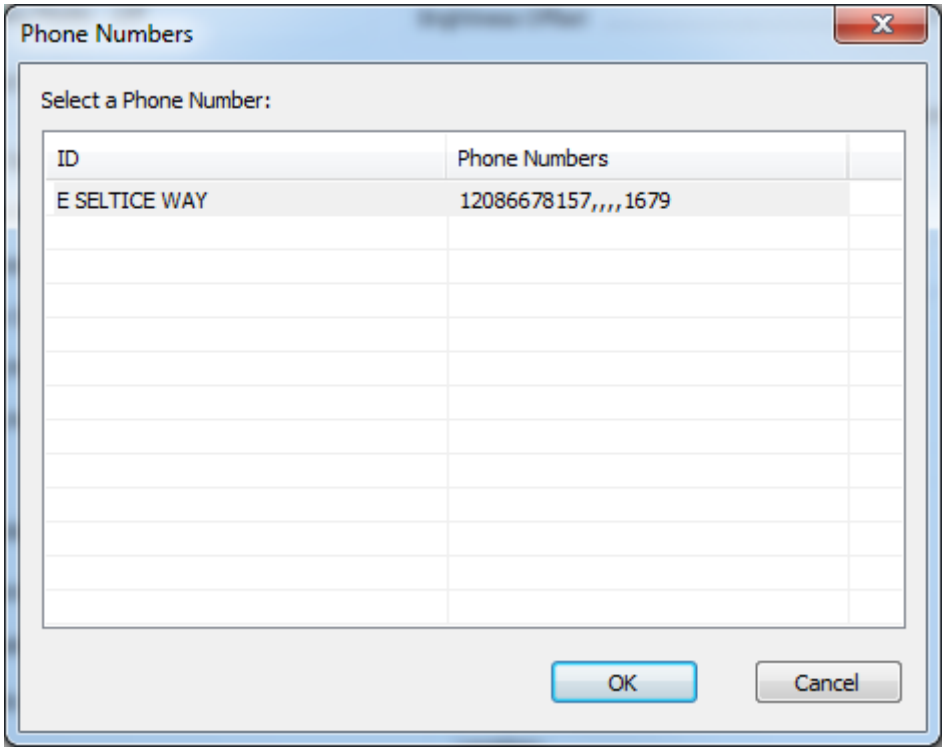


To connect to TraffiCalm™ LED Driver Feedback display using the modem:

1. Make sure your PC modem is hooked to a phone line.
2. Make sure your TraffiCalm™ LED Driver Feedback display is connected to a modem with a proper dialup account.
3. Start SafetyCalm™ DFB Configuration Software and select “Connect by Dialup”.
4. You’ll be presented with a list of phone modem equipped TraffiCalm™ LED Driver Feedback display previously entered by you.
5. Pick one TraffiCalm™ LED Driver Feedback display and select “OK”.

The SafetyCalm™ DFB Configuration Software will dial into the selected TraffiCalm™ LED Driver Feedback display and establish a connection. You will then be prompted for the password as usual. The SafetyCalm™ DFB Configuration Software will hang-up the modem either when it closes, or you select “Connect” / “work off-line”.





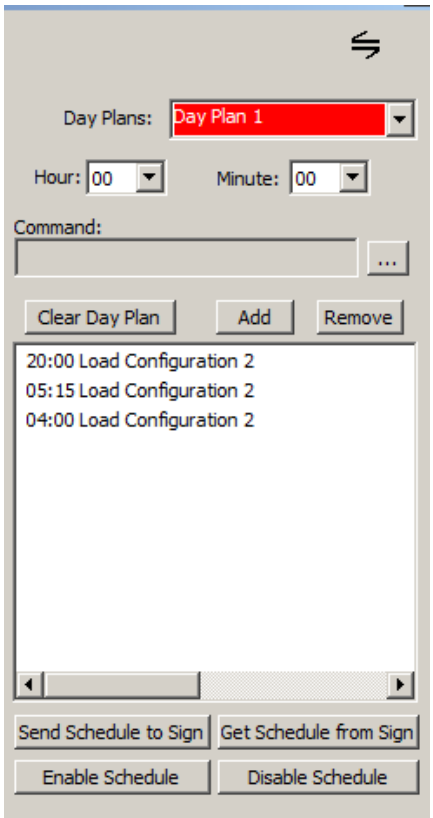
Note that in this example a long distance code was required. The commas provide a delay to allow the code to be properly received by the local phone system.

Edit

Scheduling

Day Plans

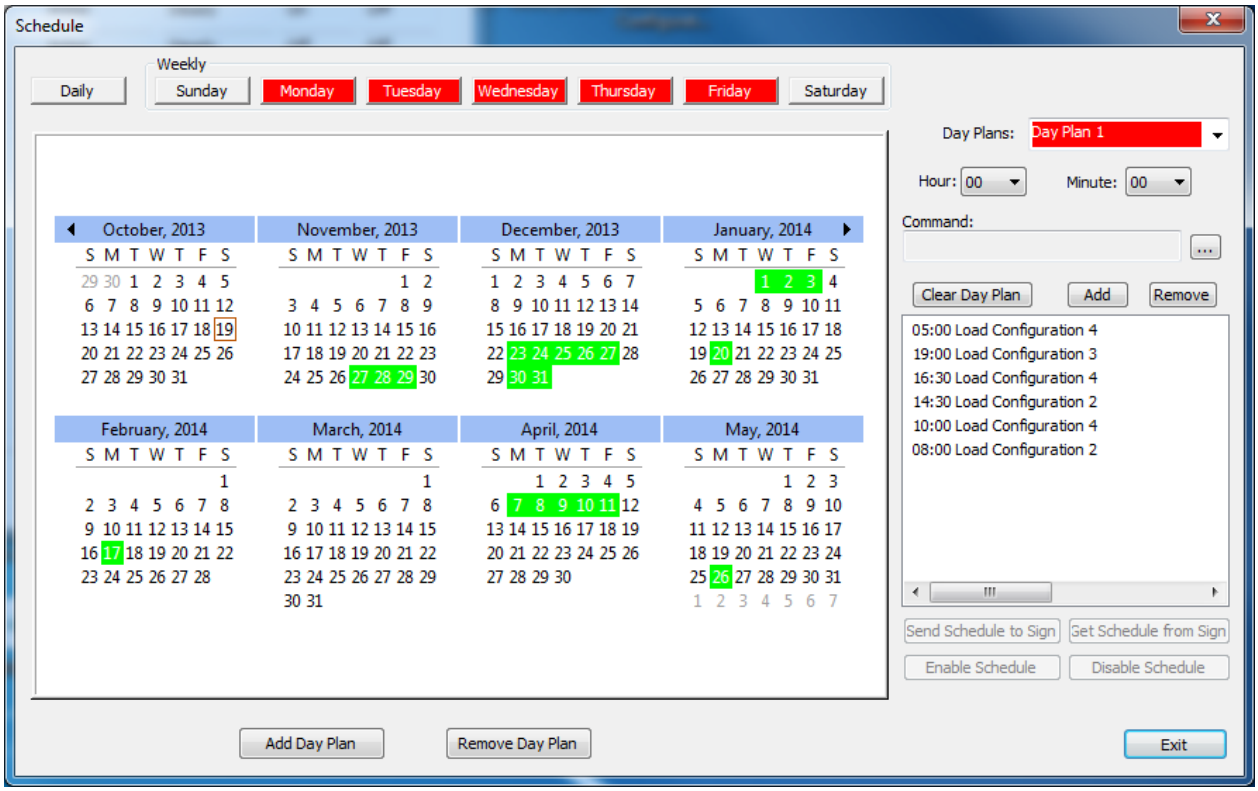
The scheduler function is organized such that the user defines a list of activity in something called a “Day Plan” and then attaches the day plan to a date, or a recurring day of the week or just defines it to occur daily. Up to 12 different day plans can be defined. They are color coded to help identify which is which. Only one day plan can be attached to any one date, or day of week, or be defined as daily. Each day plan can only have 9 events in the list of activity, but it is possible to structure the day plans cooperatively to produce up to 27 events per 24 hour period, since Daily, Weekly, and Dated day plans can overlap.



Schedule Dialog

The schedule dialog shows the calendar, day plan editor and scheduling controls. TraffiCalm™ LED Driver Feedback display functions that can be scheduled include:

- A configuration change (Potentially affecting all TraffiCalm™ LED Driver Feedback display settings).
- Individual TraffiCalm™ LED Driver Feedback display settings (Speed settings, display characteristics such as flashing)
- Time change (Day Light Savings vs. Standard) when not using automatic time changes.



Schedule Types

Schedule types include (in the order by which they are processed):

Daily - This is a recurring type of schedule that repeats every 24 hours.

Weekly – This is a recurring type of schedule that repeats every 7 days.
Date – this is a non-recurring type of schedule that occurs only at the specified date.
Schedules run 366 days from that date of schedule entry.
From 1 to 9 discrete events can be defined that recur daily.
From 1 to 9 discrete events can be defined that recur on each day of the week in weekly schedules.
From 1 to 9 non-recurring events can be defined for each day of the year.

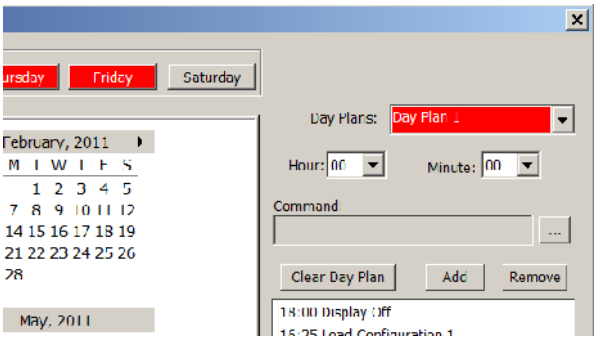
Schedule Processing Order

The nature of the scheduler function is to process the daily “day plan” first (if present), the weekly day plan(s) second (if present) and the discrete time day plan last (if present). After processing all of the day plans that apply to the current hour and minute of the day, the resulting configuration defines the final behavior of the TraffiCalm™ LED Driver Feedback display.

For example: The daily entry for 8:00AM is “DISPLAY MODE ON”. The Weekly entry for Saturday at 8:00AM is “DISPLAY MODE STEALTH”. The dated entry for December 11, 2010 at 8:00AM is “DISPLAY MODE OFF”. Then on Saturday, December 11, 2010 at 8:00AM the TraffiCalm™ LED Driver Feedback display will process the daily setting (DISPLAY is now ON), then process the Weekly setting (DISPLAY is now STEALTH), and then process the dated schedule (DISPLAY is now OFF). The final result is that on Saturday, December 11, 2010 at 8:00AM the TraffiCalm™ LED Driver Feedback display is OFF. The log will show all three mode changes occurring at the same time, and the final result.

Steps for scheduling

1. Define and save TraffiCalm™ LED Driver Feedback display configurations (if needed). Use the EDIT \ Configurations dialog to do this.
2. Define your "Day Plans" in the scheduler dialog with up to 9 events each. You can create 12 day plans. Use the drop down box to select one of the 12 day plans, which are color coded for easy recognition in your calendar.

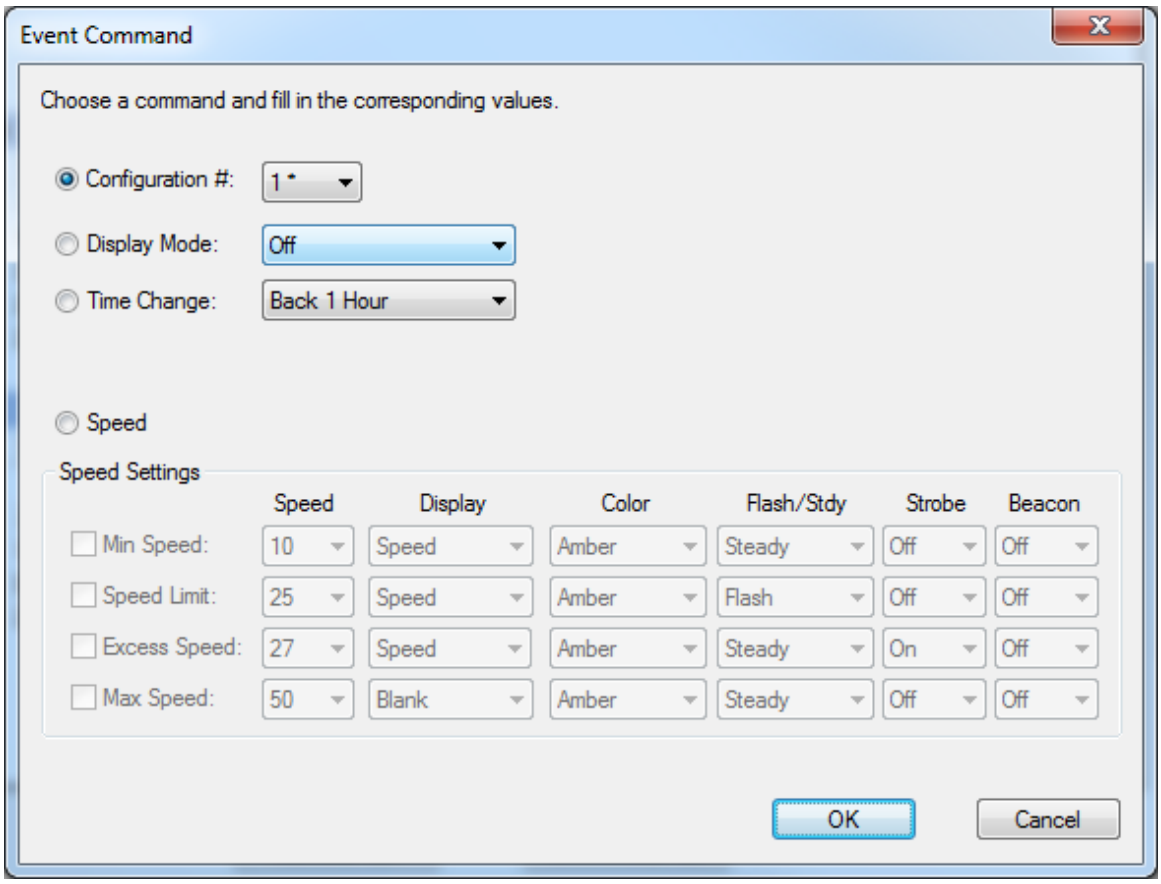


The events that appear in the event command field under the "ADD" and "REMOVE" buttons are events that apply only to the chosen day plan.

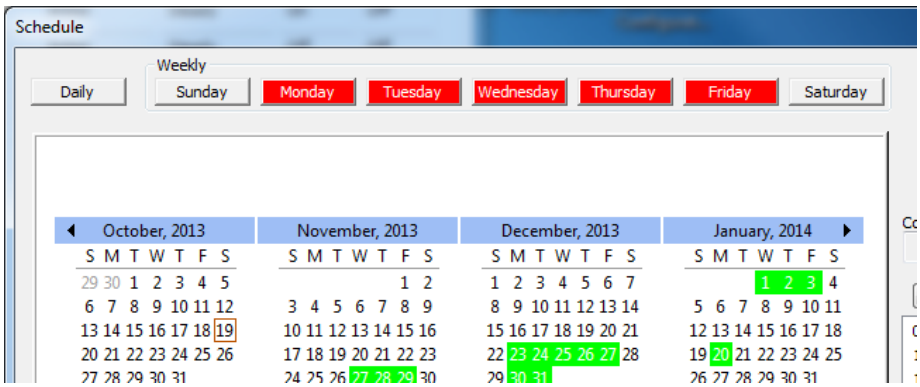
3. Pick the event for the day plan in the "Event Command" field. You can browse the schedulable events using the "…" button.

   The buttons and fields in the "Event Commands" dialog are not "sticky", and need to be properly selected each time the dialog is used.

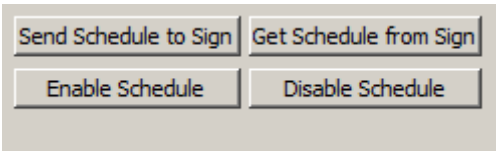
   In this example, the "Configuration 1" is selected, however, when "Speed" is selected, all four categories for speed will be checked, and separate events for each checked category will be added to the day plan when you select "Add".



4. Set the time of day that you want the event to occur.
5. Select the “ADD” button to add the event to the day plan.
6. To remove an event, highlight the event and select the “REMOVE” button.
7. Assign the day plan to Daily, Weekly, or calendar days. Daily and Weekly assignments repeat forever. Only one day plan can be assigned to any one day or daily or weekly position. For “Daily” or “weekly” events simply click on the “Daily” button, or day of week button to add the day plan to. The button will change to the color of the day plan that applies. For discrete dates, select the date, or range of dates to apply the day plan to and then click the “Add Day Plan” button, or “Remove Day Plan” button below the calendar.

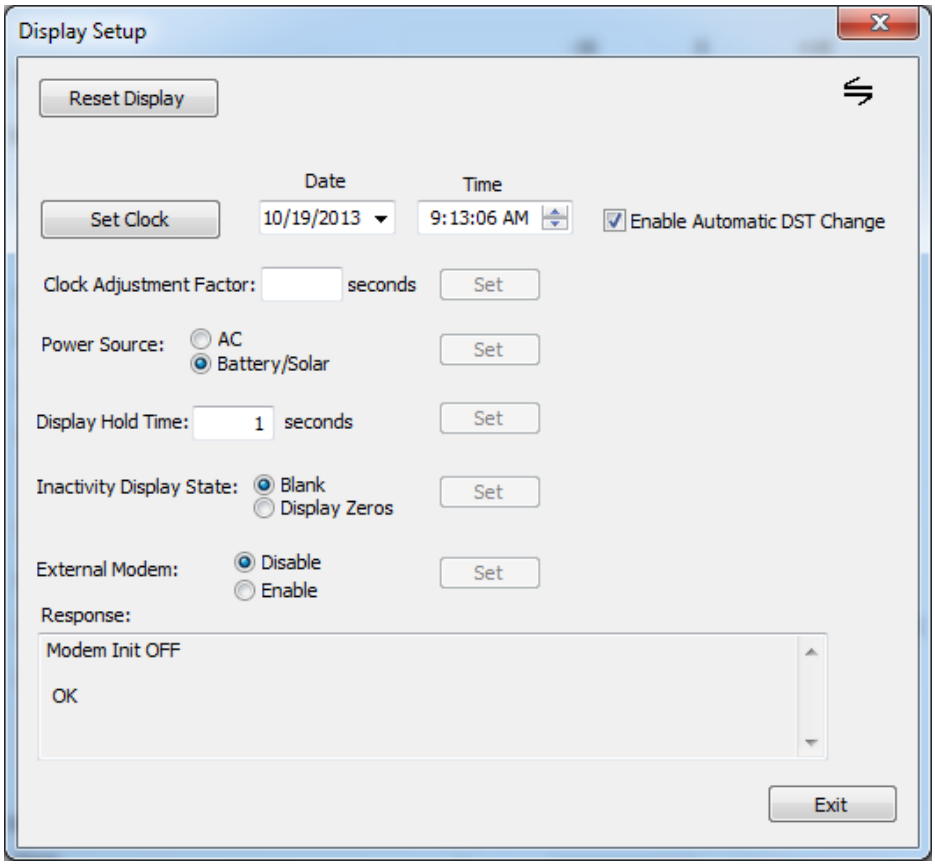


8. Once the schedule is defined send (“Send Schedule to Sign”) the schedule to the TraffiCalm™ LED Driver Feedback display.
9. Enable the schedule when prompted, or use the provided buttons.



TraffiCalm™ LED Driver Feedback display Setup

Under “Edit” select “Display Setup" to reset the current configuration to factory defaults, or to set the TraffiCalm™ LED Driver Feedback display’s internal clock.



Reset Display

“Reset Display” will return all of the current volatile configuration settings to factory defaults without affecting the preset configurations, schedules, logs or passwords. It will also restore the radar “base line” null pattern snap shot to factory default.

Set Clock

"Set Clock" sets the display time to the time shown in the adjacent fields, which are populated from the PCs system clock when the dialog opens. Be sure to check the "Enable Automatic DST Changes" box if automatic time changes are desired, before pushing the "Set Clock" button.

If your schedule is enabled, setting the clock will cause the TraffiCalm™ LED Driver Feedback display to perform an evaluation of the schedule from the last configuration to today's date. This is useful for testing the scheduled events, but this evaluation can take about 3 seconds per day. If you set the time 100 days into the future and there are events occurring each day, then the evaluation might take 5-minutes. During that time, the TraffiCalm™ LED Driver Feedback display will not show speeds nor respond to communications. The "Response" text box will show the progress.

Real Time Clock Accuracy

The accuracy of the clock can be affected by the way you set the time. The time shown in the dialog was populated at the moment the dialog opened. If there is any delay in selecting "SET CLOCK" that delay will present itself as a clock error. Please also keep in mind that the PC clock is probably not accurate. The best way to set the TraffiCalm™ LED Driver Feedback display's time accurately is to use a standard time source such as from a cell phone or a clock that is continuously synchronized from the bureau of standards using WWVB or GPS or a network time server. It is not adequate just to use the same clock source as any source that is not corrected daily is probably wrong to some degree.

Setting the Real Time Clock

Adjust the time shown in the dialog for time setting ahead of the accurate time source by 10 to 15 seconds, being mindful that the date and minutes stay

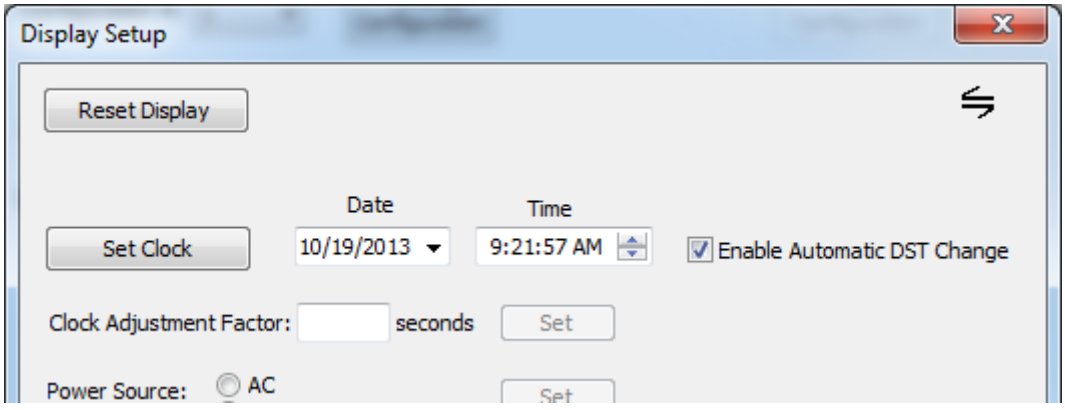
correct, and then click on “SET CLOCK” just as the standard time piece strikes that hour, minute, and second.

Daylight Savings Time

Time changes in the fall and spring can be scheduled, or can be selected to be automatic.

Automatic Time Changes

If automatic changes are enabled (See Edit / Display Setup) they will occur on the second Sunday in March and the first Sunday in November at 2:00AM. To use the automatic changes, check the “Enable Automatic DST Changes” box and then select “Set Clock”. To disable automatic changes, uncheck the “Enable Automatic DST Changes” box and then select “Set Clock”. See also “Set Clock” under “EDIT” / “Display Setup” for additional time keeping details.



Scheduled Time Changes

If the automatic change dates are not right for your region then use the scheduler to pick the day at which you will spring forward or fall back. When you use the schedule for the time change, the time change will occur at 2:00AM regardless of the hour or minutes selected. If you use the scheduler for this function be sure to send the schedule to the display, and enable the schedule. ***Make sure that***

the automatic changes are disabled if the scheduler is used to make the time changes.

Note: If you are not using the scheduler or logging functions, there is no need to either set the time, or schedule time changes.

Checking the Real Time Clock

The time shown in the main dialog may be delayed by from 1 to 10 seconds. To accurately check the system time, click on VIEW and then wait until the accurate time piece strikes the current second and click on "STATUS". The dialog shows the date and time. Verify that the date and time shown is the same as the date and time on the accurate time piece at the moment that "STATUS was selected. The "REFRESH" button in the status dialog can be used to recheck the time.

For best performance, the clock should be properly set from a calibrated source every time the SafetyCalm™ DFB Configuration Software is used to access the TraffiCalm™ LED Driver Feedback display, and no less often than once per year.

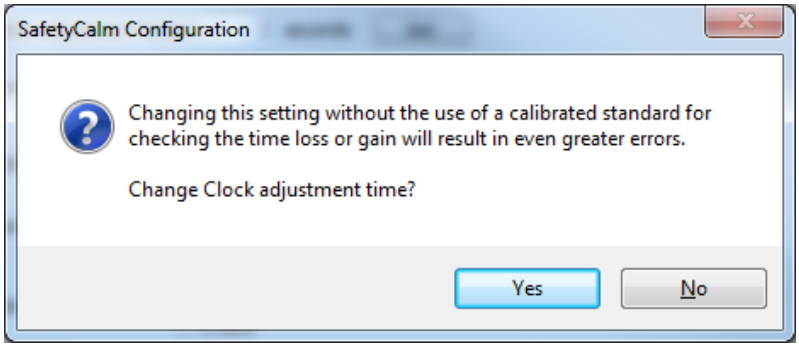
The clock drift can be compensated if it is accurately measured first.

Note: The following settings will only appear in the dialog if the firmware installed in the TraffiCalm™ LED Driver Feedback display supports them. If the features described here are needed but not available, then update the TraffiCalm™ LED Driver Feedback display to the latest firmware before proceeding.

Set Real Time Clock Correction Factor

Not all TraffiCalm™ LED Driver Feedback displays support this feature. When they do, the item will appear in the dialog. The factory adjustment for the Real Time Clock should provide stable temperature compensated time keeping for most TraffiCalm™ LED Driver Feedback displays with V2.09 (V1.2 for Full Matrix Displays) or later firmware to within +/- 1 second per day. Due to variations in components, some TraffiCalm™ LED Driver Feedback displays will experience a larger drift. A Real Time Clock compensation adjustment process has been provided to tune the clock for better time keeping. The process works like this:

A. Using a calibrated accurate time piece (Cell Phone, GPS, etc..) determine if and how much the clock is gaining (+) or losing (-) time, and how many days have passed since the time was last set. (Note: Some TraffiCalm™ LED Driver Feedback displays will show you these numbers when you set the time.)
B. Divide the time deviation by the number of days. If the time deviation was less than ¾" second per day, an adjustment is probably not necessary.
C. Open the dialog Edit / Display Setup
D. Under "Clock Adjustment Factor" enter the drift in seconds (+) if gained or (-) if lost (example: +1.5 or -1.25, etc.)



E. Select "SET". A warning dialog will pop up as a reminder that this process can make things worse if not done correctly.

F. Select “YES”.
G. The RTC CF (Real Time Clock Correction Factor) will appear in the “RESPONSE” dialog. The number that appears indicates the time offset in 135nS (Nano Second) increments that will be added (if –) or subtracted (if +) each second.

Power interruptions may also affect the accuracy of the real time clock since a transfer of time takes place between components of the TraffiCalm™ LED Driver Feedback display each time the display powers up providing an opportunity for accumulating errors.

For best performance, the clock should be properly set from a calibrated source every time the SafetyCalm™ DFB Configuration Software is used to access the TraffiCalm™ LED Driver Feedback display, and no less often than once per year.

Power Source Selection

Not all signs support this feature. When they do the item will appear in the dialog. In the maintenance dialog there are radio buttons that indicate current selection and allow selection of the source type of the power source for the TraffiCalm™ LED Driver Feedback display. The setting determines the behavior of the TraffiCalm™ LED Driver Feedback display based on applied DC voltage. The AC supply setting allows a wider range of operation than the Battery / Solar setting. In Battery Solar Mode, the TraffiCalm™ LED Driver Feedback display will shut down operation at 11.5VDC and go to sleep at 10.5VDC to help preserve batteries from damage. While the sign is “sleeping” the Bluetooth transmitter goes offline. The Bluetooth transmitter will go back online when the battery voltage rises above 11.9V. Normal operation of the display resumes when the battery voltage rises above 12.3VDC. The default setting is Battery/Solar. In AC Supply mode, the TraffiCalm™ LED Driver Feedback

display will operate all the way down to 10.5VDC and will restart anytime the voltage is above 11V allowing for supplies that only produce 11.8V to 12.2V, and line loss due to voltage drop.

Select the power type used by the TraffiCalm™ LED Driver Feedback display and then select “SET”.

Display Hold Time

Not all TraffiCalm™ LED Driver Feedback display will support this feature. When they do the item will appear in the dialog. The “Display Hold Time” setting determines how long the TraffiCalm™ LED Driver Feedback display will continue to show the last speed it read since either the target went away or was obscured by interference. The TraffiCalm™ LED Driver Feedback display allows ½ second increments from 0 to 9.5 seconds. Without any hold time, the display could appear erratic, constantly jumping from blank to a speed and back. Increasing the hold time stabilizes the display. If there are road conditions that may cause radar interference such as curves, reflective surfaces, etc, increasing the hold time will make the TraffiCalm™ LED Driver Feedback display more stable and may help extend the range.

Enter the desired hold time in seconds (i.e. 1.0) and select “SET”.

Inactive TraffiCalm™ LED Driver Feedback display State

Not all TraffiCalm™ LED Driver Feedback displays support this feature. When they do the item will appear in the dialog. The “Inactive Display State” setting allows the user to select if the display goes blank or shows “00” when there are no vehicles detected.

For battery or solar powered installations it is best if the TraffiCalm™ LED Driver Feedback display goes blank when there are no vehicles detected as the “00” display will cause a continuous power use.

Default is to go blank. Select “zeros” to change to the “00” display and then select “SET”.

Durability of settings

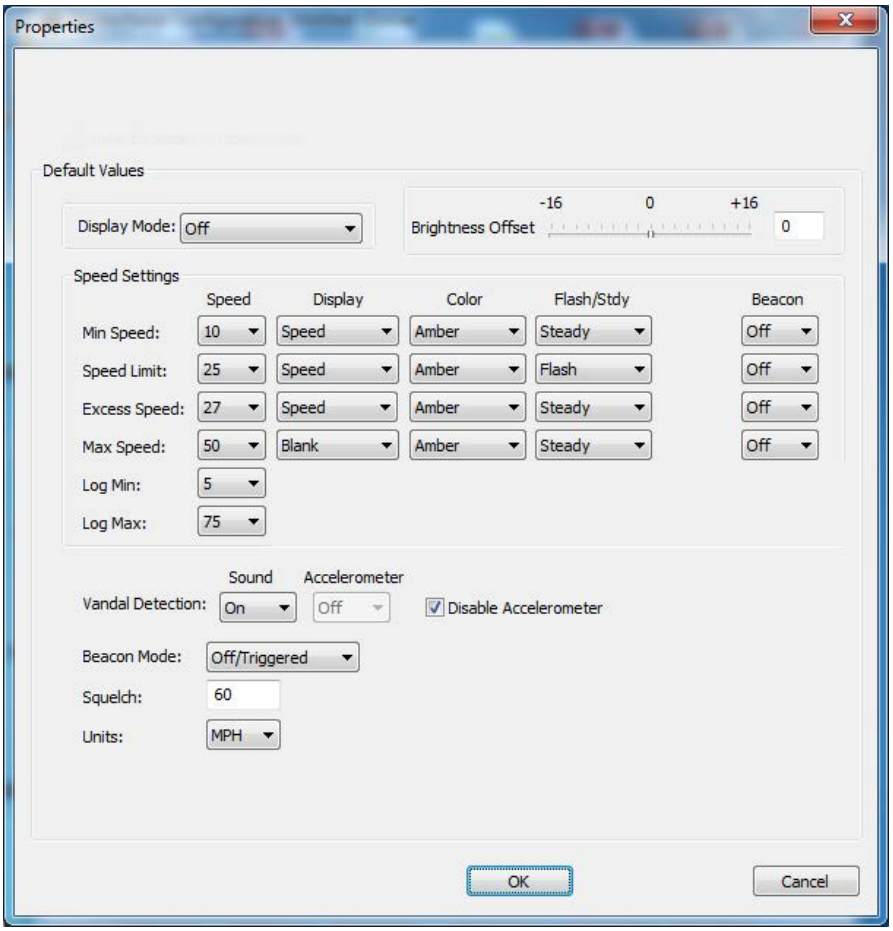
All of these setup selections will be stored in EEPROM (non-volatile) memory and are maintained through power interruptions. To keep the “Reset Display” settings, you must save them to a configuration and make sure that the configuration is selected for power up recall. (See “Change Configuration (Save Configuration)”)

Configurations

The configuration edit dialog allows you to preset up to 15 saved TraffiCalm™ LED Driver Feedback display function patterns that can be called up or scheduled using a one or two digit reference. Example uses are school zones where the speed limit changes based on time of day, etc. An empty dialog is populated with the settings from the “FILE/Properties” dialog when an unused configuration number is selected. You can adjust one or all of the settings. You can create one or fifteen configurations as needed. When you have defined all of the configurations that you need to, select “Send Configurations to Sign” to send them to the TraffiCalm™ LED Driver Feedback display. If you are working “OFF-LINE” then the configurations are retained in PC memory and you can select “FILE/ SAVE” or “SAVE AS” to save all of the settings for this session to a database for later retrieval.

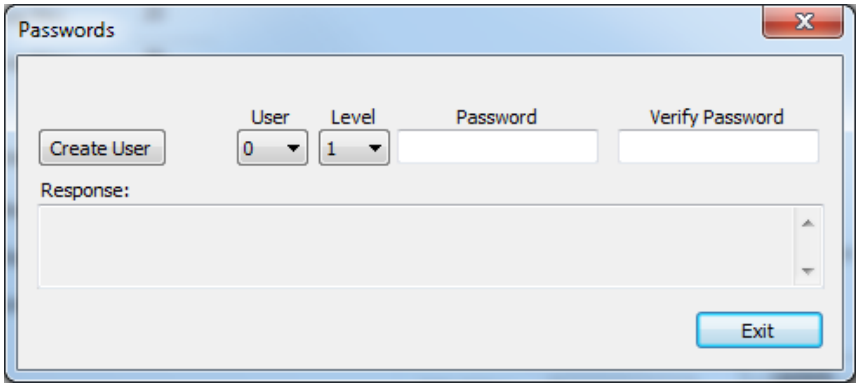
Note: The “Accelerometer” field only appears in this dialog if “enabled” under “FILE / Properties”. It should only be enabled if the TraffiCalm™ LED Driver Feedback display has an accelerometer.

Whenever configurations are sent to the TraffiCalm™ LED Driver Feedback display, the schedules will be disabled. Re-enable them in the main dialog if you need to.



Passwords

When logged in as an administrator, this dialog allows the definition of passwords and privilege levels. There are ten user slots available (0-9). Privilege levels are 1-4. The password is case sensitive up to 15 characters including special characters, such as * # $ % & @, etc. The factory assigns a default administrator password (see step 9 of "Starting the TraffiCalm™ Configuration Software".)



Privilege Levels

- A level 1 user can only get information from the display, such as current configuration and data logs. They can't change the way the display operates.
- A level 2 user can access the maintenance commands, but can't change the schedules or other setup information.
- A level 3 user can change the TraffiCalm™ LED Driver Feedback display configuration and schedules, but can't change the setup parameters such a location, or squelch, or passwords.
- A level 4 user has full access.

Note: When defining passwords, be sure not to overwrite your level 4 password without defining a new one in one of the user slots, or you will not be able to log

back in as an administrator. If this occurs, call the TraffiCalm Systems Technical Service department toll free number at 1-855-738-2722 between the hours of 8:00 A.M. – 5:00 P.M. Pacific Time Monday through Thursday or Fridays from 8:00AM – 12:00PM, and a trained professional will assist you with instructions on how to recover your administrator password.

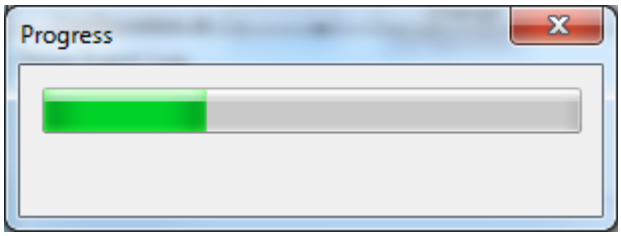
View

Status or Logs

The “View” tool bar dialog allows the user to view “Status” and “Event Logs” and “Speed Logs” or a previously saved log file. Each of these can be saved, as a text file in the case of Status, or a .csv file in the case of the event or speed logs, for record or for use in an Excel spread sheet for data analysis.

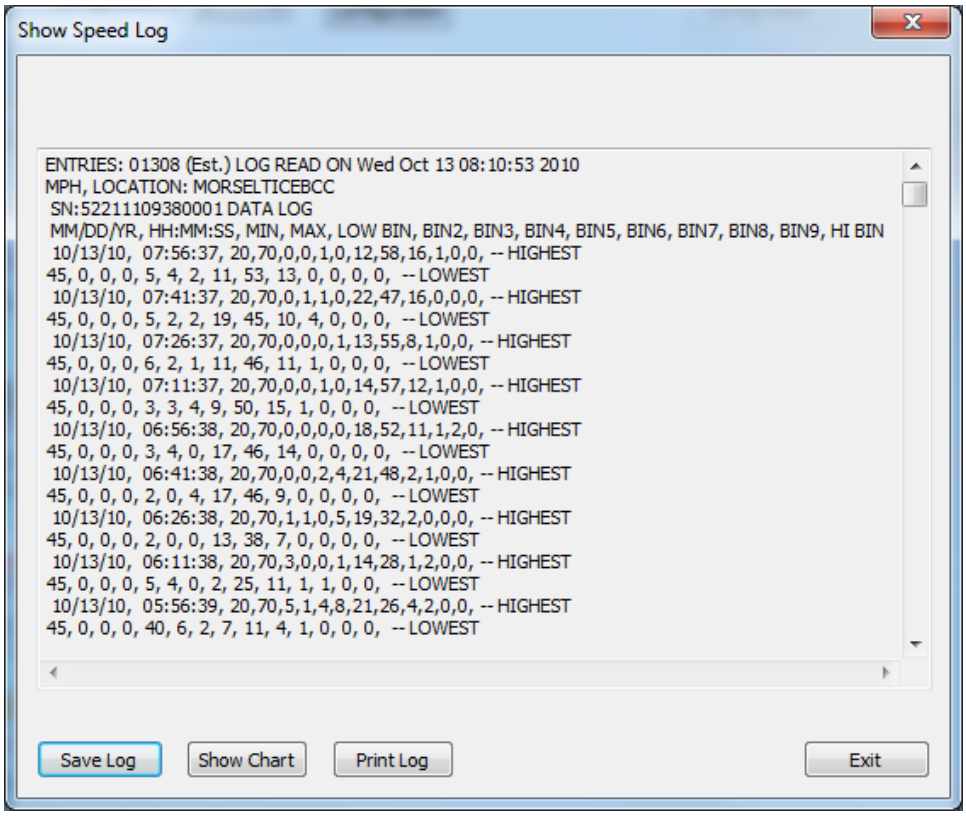
When the selection to “View / Event Log” or “Speed Log” is made, a dialog will open and give you the choice to “Get All” or “Get Range”.
The initial dates shown indicate the span of time that the log currently covers. You can alter the dates to something within that span to reduce the amount of data transferred.

During the transfer, a progress bar will appear. The data log buffers are circular and hold up to 30 to 40 days of events and up to 90 days of speed collection data. A full buffer may take up to 9 minutes to transfer to the PC using a V2.1 Bluetooth pair.



After the transfer the SafetyCalm™ DFB Configuration Software will do a check on the data integrity. If it finds any errors it will attempt to correct the file. When that happens, a dialog will open to indicate that errors were found and some number of entries was deleted as a result to remove the bad data. You can save the corrected file, or you may choose to improve the weak communications link and try again. If you don't see the dialog, then it didn't find any errors. Files previously saved and loaded from disk also undergo a data integrity check.

The received log will look like this. If you select to “Save Log” the SafetyCalm™ DFB Configuration Software will name the log file by serial number, location, and date and store it in the local My Documents folder.



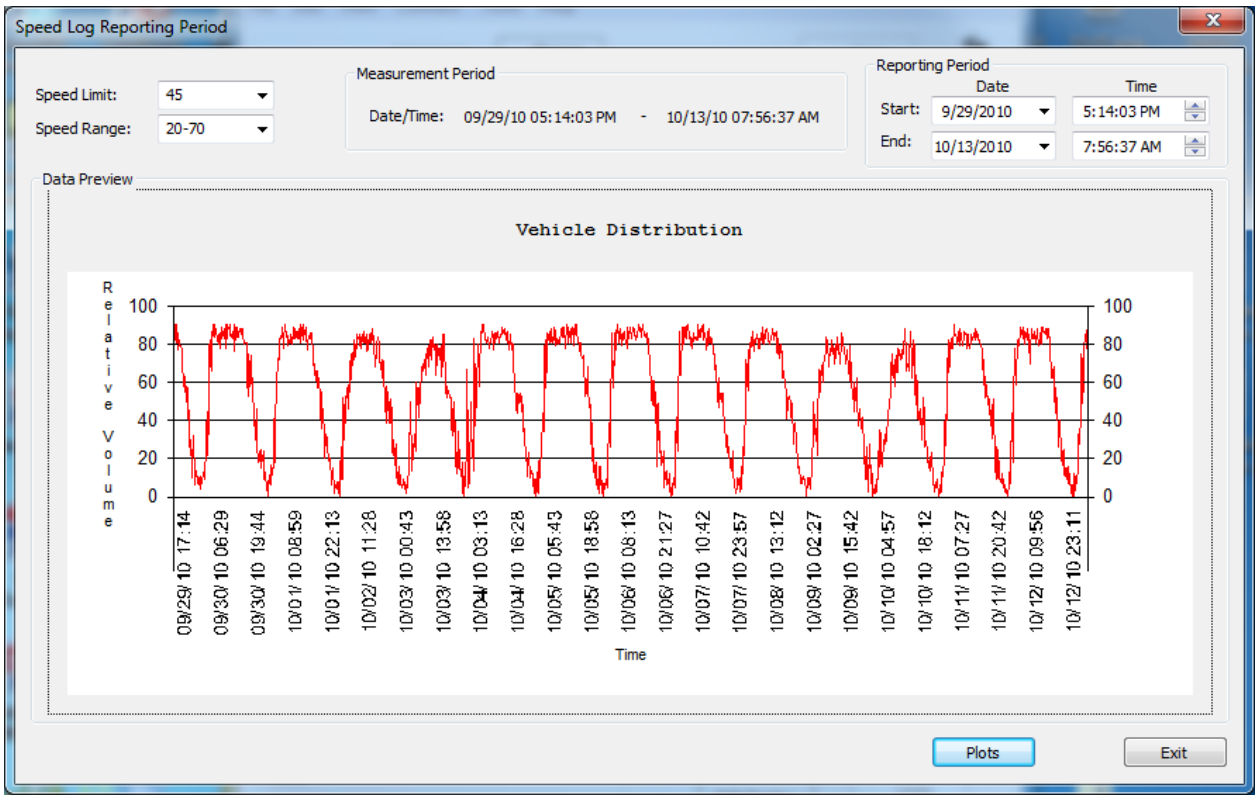
“Event” type logs are records of actions taken via TraffiCalm™ Configuration and Collection Software, or internally by the schedule and alarm set-points. The “Speed” type logs are the speed data collected by the display. Typical get log sequence:

1. Select “View” then “Event Log” or “Speed Log”.
2. Select to “Get All from Sign” or change the dates within the range of dates. The dialog will only allow you to change to a date that was within the range first shown. Then select “OK”.
3. A progress bar dialog will appear, and the communications activity indicators will blink back and forth.

4. When data appears in dialog, select “Save Output” to save the data to a text file. SafetyCalm™ DFB Configuration Software will pick a name for you that contains the type of log, serial number of the display, location of the display, and today’s date. Unless you specify otherwise, it will place all files into “My Documents” for the currently logged in user.
5. The log can be printed in text form using the “Print Log” button.
6. Statistical data and charts can be viewed using the “Show Chart” button. If “Event” data is loaded, an Event chart will be shown. If “Speed” data is loaded then speed charts are shown.

Speed Log Data Charts

In the speed log dialog lower left there is a button (“Show Chart”) provided to launch the included useful graphs and percentages to be used for traffic monitoring and planning purposes.



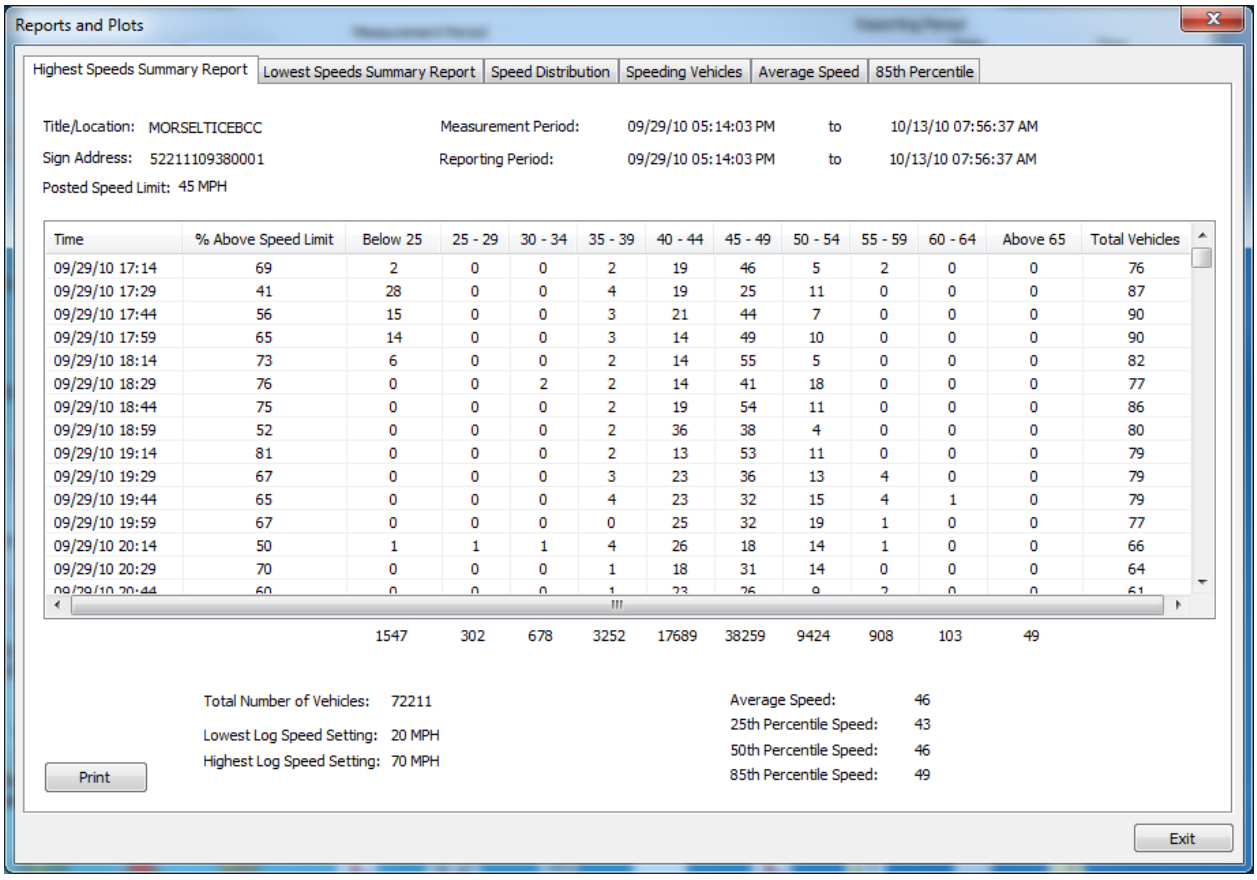
The first chart you'll see is within a dialog that allows the selection of reporting period ranges, individual speed limit and speed ranges when the data log contains multiple speed limits or ranges, and a chart that shows relative volume over the period of time that the data log contains. If the data log contains many weeks of collected speed data greater clarity of output can be obtained by selecting smaller start and end periods for report generation.

Multiple speed limits and speed collection ranges may be present within the same log due to scheduled configuration changes and manual configuration updates. As mixing these settings within the log would result in bad or misleading report data, the dialog allows you to select one from all of the different settings that appear within the collection period to use for report generation. Select the drop down button next to the speed limit or speed range and if there is more than one, the others will appear for you to choose from.

When you have completed your selections, select "Plots" to see the speed reports.

Reports and Plots

When "Plots" is selected a dialog with six tabs labeled "Reports and Plots" will appear.



Tab 1 – Highest Speeds Summary Report

The summary reports indentify and show the data collected along with the 85th, 50th, and 25th percentile speeds. The scroll bar on the right allows you to scroll through all of the detection counts of the highest speeds recorded.

Tab 2 – Lowest Speeds Summary Report

This report indentifies and shows the data collected along with the 85th, 50th, and 25th percentile speeds. The scroll bar on the right allows you to scroll through all of the detection counts of the lowest speeds recorded in the same snapshot periods as the highest speeds. The intent of this data is to indicate if traffic slowed down.

Tab 3 – Speed Distribution

This chart shows in bar graph format the distribution of highest and lowest contact speeds.

Tab 4 – Speeding Vehicles

This chart shows in line graph form the percentage of speeding vehicles versus the relative volume of vehicles.

Tab 5 – Average Speed

This chart shows the average highest and lowest speed detected over time.

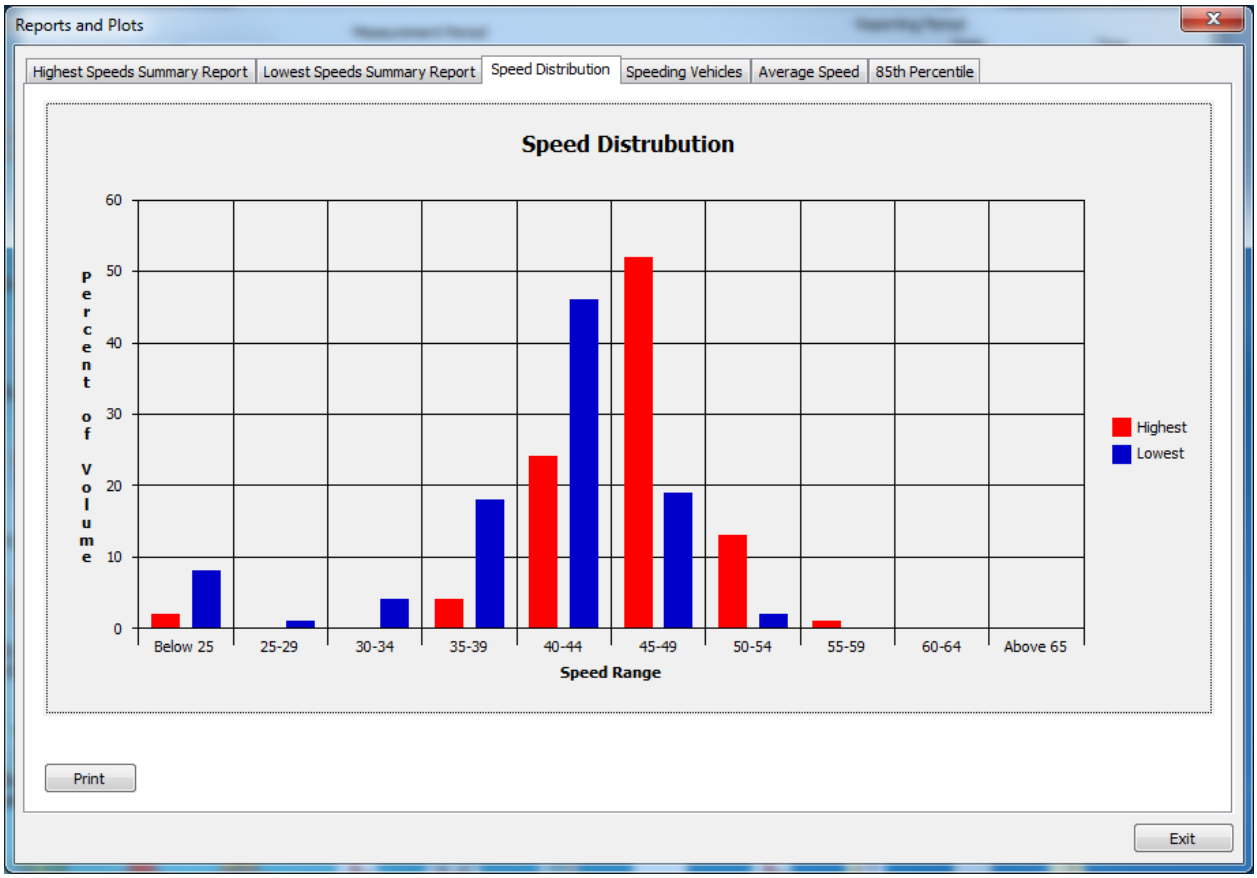
Tab 6 – 85th Percentile

This line chart plots the 85th percentiles of the fastest and slowest speeds detected.

Printing the Charts

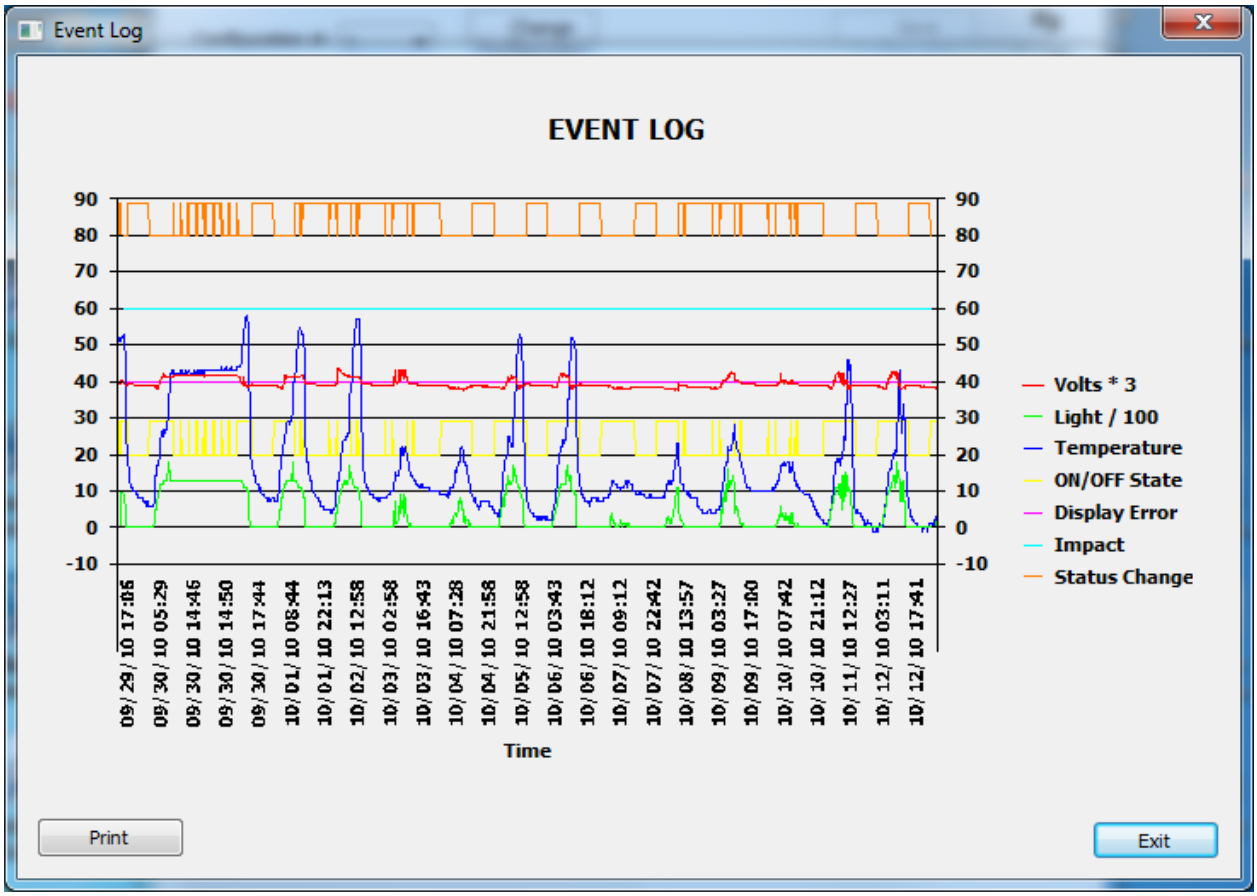
The charts on tabs three through six have a “Print” button on the lower left of the dialog box. Pressing that button brings up the standard printer dialog that allows selection of printer and printer settings. The program defaults to a landscape and standard quality setting. Select High Quality setting for best output.

The charts can be captured for inclusion in reports by bringing the dialog into focus (select it) and then by pressing the keyboard combination “ALT” and “PRINT SCREEN”, then pasting to the document where you want the chart to appear. Higher quality printing is possible that way.


Reports and Plots
Highest Speeds Summary Report
Lowest Speeds Summary Report
Speed Distribution
Speeding Vehicles
Average Speed
85th Percentile
Speed Distrubution
percent of Volume
60
50
40
30
20
10
0
Below 25
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
Above 65
Speed Range
Highest
Lowest
Print
Exit

Event Log Chart

The event log data can be viewed using the “Show Chart” button with Event data loaded.

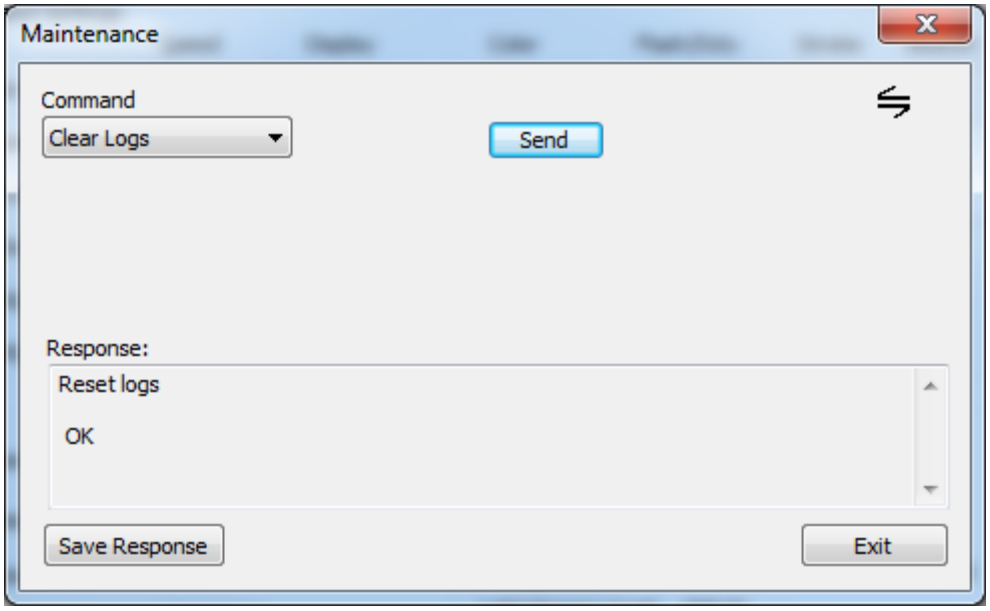


So that the data fits neatly within the chart it has been scaled. The scaling used is shown in the chart legend. The ON/OFF state indicates periods of time when the TraffiCalm™ LED Driver Feedback display could be viewed by motorists, and the Status Change line indicates every time the configuration of the display was changed by schedule or manual command. The event log contains more

detailed data than is shown by the chart. Consult TraffiCalm Systems if more detailed interpretation is required.

Clearing the Logs

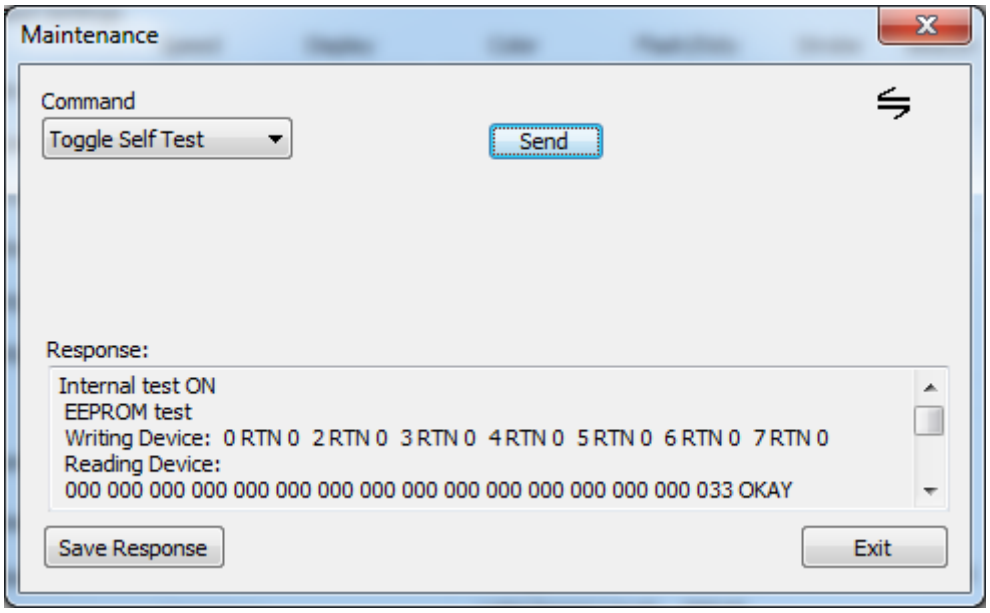
The event and speed logs are reset (cleared) using the "Clear Logs" command in the maintenance dialog. Although the log buffers are circular in design, overwriting the oldest entry with the newest, the "Clear Logs" command provides a file size management tool, in addition to the selective transfer dialog.



Tools

Maintenance

The commands available under the “Tools”, “Maintenance” dialog are used to setup and maintain the TraffiCalm™ LED Driver Feedback display. They are only accessible by technicians and administrators involved in the trouble shooting, setup and testing of the display.



Drop Down Menu “Command”

Self Test

Select “Toggle Self Test” and “Send” to start an internal self-test on the TraffiCalm™ LED Driver Feedback display.
Note that the radar test can be influenced by interference and moving objects. A “fail” indication in only one or two of the three tests may indicate such interference, and not necessarily a bad unit. The self-test function will start the

TraffiCalm™ LED Driver Feedback display showing “00”, “11”, “22”, etc. until a “Restore Current Profile” command is executed.

Radar Baseline

Select this command and “Send” to cause the radar to examine itself and surroundings for interference sources that it can null out. The TraffiCalm™ LED Driver Feedback display will retain this “null” pattern and use it to help distinguish actual targets from interference. Caution: although the TraffiCalm™ LED Driver Feedback display will pause this function if it detects strong movement, a valid moving target in the background during this action can cause an erroneous null pattern that may affect the ability of the display to pick up targets. When the function is complete the TraffiCalm™ LED Driver Feedback display will send the baseline null pattern for your analysis. You can reset the null pattern to factory default by going into “EDIT\Display Setup” and selecting “Reset Display”. (See also Squelch)

Restore Current Profile

This is a handy command to restore the TraffiCalm™ LED Driver Feedback display from the “Toggle Self Test” test pattern.

Enable Schedules

The “Toggle Self Test” command disables the schedule processor. “Enable Schedules” is a handy command to restore the schedule operation with. In this location it behaves the same way as when selected in the “Edit / Schedules” dialog and in the Main dialog.

Stream Readings

Select “Stream Readings” and “Send” to start a continuous live display of Speed \ Direction \ Signal Strength and Purity reading over the communications interface. This is used as a lane coverage check, but is also useful as a check of the radar sensitivity and function. The TraffiCalm™ LED Driver Feedback display will not record or show speeds to motorists while this mode is engaged.

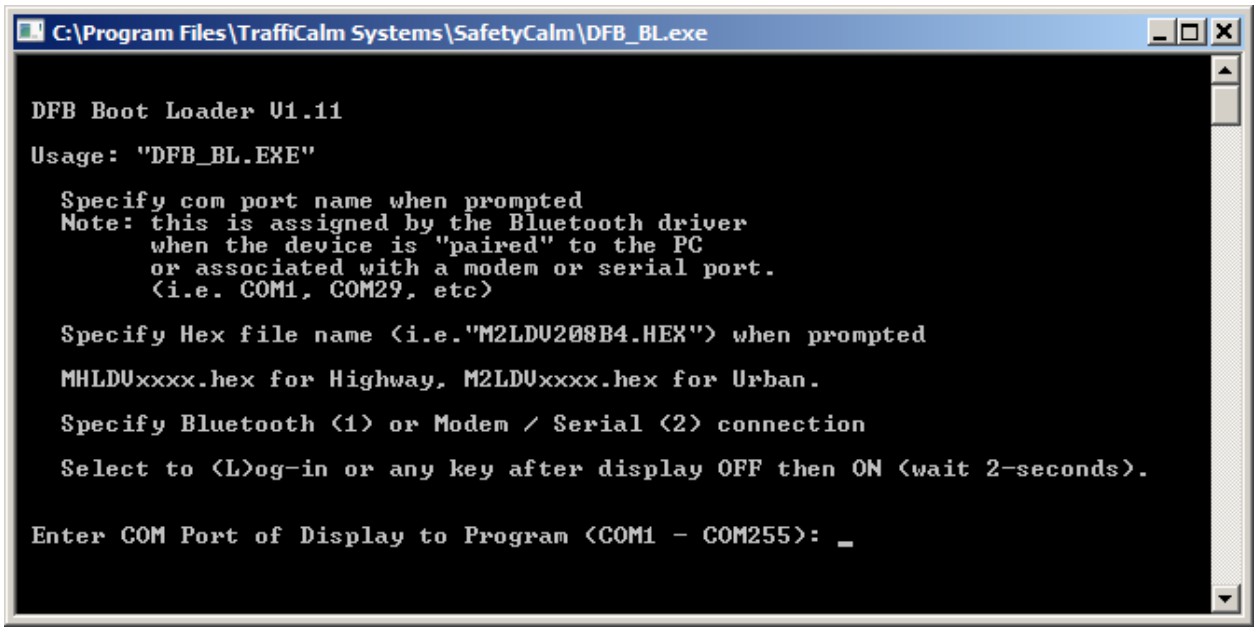
Clear Logs

Select this and “Send” to clear out the event and speed logs. Doing this after a log transfer keeps the log files small and easily manageable if the logs are transferred weekly or bi-weekly. Activating this command may also be necessary to reset the log memory pointers after a firmware update to prevent erroneous entries from being included in the log transfer.

Display Firmware Updates

The “Update Firmware” button is also under “TOOLS”. This button launches a “boot load” utility and closes the TraffiCalm™ Configuration and Collection Software. This utility allows an administrator to update the firmware in the TraffiCalm™ LED Driver Feedback display over the Bluetooth connection. To use this feature, it will be necessary to know the COM port number assigned to the TraffiCalm™ LED Driver Feedback display that needs to be to upgraded. Select “Update Firmware” then follow the prompts in the Command Line window that opens. Once the COM port number has been entered and file name (with path if not located in the SafetyCalm™ DFB Configuration Software EXE Folder),

select the connection type and method of log in, and the boot loader program will take over, placing the TraffiCalm™ LED Driver Feedback display in receive mode, and sending the new firmware automatically.



Allow this function to complete undisturbed during the firmware transfer or the TraffiCalm™ LED Driver Feedback display could be placed in a permanent coma requiring return to the factory for servicing.

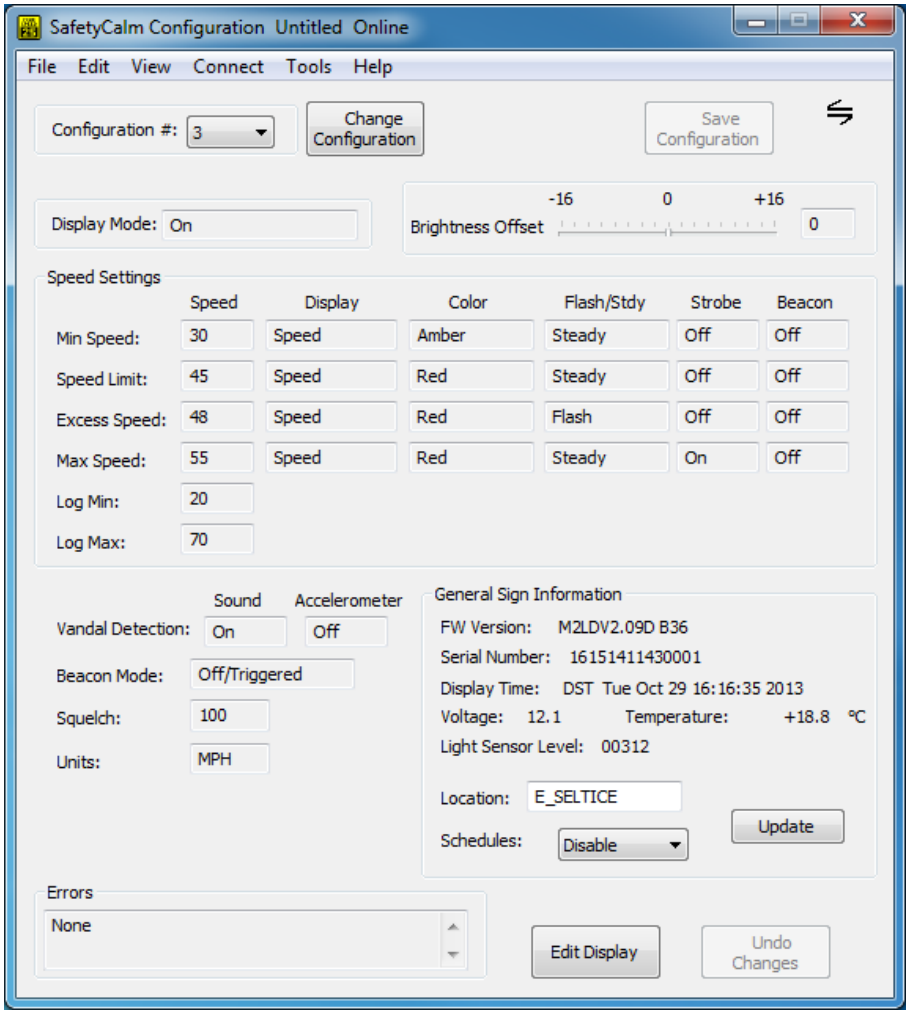
If the transfer ends prematurely due to PC or Bluetooth link problems, it may be possible to retry the transfer with the following steps:

1. Fix the communications problem.
2. Start the Boot Load program (DFB_BL.EXE located in the Program Files (x86)\TraffiCalmSystems\SafetyCalm\ directory), enter the COM port and File name. When the Boot Loader Software asks if you want to login, proceed to instruction 3.
3. Turn the display power OFF for 10 seconds and then power it back ON.

4. On the PC press any other key than “L”. The Boot Load program will bypass normal protocol and attempt to link directly with the boot subroutine in the TraffiCalm™ LED Driver Feedback display. If it is successful, the program transfer will continue on normally.
5. If it is not successful, the TraffiCalm™ LED Driver Feedback display will need to be sent back to the factory to have the program re-installed.

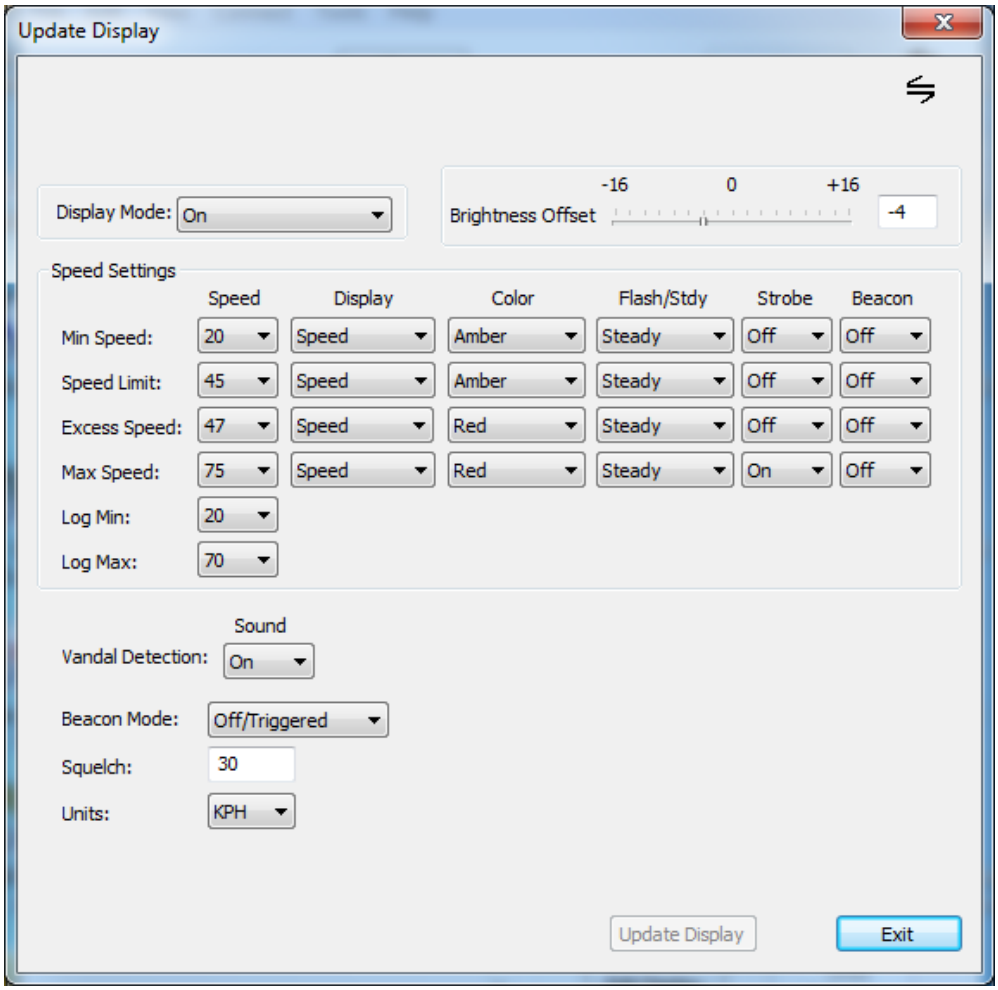
TraffiCalm™ LED Driver Feedback display Configuration Settings

The main dialog is a view only rendition of the current settings that the TraffiCalm™ LED Driver Feedback display is using in volatile memory, which the display executes out of. *Volatile memory is a type of memory that changes when power is lost, or when the sign is reset*. The configuration number can be changed, or the location description and schedule enable can be updated. None of the other fields can be edited from here.



Edit Display Configuration

To edit the configuration, either select “Edit Display” from the main dialog (lower right of dialog), or select EDIT \ Configuration from the menu bar. The difference between the two is that the Edit Display button changes the current configuration in the volatile memory of the TraffiCalm™ LED Driver Feedback display, which can be undone by either selecting “Undo Changes” in the main dialog, or rebooting the display, but “Edit \ Configuration” only affects the database in software until it is sent to the display, and then it becomes part of the non-volatile memory. The TraffiCalm™ LED Driver Feedback display loads the non-volatile memory selected into volatile memory for operation of the display upon power up and when commanded by schedules or in “Edit Display”.



Changes made in this dialog are not implemented until the “Update Display” button is selected. The “Update Display” button stays “grayed out” until a change is made within the dialog.

TraffiCalm™ LED Driver Feedback display Mode

Possible choices are:

- OFF – TraffiCalm™ LED Driver Feedback display powers down to a standby mode that draws minimal power.
- ON – TraffiCalm™ LED Driver Feedback display detects target speeds, displays speeds according to Speed Settings, and makes speed log entries.
- Stealth – TraffiCalm™ LED Driver Feedback display detects target speeds and makes log entries, but does not display speeds. (low power consumption. Data gathered can be used to compare feedback vs. non-feedback traffic speeds).
- Test – TraffiCalm™ LED Driver Feedback display shows a pattern of numbers in the sequence “00”, “11”, “22” … to “110” in Red and Amber, then pauses to show the over-speed setting and flashes the strobes, then activates the radar and shows radar readings for about 10 seconds. The pattern repeats until a different mode is selected.
- Demo – TraffiCalm™ LED Driver Feedback display shows simulated readings based on the over-speed setting. The demonstration begins blank and finishes blank and the radar never turns on.
- Static Min Speed – Turn OFF the radar and display the speed indicated for “Min Speed” using the display settings shown in the configuration for Min Speed.
- Static Speed Limit – Same as Static Min Speed but display the Speed Limit setting instead.

- Static Excess Speed – Same as Static Min Speed but display Excess Speed setting instead.
- Static Max Speed – Same as Static Min Speed but display the Maximum Speed setting instead.

Brightness Offset

Sets the center point of the sliding scale used by the photocell control to dim or brighten the LED's. Left click and hold on the slider to move the slider up or down the scale, or just type a new value into the box.

The Brightness Offset will bias the TraffiCalm™ LED Driver Feedback display's brightness against the automatic operation of the light sensor. The brightness output works over 16 levels on a 32 level scale. With an offset of zero, the light sensor causes the brightness to work in the range of levels 1-16. An offset setting of -16 forces the brightness to minimum under all conditions. A bias of +16 sets the brightness to maximum under all conditions. Any bias above zero enables "over bright" mode (brightness levels above "16") for when the sun is directly on the face of the display. Higher brightness levels consume more power, which is something to consider in battery powered installations.

Speed Settings

This portion of the dialog controls how the TraffiCalm™ LED Driver Feedback display will show the speeds and the range of speeds that the speed log records.

Speed

Min Speed is the minimum speed that the TraffiCalm™ LED Driver Feedback display will show or respond to.
Speed Limit is the posted speed limit for the road being monitored.
Excess Speed is the speed at which the motorist is considered to be “speeding”.
Max Speed is the speed at which a sign is typically configured to stop showing speeds as an “anti-race” feature to discourage people from racing to see how high they can make the numbers go. The units used for the speed are as set in the “Units” field.

Display

What the TraffiCalm™ LED Driver Feedback display shows when the trigger speed is reached. Choices are “Blank”, “Speed” (The measured Speed), or “Speed Limit” setting. The exception is Max Speed, which will display the Max Speed setting if the choice “Speed Limit” is chosen.

Color- legacy feature

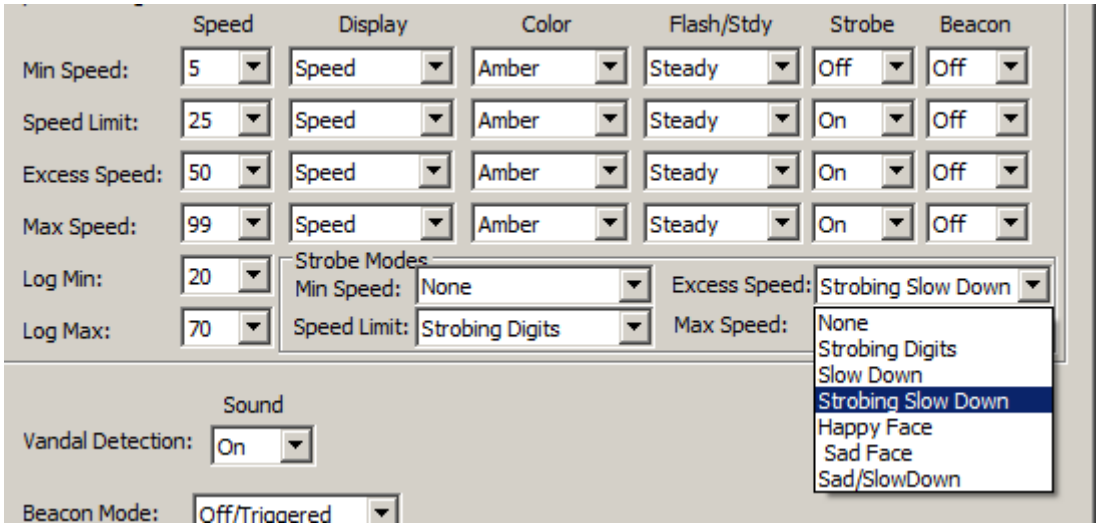
When a display occurs, it can be either Red or Amber (applicable only outside US). Some TraffiCalm™ LED Driver Feedback displays are locked at the factory to one color. Check the firmware version in the main dialog to verify if your TraffiCalm™ LED Driver Feedback display has been fixed to one color.

Flash/Stdy

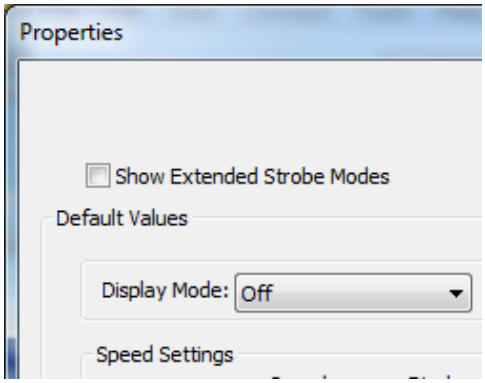
When the display occurs, select to make the display be steady on, or flashing the digits once per second.

Strobes (MUTCD only allows for OFF selection, all others preclude compliance)

For full matrix TraffiCalm™ LED Driver Feedback display the strobes take on a slightly different look. Instead of white LED's the amber LED's flash in a manner that attracts the violator's attention. The manner in which the display attracts attention is programmable by the user. When a TraffiCalm™ LED Driver Feedback display is connected to the TraffiCalm™ Configuration and Collection Software, four new fields appear in the main and configuration editing dialogs. These fields allow one of six different modes to be selected.



These “Strobe Modes” fields will normally only appear if the SafetyCalm™ DFB Configuration Software is connected to a 9 inch or 18 inch TraffiCalm™ LED Driver Feedback display. In case the SafetyCalm™ DFB Configuration Software is being used “OFFLINE” (not connected to a display) the fields can be forced to appear for offline configuration development by checking the “**Show Extended Strobe Modes**” box under “File / Properties”.



Beacon

Selecting Beacon ON will cause the external beacons attached to the TraffiCalm™ LED Driver Feedback display to begin alternately flashing when the speed setting is exceeded. (See Beacon Modes also)

Log Min / Max

The Log Min and Max settings control the resolution of the car speed counting log. The car speed counting log is a set of 10 bins with a resolution of (Max – Min /9). Every car going slower than the "Log Min" setting will be counted in the Lowest speed bin. Every car going at or faster than the "Log Max" setting will be counted in the highest speed bin. Cars going somewhere in between those two extremes will be sorted into the most appropriate bin in between. The log function keeps two sets of counts within a 15-minute period. It counts the fastest and slowest cars it sees in a 10-second interval. The purpose for this is to detect if the traffic entering the detection zone at one speed slowed down when shown their speed.

Vandal Detection

The "Vandal Detection" enables or disables sensors that detect impacts or other loud activity in the vicinity of the TraffiCalm™ LED Driver Feedback display. A detection event exceeding a factory set threshold will produce an event log entry. This function is most useful if the display is monitored in real time. If the TraffiCalm™ LED Driver Feedback display is equipped with an accelerometer and the "Disable Accelerometer" box is unchecked in the File\Properties dialog, then you will also have the choice to turn on the accelerometer.

Beacon Modes

When the Beacon mode is set to Normal, then one output goes active when the TraffiCalm™ LED Driver Feedback display is in Radar mode, and the other goes active when a vehicle is detected going at or over the speed limit. The other possible mode is flashing alternately at 1Hz. See your installation manual for Beacon Hardware configuration. The beacons and strobes are separate functions and hardware.

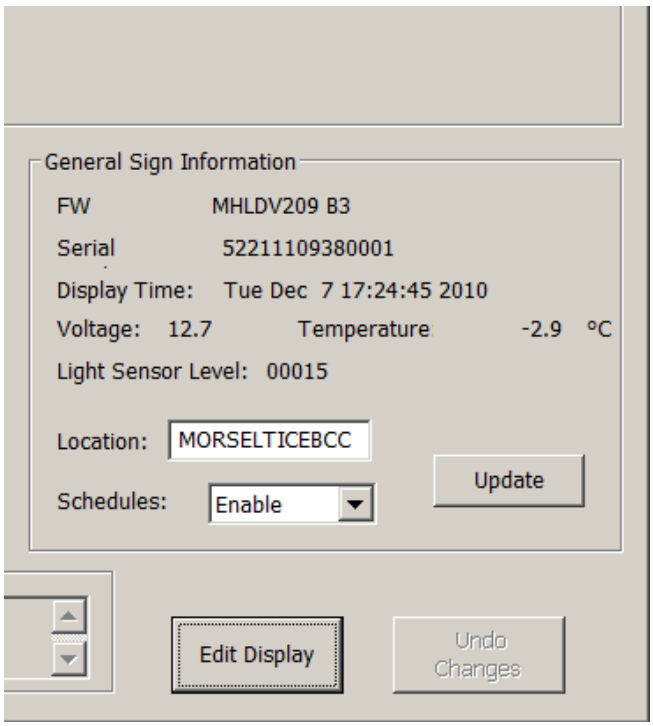
Note: When the beacons are to be triggered by a configuration speed limit leave beacon mode setting to "Off/Triggered".

Squelch

The Radar Squelch setting allows the TraffiCalm™ LED Driver Feedback display sensitivity to be changed to suit the installation. The number should be set as low as possible. Sensitivity settings less than 50 are not recommended without testing, as they could result in excessive false signals. A setting of 60 works in most situations. Higher settings reduce apparent range. The squelch can be set as high as 999, which will block virtually all signals from getting through (even the desirable ones). The Squelch works in conjunction with the "Baseline" to help filter out interference and false target echoes.

Units Selection

Set the TraffiCalm™ LED Driver Feedback display's working Units to MPH or KPH. The TraffiCalm™ LED Driver Feedback display will record and show speeds in Miles per Hour or Kilometers per Hour according to this setting.



Location

Program the TraffiCalm™ LED Driver Feedback display's Location in the "General Sign Information" tab in the main dialog and then select "Update". Up to 14 characters are allowed.

Schedules

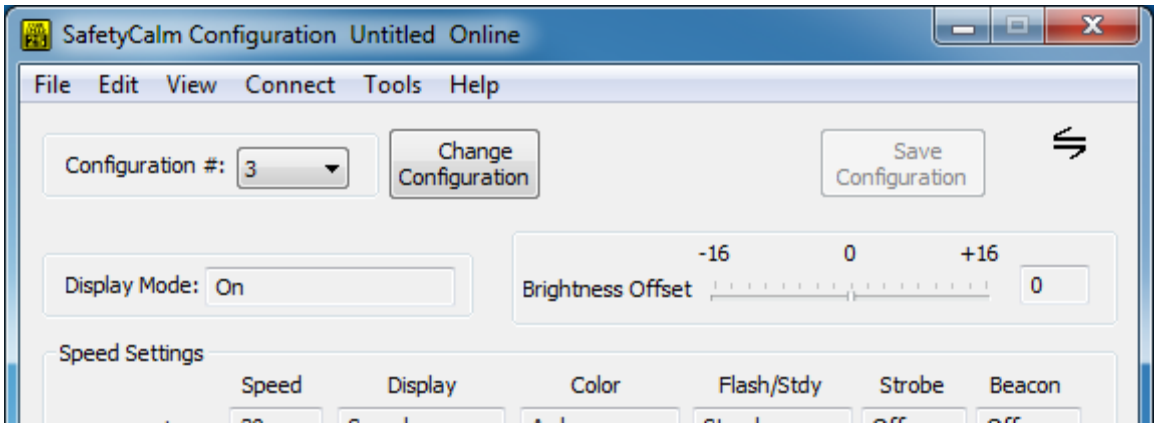
This is a duplicate place to enable or disable the schedules. (See also Schedules)
Select enable or disable and then select "Update".

Change Configuration (Save Configuration)

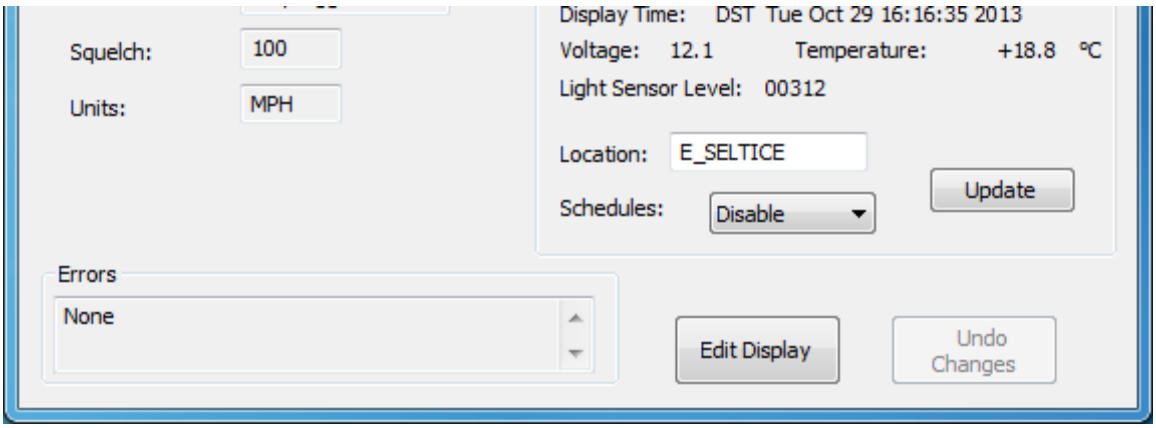
Edits made to the volatile memory can be saved in the corresponding non-volatile memory by selecting “Save Configuration” in the upper left corner of the main dialog.

When a configuration is selected for volatile memory using “Change Configuration” the TraffiCalm™ LED Driver Feedback display will remember that selection, and if schedules are disabled, it will load that configuration automatically the next time power is restored, or when the “Undo Changes” button is selected.

The sequence for making this work is like this:



1. Use the configuration drop down box to pick a configuration.
2. Select “Change Configuration”. *Observe that the TraffiCalm™ LED Driver Feedback display changes to that configuration.*



If the “Edit Display” button is pressed and changes are made to the TraffiCalm™ LED Driver Feedback display’s configuration and updated to the display, then both the “Undo Changes” and “Save Configuration” buttons will no longer be “grayed out” allowing selection.

If the “Save configuration” button is selected now the TraffiCalm™ LED Driver Feedback display’s corresponding numbered configuration will be updated in non-volatile memory (permanently stored) in the display for selection later.

If schedules are enabled and operating on the TraffiCalm™ LED Driver Feedback display, then the display will power up and reset according to the behavior determined by the schedule.

Getting Help

Technical Assistance

In the event that the software is not performing to expectations or other difficulties are encountered, call the TraffiCalm Systems Technical Service department toll free number at 1-855-738-2722, between the hours of 8:00 A.M. – 5:00 P.M. Pacific Time Monday through Thursday or 8:00AM through 12:00PM on Fridays, and a trained professional will assist you, or visit our web site any time of day.