ZOOM Nitro™

Version 4.4

User's Guide

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FOR HME ZOOM Nitro™ TIMER SOFTWARE

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Table of Contents

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other languages made from the original English version.

Chapter 1 - ZOOM Nitro Overview

Congratulations on the purchase of your state-of-the-art ZOOM Nitro™ system. This system will help you optimize the efficiency of your store by providing you with a full range of customizable analytics. The ZOOM Nitro™ system measures customer vehicle events for comparison to your service time goals at up to eight detection points in a drive-thru lane or other locations throughout your premises. It collects detection data, organizes it, and displays it in a clear, easy-to-read visual format on the "Dashboard" (A monitor display of drive-thru and event data). The Dashboard includes total and average event times at any time through an animated display of actual vehicles in the drive-thru lane or other designated locations.

Equipment

Your basic system includes:

- **Detectors** (not shown): These detectors are installed in strategic out-of-sight locations throughout the premises. They are used to detect the presence of vehicles in areas such as drive-thru lanes or reserved parking spaces.

- **Timer Signal Processor (TSP):** This device receives and sorts lane event data from the peripheral detectors, and sends it to the Control Unit for processing. This device is abbreviated throughout this guide as TSP. Fig. 1.1 shows two models TSP60 (front) and TSP50 (rear).

- **Control Unit (CU):** This device receives lane event data from the TSP, processes it, and displays the information in real-time in a visual format on the system monitor. It stores your settings and manages a database of drive-thru activity history that it uses to generate scheduled and on-demand reports. This device is abbreviated throughout this guide as CU. (Fig. 1.2.)

- **Monitor**: This is the primary drive-thru data display for your system. It displays lane event data from the CU. You can customize the layout of the display. The main display on the monitor is known as the "Dashboard." Other displays on the monitor are available for viewing reports, editing the ZOOM Nitro settings, and performing diagnostics. Your ZOOM Nitro system may have one or more monitors. (Fig. 1.3.)

- **Back-Office PC** (not included and not shown): If your ZOOM Nitro system has been configured to work with your network, all the information displayed on your monitor can also be accessed on your back-office PC. Also, you can use this PC to make changes to your system and print reports.
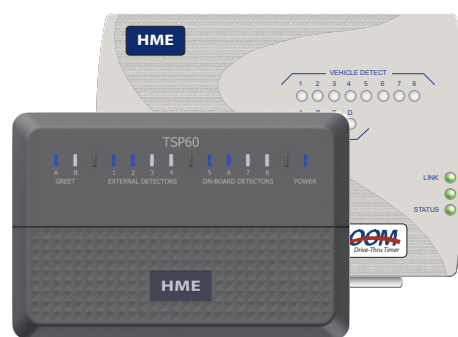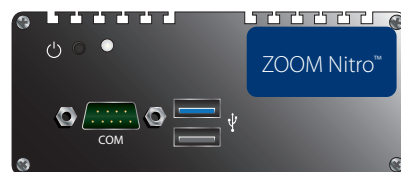
Fig. 1.1

Fig. 1.2

Fig. 1.3

Drive-Thru Layout

The most common Lane configurations are:

- Single-Lane type: one entry point detector and one exit point detector.
- Y-Lane type: two entry point detectors and one exit point detector.

Figures 1.4 and 1.5 illustrate possible examples of typical drive-thru layouts. Detection points (indicated by the circular yellow markers) can be installed at various strategic locations. You can label each detection point on your Dashboard; commonly used labels: Arrival, Greet, Menu, Order, Booth Cashier, Pay, Present, Service, Mobile Order, Wait Area.
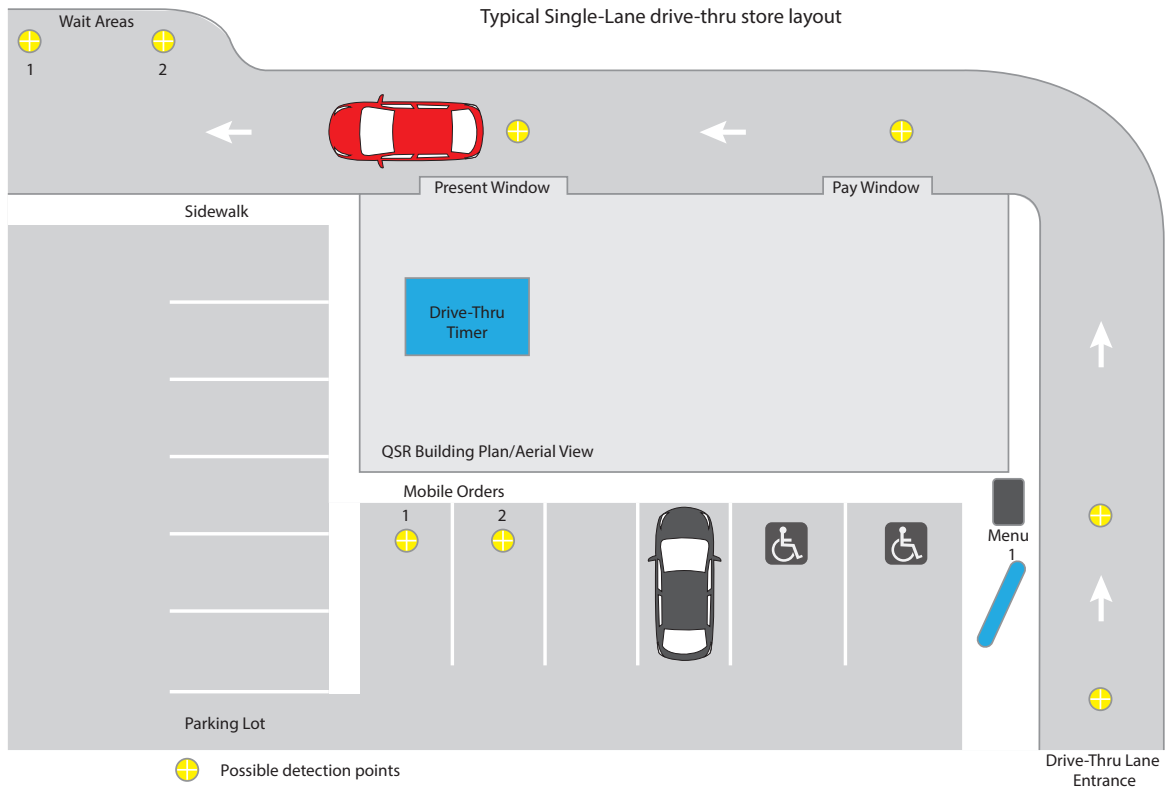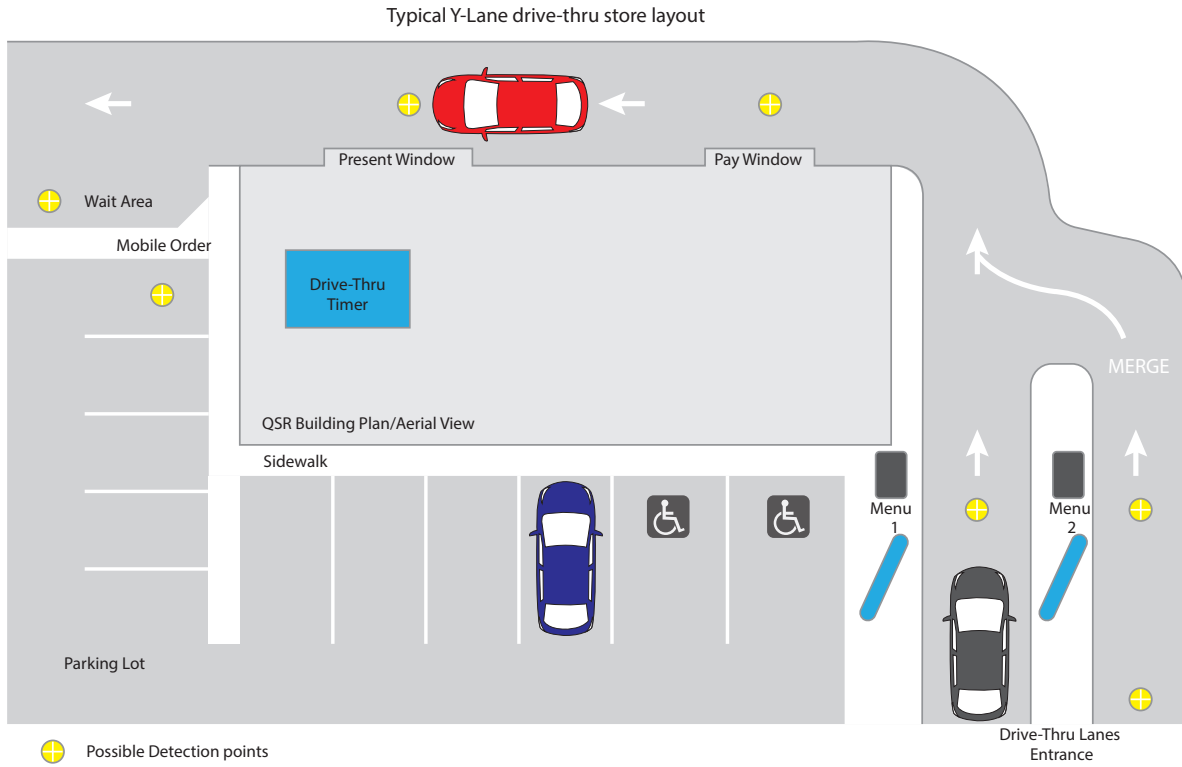

Fig. 1.4

Typical Y-Lane drive-thru store layout

Fig. 1.5

Overview of Typical Events in a Drive-thru Lane

Figure 1.6 is an example of a Single-Lane type configuration with four zones (detection points).
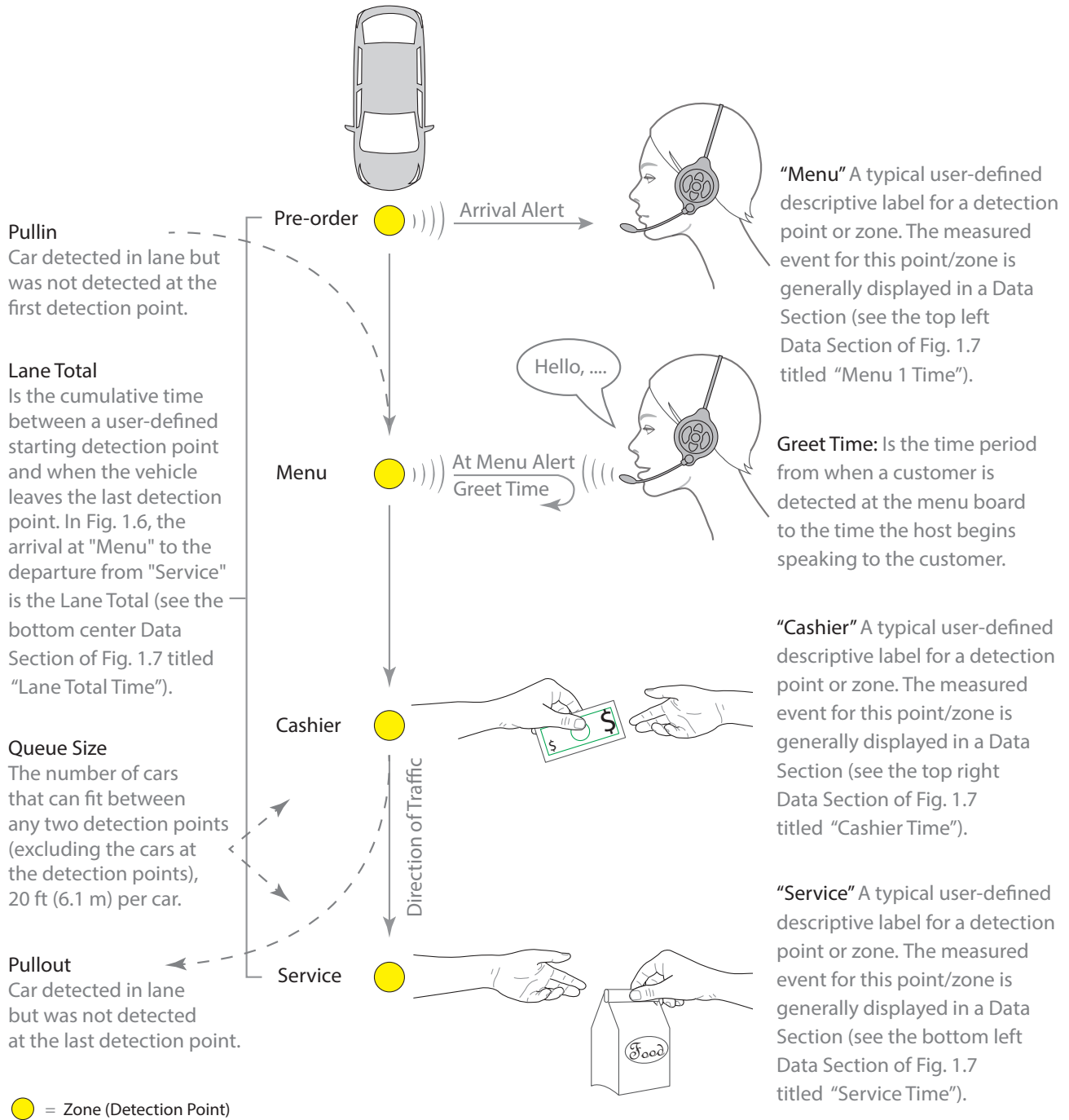
Pullin
Car detected in lane but was not detected at the first detection point.

Lane Total
Is the cumulative time between a user-defined starting detection point and when the vehicle leaves the last detection point. In Fig. 1.6, the arrival at "Menu" to the departure from "Service" is the Lane Total (see the bottom center Data Section of Fig. 1.7 titled "Lane Total Time").

Queue Size
The number of cars that can fit between any two detection points (excluding the cars at the detection points), 20 ft (6.1 m) per car.

Pullout
Car detected in lane but was not detected at the last detection point.

Pre-order — Arrival Alert

Menu — At Menu Alert / Greet Time

Hello, ...

Cashier

Direction of Traffic

Service

🟡 = Zone (Detection Point)

"Menu" A typical user-defined descriptive label for a detection point or zone. The measured event for this point/zone is generally displayed in a Data Section (see the top left Data Section of Fig. 1.7 titled "Menu 1 Time").

Greet Time: Is the time period from when a customer is detected at the menu board to the time the host begins speaking to the customer.

"Cashier" A typical user-defined descriptive label for a detection point or zone. The measured event for this point/zone is generally displayed in a Data Section (see the top right Data Section of Fig. 1.7 titled "Cashier Time").

"Service" A typical user-defined descriptive label for a detection point or zone. The measured event for this point/zone is generally displayed in a Data Section (see the bottom left Data Section of Fig. 1.7 titled "Service Time").

Fig. 1.6

The Dashboard

The ZOOM Nitro system installation is initially configured to your specifications by the installer. Fig. 1.7 is an example of the default Dashboard screen. If you wish to customize your system further or make changes to your current settings, you can connect a mouse to a USB port on the CU (this enables you to access the menu on your Dashboard monitor). Or, if your system is connected to the same network as your back-office PC, you can use the back-office PC to make changes.

Fig. 1.7

Note: The screenshots used in this guide are only for illustrative purposes. The data and values displayed are simulated and do not reflect actual drive-thru data from a real store.

Click on the ☰ (menu) icon in the upper left corner of the Dashboard screen. The SECURITY screen opens, select User Type and log in to access the options displayed in the sidebar menu (see Fig. 1.8). Permission levels (determined by the User Type selected) restrict access to specific menu options. Each menu option is assigned a chapter in this guide, as shown here.

See Chapter 2
See Chapter 3
See Chapter 4
See Chapter 5
See Chapter 6
See Chapter 7
See Chapter 8
See Chapter 9
See Chapter 10
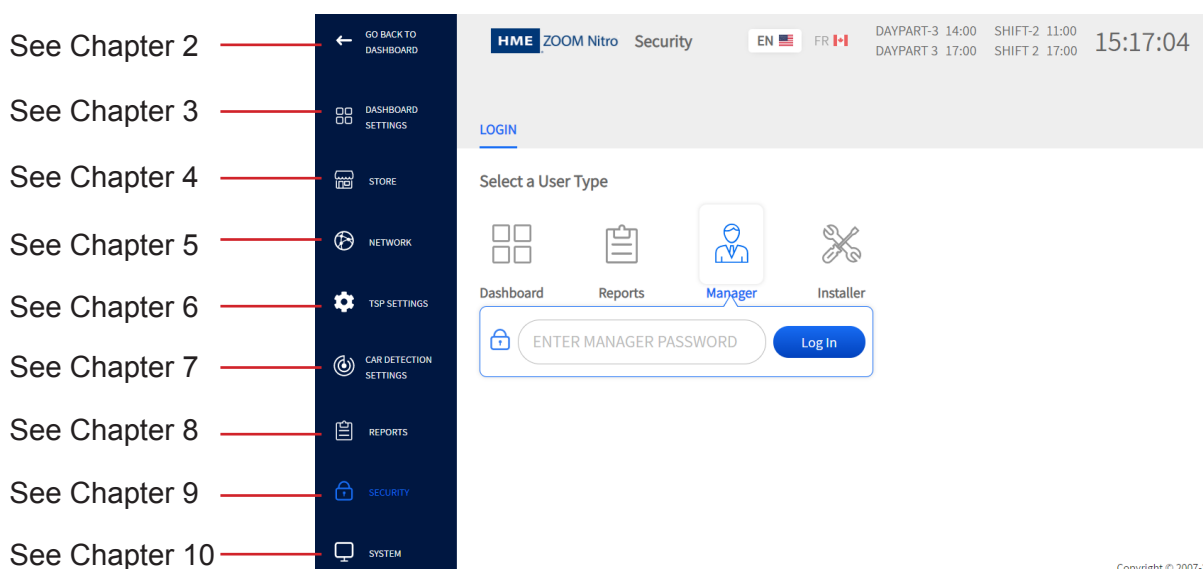
Fig. 1.8

Making changes to ZOOM Nitro screens

To return to your main Dashboard at any time, click on the ← (GO BACK TO DASHBOARD) icon in the upper left corner of the screen (see Fig. 1.8).

Most screens have active areas which are editable; these may include the following:

Direct Access Fields: These are fields you can type directly into. When you click the cursor or tap in this field, a pop-up keyboard also opens (see Fig. 1.9). This allows you to enter information using a mouse (without the need for a physical keyboard).
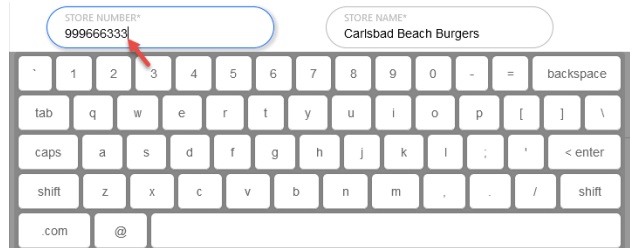
Fig. 1.9

Time/Value Fields: Some active areas, such as time fields, are edited by clicking on the field. When you click the cursor or tap in this field, a pop-up keypad also opens (see Fig. 1.10). Use the "backspace" key to clear the field, the number keys to enter a time value, and the colon key to separate hours and minutes. Click "Copy to All" to apply this value to all active fields in the column. A "Warning" dialog will prompt you to Cancel or Confirm. Click "Confirm" to apply.
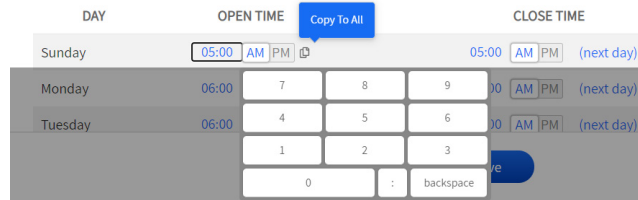
Fig. 1.10

ON/OFF Switches: Click on the **OFF/ON** switch to turn an option ON (if its current status is off) or OFF (if its current status is on). Some fields are invisible in the OFF position but become visible when turned ON (see OPEN TIME and CLOSE TIME columns in Fig. 1.11).
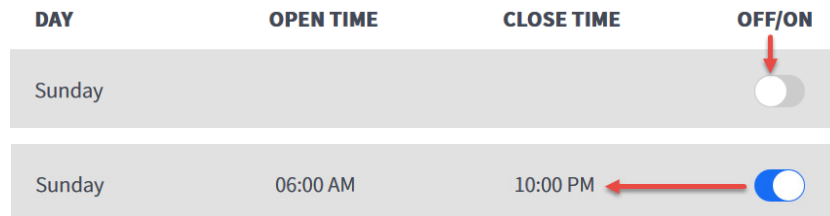
Fig. 1.11

Drop-down Lists: The down arrow ∨ in a field indicates there are more options available to choose from. Click in the field or on the arrow to open the drop-down list and select your choice.

Add and Remove Icons: Some active screens have an ⊕ **Add** and a 🗑 **Remove** icon located next to a table. Clicking on the ⊕ **Add** icon (see Fig. 1.12) adds another row to the bottom of the current table. If you want to delete a row, select the row and the 🗑 **Remove** icon will appear; click Remove to

delete the row. In Fig. 1.13, shift 2 is selected (the circle next to the shift number is checked). Clicking the ⊝ **Remove** icon deletes the selected row.

<div align="center">Fig. 1.12</div>

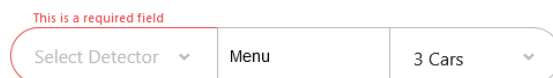<div align="center">Fig. 1.13</div>

Some features need to be enabled first to activate. For example, DHCP 🔵 Enable indicates that DHCP (a "**NETWORK**" settings feature) is enabled. Clicking on this switch again will disable it. Some features are enabled by default or vice versa.

Save and Cancel: Most screens have a [Cancel] [Save] button located at the bottom of the screen (this may be hidden from view, so you may need to scroll down to the end of the screen to access). **Any changes made must be saved to take effect. New settings are lost and default to the previous state if not saved.** Clicking "Cancel" also returns settings to the previous state if not yet saved.

If you exit a screen but forget to save your changes, a "**Warning**" prompt appears. This prompt asks you: "Are you sure you want to leave? You will lose changes" Click the [Cancel] button to return to the screen and save your changes or [Confirm] to leave the screen without saving the changes.

> **NOTE:** The following chapters assume that the user now knows that any changes made to a screen must be saved first to take effect. Therefore, to keep our guides lean, instructions prompting the user to save changes will not be repeated hereafter.

Required Fields: Certain fields are mandatory and cannot be skipped. The system will alert you if a field cannot be left blank (see Fig. 1.14). In this example, the field needs to be populated with an option from the drop-down list before proceeding.

<div align="center">Fig. 1.14</div>

+ and - signs: When located next to a field indicates that this section can be expanded or collapsed.

Filter operators <, >, and =: When used with a value field, these indicate less than, greater than, or equal to the value selected, respectively.

Permissions

Different permission levels can be assigned to personnel who use this system. While this guide provides an overview of all features, some features may not be accessible to the user due to permission level controls, see "Chapter 8 - Security" on page 45. Features only available to installers, or installers and managers, are noted at the beginning of the chapter.

Chapter 2 - Getting Started

The main Dashboard is the default screen displayed on the monitor (Fig. 2.1). The Dashboard shows real-time lane events for each vehicle in the drive-thru lane. The Dashboard consists of a frame with one to six user-defined Data Sections that display various combinations of measured event data. Fig. 2.1 shows a Single-Lane drive-thru setup, with six real-time Data Sections, including a Pull Forward and Mobile Pickup section. The event information displayed is refreshed every second.

Fig. 2.1

To customize and configure your Dashboard, click on the ☰ (menu) icon in the upper left corner of the screen. The SECURITY (Login) screen appears (see Fig.1.8). Log in by selecting your assigned User Type and password. This opens the Dashboard Settings screen. The default language is English; to switch to French, click on the Canadian flag icon FR 🇨🇦 at the top of the screen (see Fig. 2.2).
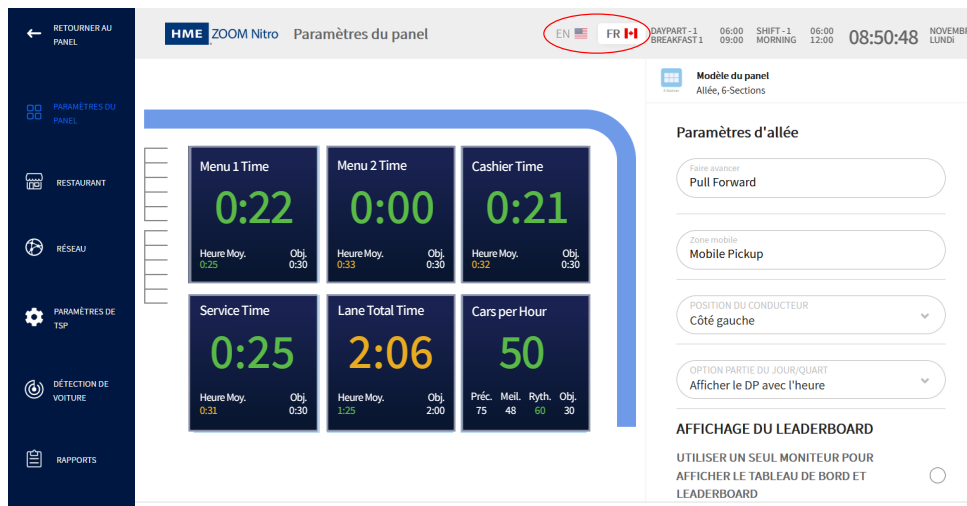

Fig. 2.2

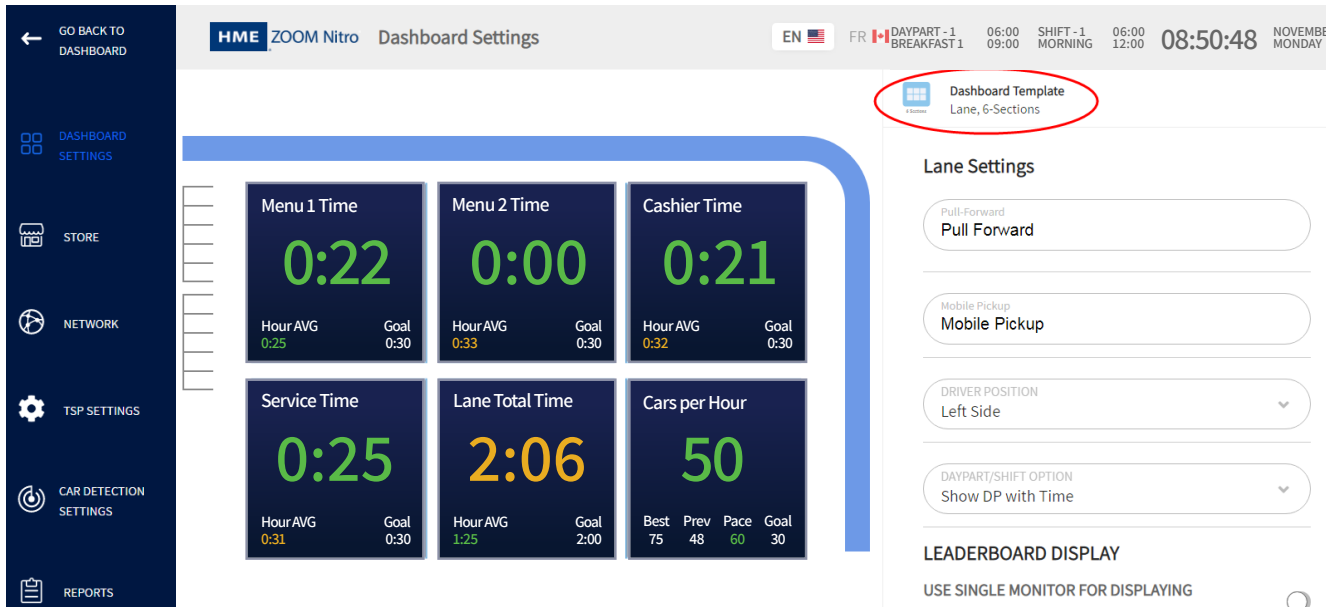# Chapter 3 - Dashboard Settings

Dashboard Layout

Fig. 3.1

What is this screen for? It allows you to edit your main Dashboard screen. Despite the different background color, this screen reflects what is displayed on the main Dashboard.

Why is it needed? You may wish to configure and customize the look and feel of your Dashboard. This includes choosing what measured events you would like to display on your Dashboard. Click on any Data Section to open it for editing. The editable fields for the Data Section are displayed on the right side of the screen. For example, the Lane graphic in Fig. 3.1 was clicked so the **Lane Settings** fields on the right are available for editing.

Screen details explained: To adjust the layout of this screen, click on the [grid icon] icon found in the upper portion of the screen or the adjacent down arrow icon ⌄ next to it (see Fig. 3.1).

This opens the **Dashboard Template** menu, which shows various designs that allows you to customize your Dashboard layout (see Fig. 3.2). Click on any layout choice to select that screen.
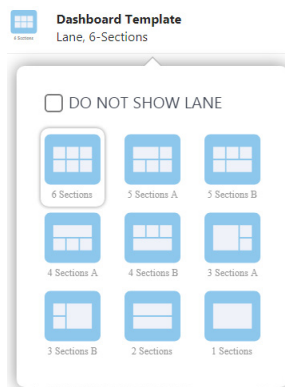

Fig. 3.2

Checking the "☐ DO NOT SHOW LANE" box (see Fig. 3.3) removes the Lane, Pull Forward, and Mobile Pickup graphics from the screen. By removing the lane, you will increase the size of the Data Sections on your Dashboard layout. If you wish to redisplay the Lane Pull Forward, and Mobile Pickup graphics again, click on the "More" button that is now beneath the Data Sections (see Fig. 3.3). Or, click on the Dashboard Template again and uncheck the ☑ DO NOT SHOW LANE" box.
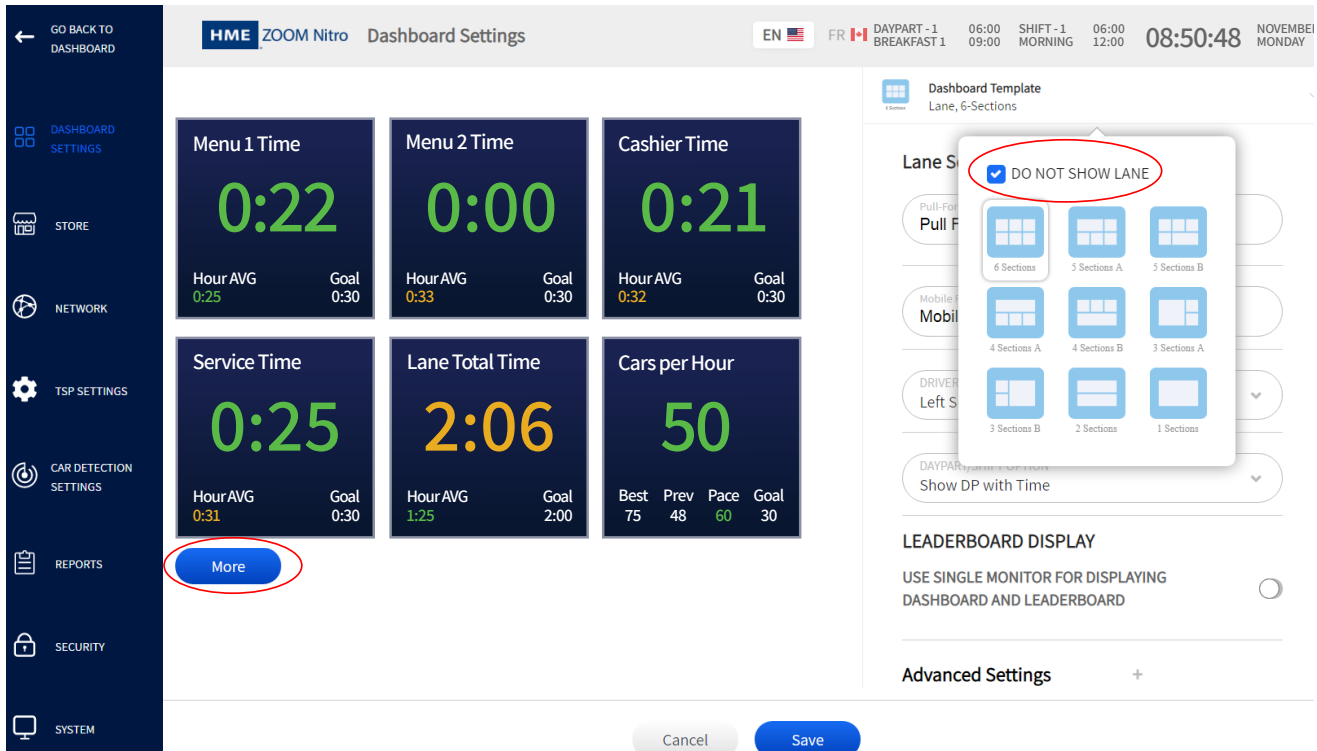
Fig. 3.3

Lane Settings

To edit what is displayed on your Dashboard, use the column of associated fields on the right. The Dashboard Settings screen defaults to "**Lane Settings"** when opened.
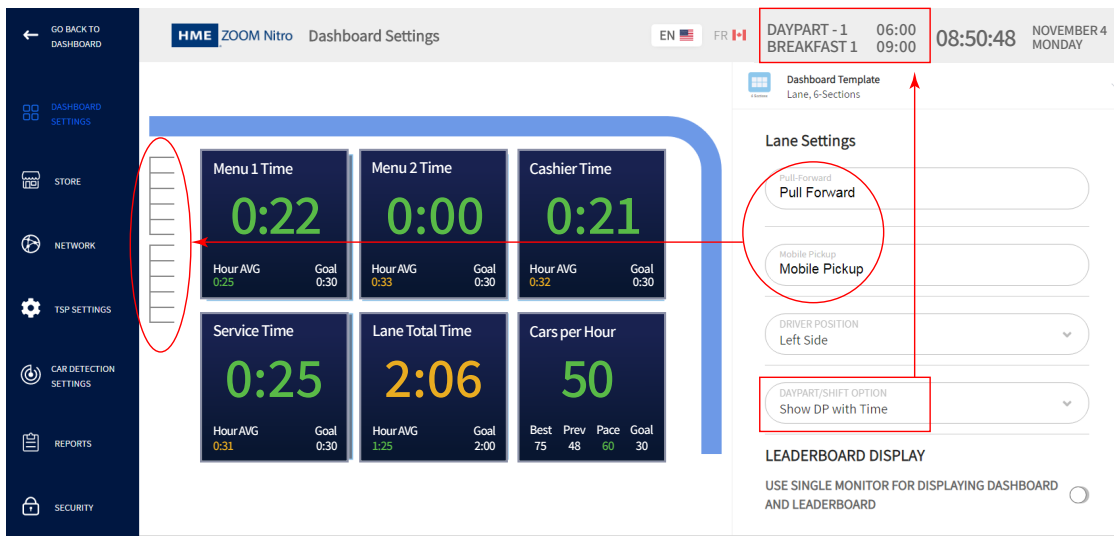
Fig. 3.4

Menu Item	Description
Pull-Forward Pull Forward	Pull-Forward: Click in this field to edit and give your wait area a descriptive name. This field is for pull-forward detectors.
Mobile Pickup Mobile Pickup	Mobile Pickup: Click in this field to edit and give your wait area a descriptive name. This field is for wait areas that are independent detectors (not part of lane events).
DRIVER POSITION Left Side	DRIVER POSITION: The default Driver Position is on the Left Side (standard in the United States and other countries)." Click on the down arrow and choose Right Side if you need to display it on the right side. Changing the Driver Position changes the orientation of the lane and wait area graphics accordingly.
DAYPART/SHIFT OPTION Show DP with Time	DAYPART/SHIFT OPTION: Different combinations of Daypart (DP), Shift, and Time can be selected here to be displayed at the top of your Dashboard screen (see Fig. 3.4).
LEADERBOARD DISPLAY USE SINGLE MONITOR FOR DISPLAYING DASHBOARD AND LEADERBOARD	LEADERBOARD DISPLAY: Stores using a single monitor may wish to alternate between displaying the Dashboard and Leaderboard. By default, the Leaderboard and Dashboard will alternate. By clicking the toggle, you will disable the Leaderboard and only show the Dashboard. The Leaderboard option is only visible with a cloud connection. The following three fields are visible if the Leaderboard display is enabled.
DASHBOARD DISPLAY DURATION 00:10	Dashboard Display Duration: This sets the length of time the Dashboard is displayed before alternating back to the Leaderboard.
LEADERBOARD DISPLAY DURATION 00:10	Leaderboard Display Duration: This sets the length of time the Leaderboard is displayed before alternating back to the Dashboard.
ONLY SWITCH WHEN LANE IS EMPTY Yes	ONLY SWITCH WHEN LANE IS EMPTY: "Yes" in this field means that the Leaderboard is displayed only when the lane is empty. "No" means the Leaderboard will alternate displays regardless of lane activity.

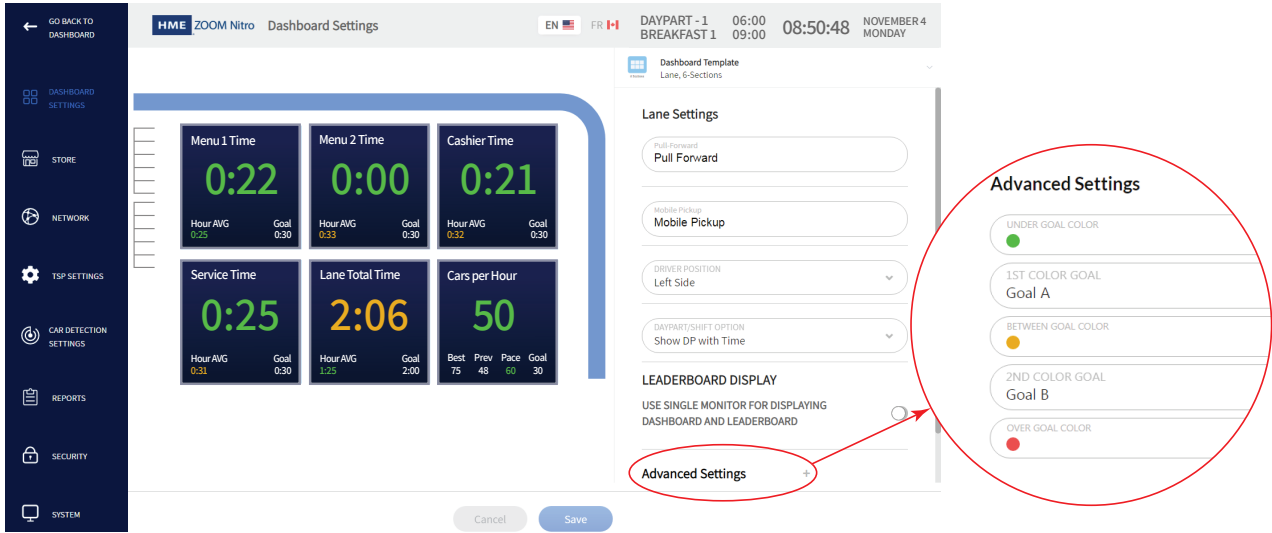If you scroll to the bottom of **Lane Settings**, you will see **Advanced Settings**. Click to expand.

Fig. 3.5

The Lane graphic shows the movement of customer vehicles through your drive-thru lane(s). Vehicles are color-coded based on performance against specific goals (Lane Total 1 for Lane Settings). The color of each animated car in the lane allows you to easily identify how your drive-thru lane is performing against these goals. These goals are user-defined under "**STORE**" (see "Speed Goals" on page 22). Up to four goals can be set for each event. These goals are labeled A, B, C, and D and assigned values. Values for each letter creates a range of targets for specific events to gauge performance against.

> **NOTE:** *Goals under Lane Settings apply only to Lane Total of vehicles in lane, whereas goals under Data Sections 1 through 6 are based on events at individual detection points/zones (unless one of these sections is also used to display the Lane Total value of the animated lane).*

Menu Item	Description
Advanced Settings — UNDER GOAL COLOR ●	UNDER GOAL COLOR**, Green:** This color indicates you are exceeding your goals. For example, you are monitoring a detection point/zone labeled "Cashier" in the lane. If the goal selected is "A" (as in the next field of this example) and A has a value of 30 seconds assigned to it, an event happening under 30 seconds will have a green value.
1ST COLOR GOAL Goal A	1ST COLOR GOAL: Selecting goal "A" here sets one end of an event range.
BETWEEN GOAL COLOR ●	BETWEEN GOAL COLOR, **Yellow:** This color indicates you are meeting your goals. When your event happens in between the two goals (A and B in this example), you are on target to meet your goals. For example, if A = 30 seconds and B = 60 seconds, any event happening within this range will yield a yellow value.
2ND COLOR GOAL Goal B	2ND COLOR GOAL: Selecting goal "B" here sets the other end of an event range.
OVER GOAL COLOR ●	OVER GOAL COLOR, **Red:** This color indicates you are not meeting your goals. Continuing our example, if A = 30 seconds, B = 60 seconds, any event taking longer than 60 seconds will yield a red value.

Data Sections - Example 1

Data Sections are Dashboard panes containing user-defined event data. Clicking on the upper left Data Section (**Menu Time**) opens a column of associated fields on the right (**Section1**), which allows you to edit what is displayed in the Data Section (see Fig. 3.6).
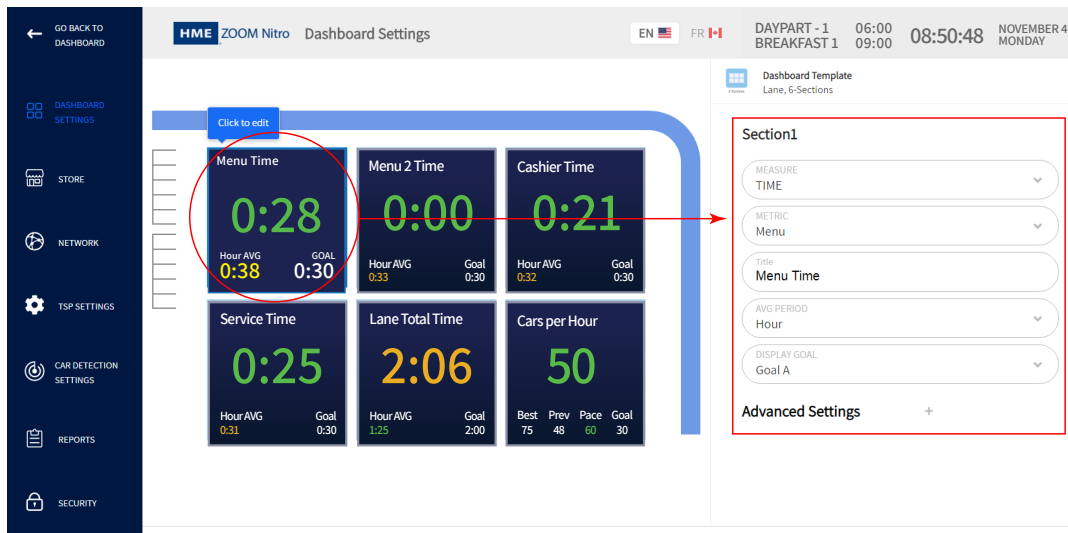

Fig. 3.6

The editable field associated with each value in the **Menu Time** Data Section is shown in Fig. 3.7. The Metric used in this example is Menu (the second field from the top under **Section1** in Fig. 3.6); these events are defined under "Chapter 6 - Car Detection Settings" on page 29. The value at the center (0:28 in Fig. 3.7) is green because this event occurred under 30 seconds, the lower time limit set by goal A (0:30 in Fig. 3.7). The hour average (0:38 in Fig. 3.7) is yellow because it is on target (the value is in the range between goal A and goal B). These goals were set under the **Advanced Settings** of **Section1**. Only one goal (A in this example) can be displayed in the Data Section.
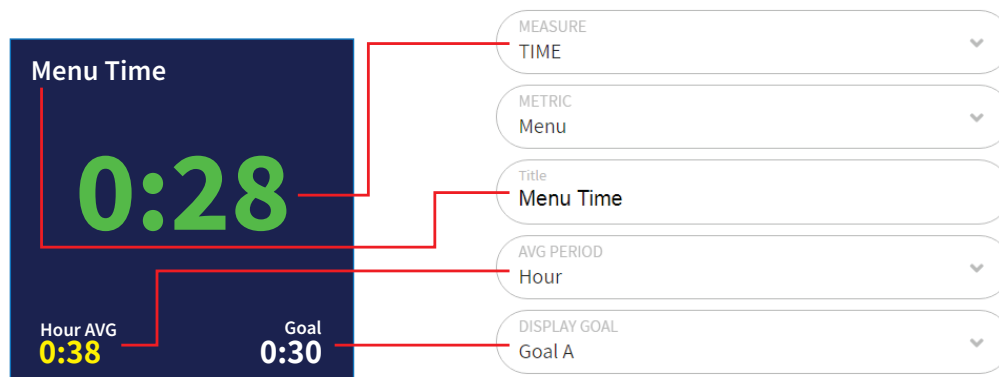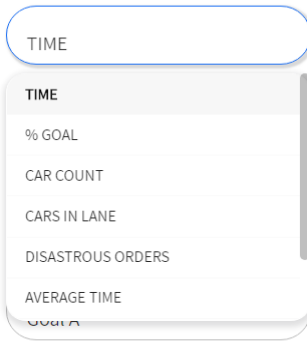

Fig. 3.7

Menu Item	Description
Section1 MEASURE TIME	This value is the large number displayed in the center of the Data Section (0:28 in Fig. 3.7). Click the down arrow on the right of the MEASURE field to expand the options menu. The drop-down list provides you with several choices. Other fields in this section change to match the choice selected.

Menu Item	Description

MEASURE - drop-down list:

Time: This is the elapsed time for an event happening, such as a vehicle being detected at a detection point or the Lane Total for a Lane.

% Goal: Shows the percentage of vehicles over/under the goal at the selected Event.

Car Count: The total number of vehicles that have gone through the drive-thru lane and departed from the last detection point.

Cars in Lane: This is the total number of vehicles in the lane that have arrived at or passed the first detection point but have not yet departed the last detection point of the lane.

Note: the above drop-down list does not show all options available. It serves only as an example for this field but is not repeated for each field. However, every entry in each drop-down list is defined in this table.

Disastrous Orders: This is the number of vehicles or orders that have exceeded the user-determined Disastrous Orders Goal. For example, if speed goal D has the longest time value of goals A, B, C, and D (where A = 30, B =60, C = 90, D = 120), then any vehicle or order exceeding 120 is considered a Disastrous Order.

Average Time: The sum of the amount of time, for each of the vehicle departure within the user-selected periods, divided by the number of vehicle departures.

Period Bottleneck: This shows the bottleneck event for the set time period (Half Hour, Hour, Daypart, Day).

Current Bottleneck: This tells you what event/detection point is causing the current bottleneck. Based on the set number of vehicles in the Rolling Avg. settings.

Leaderboard Ranking: This shows your store's ranking based on the number of stores it is monitored against. For example, a "1 of 5" ranking means you are currently in first place out of five stores monitored.

Fig. 3.8

Leaderboard List: This shows a list of all the stores monitored beginning with the top ranked store. In the Leaderboard Ranking example (1 of 5), your store will be the first line on the displayed list (see Fig. 3.8).

Lead Car Order Summary: This gives you an overview of the order for the lead car in your drive-thru lane.

> *NOTE:* *The Leaderboard feature is a subscription based option. To modify the Leaderboard ranking and period, sign in to your HME CLOUD account and use the portal to make any changes.*

METRIC - drop-down list:

Chose your metric to display from the drop-down list. These metrics are defined under the Car Detection Settings section (see Chapter 6 - Car Detection Settings) and user-defined under "DISPLAY NAME" of LANE DETECTORS and INDEPENDENT DETECTORS. **Lane Total** and **Lane Total 2** are also included.

TITLE

Add your title to a Data Section. This title appears on the upper left corner of the Data Section. This is useful if you wish to display the same metric twice but with different data types or measured parameters displayed. Since the same metric label is used twice, you can assign each one a unique title to differentiate them. For example, if the metric you choose to use is labeled Menu 1, you might wish to display a time value in one Data Section and an average value on the other. To differentiate one from the other, you might call one "Menu 1 Time" and the other "Menu 1 Avg".

Menu Item	Description
AVG PERIOD Hour	AVG PERIOD - drop-down list: **Half hour:** This is half of the clock hour, beginning on the half-hour mark. **Half hour trailing:** This is a continuous rolling half hour of the last 30 minutes trailing the current time and updates every minute. **Hour:** This is the clock hour and begins on the hour mark. **Hour trailing:** This is a continuous rolling hour of the last 60 minutes trailing the current time and updates every minute. **Daypart:** This is a day segment that is user-defined in Store Settings. **Day:** This is the current store day during hours of operation. **OFF:** Turns this field off so that it's not visible in the Data Section.
DISPLAY GOAL Goal A	DISPLAY GOAL - drop-down list: **Goal A, B, C, D:** Select the goal* you wish to display in the Data Section. **OFF:** Turns this field off so that it's not visible in the Data Section.
Advanced Settings +	Clicking the + sign expands this setting and provides you with the same options covered under the Advanced Settings** of Lane Settings.

* Goals are user-defined under "**STORE**" (see "Speed Goals" on page 22).

** See Advanced Settings under "**Lane Settings**" on page 11.

Data Sections - Example 2

This Data Section shows a **Car Count**. Clicking on it opens a column of associated fields on the right (**Section5**), which allows you to edit what is displayed (see Fig. 3.9).
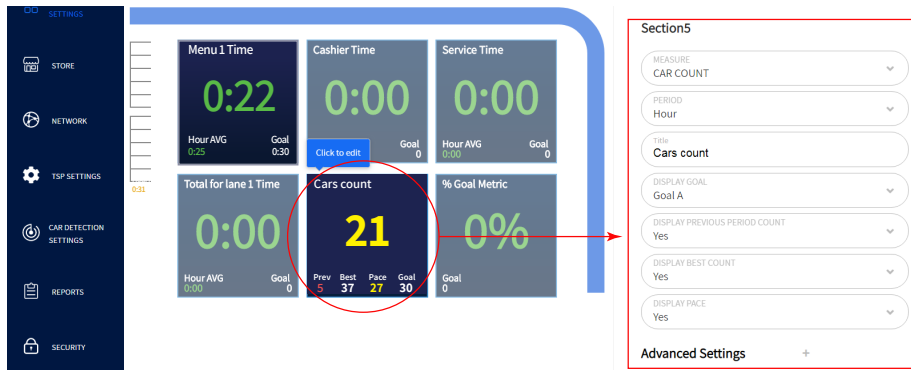

Fig. 3.9

The row of numbers at the bottom of the Data Section in Fig. 3.10 are as follows:

Prev: This is the result achieved for the previous hour (or whatever period is chosen in the PERIOD field). In this example, it is 5, and the value is red because it didn't reach the lower limit set by goal B.

Best: This is the best result ever achieved for an hour (or whatever period is chosen in the PERIOD field). In this example, it is 37.

Pace: Uses an algorithm to predict the number of transactions you are capable of making based on the current vehicle count for this time period, which may differ to the main value shown. In this example, based on the time left in this hour, Pace predicts that you may reach 27 transactions.

Goal: This goal was established in the Car Count Goals section of **STORE** settings. Only goal A is displayed, even though B is also used to set the lower limit of the range.
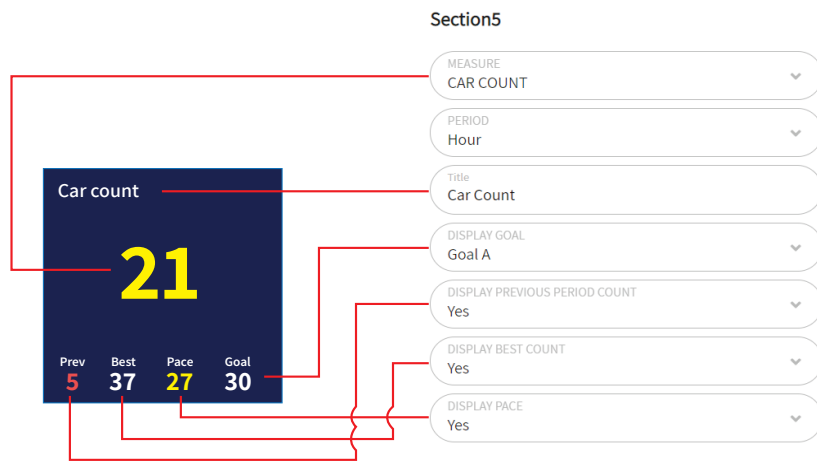

Fig. 3.10

In Fig.3.10, 21 is the current vehicle count number for this hour. Since this value is within the range set by goals A (30 vehicles) and B (20 vehicles), it is on target and, therefore, yellow. Since only one goal value can be displayed, goal B is not visible. Goal values are set in "Car Count Goals" on page 23 and then selected in the Advanced Settings of this section (Section5 in this example).

Chapter 4 - Store

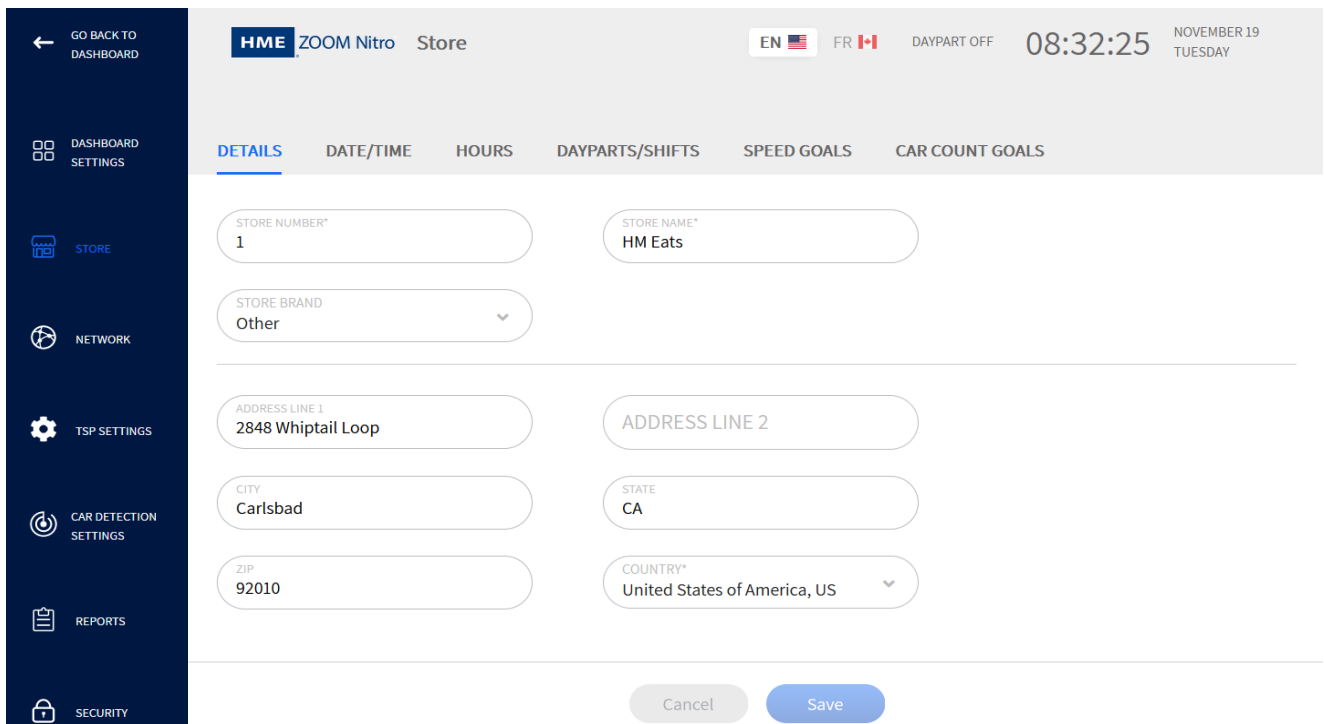Only Installers and Managers can access and edit the features on this screen.

Installer   Manager

Details

Fig. 4.1

What is this screen for? This screen allows you to enter store details such as Store Name, #, and address.

Why is it needed? This information identifies your store, which may be one of several in a given area. Since this information is also stored in the cloud, it enables our technical support personnel to quickly locate and provide you with any requested help.

Example: You are one of five stores owned by the same franchise and located in the same city. You wish to modify or upgrade your system, so you contact us at HME technical support. We can remotely access this information from the cloud and promptly respond to your specific needs as we know who you are, your system specifications, and where you are.
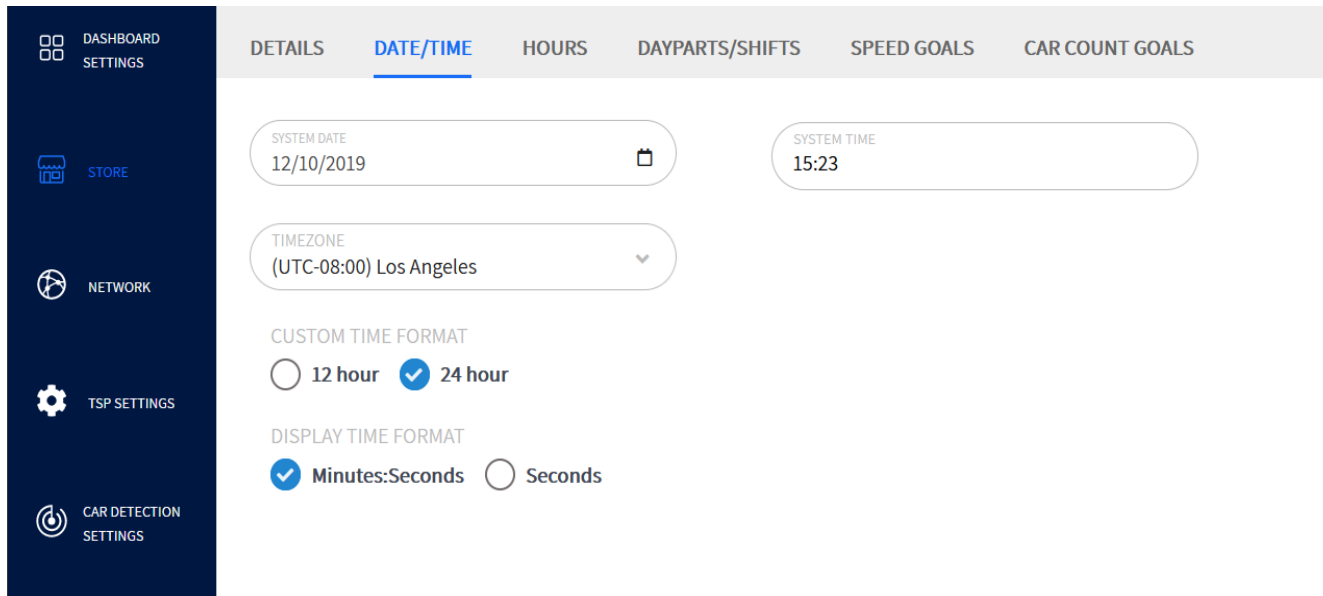
Date/Time

Fig. 4.2

What is this screen for? This screen is used to set the local time and current date to match the local settings at your store's location. These settings are generally completed during installation.

Why is it needed? Most features in this system operate on time-based events. Your daily work activities and monitored parameters such as dayparts and shifts are based on the system time set up here. This screen gives you flexibility as to how this time is configured and displayed.

Example: Fig. 4.2 shows the SYSTEM DATE and TIME. The TIMEZONE in this example is (UTC-08:00) Los Angeles. This would be the time zone chosen if your store is located in a city on the west coast of the United States (UTC-08:00 is Coordinated Universal Time with an offset of minus eight hours).

Under CUSTOM TIME FORMAT, the "24 hour" option is selected, which will display times based on a 24-hour clock. Select the "12 hour" option if you want AM and PM times.

Under DISPLAY TIME FORMAT, the "Minutes:Seconds" option is selected, which will display timed events in minutes and seconds. Select "Seconds" if you want to display timed events in seconds only.
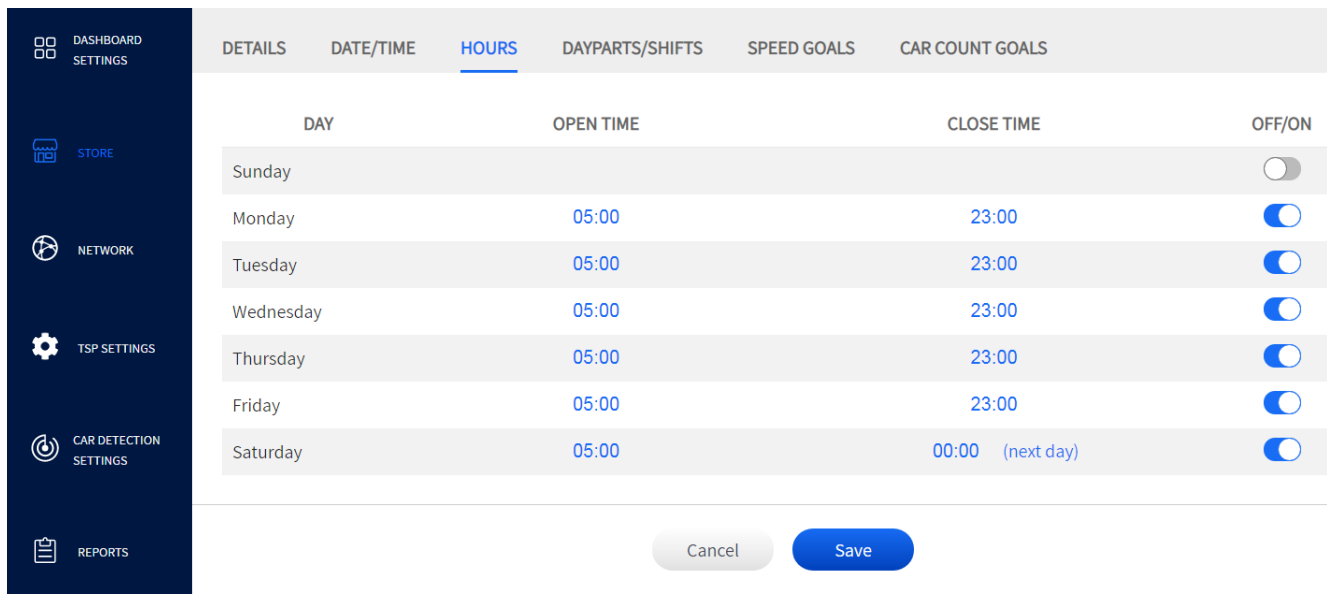
Hours

Fig. 4.3

What is this screen for? This screen allows you to configure your store's business hours and days.

Why is it needed? Your system only needs to be operational during business hours. Each day can be configured separately if your business hours differ from one day to another. You can also turn days on or off if you are closed on certain days.

Example: The store in Fig. 4.3 is open from 5:00 AM to 11:00 PM Monday to Friday, but 5:00 AM to Midnight on Saturday and is closed on Sunday. To configure this schedule (24-hour clock used):

1. Click the ⬤ switch to turn Sunday off since you are closed on that day. The OPEN TIME and CLOSE TIME fields disappear.

2. Move on to Monday; click on the time in the OPEN TIME column. This opens the time field. Enter 05:00, then click on the "Copy to All" button to populate all fields in the OPEN TIME column with this time.

3. Repeat step 2 for the CLOSE TIME column (setting close time to 23:00).

4. Go to Saturday and adjust the close time to 00:00 (midnight). Click the "Done" button to apply it only to that day.

> *TIP: If your store Open Time or Close Time is the same for every day of the week, change the first Open or Close Time on the list and then click on the* **Copy to All** *button beneath the time field to populate every other day with this same time.*

Dayparts/Shifts

| DETAILS | DATE/TIME | HOURS | **DAYPARTS/SHIFTS** | SPEED GOALS | CAR COUNT GOALS |

Dayparts   **Shifts**

⊕Add   ⊕Add

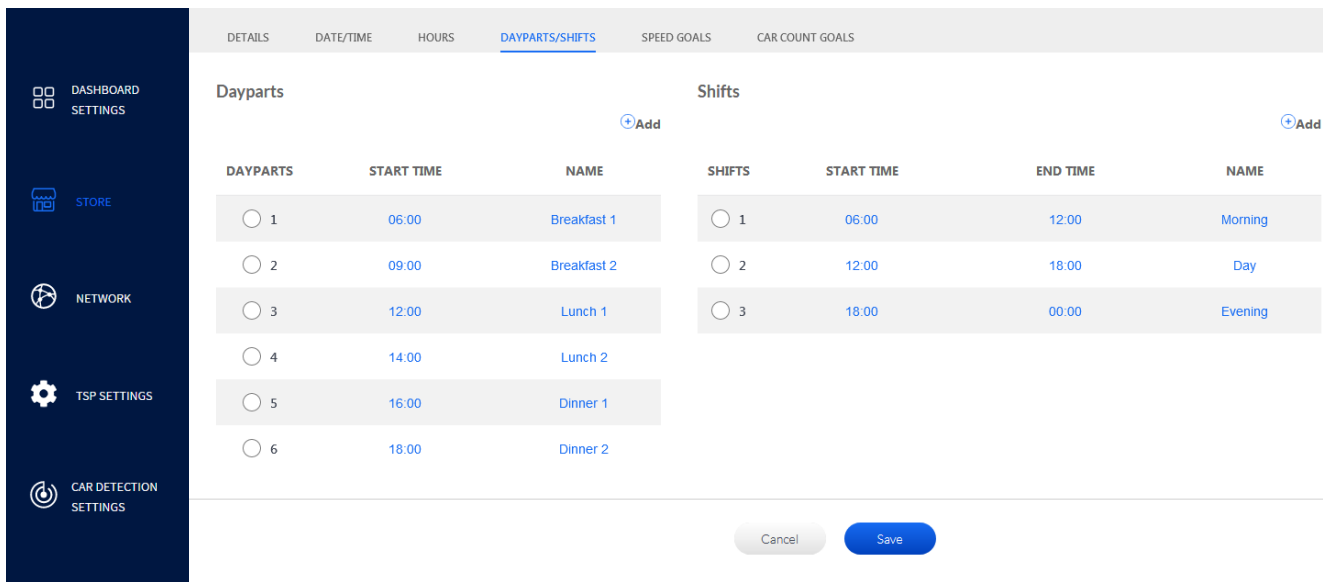| DAYPARTS	START TIME	NAME	SHIFTS	START TIME	END TIME	NAME
○ 1	06:00	Breakfast 1	○ 1	06:00	12:00	Morning
○ 2	09:00	Breakfast 2	○ 2	12:00	18:00	Day
○ 3	12:00	Lunch 1	○ 3	18:00	00:00	Evening
○ 4	14:00	Lunch 2				
○ 5	16:00	Dinner 1				
○ 6	18:00	Dinner 2				

Cancel   Save

Fig. 4.4

What is this screen for? It allows you to partition your business day into manageable segments. This screen is divided into two sections, Dayparts and Shifts**.**

Dayparts are parts of the day you can break into smaller segments to monitor. A daypart end time is not required because it is contiguous, so it automatically ends with the start time of the next daypart segment. The last daypart ends at the store close hour (store close time for a 24-hour store is the same time as its opening time).

Shifts are blocks of time normally attributed to employee work periods, such as morning shift, afternoon shift, and night shift. Unlike dayparts, shifts may overlap with other shifts or begin at a time later to the end of a previous shift; this is why they are assigned a start time and end time.

> ***NOTE:*** *While a shift period can overlap with another shift that began before it, it cannot begin earlier than the shift before it. Also, a start shift can begin at a time later than the store's opening time but cannot begin before it. Similarly, an end shift can end before the close time of a store but cannot end after close time.*

Why is it needed? Dayparts and Shifts enable you to monitor your store's activity at different times of the day, which can fluctuate from being slow to being busy and vice versa. Monitoring these periods enables you to manage and maximize your store's efficiency, resources, and output. You will be able to track daily trends, which will enable you to anticipate business activity fluctuation. By being proactive, you will be able to better meet and satisfy your customers' demands.

Example: In Fig. 4.4 under **DAYPARTS,** there are six dayparts of various lengths (24-hour clock used). Daypart-2 is labeled "Breakfast 2". It begins at 09:00 and ends at the beginning of Daypart-3 (i.e., Lunch 1 at noon). **Dayparts can be equal periods, or they can also vary in duration**. If your day is broken into many small dayparts, you may have to scroll down to see all the dayparts displayed.

Fig. 4.4 also shows three 6-hour shift periods under **SHIFTS**. They begin with the Morning shift at 06:00 and end with the Evening shift, which runs from 18:00 to 00:00 (midnight). The system auto-

matically assigns the sequential number to the **DAYPARTS** column and **SHIFTS** column as more day-parts or shifts are added. The **START TIME/END TIME** and **NAME** columns are user-defined parameters.

To add a daypart or a shift period, click on the ⊕ **Add** icon. A new row is added to the bottom of the table with generic labels or values. Click on a field to edit.

To remove a daypart or a shift period, check the circle next to the sequential number in the **DAYPARTS** or **SHIFTS** column of the row you wish to delete. This causes the 🗑 **Remove** icon to appear next to the ⊕ **Add** icon. Click on it to delete the selected daypart.

Conditions: Daypart times cannot overlap, while shift times can overlap. Dayparts and Shifts cannot begin before opening time nor end after closing time (see note). Dayparts can be divided into a maximum of 23 segments. Shifts can be divided into a maximum of eight segments.

> **NOTE:** If you have a Leaderboard subscription and you plan on using daypart time periods with your Leaderboard, Dayparts must first be configured here so that the Leaderboard has valid data to display.
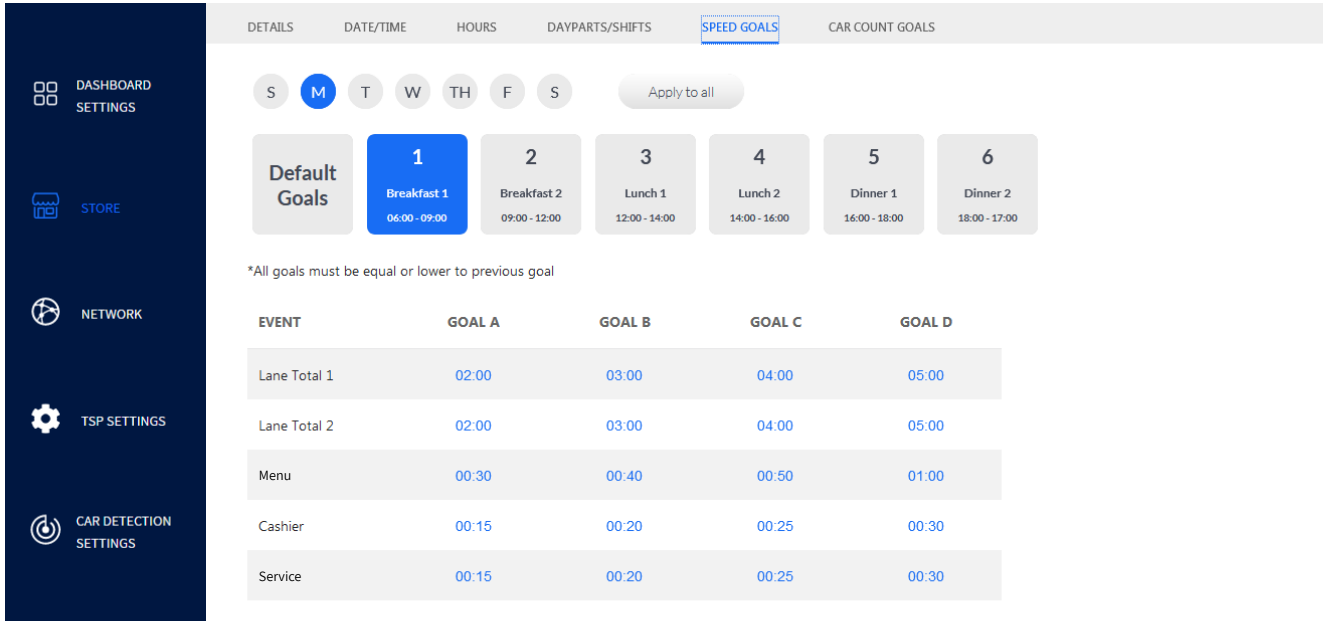
Speed Goals

Fig. 4.5

What is this screen for? It allows you to set up time goals using adjustable thresholds.

Why is it needed? Setting goals is a great way to monitor and motivate performance for a specific daypart at any event location (detection point) or Lane Total. Goals are assigned letters, and user-defined values are assigned to these letters. Color-coded values are then displayed on your Dashboard to indicate performance levels against these goals.

The color codes are as follows: Green indicates exceeding goals, yellow is meeting a goal or within goal limits, while red indicates not meeting a goal.

Example: Fig. 4.5 shows days of the week followed by dayparts for that day. The table shows events with four different goal values assigned to each of four letters (A, B, C, & D). There are five events listed in the **EVENT** column for this table: Lane Total 1, 2, Menu, Cashier, Service (two lane total events plus three detection point events).

In this example, the current day of the week is Monday. The current daypart is 1 (Breakfast 1 06:00 - 09:00). The first event is Lane Total 1, while the first detection point event is "Menu." Each event has four goals set (seconds/minutes), which can then be applied to the metric they are associated with.

The resulting values are color-coded for easy identification of an event's performance against these goals (see "Lane Settings" on page 11, and "Data Sections - Example 1" on page 13 for details).

Conditions: Minimum time goal = one second. Maximum time goal = 999 seconds (16 minutes and 39 seconds). Up to four goals can be set for any daypart event. Goal A must be less than or equal to Goal B, B less than or equal to C, C less than or equal to D. For example: if you set a value in Goal A and it is higher than B, it will force B to this same value (it will also force C and/or D to the same value if it is higher than these goals too). These goals must then be readjusted to create a valid range.

> *TIP: To apply the same changes to this field for the same event and the same daypart for each active day of the week, click on the* Apply to all ⓘ *button.*
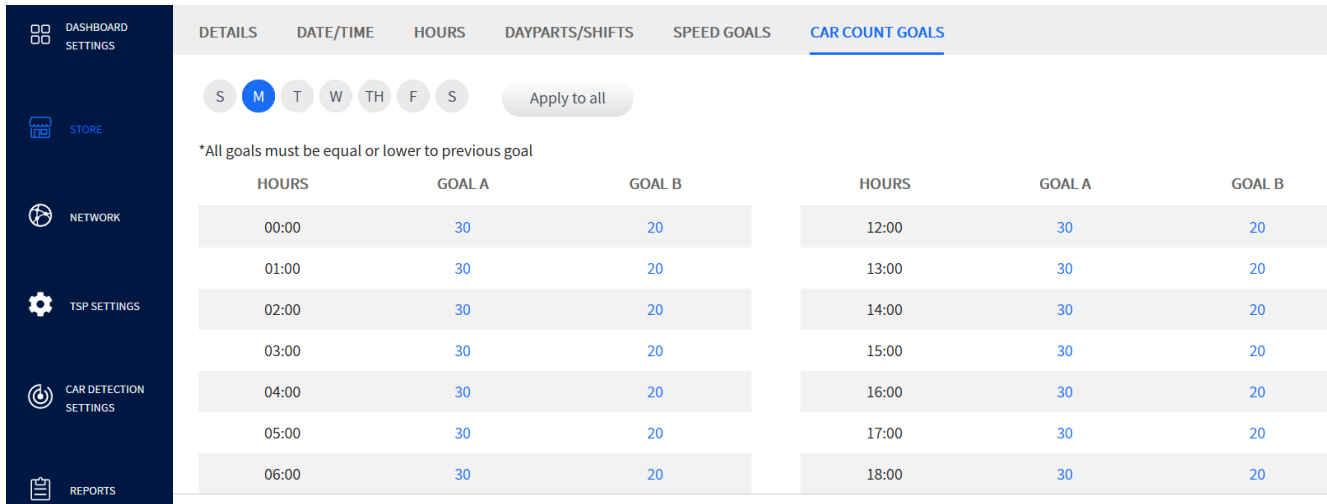
Car Count Goals

Fig. 4.6

What is this screen for? It allows you to set up vehicle count goals using adjustable thresholds.

Why is it needed? Setting goals are a great way to motivate and monitor performance. Goals are assigned letters, and user-defined values are assigned to these letters. These are then displayed as color-coded values when configured on your Dashboard. Color-coded values allow for easy identification of performance tracked against the goals set.
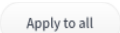
The color codes are as follows: Green indicates exceeding a goal, yellow is meeting a goal or within goal limits, while red indicates not meeting a goal.

Example: Fig. 4.6 shows days of the week and hours of the day (24-hour clock used, with only a partial table of hours visible). The table on the left is for AM, broken up into 12 one-hour segments; the table on the right is for PM, also broken up into 12 one-hour segments. Both tables show B as the initial goal target (lower value) with A being the preferred goal (higher value indicating greater business). Car count values on your Dashboard are red until goal B is reached. Then, once goal B is reached and exceeded, they become yellow indicating you are meeting your goal. The values between goals A and B remain yellow, and then if goal A is met or exceeded, the value turns green, indicating you are now exceeding your preferred goal.

In this example, the current day of the week is Monday. The hour beginning at 00:00 (first entry in table) has a desired goal of 30 vehicles for A and 20 for B. So, if the count is less than 20 vehicles for this hour, the value displayed is red, 20 to 29 vehicles yields a yellow value, while 30 vehicles or more yields a green value. See the example of "Car Count" (Fig. 3.8) in "Data Sections - Example 2" on page 16.

Conditions: Minimum vehicle count goal = one. Up to two goals can be set for each hour. **Unlike speed goals, they do not apply to individual detector points**. Goal A must be greater than or equal to goal B. If a lower value is applied to goal A than exists in goal B, then the value in goal B is forced to the same value of goal A. Goal B must then be readjusted to create a valid range.

> *TIP: To apply the same changes to this field for all active days in the week, click on the* Apply to all ⓘ *button.*

Chapter 5 - Network

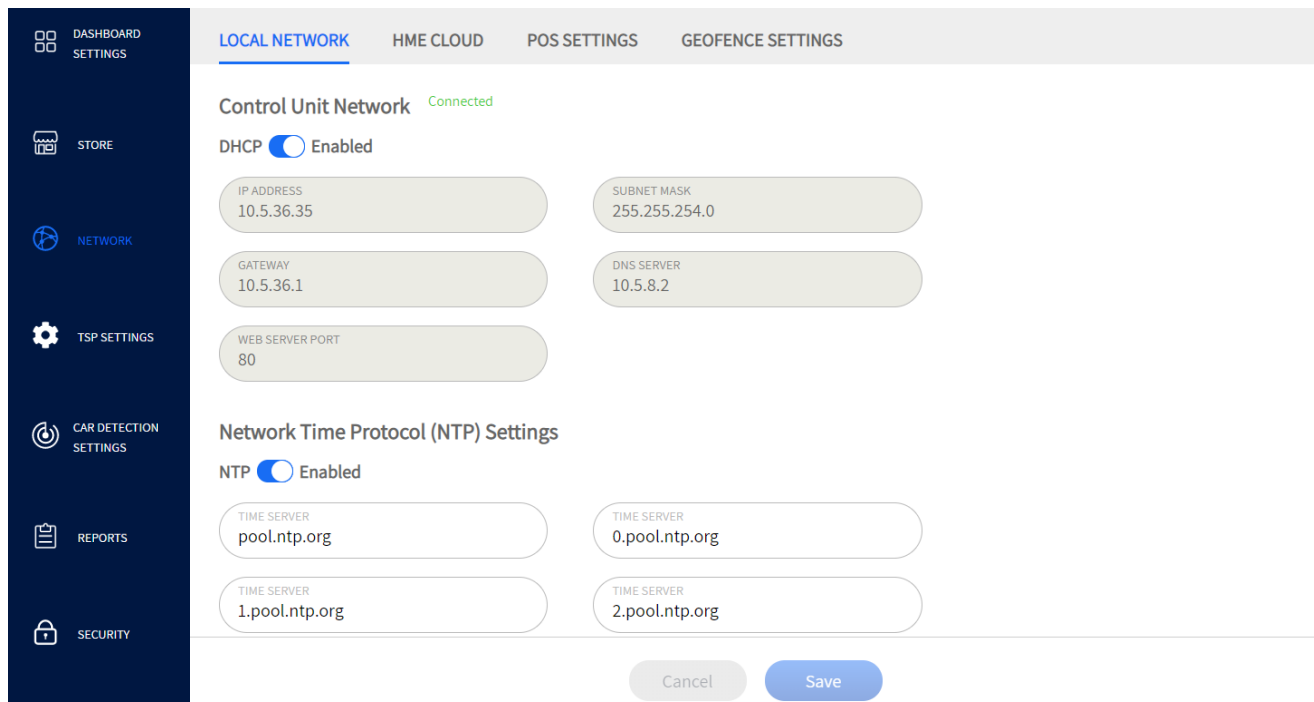|	
Installer	Only Installers can access and edit the features on this screen.

Local Network

Fig. 5.1

What is this screen for? This is where you configure your system when connecting to your local network. Your installer generally configures this screen during the initial installation and setup.

Why is it needed? If you wish to access and control your system from a back-office PC, you will first need to connect your system to the same local network used by your PC. This will allow your back-office PC to interface and communicate with your ZOOM Nitro system. You have a choice of automatic or manual IP configuration.

Control Unit Network:

DHCP ⬤ Enabled : **Dynamic Host Configuration Protocol** allows a network administrator to supervise and distribute IP addresses from a central point. When the DHCP switch is enabled, the system automatically populates the required fields.

IP ADDRESS: **Internet Protocol Address**. A unique computer address that some electronic devices (such as computers or routers) use to identify and communicate with each other on a computer network.

SUBNET MASK: Splits the network into a series of subgroups or subnets to speed up the delivery of data by the routers.

GATEWAY: A device (usually a router) that connects one or more computers on a network to other networks.

DNS SERVER: Domain Name Server is a directory of domain names with translated Internet Protocol (IP) addresses.

WEB SERVER PORT: The network port used by ZOOM Nitro to connect to the TSP on the network.

Network Time Protocol (NTP) Settings

NTP is a protocol used to synchronize computer clocks across multiple systems. It supports synchronization over local area networks and the internet.

NTP ⬤ Enabled : This switch enables/disables NTP settings. When enabled, four Time Server fields are visible with at least one field populated.

TIME SERVER: This is the server computer used to synchronize time.

> **NOTE:** Timers must remain synchronized with each other so that reports from multiple locations can be easily correlated.
>
> When NTP is enabled, the system does not allow the user to edit the date/time.

Conditions: The **DHCP** and **NTP** settings are enabled by default. Disabling DHCP requires manual input to populate the associated fields. The NTP Settings allow for up to four servers.
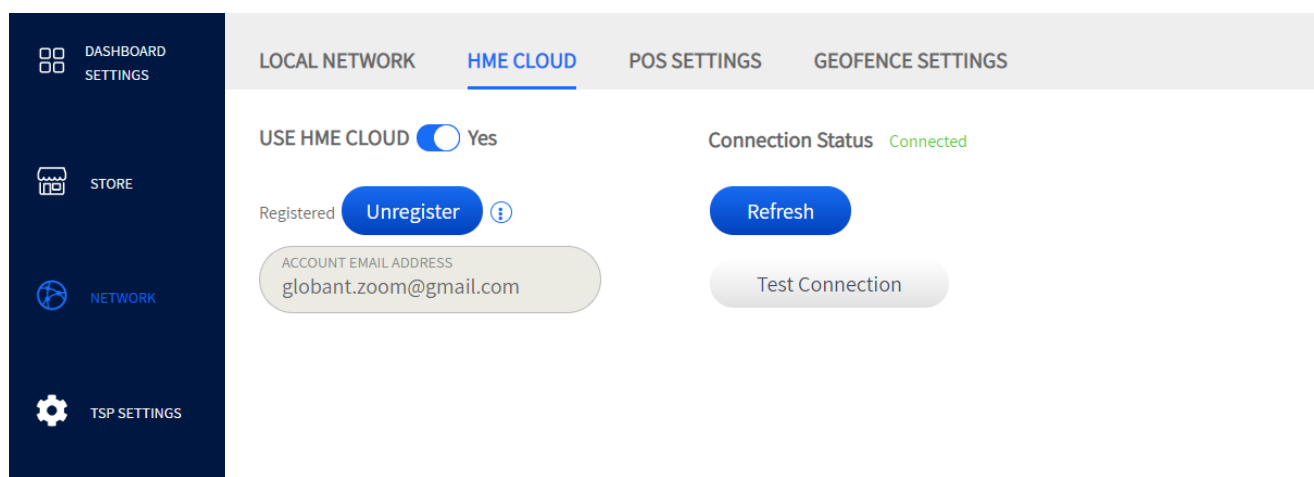
HME CLOUD

Fig. 5.2

What is this screen for? It is used to connect your system to the HME CLOUD. Your installer generally configures this screen during the initial installation and setup.

Why is it needed? Having a cloud connection is useful for sending diagnostic reports, troubleshooting connection issues, and receiving additional support like software upgrades. Also, your records and data history are backed up and stored in the HME CLOUD.

Example: Fig 5.2 shows you have selected "YES" for the USE HME CLOUD feature. The CONNECTION STATUS shows that you are connected to the cloud. The ACCOUNT EMAIL ADDRESS is populated when you are registered. To change this email address, you must first unregister using the Unregister button. An email address only needs to be entered if you have an account set up. If not, leave blank, click "**Save**," and then the "**Refresh**" button to connect.

The CONNECTION STATUS field will then indicate when you are connected. If your system does not connect, click the "**Test Connection**." This will indicate if there is a problem.

Conditions: While you do not require a registered account to operate your system, HME does recommend it. A registered account provides access to a range of additional options and support.

You can record your account information/email address here for reference: _____
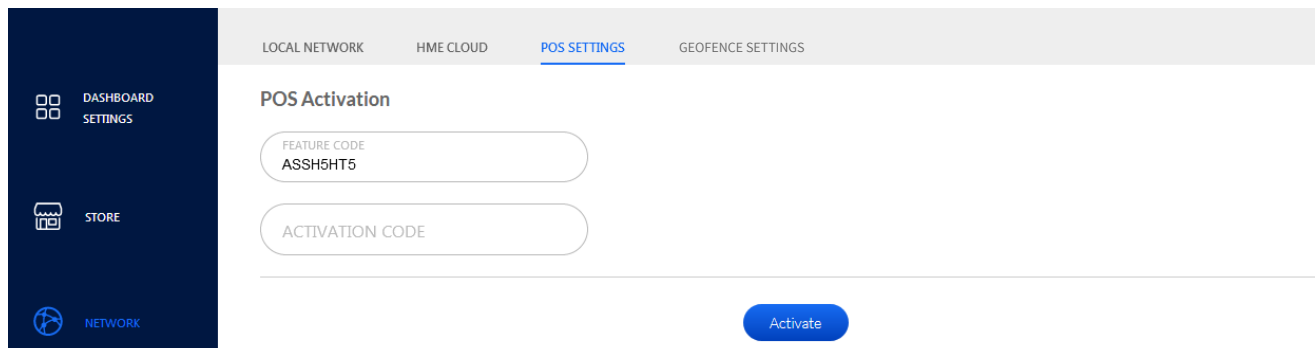
POS Settings

Fig. 5.3

What is this screen for? It allows you to integrate your ZOOM Nitro timer with a POS system.

Why is it needed? Orders taken at the order point can be associated with the car at the order point and tracked through the lane. The crew can select to display this information on the Dashboard.

Example: An ACTIVATION CODE is required to activate this feature. Call the Technical Support number on this screen and provide them with the FEATURE CODE displayed to receive your activation code. Enter this activation code and click on the Activate button. A screen like the one in Fig. 5.4 will appear.
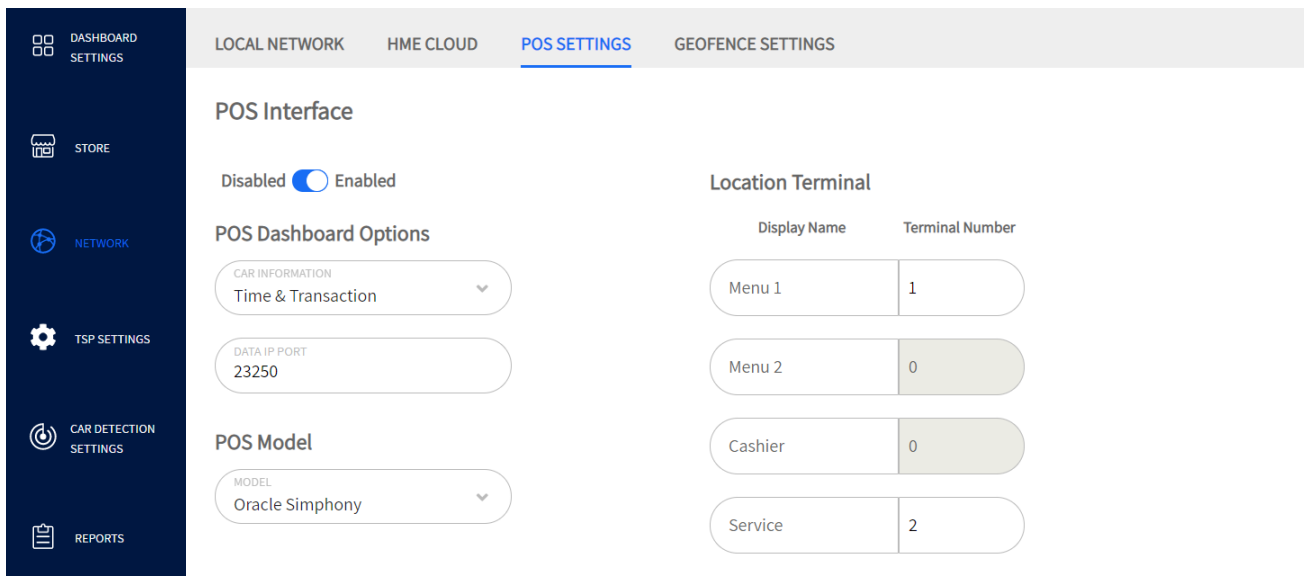
Fig. 5.4

Once the POS activation is completed, the POS Settings must be configured.

The POS Interface enables or disables the use of POS mode:

- **Disabled:** No POS options are available.
- **Enabled:** POS options can be configured, and the POS data can be displayed on the Dashboard and in Raw Car Data Reports.

The Data IP Port is a configurable port that ZOOM Nitro listens for POS data on – this port is defined by the POS system, and ZOOM Nitro will only receive POS data sent to the specified port.

Conditions: POS integration only works with Single-Lane and Y-Lane configurations.

This is an optional feature that must be purchased. You must use the Feature Code under POS Activation, call HME Technical Support, and enter the Activation Code provided to activate this feature.

Only POS systems available in the drop-down list of POS Model can be integrated with this ZOOM Nitro system.

Confusion can arise in the case of pullouts:

- In the case of a pullout, before an order is tendered, the order number is moved to the next vehicle detected in the queue. All remaining vehicles are sequenced with respective order numbers.
- In the case of an undetected pullout where the order taker cancels the order, then the timer must receive a "canceled order" event from the POS system and sequence the vehicles after deleting the order number and the vehicle associated with it.

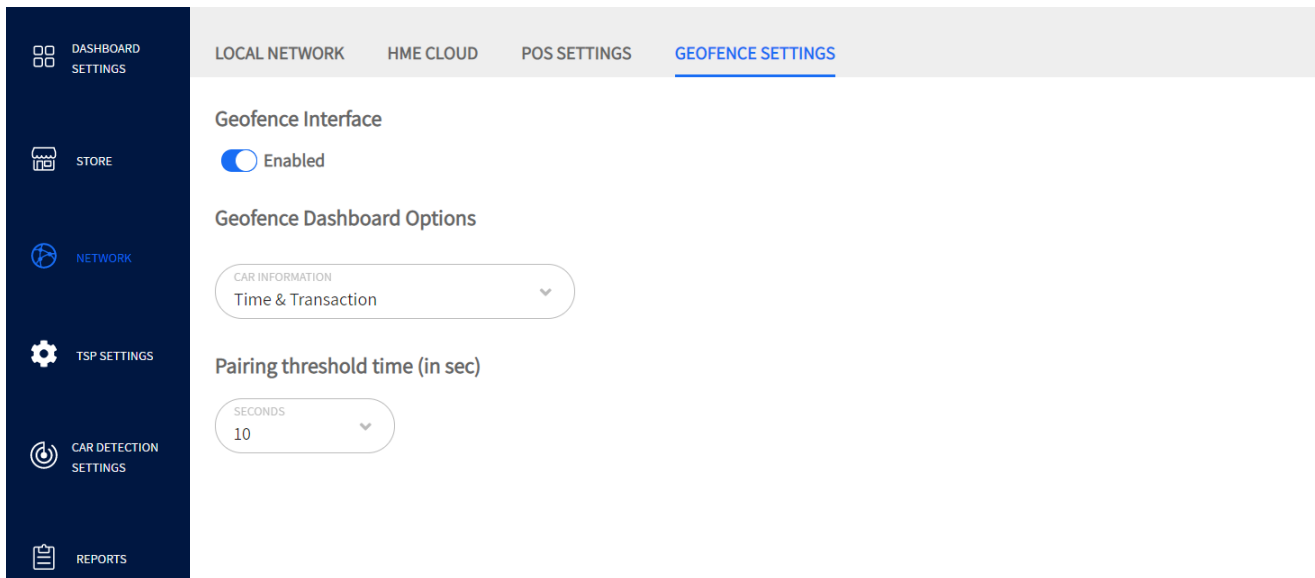# Geofence Settings (not available for all stores)

Fig. 5.5

What is this screen for? If your store uses a geofence for remote or mobile orders, you can configure options here.

Why is it needed? Once a geofence is enabled, you can choose what geofence options are displayed on the Dashboard. Pairing threshold times can also be adjusted here to compensate for latency variables unique to each store.

> **Geofence Interface** Disabled/Enabled: Enable to turn this feature on.

> **Geofence Dashboard Options**: These appear in a dialog label next to the associated vehicle displayed on the Dashboard. A geofence label has a neon blue border around the label (see image to the right) to distinguish it from a standard label that does not have this border.
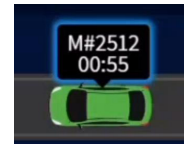
>> Time: This is the time triggered by the vehicle's arrival at the detection point. It is displayed next to the animated vehicle on the Dashboard.

>> Transaction: This is the transaction number associated with a customer's order. It is displayed next to the animated vehicle on the Dashboard.

>> Time & Transaction: This is a combination of both time and transaction displayed next to the animated vehicle on the Dashboard.

> **Pairing threshold time (in sec)**: Due to communication speeds between devices and networks, there is a latency period involved when using a geofence. Setting a pairing threshold ensures that the customer is correctly paired with their transaction once detected at the geofence; this pairing must then be maintained after leaving the geofence area until the order is fulfilled. Faster networks require a shorter threshold time, while slower networks require a longer threshold time.

Conditions: Pairing threshold time can be one to fifteen seconds long.

GEOFENCE SETTINGS is an optional feature. If not displayed on your screen, it is not available for your store. **Your store must have an in-app ordering service with location intelligence to use this feature**. Contact HME if you would like to know more about this feature.

Chapter 6 - TSP Settings

Only Installers and Managers can access and edit the features on this screen.

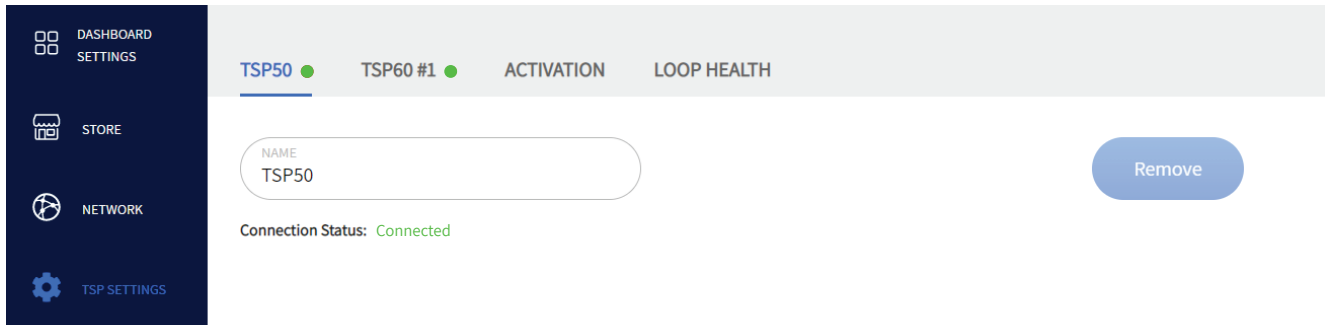Installer   Manager

TSP50

Fig. 6.1

What is this screen for? The system can support more than one TSP, including different models. This screen allows you to check the status of your TSP if model TSP50 is used.

Why is it needed? You can check the connection status and rename your TSP here. Options are limited when using a TSP50 with this system; for example, the LOOP HEALTH feature found in TSP Settings (and covered in this chapter) is only available for the TSP60.

> **NOTE**   *The ZOOM Nitro system is capable of supporting multiple TSPs (a maximum of eight TSP60s). It can also support both models simultaneously (one TSP50 with up to seven TSP60s). Each additional TSP appears at the top of the screen.*

Depending on what TSP model your store is using determines what TSP is displayed at the top of the screen. In Fig. 6.1, two TSP models are employed, so both TSP50 and TSP60 #1 are displayed. If, for example, you were to add another TSP60 to your system, it would also be displayed here.

In the NAME field, you can give your TSP a more descriptive name, which is useful if you have more than one TSP connected.

The green indicator 🟢 next to the TSP50 tab in Fig. 6.1 indicates this TSP50 is physically connected. If the TSP is physically disconnected, this indicator will turn red, and a prompt will also notify you.

When a TSP is physically disconnected, it is still visible onscreen because it has not been removed from the system yet. Use the **Remove** button to accomplish this. This button only becomes active when a TSP is disconnected (a safety measure to prevent accidental removals). For example, in Fig. 6.1, TSP50 is connected, so the Remove button is deactivated (indicated by a faded blue color). If TSP50 is disconnected, the green indicator turns red, and the **Remove** button becomes active. Once clicked, TSP50 will disappear from the top of the screen, leaving only TSP60 #1 displayed. Reconnecting the TSP will cause it to appear again with a green indicator next to it.

TSP60

Fig. 6.2

What is this screen for? The system can support more than one TSP, including different models. This screen allows you to check the status of your TSP if model TSP60 is used.

Why is it needed? You can check the connection status, rename your TSP and configure detectors here. The green indicator next to TSP60 #1 in Fig. 6.2 indicates it is connected. If an issue arises with

your TSP, you can reset it by using the [Reset] button. **Caution! resetting the TSP closes out the lane temporarily**. Therefore, all current lane event data is lost if there are vehicles present in the lane when the reset button is used but the TSP will begin monitoring lane events again once it reboots.

> **NOTE** *The ZOOM Nitro system is capable of supporting multiple TSPs (a maximum of eight TSP60s). It can also support both models simultaneously (one TSP50 with up to seven TSP60s). Each additional TSP appears at the top of the screen.*

Depending on what TSP model your store is using determines what TSP is displayed at the top of the screen. In Fig. 6.2, two TSP models are employed, so both TSP50 and TSP60 #1 are displayed. If for example, you were to add another TSP60 to your system, it would also be displayed here.

In the NAME field, you can give your TSP a more descriptive name, which is useful if you have more than one TSP connected.

The green indicator 🟢 next to the TSP60 tab in Fig. 6.2 indicates this TSP60 is physically connected. If the TSP is physically disconnected, this indicator will turn red, and a prompt will also notify you.

When a TSP is physically disconnected, it is still visible onscreen because it has not been removed from the system yet. Use the [Remove] button to accomplish this. This button only becomes active when a TSP is disconnected (a safety measure to prevent accidental removals). For example, in Fig. 6.2, TSP60 #1 is connected, so the Remove button is deactivated (indicated by a faded blue color). If TSP60 #1 is disconnected, the green indicator turns red, and the [Remove] button becomes active. Once clicked, TSP60 #1 will disappear from the top of the screen, leaving only TSP50 displayed. Re-connecting the TSP will cause it to appear again with a green indicator next to it.

Greet Detectors

The system supports two greets.

Connector type - Audio Greet or Alternate Greet: This switch correlates to how J8 is wired on the TSP. Audio Greet is the default state for standard greet signals received from the audio lines. Enable switch to select Alternate Greet if your inputs are digital inputs from other sources.

External Detectors

The system supports up to four external detectors.

Polarity configuration - Negative or Positive: Negative signal polarity is the default state for HME inputs; however, the system can also support signals with positive polarity used by non-HME inputs. Enable switch to select Positive polarity, if required.

On-Board Detectors

Up to four onboard detectors are available. Veh 5 is activated by default. For Veh 6 - 8, click on Activation required and follow the directions to purchase and activate any of these detectors. Use the ACTIVATION screen for this. Once an onboard detector is activated, the [Activate] button appears next to the Veh #. Click on it to activate that onboard detector. If for any reason an activated onboard detector malfunctions, you can use the same button to deactivate it and choose another onboard to activate (this will also require a wiring change on the TSP to match the new onboard detector selected).

External Detector Mode: If you use an external detector instead of the onboard detector, turn this switch on (this action also disables all fields associated with the onboard detector).

Diagnostic Mode: Turn this switch on to test the onboard detector without requiring a vehicle present at the detection point. The associated onboard detector LED on the TSP turns on and off (alternating every 10 seconds). A warning prompt like this Warning: TSP60 #16 Veh 6 Diagnostic mode enabled appears at the top of the Dashboard. **You must then turn Diagnostic Mode off to resume using the detector as normal.**

VEHICLE PRESENCE AUTO RESET (No Timeout, After 20 minutes): The default is No Timeout. In the event a vehicle is still detected after already leaving; you can choose to have it reset after a time limit is reached. **Caution! when auto reset happens, all current vehicle data is closed out if there are vehicles present in the drive-thru lane**.

DETECTION SENSITIVITY (Normal, low): Adjusts the detector sensitivity when the vehicle arrives at the detection point. The factory default setting is Normal. If set to Low, lower detection sensitivity corresponds to slower detection at the risk of small fluctuations causing missed detections.

RELEASE SENSITIVITY (low to extra high): Release sensitivity correlates to how quickly the system will signal vehicle departure. The factory default setting is Medium. Setting it to a higher sensitivity means departures trigger more easily.

DETECTION DELAY (0 to 10 seconds): This sets a delay period, after which the system recognizes a vehicle is at the detection point. It is used to eliminate false detections. This delay is similar to and impacts another delay setting if set for the same detector under Lane Detectors in Car Detection Settings (see "Lane Detectors" on page 35). For example, if 5 seconds is selected here for Veh 6 and a delay of 5 seconds is also selected for Veh 6 in Car Detection Settings, the total delay time applied will be 10 seconds.
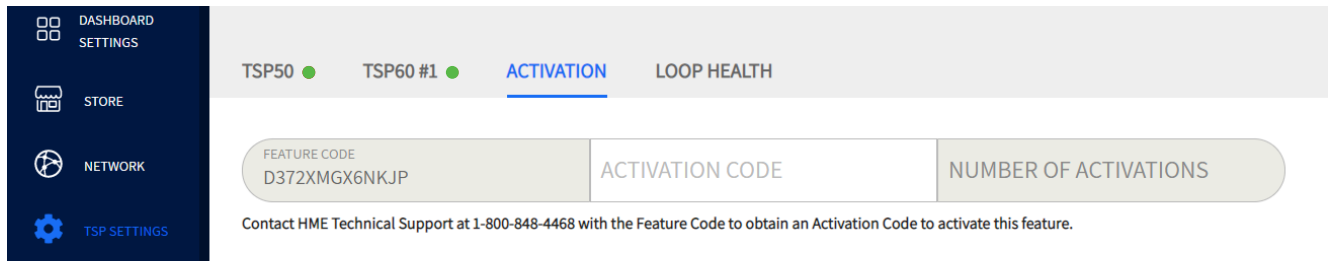
Activation

Fig. 6.3

What is this screen for? It is used to activate additional onboard detectors if needed.

Why is it needed? The TSP60 is designed with four onboard detectors. The TSP60 comes with one detector activated by default. You can purchase additional activations if your store uses more than one detector.

Call the number displayed on the screen and provide HME with the code listed in the FEATURE CODE field. HME will provide you with an activation code, which you can enter into the ACTIVATION CODE field.

The number of activations purchased is shown in the NUMBER OF ACTIVATIONS field, and the Activate button appears next to the Veh # under On-Board Detectors on the TSP60 screen. After activating one or more detectors, another row with a new FEATURE CODE appears. This will be used to activate additional detectors at a future date if needed (see Fig. 6.4).
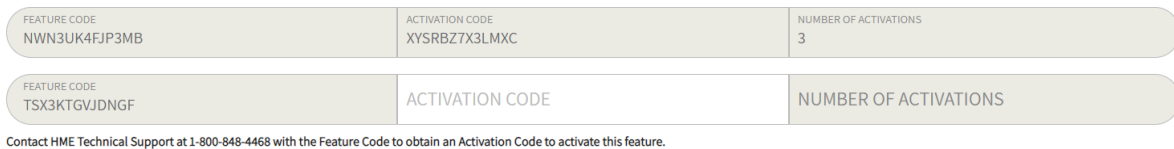

Fig. 6.4

> **NOTE** The ZOOM Nitro system is capable of supporting up to 64 detectors, which requires purchasing additional TSPs, a powered USB hub, and activating the additional detectors.
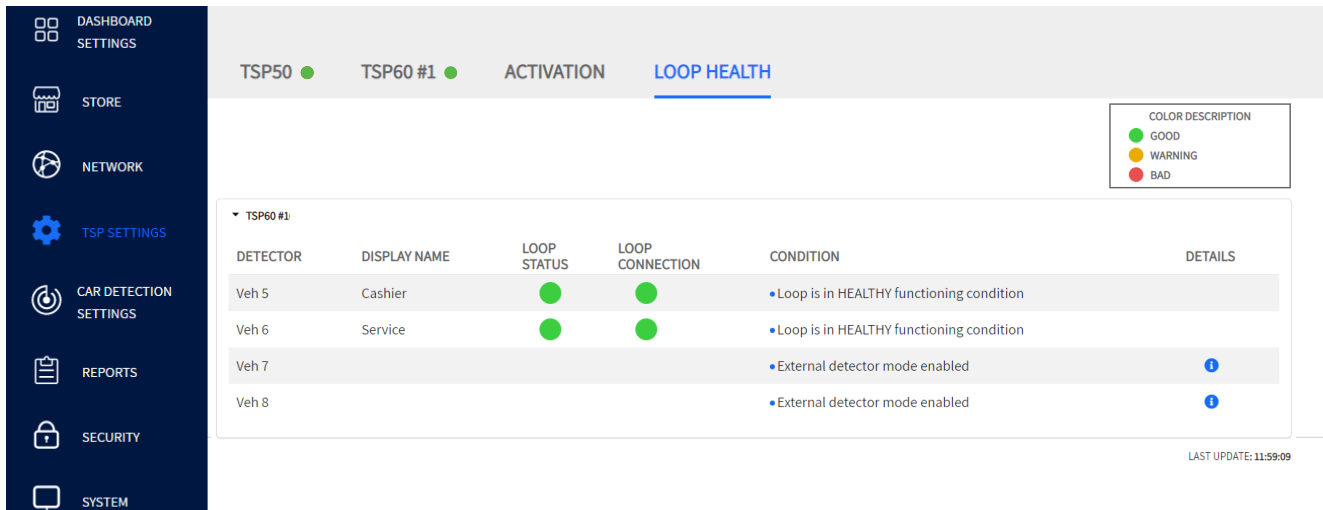
Loop Health

Fig. 6.5

What is this screen for? It provides your store with a status of how your detector loops are performing.

Why is it needed? Monitoring the health of your detector loops is important to keeping your system running smoothly and problem-free. Wear and tear will cause loops to eventually deteriorate over time. A change in loop health may signal that maintenance is required. This will enable you to anticipate an eventual failure before it happens, thus minimizing downtime through preventive maintenance.

Color-coded indicators are used to provide you with the status of your loop health.

🟢 A green indicator means the loop is in good condition and functioning properly.

🟡 An amber indicator means the loop is in moderate condition but functioning okay. If this indicator was initially green, it might indicate that the loop's condition is starting to deteriorate. Preventive maintenance is recommended at this stage. Allowing the loop to deteriorate more can eventually result in a critical failure if preemptive action is not taken to repair or replace the loop.

🔴 A red indicator means the loop is in poor or bad condition and may not be functioning properly or has completely failed. Immediately maintenance is required to repair or replace the loop.

Move the cursor over the blue information circle in the DETAILS column to provide you with additional information.

LOOP STATUS: This checks the loop's inductance. The resulting indicator ranges from good 🟢, to moderate 🟡, to bad. 🔴

LOOP CONNECTION: This checks the loop's physical connection. It is either good 🟢 or bad. 🔴

CONDITION: The information presented in this column provides an assessment of both LOOP STATUS and LOOP CONNECTION combined with possible recommendations if necessary. For example, see Veh 5 in Fig. 6.5, a loop with two green indicators means everything is functioning well, your loop is in good health. However, two red indicators is a critical problem that will prompt you to call HME Technical Support for a corrective solution.

Chapter 7 - Car Detection Settings

Only Installers can access and edit the features on this screen.

Lane Detectors

Fig. 7.1

What is this screen for? It allows you to customize your system based on the unique layout of your store. Use the **Lane Configuration** and **Lane Layout** options to match the general layout of your store. Click on the **Lane Layout** graphic to open a pop-out list, then choose from the available options (see image to the right). You must then map your detectors so your system can identify the location of each detector.

Why is it needed? Data and measured events on the Dashboard are based on the information entered here.

Example: Fig. 7.1 shows a Single-Lane store with one order detection point (1 menu) and two non-order detection points (two POS windows) chosen from the Lane Layout options. The **Detector Mapping** options allow you to map your DETECTOR to a Vehicle Number (Veh #). This Veh # correlates to the Veh # on the TSP, so you must map accordingly to match the actual connection. You can assign a descriptive name in the DISPLAY NAME field and chose your QUEUE SIZE, which is the number of vehicles that can fit between this detection point and the next. For example, "Menu" is mapped to Veh 2 and named "Menu," the queue number selected from the QUEUE SIZE drop-down list is "3 Cars."
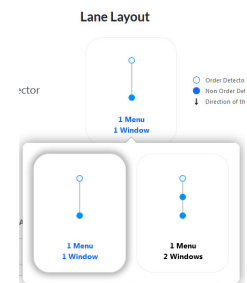
This indicates that three vehicles can fit between this detection point and the next detection point. In this example, the detection point is "Window" with the DISPLAY NAME "Cashier." The last detector point does not have a queue size because there are no other detection points/zones in the lane beyond this point.

> **NOTE:** *Queue size does not include the vehicles at the detection points, just those in between*. Twenty feet per vehicle is the estimated measurement used.

If a different choice is chosen from the **Lane Configuration** drop-down list, the **Lane Layout** choices change accordingly, including the **Detector Mapping** section. For example, if you choose a "**Y-Lane**" configuration, the Lane Layout graphic changes to a Y layout graphic, click on it to see the choices available.

Other detector type choices are also available under SHOW OTHER DETECTION TYPE. Click the box to the left of the detector type to select that option. The **Lane Layout** choices change accordingly, including the **Detector Mapping** section.

- Pre-Menu Detector: A detector that tracks vehicles prior to arriving at the menu detectors.
- Pull-Forward Detector: A detection zone after the lane where a vehicle might be requested to pull forward into while they await their order.
- Greet Detector: A detector that tracks the time between when a vehicle is detected at the menu detector and when the employee greets the guest via the headset.

Advanced Settings (+ icon)

- DELAY: This sets a delay period, after which the system recognizes the vehicle is in the queue. It is used to eliminate false detections (see also DETECTION DELAY under "TSP60" on page 30).
- DISCARD: If a vehicle is detected during this time limit but not detected after, it is discarded by the system. For example, a vehicle decides not to wait and pulls out.

Conditions: Detector labels are predetermined during the installation, so you must map using the correct Detector label. For example, if the detector you are configuring is connected to Veh 3 on the TSP, you must assign it Veh 3 from the DETECTOR drop-down list.
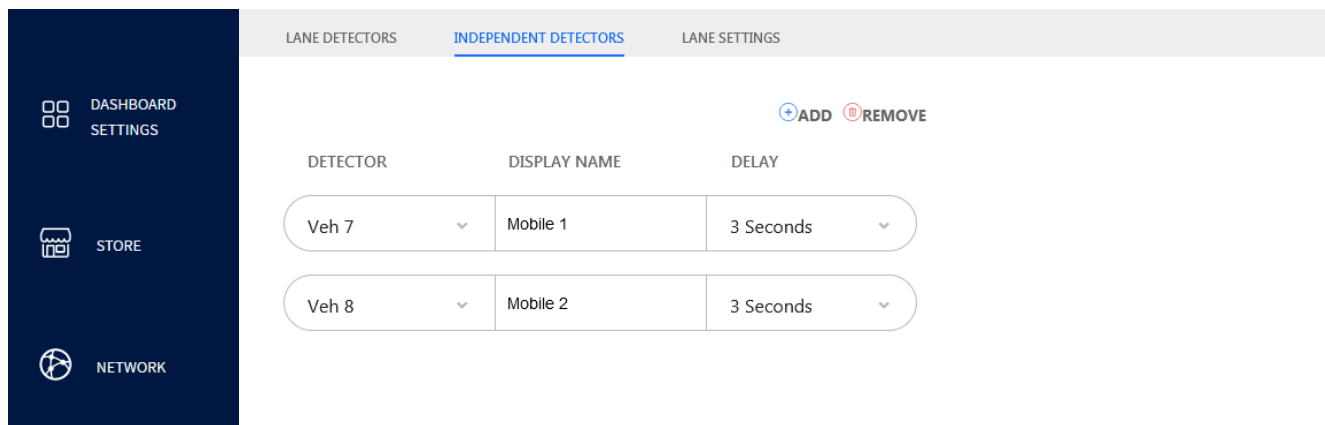
Independent Detectors

Fig. 7.2

What is this screen for? It is for detectors that are not part of a drive-thru lane and, therefore not dependent on other detectors within the lane.

Why is it needed? Your store may have designated parking locations reserved as wait areas for mobile orders or curbside pickup. As standalone detection points, they are configured separately.

Example: Fig. 7.2 shows that Veh 7 is assigned the name Mobile 1 with a detection delay of 3 seconds. The Veh # selected from the Detector drop-down list must correlate with the actual Veh # the detector is connected to on the TSP. The detection delay time enables you to add a delay to eliminate any false or unwanted detections. You can also add or remove detectors here.

Conditions: Detector labels are predetermined during the installation, so you must map using the correct Detector label. For example, if the detector you are configuring is connected to Veh 7 on the TSP, you must assign it Veh 7 from the Detector drop-down list. A maximum of five independent detectors can be configured here; however, this number is dependent on how many detectors are used elsewhere. If, for example, your store uses eight detectors and five are used in the drive-thru lane, then only three are available as independent detectors. Detectors are removed in the order they are added; therefore, the last one added is the first one removed.

Lane Settings

Fig. 7.3

What is this screen for? The Lane Total for lane events is set here. This screen allows you to define what you want Lane Total to be within a lane. You can choose what detection points you want to start at (START TOTAL) and stop at (STOP TOTAL). Then, at each detection point, you can choose when this time begins (START AT) and ends (STOP AT), i.e., at "Arrival" time, or "Departure" time.

Two, Lane Totals are available, which can be two separate event totals within the same lane of a Single-Lane configuration, or the same event total for each lane if two lanes are used.

Ignore Queue ◯ No : Queue times can be included or excluded in Lane Total, and are included by default. Toggle switch to YES to ignore queue.

Average by Detector Count ◯ No: This feature is only applicable to Lane Total 2. When this toggle is switched to "Yes," the NUMBER OF DETECTORS field opens and defaults to the number of detectors configured. However, this number can be manually changed here if another average is desired using a different number of detectors. This field only accepts a number ranging from 2 to 5. For example, if your total time 2 is two minutes and you wish to average this across four detectors, enter 4 into this field (see Fig. 7.3). The average displayed will be 30 seconds.

Pull Forward Settings: When PULL FORWARD DETECTION is set to "Enabled," the "Pull Forward" time is included as part of the Lane Total. "Pull Forward" reports if a car leaving the lane reaches the pull forward detection point within the set delay time; this feature enables the "Pull Forward" time to be associated with a car record. When "Disabled," the pull-forward time is excluded from the Lane Total.

"PULL FORWARD DETECTION DELAY (SECS)" sets the time in which a car leaving the lane must reach the Pull Forward detector for the Pull Forward Detection time to be included in the car record for Lane Total. The delay range available from the drop-down list is from 1 to 45 seconds.

Advanced settings

Pullout & Pullin Settings: Pullouts are when a vehicle is detected at one active detection point in the lane but not detected at the next active detection point. Pullins are when a vehicle is detected at one active detection point in the lane but was not detected at the previous active detection point.

MAX SERVICE IDLE TIME (SECS): is the maximum amount of time that the last active detection point can be vacant with cars between other detection points. The range available from the drop-down list is 1 second to 10 minutes.

MAX DELAY TIME (SECS): is the maximum amount of time allowed for a vehicle to leave one active detection point and arrive at the next active detection point. The range available from the drop-down list is 1 second to 10 minutes.

Therefore, IF a vehicle leaves an active detection point but does not reach the next active detection point within the set delay time, AND this next active detection point has been vacant longer than the max service idle time, then it is considered a pullout and removed from the system.

PULLOUT DETECTED NOTIFICATION: choose "Enabled" to receive notifications of pullouts when they occur.

INCLUDE PULLINS: when "Enabled", the pullin time is included in the Lane Total events. When "Disabled," the pullin time is excluded from the Lane Total, Dashboard metrics, and summary reports. However, Raw Car Data (RCD) is not affected (all data is shown regardless of whether enabled or disabled).

Why is it needed? Setting Lane Totals beginning at one active detection point and ending at another allows you to analyze the efficiency of lane events at your store. This helps pinpoint which detection points/zones need adjustments to increase productivity and traffic fluidity. Pullout and Pullin settings also allow you to include or exclude pullouts and pullins from your system calculations.

Example: Fig 7.3 has Lane Total starting when the vehicle *arrives* at the "Menu" detector point and stopping when the vehicle *departs* from the "Service" detector point with the queue time included (NO to IGNORE QUEUE). Lane Total 2 includes the same parameters but with the queue time excluded (YES to IGNORE QUEUE).

Conditions: Disabling the PULLOUT DETECTED NOTIFICATION feature removes notifications from your monitor but does not affect how the system handles pullouts.
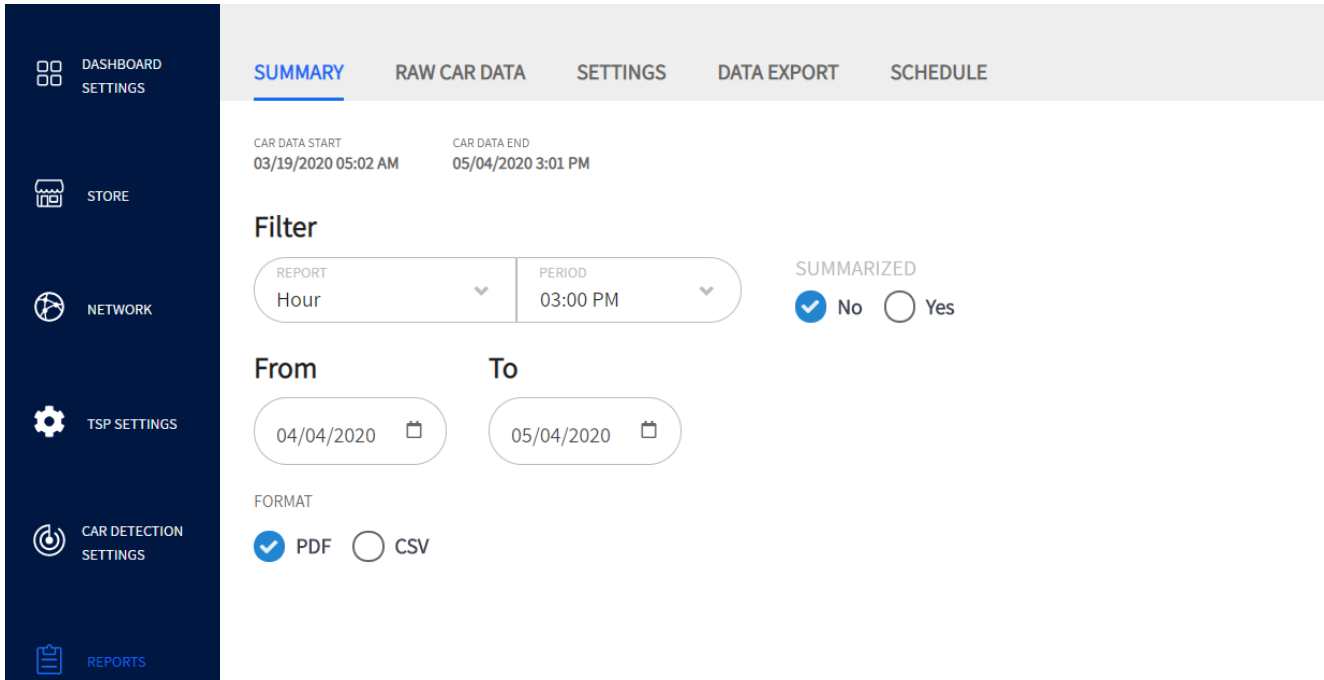
Chapter 8 - Reports

Summary

Fig. 8.1

What is this screen for? It allows you to generate reports for periods of an Hour, Daypart, Shift, Day, Week, Month, or Year-to-Date.

Why is it needed? You may wish to analyze your measured events for specific periods of time. Use the REPORT and PERIOD drop-down lists to "**Filter**" your specific request. Then select a date range in the "**From**" and "**To**" fields.

Example: Fig. 8.1 shows a one-month report summary for the hour at 3:00 PM from April 4, 2020, to May 4, 2020.

Under the SUMMARIZED option, select "No**"** if you want the report for each selected period to be generated on a separate page. Select "Yes**"** if you want to generate a single page report containing summarized data from all of the selected period.

Under the FORMAT option, select your output format (PDF or CSV), then click on "Get Report" to retrieve it.

Conditions: While a PDF can be generated onscreen, it can only be downloaded using a remote computer or back-office PC, while CSV is only visible using a remote computer or back-office PC. The retrievable records are dependent on the time limits and storage space available. This time limit is listed under CAR DATA START date and time just above the Filter field of this screen (it corresponds to the Database date found under STATUS on page 47).

Raw Car Data
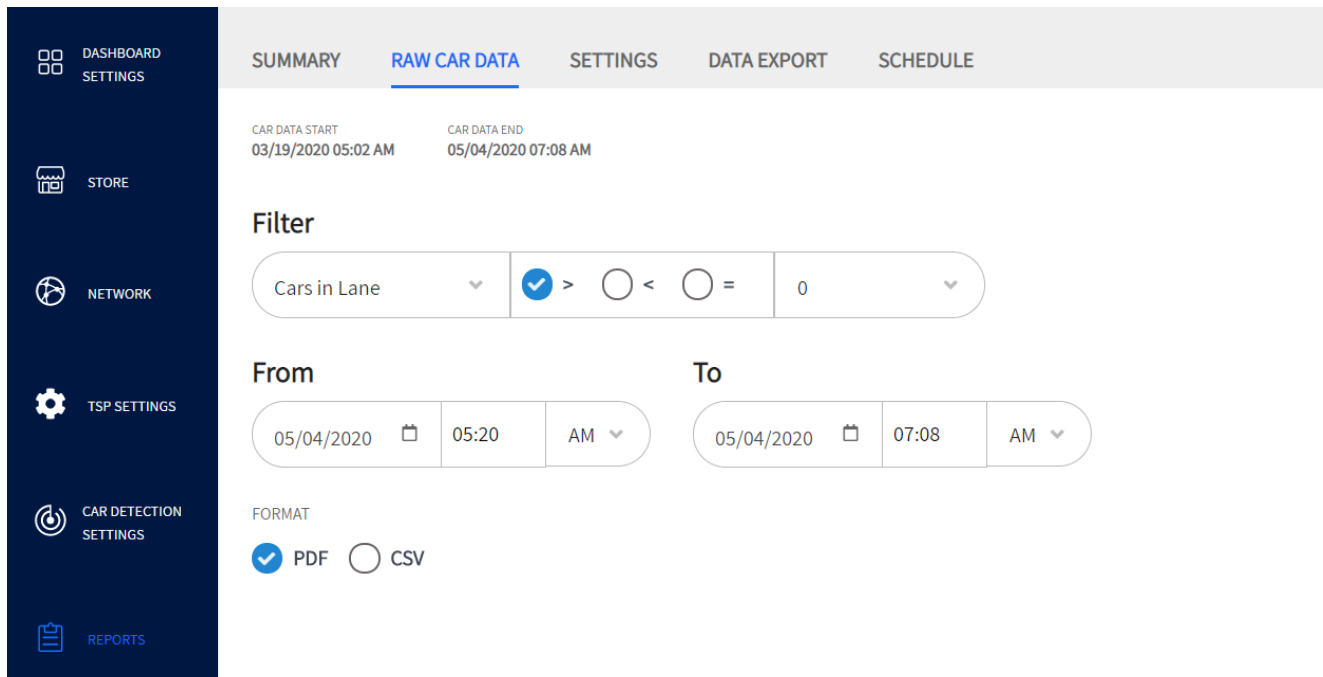
Fig. 8.2

What is this screen for? This feature allows you to generate a detailed record for every vehicle that passes through the drive-thru lane. It enables the user to filter the results based on a location or event (chosen from the drop-down list) within a specific date/time range.

Why is it needed? You may wish to analyze specific detection locations at specific times or dates based on a filter of choice. This enables you to recognize trends or issues, thus prompting you to make any adjustments if necessary.

Example: Fig. 8.2 shows an RCD (Raw Car Data) report for Cars in Lane greater than zero for the hours between 5:20 AM and 7:08 AM of May 4, 2020. PDF is the selected export format.

Conditions: Same as those found in the **Summary** section of this chapter.

Settings
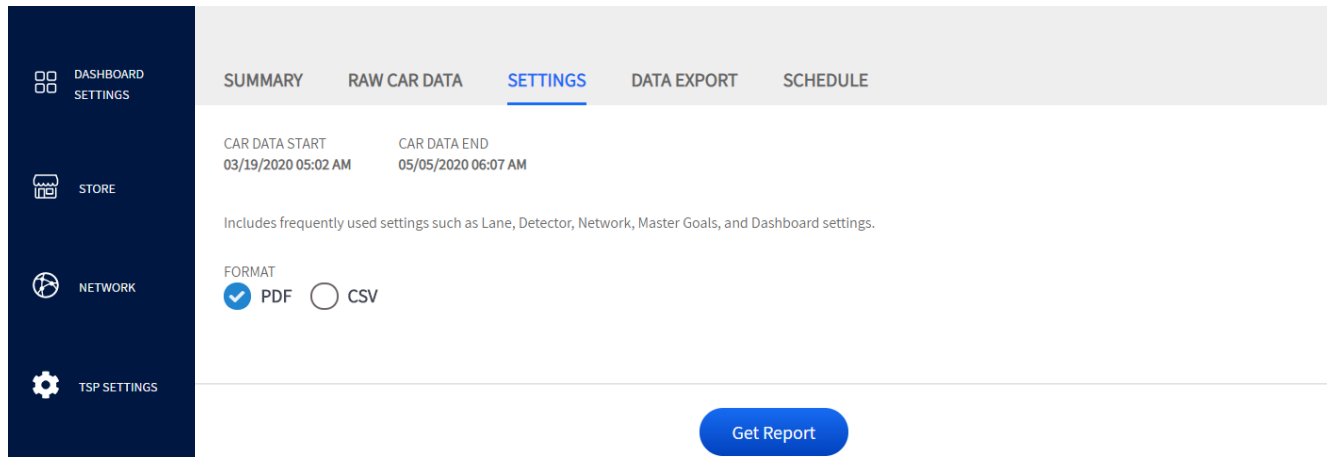
Fig. 8.3

What is this screen for? It allows you to generate a report based on frequently used settings such as Lane, Detector, Network, Master Goals, and Dashboard settings.

Why is it needed? It provides more report details in addition to the summary and RCD report.

Conditions: Same as those found in the **Summary** section of this chapter.

Data Export

Fig. 8.4

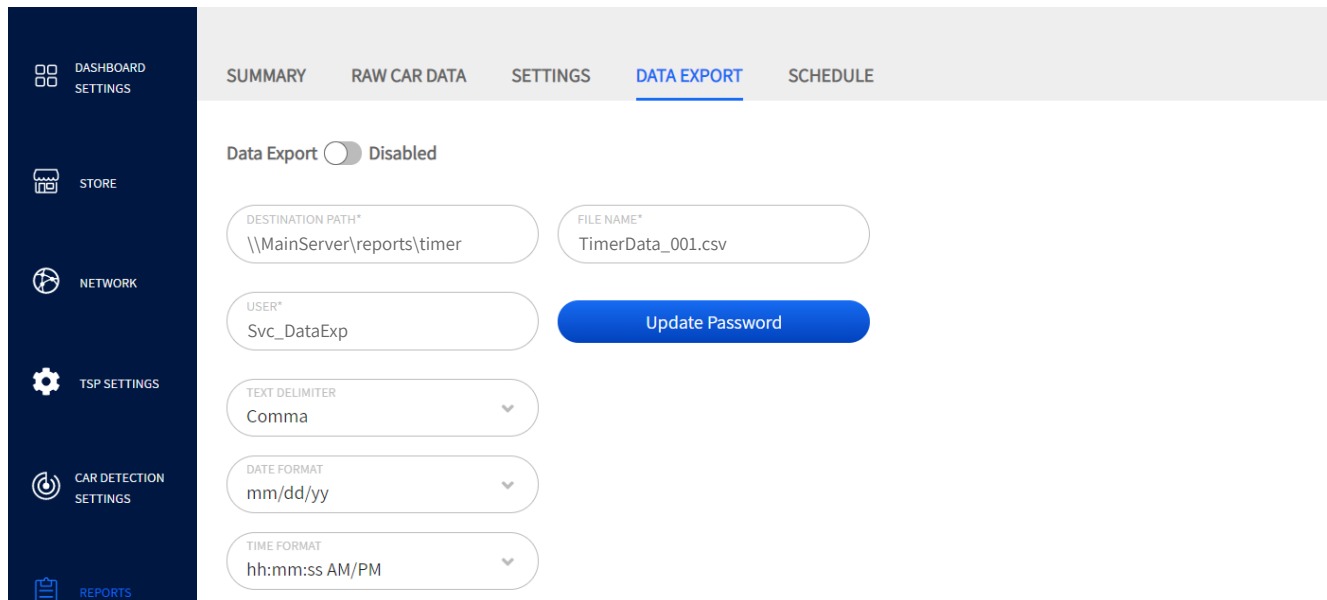**What is this screen for?** It is for those who would like to export and store data on a local network.

Why is it needed? If you desire to export and store this data on a local network such as your

back-office PC, a location must first be defined. This screen allows you to establish a connection to the location you have chosen.

An ACTIVATION CODE is required to activate this feature. Call the Technical Support number on this screen and provide them with the FEATURE CODE displayed to receive your activation code. Enter this activation code and click on the Activate button. A screen like the one in Fig. 8.4 appears.

Before configuring this screen, you must first set up the location on your local network where this data will be exported to (see your network administrator/IT professional to accomplish this).

Data Export ⬤ Disabled   Tap the Data Export switch to enable and populate the necessary fields.

DESTINATION PATH: is the location on your network where the files will be exported to and stored. This field must be populated using text in UNC (Universal Naming Convention) format.

FILE NAME: is a unique label assigned to the file. This is useful if you are doing multiple data exports, you can label files descriptively to differentiate one file from the next.

USER: the username and password are the credentials used for the shared network folder. They need to match the device as they are configured on the destination PC.

The **Update Password** button enables you to change the password to prevent unauthorized persons from accessing or making changes to the content in this location.

All other fields are drop-down lists offering you choices on how you would like the exported data to be presented. For example, choosing Comma in the Text Delimiter field will result in your information being separated using commas.

Conditions: This data is exported in CSV (Comma Separated Value) format.
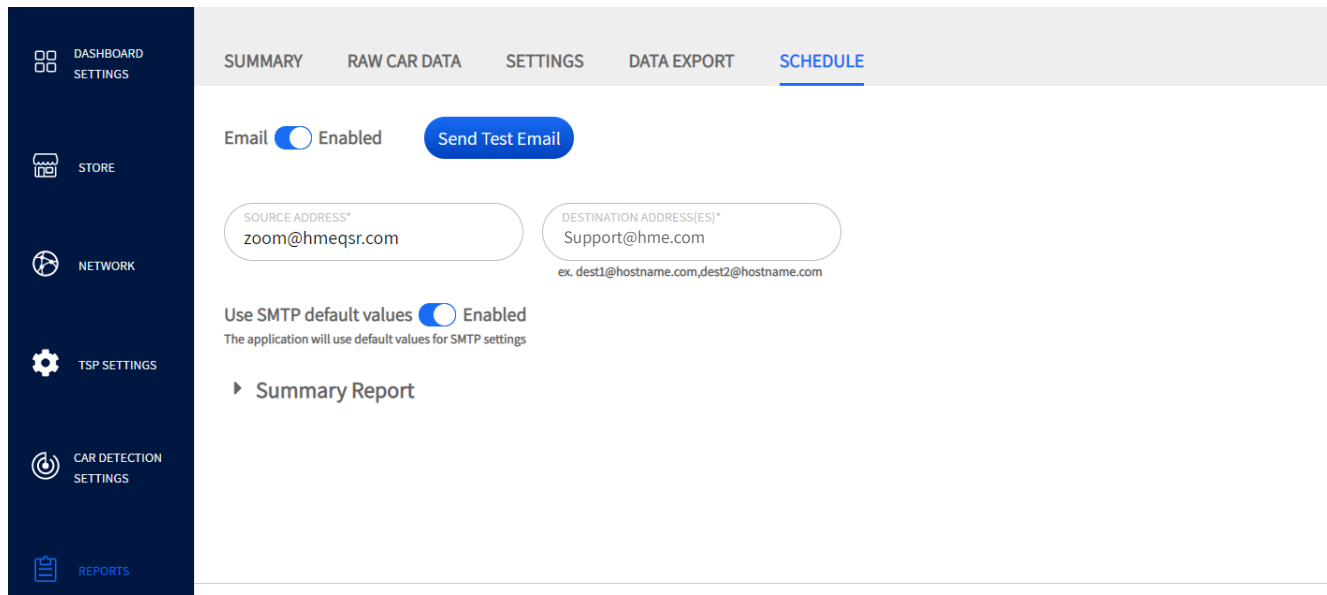
Schedule

Fig. 8.5

What is this screen for? It allows you to set a schedule for automatically generating reports based on user-defined parameters selected in the Summary Report section of this screen.

Why is it needed? You may wish to collect, analyze, and compare business data for specific periods. This can help you to recognize daily, weekly, monthly, or even yearly trends, thus allowing you to see where any necessary adjustments to your business model or hours of operation are needed.

Email ⬤ Enabled : The Send Test Email button becomes active when Email is enabled, so you can verify that the email address(es) entered into the Destination Address fields are valid.

The Source Address and Destination Address fields are auto-populated by default, enter a new address to customize.

Source Address: A valid source address is useful to prevent the report from being discarded or ending up in a spam folder.

Destination Address: This is the location where the scheduled report is sent to. More than one destination address can be entered into this field; however, you must separate each address using only a comma with no spaces.

Use SMTP default values ⬤ Enabled : SMTP (Simple Mail Transfer Protocol) is enabled by default and auto-populated (it assumes that the standard SMTP server configuration is used). Some organizations, however, may wish to use their own SMTP server configuration for security or other reasons. This will require you to disable this feature and manually configure the new fields that appear once this feature is disabled.

Click on "**Summary Report**" to expand this option (see Fig. 8.6). Enable any segments of time you would like to schedule a report for and adjust accordingly. If you leave the ☐ Send reports at the end of the day box unchecked for Hour, Dayparts, or Shifts, the report is sent as soon

as the time value in the "END" field is met. Check the box if you would prefer to receive the report at the end of the day (e.g., as with the Hour option in Fig. 8.6).

Use the "+" sign to the right of a field to expand for an additional row of options (e.g., the Hour option in Fig. 8.6).
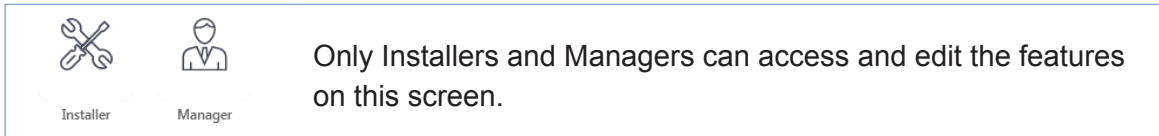
Fig. 8.6

Chapter 9 - Security

Only Installers and Managers can access and edit the features on this screen.

Login
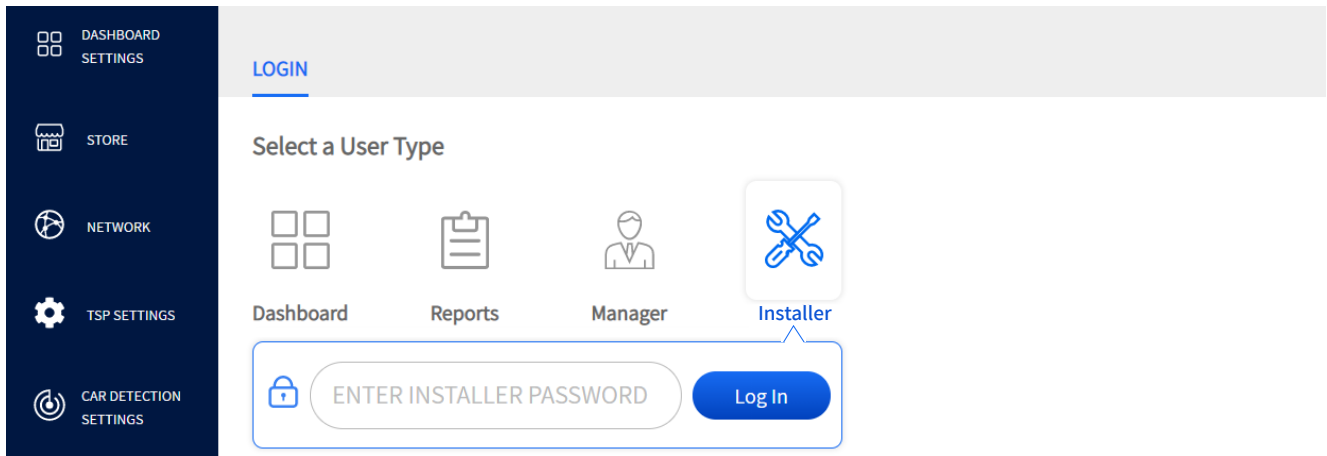
Fig. 9.1
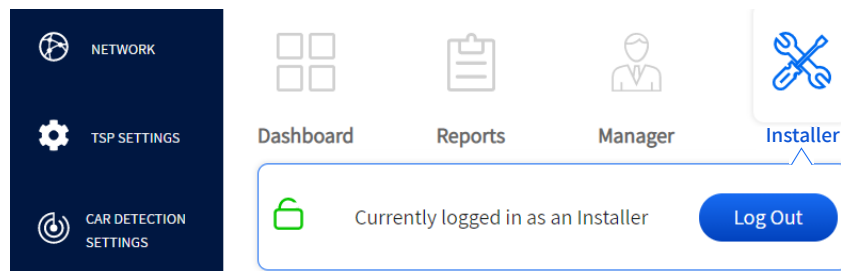
Fig. 9.2

What is this screen for? It is used to sign in and gain access to system features.

Why is it needed? Permission rights allow you to restrict access to certain features or screens on your system. This is a security measure that also helps prevent unauthorized users from changing parameters. There are four user levels, each granting permissions to specific features of the ZOOM Nitro system. These user levels are Dashboard, Report, Manager, and Installer.

Dashboard User: allowed access to the Dashboard settings.

Reports User: allowed access to the Dashboard settings and the Reports screen so that reports can be generated.

Manager: allowed access to the Dashboard, Store, Report, Security, and System screens.

Installer: has access to the entire system. This is the highest level of access permitted and is required to configure the system, to perform maintenance, and to upgrade.

Example: Fig. 9.1 shows the Installer option selected. Once logged in, they are shown as the current user (Fig. 9.2). Clicking on "Logout" logs the current user out and causes the PASSWORD screen to disappear.

Conditions: Your assigned user-level determines what features are accessible on the system. The Manager assigns logins/passwords for Dashboard and Report users. The system only allows one user to be logged in at a time. You must have a password to use this system. The PASSWORD screen only becomes available when the Installer or Manager logs in. Automatic logout happens after ten minutes of inactivity.

> **NOTES:** *If a temporary password is needed to get you started, call HME Technical Support at 1-800-848-4468. The system times out after 15 minutes of inactivity, and your temporary password is only valid within the clock hour you receive it. If you delay using this password and either of these two conditions is met, you will require another temporary password. It is therefore recommended that you use this temporary password immediately after receiving it and create a new permanent one.*
>
> *Another user can access the store via the HME CLOUD without requiring the current user to log off.*

Password
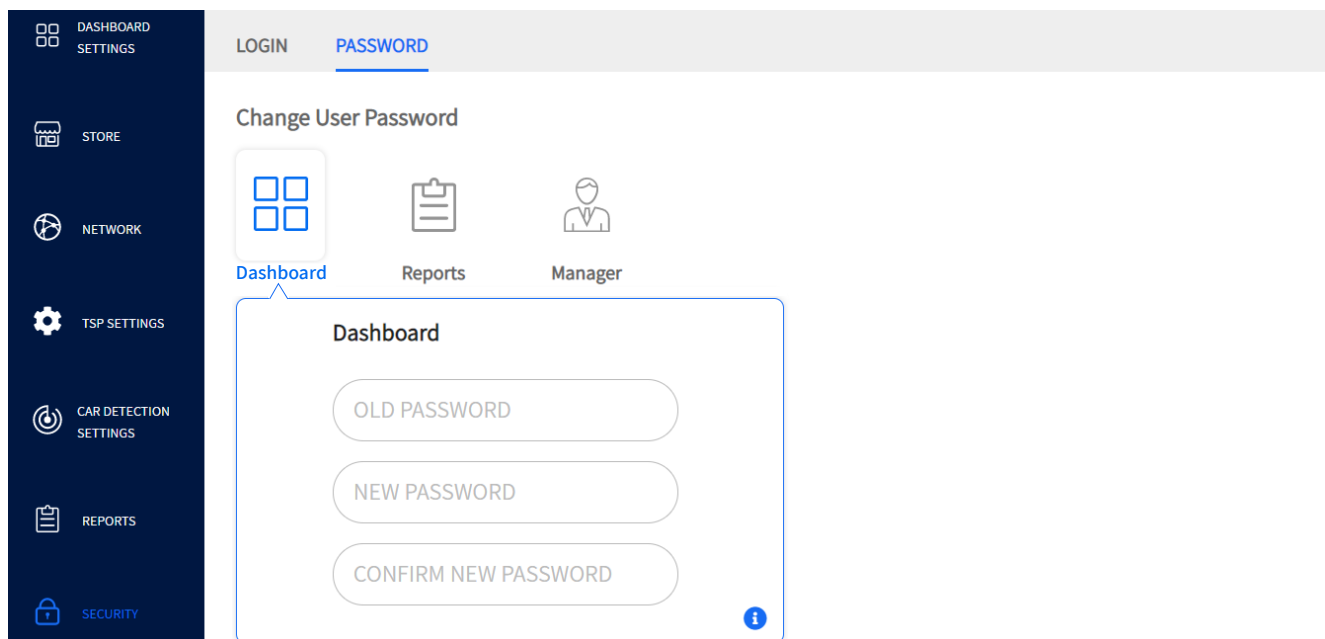
Fig. 9.3

What is this screen for? It is used to assign or change passwords for users of this system.
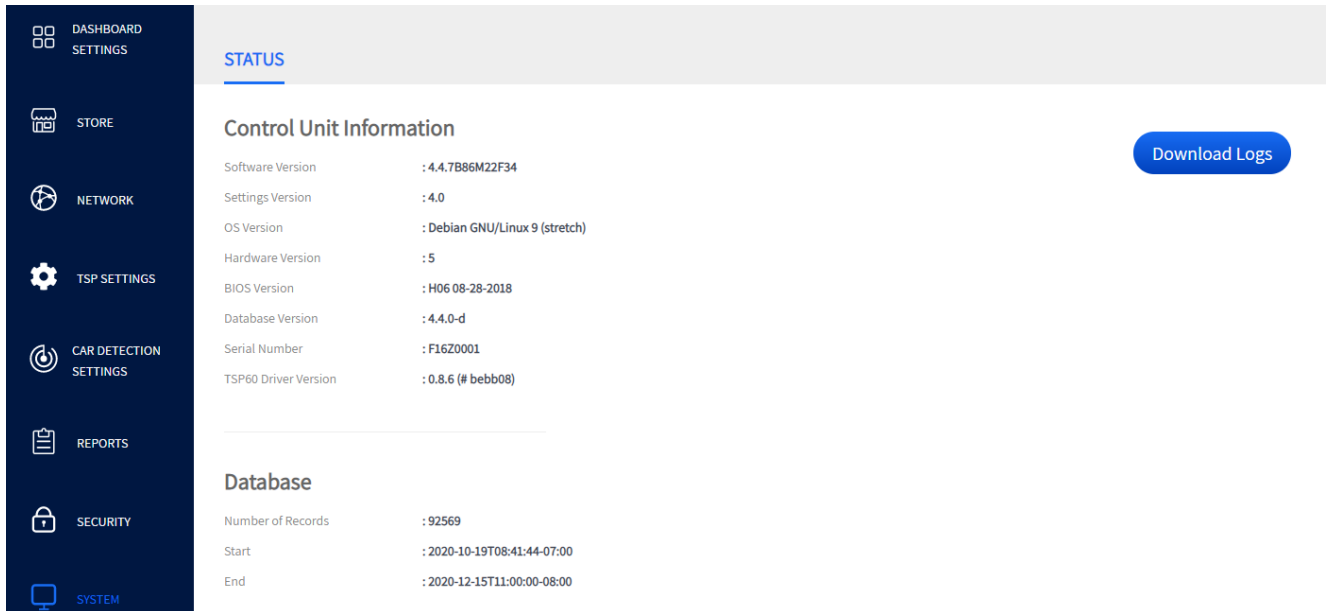
Why is it needed? Passwords are a security measure to ensure that only authorized personnel can access your system. It is also used to restrict access to certain features. In Fig. 9.3, the Dashboard password screen is active.

Conditions: Passwords are assigned by the Installer and then by the Manager. Passwords must contain **at least eight characters, with at least one uppercase letter, one lowercase letter, and one number.** See "NOTES" under "Login" on page 45 for information on receiving a temporary password if you need it.

Chapter 10 - System

Installer   Manager

Status

Fig. 10.1

What is this screen for? It is primarily used by HME Technical Support. It provides information about your system such as serial numbers, database records, software, hardware and OS version numbers, etc.

Why is it needed? It is used during the installation process, setup phase, and maintenance. It provides installers and Technical Support with crucial information about your system that may be required when troubleshooting, or upgrading your system.

The **Database** section lists the current *Number of Records* stored for the period between the *Start* and *End* dates. Start dates begin when the system is first installed and runs continuously. The End date is the most current (if the system is running). The number of records stored is cumulative and dependent on variables such as storage space available, maintenance, etc.

Chapter 11 - Help

If the help provided in this section is not sufficient, please contact our Technical Support team at support@hme.com or call us at 1-800-848-4468. As a valued customer, we are here to help you have the best experience with your product; your success is our success!

TSP50 Diagnostic Lights
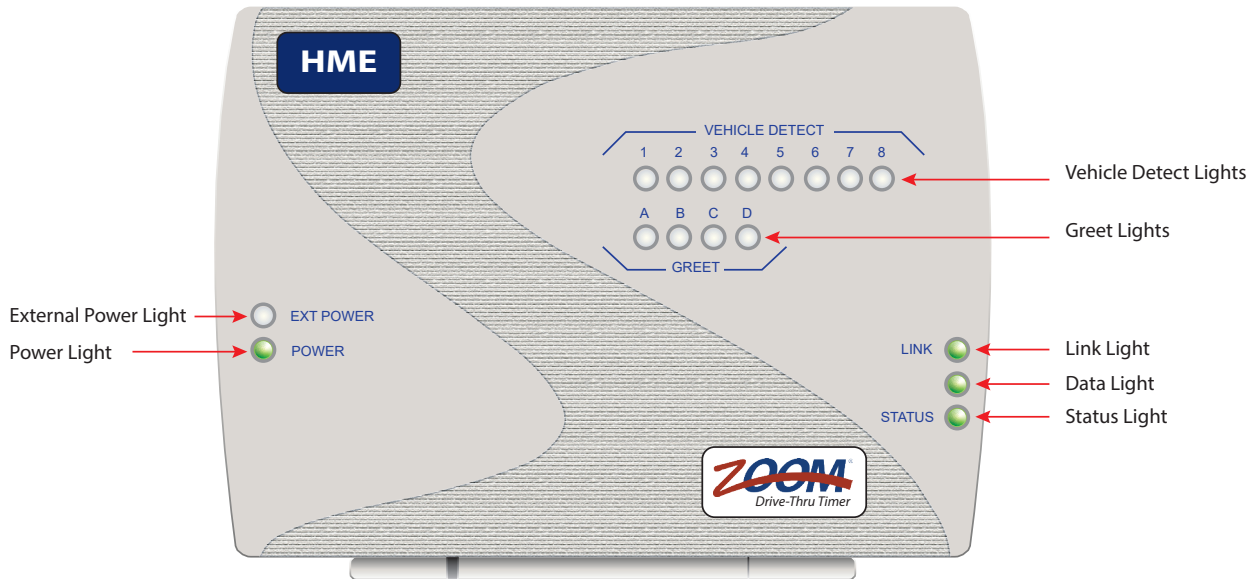
The following table gives you an overview of the TSP50 lights. It can help when troubleshooting issues with your system. If any of the lights do not perform as described, it may indicate an issue. If you cannot resolve it with the information presented here, please contact HME Technical Support.

Light ID	Description/Function
EXT Power Light On:	An external power supply is connected to the TSP. Light Color is Green.
EXT Power Light Off:	No external power supply is connected.
	If a power supply is connected and the light is not on, check the power supply connections on both ends to make sure they are plugged in properly.
	Note: An external power supply is only required when two additional Vehicle Detector PCBAs are used (i.e., if more than five detectors are used).
	Note: Only use the power supply provided by HME.
Power Light On:	The TSP is connected to the CU, with the CU turned on. Light Color is Green.
Power Light Off:	Not connected to the CU or the CU is off.
	If not on under these circumstances, check cable connections and make sure the CU is turned on.
	Note: This light remains on even when powered by an external power supply (i.e., EXT Power Light is also on at the same time).

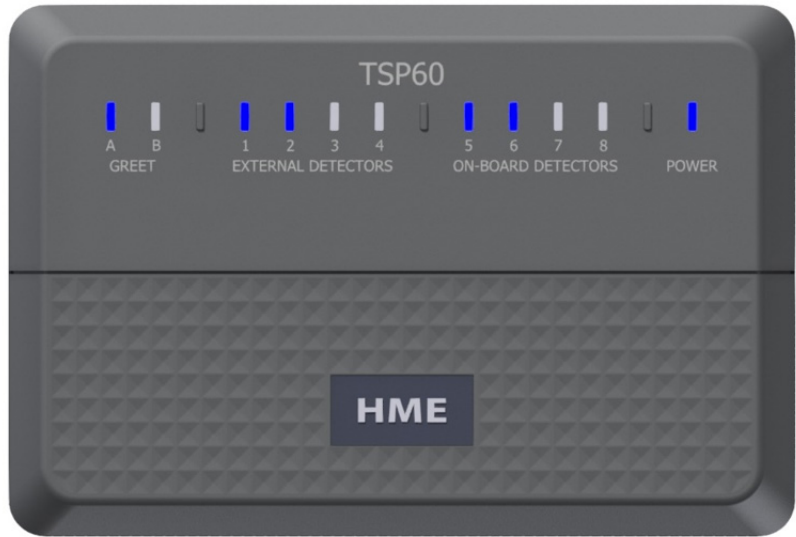| Light ID	Description/Function
Vehicle Detect Light On:	The corresponding detector senses the presence of a vehicle over it. Light Color is Red.
Vehicle Detect Light Off:	There is no vehicle present over the detector, or this light is not used.
	If, for example, you only have four detectors connected (onboard, and ports VEH2, VEH3, and VEH4 of the TSP). Then, only the Vehicle Detect lights labeled 1 through 4 are active when detecting vehicles (i.e., Vehicle Detect lights 5 - 8 are not in use because there are no detectors connected).
	If a vehicle is present over a corresponding detector and the light is not on, check TSP port connections and detector functionality. For example, wireless detectors are battery-powered and, over time, weaken and die.
Greet Light On:	The Greeter/Order Taker is speaking to a customer. Light Color is Red.
Greet Light Off:	There is no dialog between the Greeter/Order Taker and customer or if not in use.
	Note: Greet lights A and B are usually the only two greet lights used.
Link Light On:	The CU is on, and you have a hard network connection. Light Color is Green.
Link Light Off:	The CU is off, or if the TSP is not connected to the CU.
	If Link Light is off when it should be on, ensure that the cable connection between the TSP (inside the TSP) and the CU is properly connected, and the CU is on (the Power Light on the TSP will be on if the CU is on).
Data Light On:	Solid when there is a data connection, and the system is turned on. Light Color is Green.
Data Light Blinking:	Blinking when communicating.
Data Light Off:	There is no data connection, or the system is turned off.
Status Light On:	Solid when there is a connection but no communication. Light Color is Green.
Status Light Blinking:	Blinking when communicating with the Control Unit (The Data and Status Light blinks are not synced and blink at different rates).
Status Light Red:	When there is a communication problem.
Status Light Off:	When the system is turned off.

TSP60 Lights

The following table gives you an overview of the TSP60 lights. It can help when troubleshooting issues with your system. If any of the lights do not perform as described, it may indicate an issue. If you cannot resolve it with the information presented here, please contact HME Technical Support.

Light ID	Description/Function
Power Light On:	The TSP is connected to the CU, with the CU turned on. Light Color is Blue.
	If not on under these circumstances, check the USB cable connections and make sure the CU is turned on.
Power Light Off:	The TSP is not connected to the CU, or the CU is off.
On-Board Detector Light On:	The corresponding detector senses the presence of a vehicle over it. Light Color is Blue.
	For example, if you have four detectors connected (onboard). Then, all the On-Board Detector lights labeled 5 through 8 are active when detecting vehicles.
On-Board Detector Light Off:	There is no vehicle present over the detector, or no detector is connected (light not in use).
External Detector Light On:	The corresponding detector senses the presence of a vehicle over it. Light Color is Blue.
External Detector Light Off:	There is no vehicle present over the detector, or no detector is connected (light not in use).
Greet Light On:	The Greeter/Order Taker is speaking to a customer. Light Color is Blue.
Greet Light Off:	There is no dialogue between the Greeter/Order Taker and the customer, or if the Greet detector is not in use.

Troubleshooting

If your system malfunctions, first, open the TSP cover and check your connections. Also, check your connections at the CU. Try disconnecting and reconnecting the interface cables between the ZOOM Nitro system devices such as the USB cable between the TSP and CU. If that doesn't resolve the issue, try resetting the system by powering the system off and back on again using the CU power button.
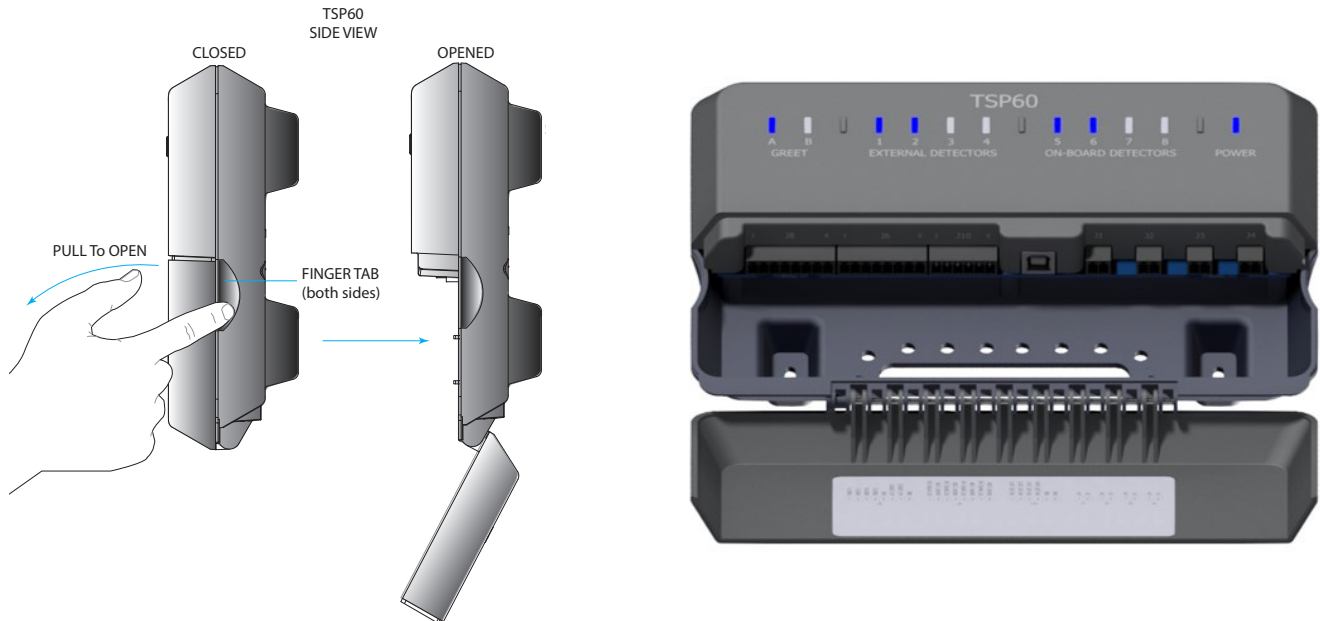
Electrical Power Outage: If your system fails to function properly after an electrical power outage, power the system off and unplug the AC power adapters from their electrical outlets. Wait a few seconds, then plug them back in and power the system back on.

If you cannot resolve problems with the information presented here, please contact HME Technical Support at 1-800-848-4468.

Glossary of Terms

Bottleneck: This is the choke point in a drive-thru lane, or where any event/detection point that causes delays, or goals to be missed.

Car Count: The total number of vehicles that have gone through the drive-thru lane and departed from the last detector or detection point.

Cars in Lane: The number of vehicles that have arrived at, or passed, the first active detection point in the drive-thru lane, but have yet to leave the last active detection point.

CSV: Comma-Separated Value, is a file containing values separated by a delimiter, and formatted as a database table. If application software such as Microsoft Excel® is installed on your computer, the CSV will open as a spreadsheet.

CU: Control Unit, or CU, is generally followed by the model number (e.g., CU60 is model 60). The CU receives and processes lane event data from the TSP. The device then sends the real-time information to be displayed in a visual format on the system monitor. Also, the CU sends information to the HME CLOUD for historical reporting and comparative analysis between other stores. The Control Unit also sends information to the HME CLOUD for comparative analysis with other QSRs/stores and historical reporting.

Dashboard: The main display on your monitor that shows real-time drive-thru activity.

Database: This is a collection of records electronically organized and filed in a central location.

Data Export: A report feature enable a store to send report data to a local network location.

Data Section: These are square or rectangular panes on your Dashboard displaying user-defined event data or metrics for a detection point or event in a drive-thru lane. For example, see "Data Sections - Example 1" on page 13 or "Data Sections - Example 2" on page 16.

Daypart: A customizable segment of your business day that you would like to monitor. You can set up to 23 Dayparts per day. Each Daypart automatically ends when the next Daypart begins; Dayparts cannot overlap. Common Daypart examples are "breakfast," "mid-morning," "lunch," "dinner," and "late-night hours.

Detection Point: A location, generally in a drive-thru lane where a vehicle's presence is sensed by a loop or wireless detector. Detection points are typically located at the Menu Board, Cashier/Pay Window, and Service/Present Window. These detection points are dependent on other detection points in the lane to provide measured events for the lane. A detection point can also be located outside the lane. Detection points of this type are called "independent detectors" because they exist as stand-alone detectors. An example is a mobile pickup area, where vehicles park while they await their order.

Detection Time: The time from a vehicle's arrival at a specific active detection point until its departure from that point.

DHCP: Dynamic Host Configuration Protocol is a network management protocol used on UDP/IP networks whereby a DHCP server dynamically assigns an IP address and other configuration parameters to each device on a network so they can communicate with other IP networks.

Disastrous Orders: This is the number of vehicles or orders that have exceeded the user-determined Disastrous Orders Goal. For example, if speed goal D has the longest time value of goals A, B, C, and D (where A = 30, B =60, C = 90, D = 120), then any vehicle or order exceeding 120 is considered a Disastrous Order. This order fails to meet the easiest limit set for a goal.

DNS Server: Domain Name Server is a directory of domain names with translated Internet Protocol (IP) addresses. This is the Internet's equivalent to a phone book.

Event Time: The time associated with Lane Events, including Queue time, Lane Total, Detection Point time, and Greet time.

Gateway: A device (usually a router) that connects one or more computers on a network to other networks.

Geofence: A virtual geographical boundary or perimeter defined by GPS or RFID technology, that enables software to trigger a response when a mobile device enters or leaves this boundary.

Goals: Ideal service times that you can set as objectives for measurement of efficiency in drive-thru service. For example, you can set goals for Service, Menu, Greet, and Lane Totals.

Greet Time: The time from a vehicle's arrival at the Menu Board detection point until the order taker begins speaking to the customer.

HME CLOUD: This is an optional service offered by HME that allows your enterprise to correlate data from multiple locations. The cloud, as a computing term refers to servers that are accessed over the Internet, and the software and databases that run on those servers.

Independent Detector: These are standalone detectors that are not part of the general drive-thru lane configuration, which relies on dependent detectors. They are generally used for mobile orders and curbside pickups.

IP Address: Internet Protocol Address is a unique computer reference that some electronic devices (e.g., computers or routers) use to identify and communicate with each other on a computer network.

Lane and lane type: A lane is any drive-thru lane. Lane types are generally one of the following:

- Single-Lane: one entry point detector and one exit point detector.
- Y-Lane: two entry point detectors and one exit point detector.

Lane Event: Any drive-thru event or series of events in which time is measured at active detection points. A Lane Event can be measured by lane, Queue time, Lane Total, Detection point time, and Greet time.

Lane Total: The time from a vehicle's arrival at or departure from the first active Detection Point, until the vehicle's arrival at or departure from the last active Detection Point.

Leaderboard: This is a visual representation of your store's specified data and measured events displayed against the same data points of other stores in your area.

Mobile Pickup: A designated or reserved parking space in the customer parking lot for mobile orders. Mobile Pickup spaces use independent detectors (not dependent on other detectors).

NTP: Network Time Protocol is a networking standard for clock synchronization between computer systems; NTP is intended to synchronize all participating systems within milliseconds of Coordinated Universal Time (UTC).

PDF: Portable Document Format is a file format designed to present documents consistently across multiple devices and platforms.

POS: Point of Sales is referenced in this guide as a system that generates customer transactions. ZOOM Nitro can integrate with some industry-standard POS systems.

Pullin: A vehicle that entered the drive-thru lane after the first active detection point, and exited through the last active detection point.

Pullout: A vehicle that entered the drive-thru lane through the first active detection point, but exited the lane before the last active detection point.

Pull-Forward: This term refers to the space offset from the drive-thru lane with a conditional detector point. It only tracks a vehicle from a previous detector point if it reaches this detection point within a set amount of time (selected from the Pull-Forward Detection Delay menu). This detector can either be enabled or disabled for use in Lane Total calculations.

Queue Size: This is the number of vehicles that will fit between two detection points (beginning from

the front of a vehicle on one detector and ending at the rear of a vehicle on the next detector). Twenty feet (6.1 meters) is the estimate used per vehicle. For example, if the distance between two detection points is sixty feet, then your queue size for this section is three vehicles.

Queue Time: The time from a vehicle's departure from any active detection point until its arrival at the next active detection point.

QSR: Quick Service Restaurant, an industry-standard term used in the hospitality industry for restaurants specializing in the quick preparation and service of food.

Raw Car Data: Vehicle times automatically stored in the system every time a vehicle leaves the last active detection point. Raw Car Data is collected over a period of time and is used by the system to compile reports.

Report: A generated document that compiles a specific set of data or measured events for a specified period of time. This report can be generated in formats available for that report type (e.g., PDF or CSV).

Service Goals: A time limit that a vehicle should not exceed for a given Lane Event. Service goals can be applied to any Lane Event, such as the time that a vehicle spends at a detection point.

Subnet Mask: Splits the network into a series of subgroups or subnets, to speed up the delivery of data by the routers.

Shift: Scheduled work hours for your store's crews. Up to eight shifts can be set in a 24-hour period representing a day between opening and closing times. Shifts can overlap. For example, Shift 1 could be set from 6 AM to 2 PM, while Shift 2 could be set from 11 AM to 7 PM. Also, a shift can go past midnight and overlap two days.

SMTP: Simple Mail Transfer Protocol is a communication protocol for electronic mail transmission. For this protocol, port 25 is the traditional default port used to communicate email across the Internet. But other ports such as port 587 are also used as SMTP ports.

Store Hours: Your store's opening and closing times for each day of the week. Store hours for any two days cannot overlap. There can be only one store opening time for each day of the week. Store hours can span midnight. For 24-hour stores, the store open and close times are the same.

System: Refers to all the individual components (such as the CU, Software, TSP, detectors, cables, and monitor, etc.) connected and working as a whole.

Time Server: A server computer that reads the actual time from a reference clock and distributes the time to its clients via a computer network. The Time Server may be set to a local network time server or an Internet time server.

Trailing Hour/Half-hour: This is a continuous rolling hour, or half-hour, of the last 60/30 minutes that updates every minute. As opposed to Hour, or Half-hour, which is based on the clock hour/half-hour time (updates on the hour, or half-hour marks).

TSP: The Timer Signal Processor (aka timer) is generally followed by the model number (e.g., TSP50 is model 50, TSP60 is model 60) receives and sorts Lane Event detection signals from the peripheral detectors and sends the information to the CU for processing.

UNC: Universal Naming Convention, is a standard for identifying servers, printers and other resources in a network.

Wait Area: A designated pullover area where vehicles can wait for orders to be fulfilled.

Web Server Port: The network port used by ZOOM Nitro to connect to the TSP via the network.

ZOOM Nitro: ZOOM® is a registered trademark brand name owned by HME. A specialty communications timer system primarily used in the hospitality industry, such as QSRs or stores with drive-thru lanes.

Specifications

CU60

Dimensions	4.33" x 4.57" x 1.93" (110 x 116 x 49 mm)
Power Supply	12 V, 36 W, AC Adapter, US Power Cord
Chipset	Intel® Celeron® N2930 1.83 GHz, 2.16 GHz Burst Quad-core SoC
Memory	8 GB total memory, Low Voltage 1.35 V Required
Storage	16 GB mSATA Solid State Storage
LAN	Intel® 82583V Gigabit LAN
Front Panel	Power button, Power & HDD LED, 1 x USB 3.0 port, 1 x USB 2.0 port, Serial RS232/422/485 port
Rear Panel	2 x USB 2.0 ports, 2 x HDMI, 2 x RJ45, 9 V - 24 VDC In jack
Compliance	CE, FCC, RoHS, ErP Ready
Temperature	Operating Temperature 0 – 35 ℃, Storage Temperature -20 – 85 ℃

TSP50

Dimensions	9.25" x 7" x 3.5" (235 x 178 x 89 mm)
Power Supply	(Optional) Eurasia Power, 12 V, 24 W, Wall Mounted
Weight	2 lb (907 g maximum, including 3 VDBs)
Ports	1 x USB 2.0
Miscellaneous	Supports 8 VDBs total and 2 Greet signals. 1 onboard VDB, 1 Internal - from USB power. Alert (requires external power supply)

TSP60

Dimensions	8.8" x 5.95" x 2.01" (224 x 151 x 51 mm)
Power Supply	Power source from CU60 via USB cable, 5 V, Max Current Draw < 300 mA
Weight	13.5 oz (383 g)
Ports	1 x USB type B
Miscellaneous	2 Greet signals, 4 External Detectors, 4 Onboard Detectors

NOTES

A copy of this guide and much more including Regulatory,
Compliance, and Safety information can be found by scanning this QR code
or going to: https://www.hme.com/qsr/drive-thru-user-manuals/