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COMMUNICATIONS[®]

ZOOM Nitro[®]

Version 7.5

User's Guide

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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 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 on the system monitor in a visual format. 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 menu options can also be displayed, such as viewing reports, editing ZOOM Nitro settings, and performing diagnostics. Your ZOOM Nitro system can also support a second monitor for use as a ZOOM Nitro Leaderboard (Gamified or non-gamified, depending on the service selected). (Fig. 1.3.)
- **Remote Access:** 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 a connected PC or via the HME CLOUD® using a laptop or smart device. This is another way to make changes or edits to your system or print reports.

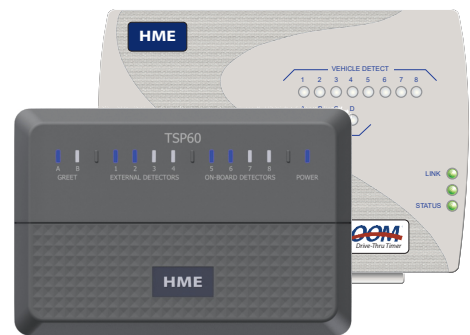


Fig. 1.1



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.
- Dual Lane type: two entry point detectors and two exit point detectors.
- Tandem Lane type: single entry point with two menu point detectors, one in front of the other, a single exit point detector.
- Mobile Lane type: two entry point detectors and one exit point detector, where the designated “mobile” lane will highlight all cars detected by placing a neon blue border around the order/time label attached to the car.
- Mobile Order/Wait Areas: vehicle detection is off to the side of a lane, or in a reserved parking spot designated by the restaurant/store. Fig. 1.4 shows two Wait Areas and two Mobile Order spots.

Figures 1.4, 1.5, 1.6, and 1.7 illustrate 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 examples are: Arrival, Greet, Menu, Order, Cashier, Pay, Present, Service, Mobile Order, Wait Area.

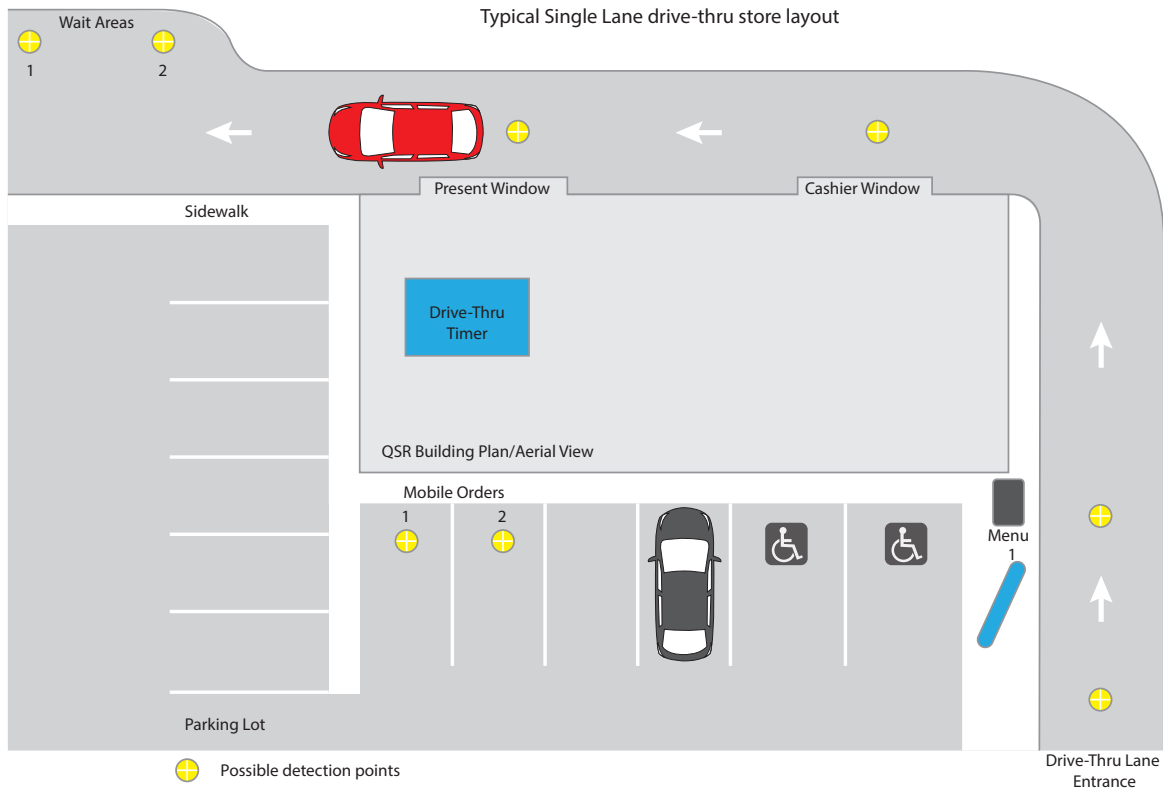


Fig. 1.4

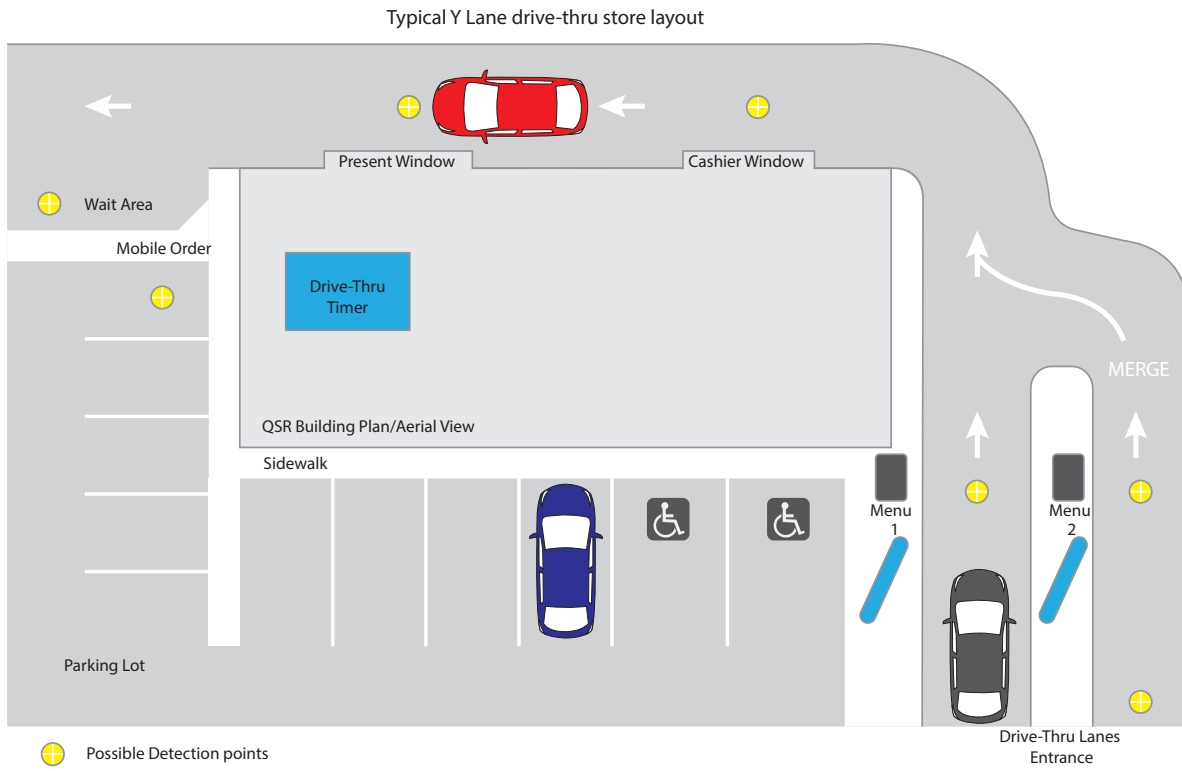


Fig. 1.5

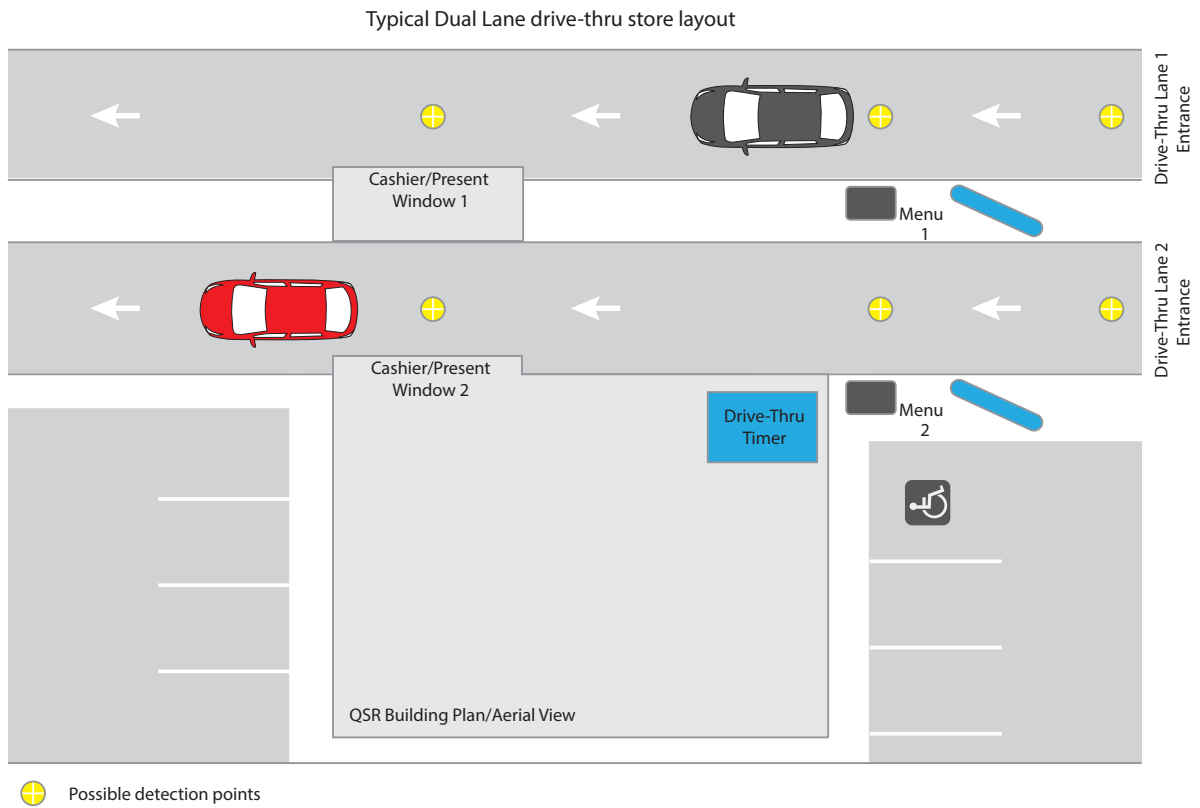


Fig. 1.6

Typical Tandem Lane drive-thru store layout

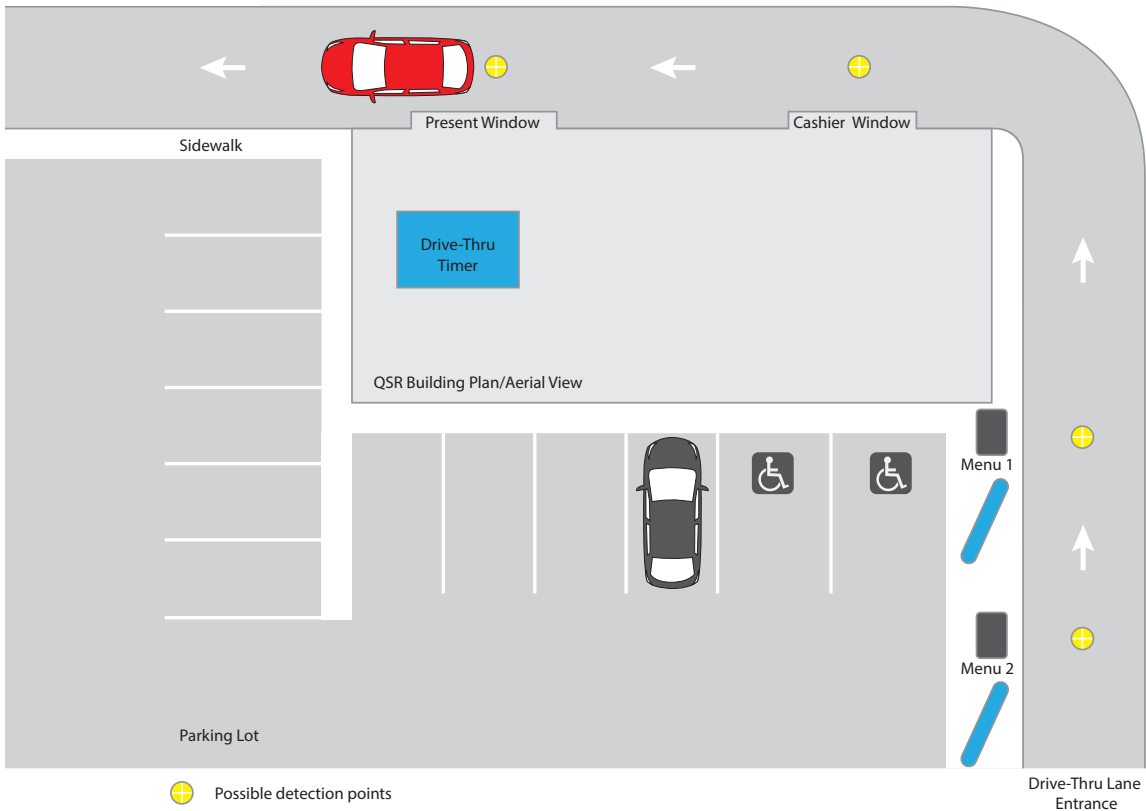


Fig. 1.7

NOTE: In a Tandem Lane configuration, Menu/Order Point 1 is the second detection point from the drive-thru lane entrance, i.e., Menu/Order Point 2 is the first detection point the vehicle arrives at when entering the drive-thru lane. These Menu/Order Points are labeled as such because when a vehicle enters an empty drive-thru lane, it is prompted to pull forward to Menu/Order Point 1 so that Menu/Order Point 2 is now vacant and able to receive a second vehicle.

Overview of Typical Events in a Drive-thru Lane

Figure 1.8 is an example of a Single Lane type configuration with four detection points.

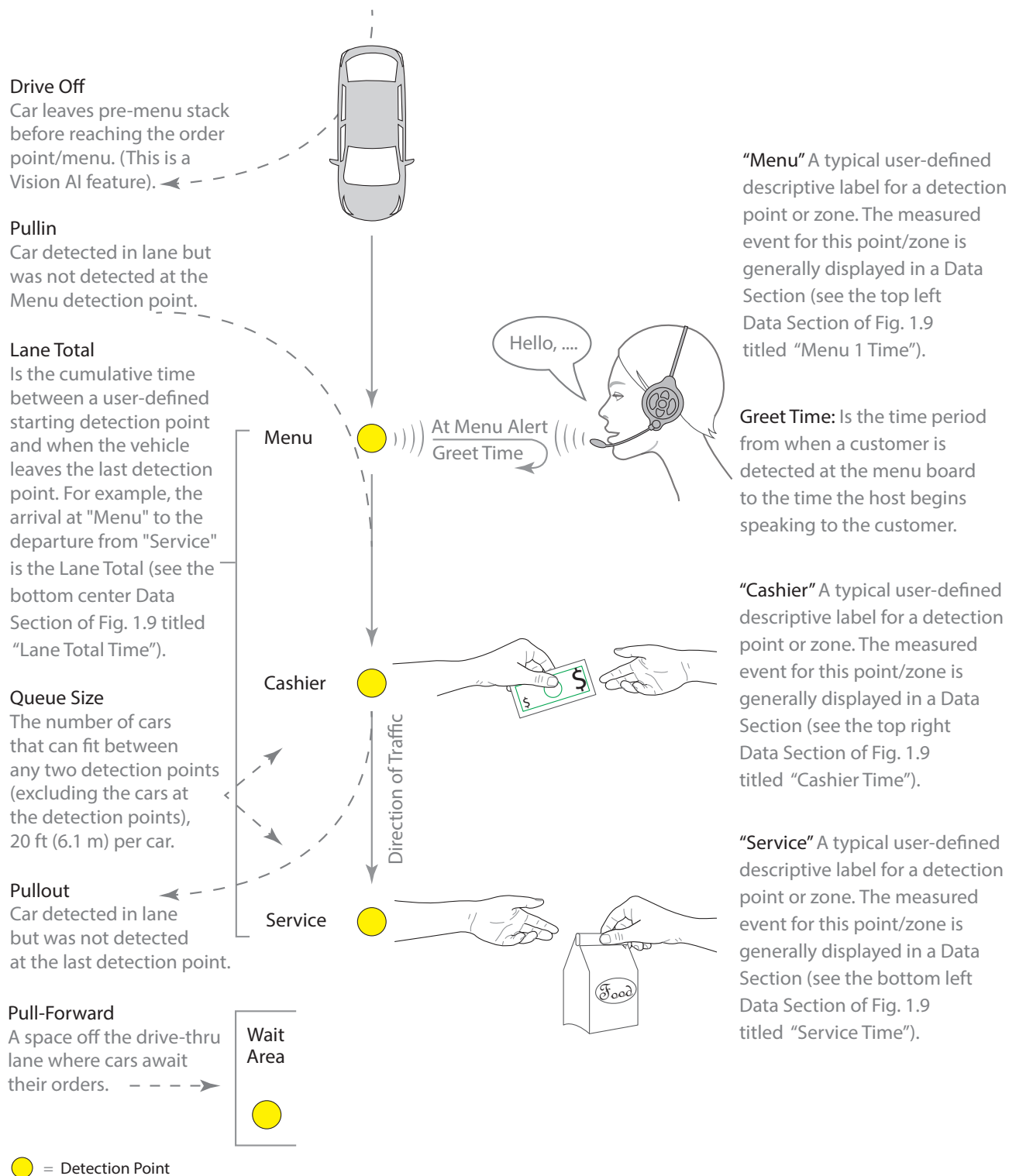


Fig. 1.8


The Dashboard

The ZOOM Nitro system installation is initially configured to your specifications by the installer. Fig. 1.9 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 on the same network as your back-office PC, you can use the back-office PC to make changes.



Fig. 1.9

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, then log in to access the options displayed in the sidebar menu (see Fig. 1.10). 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.

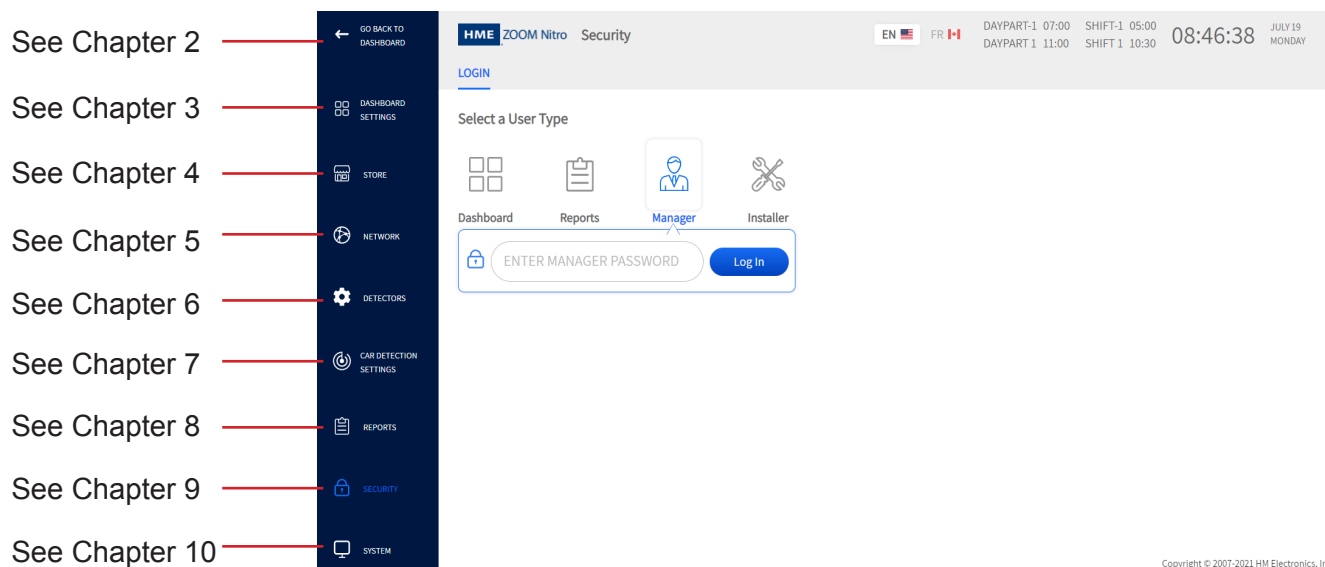



Fig. 1.10

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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. 1.10).

Most screens have active areas that 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 opens (see Fig. 1.11). This allows you to enter information using a mouse (without the need for a physical keyboard).

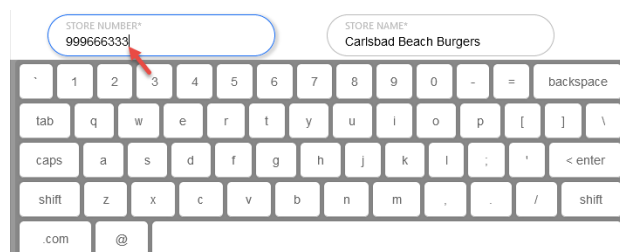


Fig. 1.11

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 opens (see Fig. 1.12). Use the “back-space” 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.

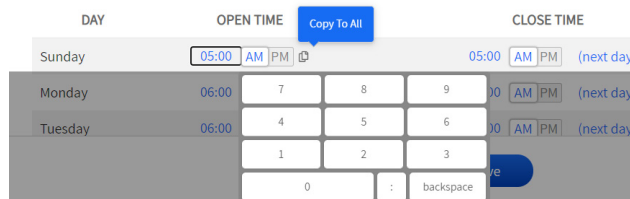


Fig. 1.12

ON/OFF Switches: Click 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. 1.13).

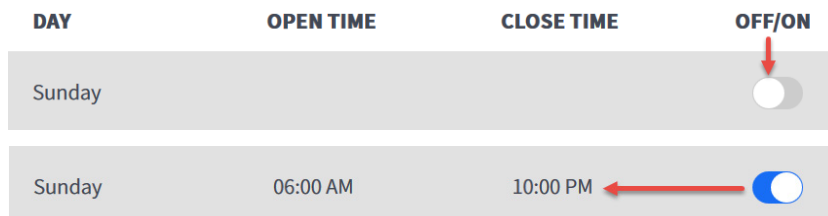








Fig. 1.13

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. 1.14) 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. 1.15, shift 2 is selected (the circle next to the shift number is checked). Clicking the  **Remove** icon deletes the selected row.



SHIFTS	START TIME	END TIME	NAME
<input type="radio"/> 1	06:00	14:00	Morning
<input type="radio"/> 2	12:00	20:00	Day
<input type="radio"/> 3	18:00	24:00	Evening

Fig. 1.14



SHIFTS	START TIME	END TIME	NAME
<input type="radio"/> 1	06:00	14:00	Morning
<input checked="" type="radio"/> 2	12:00	20:00	Day
<input type="radio"/> 3	18:00	24:00	Evening

Fig. 1.15


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 button located at the bottom of the screen (this may be hidden from view, so you may need to scroll down to the bottom 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 button to return to the screen and save your changes or 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. 1.16). In this example, the field needs to be populated with an option from the drop-down list before proceeding.



This is a required field

Select Detector 3 Cars

Fig. 1.16

+ and - signs: When next to a field, they indicate 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 may not be accessible to the user due to permission-level controls (see “Chapter 8 - Security” on page 69). 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.

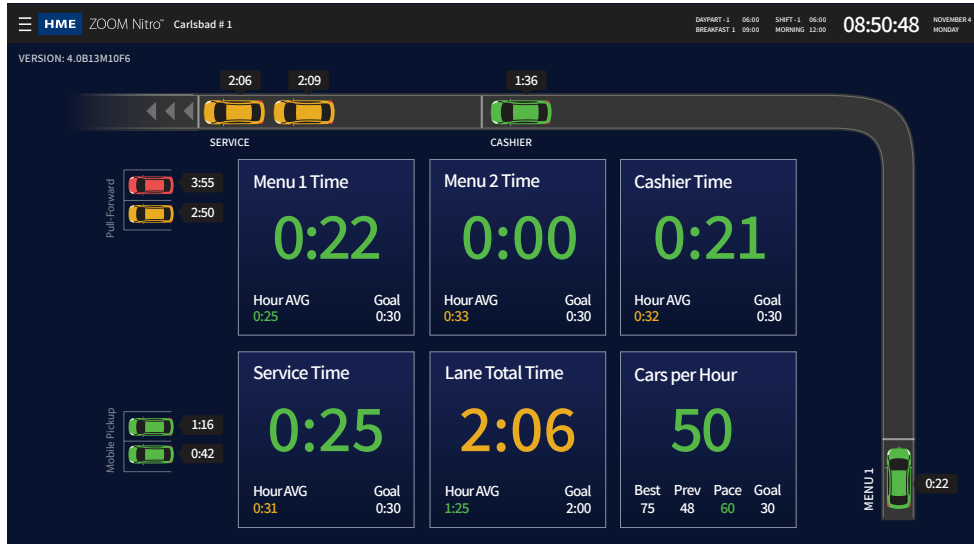




Fig. 2.1

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.1.10). 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  at the top of the screen (see Fig. 2.2).

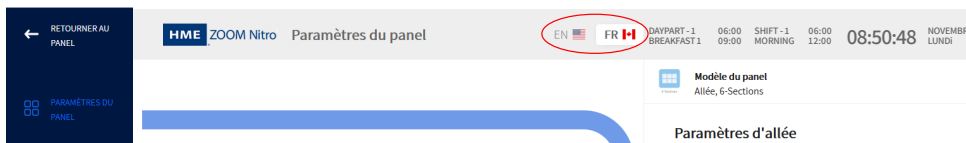


Fig. 2.2

Fig. 2.3 shows a yellow banner across the page. This indicates that select settings are locked by your administrator. Locked fields/settings are grayed out and cannot be adjusted.

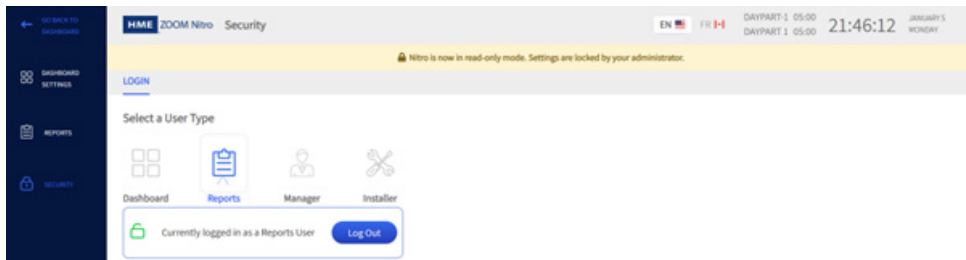


Fig. 2.3

Chapter 3 - Dashboard Settings

Dashboard Layout

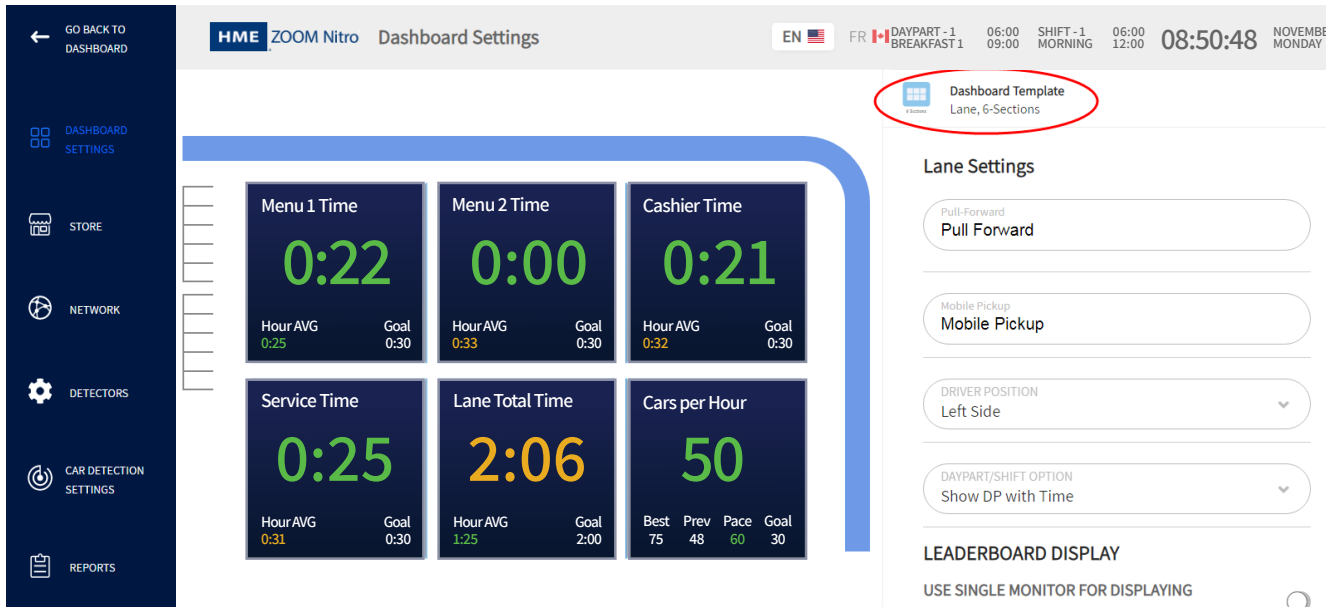


Fig. 3.1

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: Fig. 3.1 shows a Single Lane layout; Fig. 3.2 shows how a typical Y Lane layout is displayed; while Fig. 3.3 shows what a Dual Lane layout looks like.

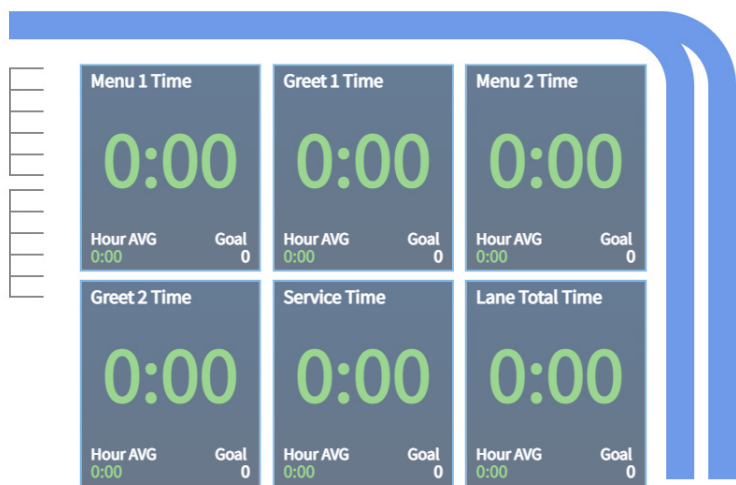


Fig. 3.2

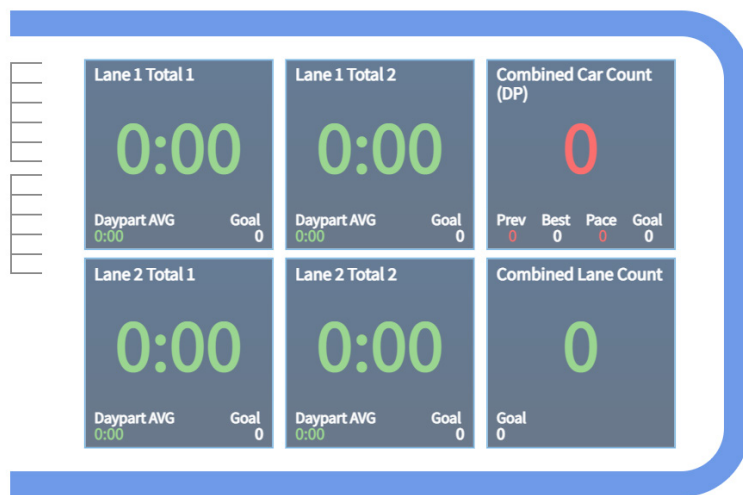




Fig. 3.3

NOTE: For Dual Lane layouts, the top lane is always designated as Lane 1, while the bottom lane is Lane 2.

To adjust the layout of the Dashboard screen, click on the  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 let you customize your Dashboard layout (see Fig. 3.4). Click any layout to select it.

Fig. 3.4

Checking the DO NOT SHOW LANE box (see Fig. 3.4) removes the Lane, Pull Forward, and Mobile Pickup graphics from the screen. Removing the lane 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, or click on the Dashboard Template again and uncheck the DO NOT SHOW LANE box.

Some **Dashboard Template** layouts have a small asterisk next to them, as shown in Fig. 3.5. This indicates that these layouts support a Statistical Summary section (the six-section layout in Fig. 3.5 does not).

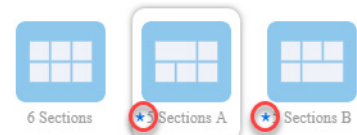


Fig. 3.5

The Data Section must be large enough to support Statistical Summary data; therefore, only the large rectangular section (Section 1) in Fig. 3.6 can accommodate a Statistical Summary.

1. Click the Data Section to open **Section 1** for editing.
2. Then, in the **MEASURE** field to the right, choose “Statistical Summary” from the drop-down list (this option will not appear if smaller sections are selected because they can’t display this data).
3. Select at least one period from the **Statistical Summary Periods** field. Up to three periods can be selected.
4. Once a selection is made from the **Statistical Summary Periods** field, the Statistics option appears beneath this field. This set of options includes: **AVG & Goal % Statistics**, **Disastrous Orders Statistics**, and **Car Count Statistics** (scroll down to view). You must then enable at least one statistic from the list for the Data Section (Section 1 in this example) to populate (see Fig. 3.6). Up to six statistical options can be selected.

NOTE: *If any changes are made to the Car Detection Settings (such as display name changes, lane layout, or adding more detectors), the Statistical Summary must be disabled and then re-enabled to see the newly added detector option within the settings.*

Also, if the store is configured as a Dual Lane drive-thru and Car Count is selected as a metric in Statistical Summary, the Car Count will display the combined total of Lane 1 and Lane 2 by default.

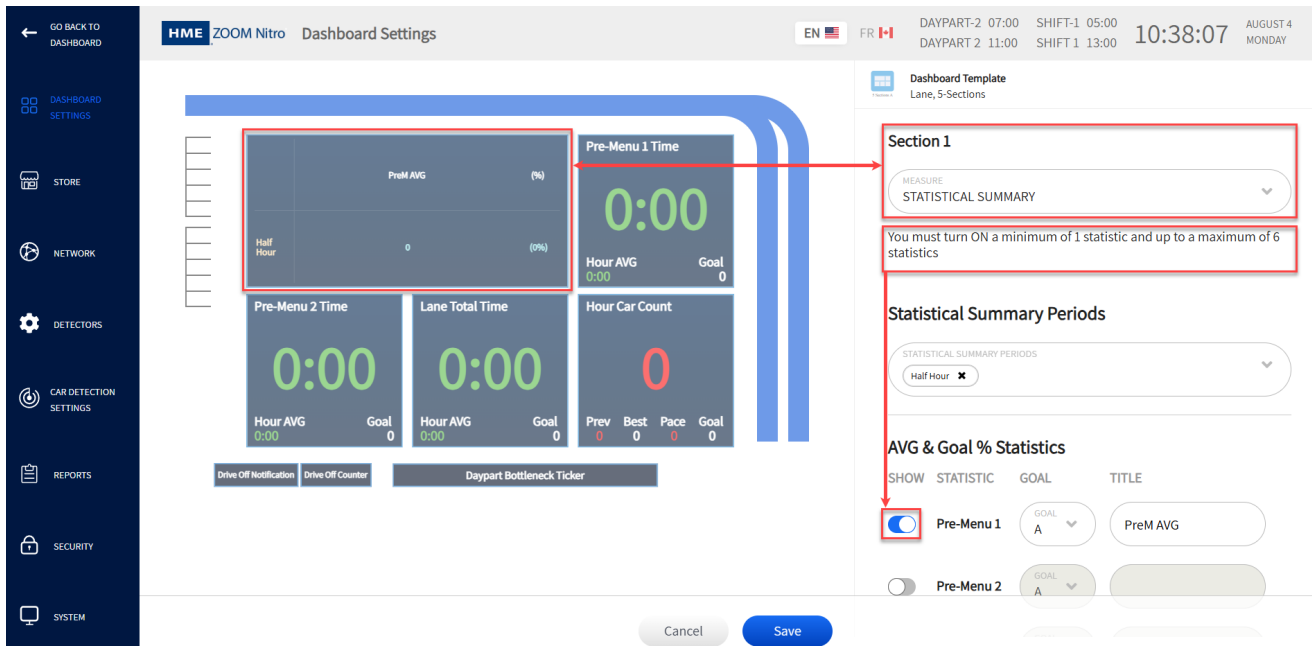


Fig. 3.6

When the **Daypart Bottleneck Ticker** option is enabled, a scrolling ticker will appear at the bottom of the Dashboard. Fig. 3.7 shows how it appears in Dashboard Settings and on the Dashboard. The scrolling ticker displays current Daypart information, where the bottleneck occurred for the previous Dayparts, and the Daypart average time of the detection point where the bottleneck occurred.

NOTE: Dayparts must first be configured in STORE settings to enable this option.

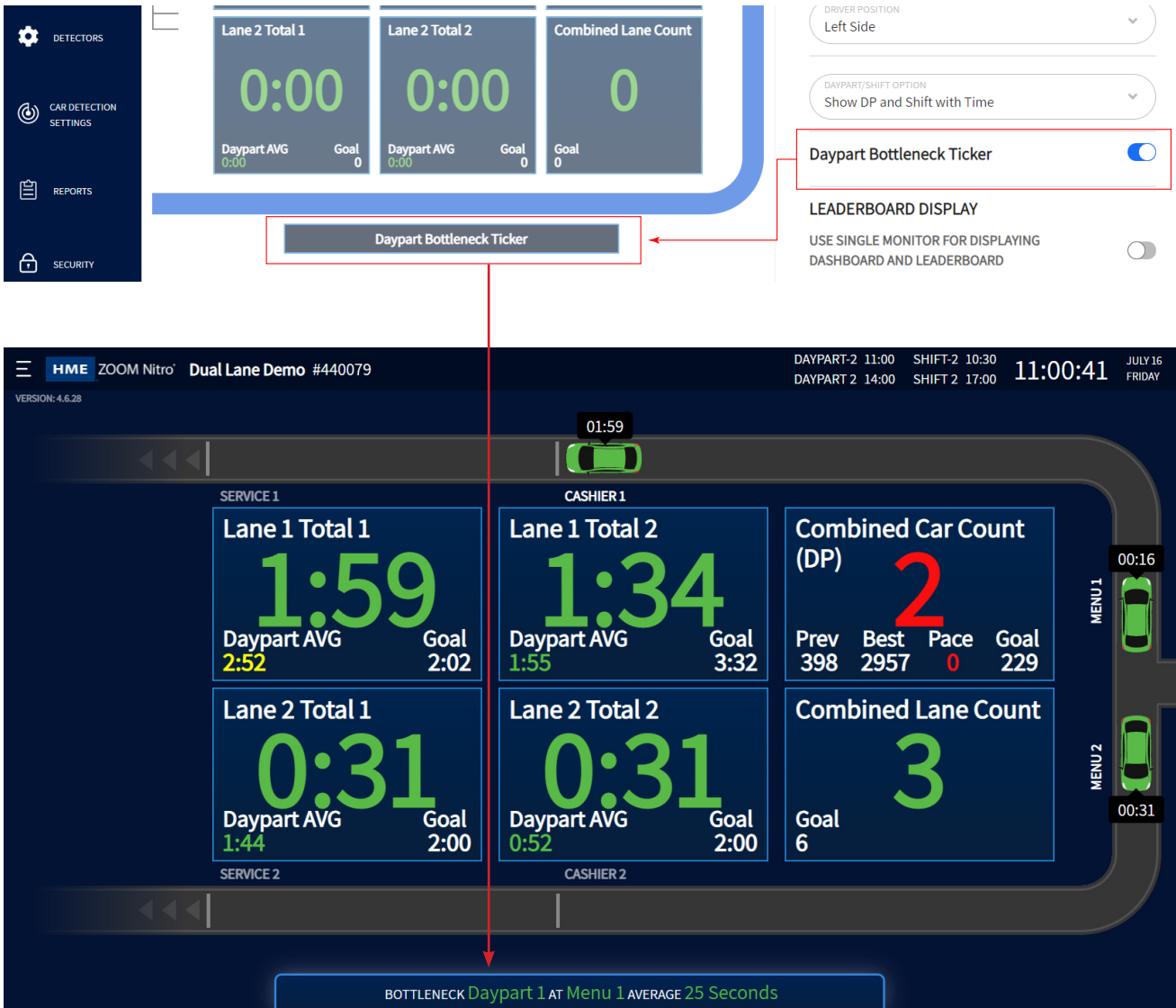


Fig. 3.7

With ZOOM Nitro Vision AI Enabled

Nitro Vision AI is a newer technology using cameras to detect cars. Metrics such as Drive Offs can be detected earlier in a Single Lane or Y Lane drive-thru. It can also be used to show Pull Forward spaces (two maximum) or those awaiting Mobile Orders (four per camera or eight maximum with two).

NOTE: A maximum of four cameras is supported. The Nitro Vision AI Processing Unit option must also be enabled under DETECTOR>CAMERA and configured under CAR DETECTION SETTINGS.

Footer Drive Off Counter: Under **Lane Settings**, enable this to see how many drive-offs you have within a specific time period (half hour, hour, daypart, or day). These time periods are selected from the drop-down list of the DRIVE OFF COUNTER TIMER METRIC field. This counter appears below the lane and data section graphics as shown in Fig. 3.8.

Footer Drive Off Notification: This feature is used to display real-time notifications of drive-offs.



Fig. 3.8

The above information can also be displayed in a Data Section. Click on a Data Section (Section 6 is the example used in Fig. 3.9). From the drop-down list of the **MEASURE** field, select DRIVE OFFS. Label this Data Section in the Title field (“Drive Offs” is used in this example), and then select the time period from the DRIVE OFF COUNTER TIMER METRIC field (“This Day” is used in this example). See Fig. 3.9.



Fig. 3.9

Advanced Settings: Click to expand (see Fig. 3.10). Here, you can set a range of drive offs expected and set goals to color-code this range from green to yellow to red. This allows for easy identification of relative drive-offs based on expectations.

Green drive offs will indicate less than expected, while red will indicate more than expected. The example shown in Fig. 3.10 shows a value of 5 for the first goal and 10 for the second goal. This means that when there are fewer than five drive offs for the selected time (Drive Offs for this Day in this example), the value will be displayed in green. Between five and ten drive offs will yield a yellow value, while more than ten drive offs will yield a red value.

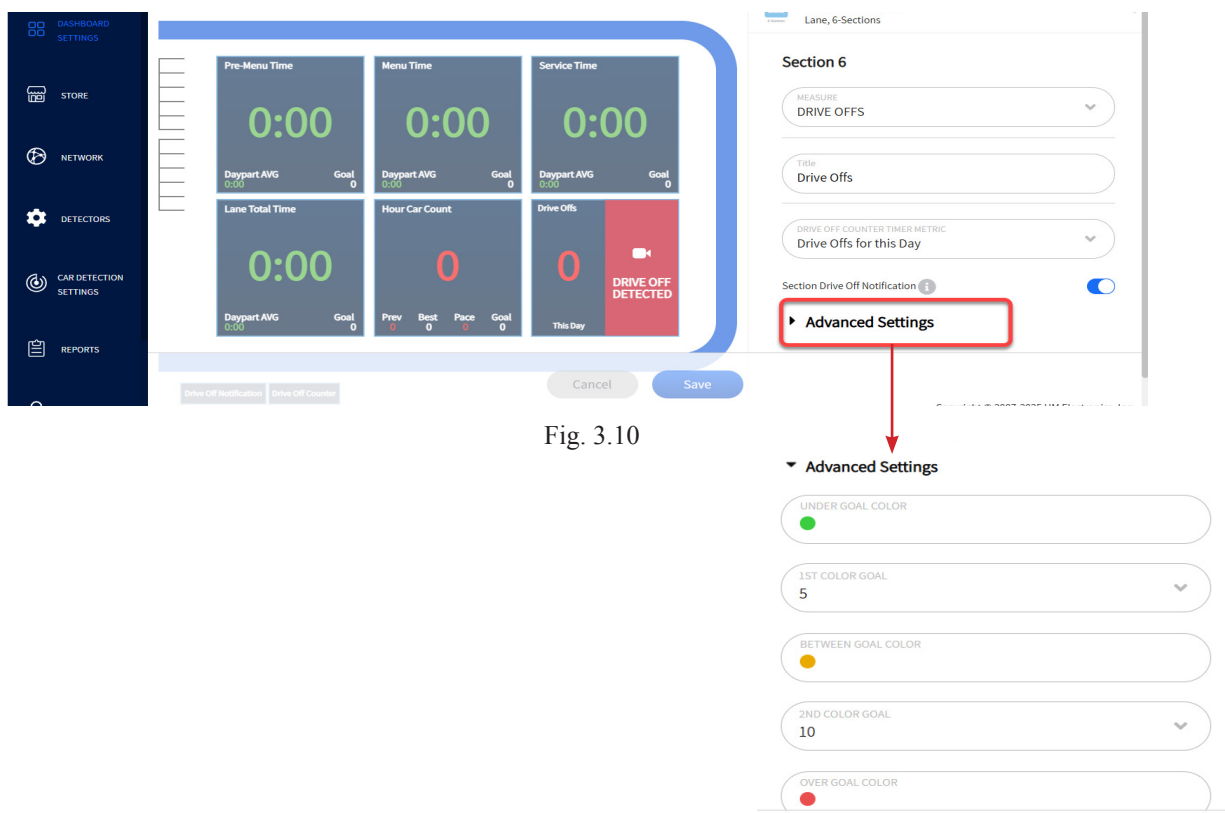


Fig. 3.10

Pre-Menu Stack: This is a zone that the camera also monitors before vehicles reach the pre-menu.

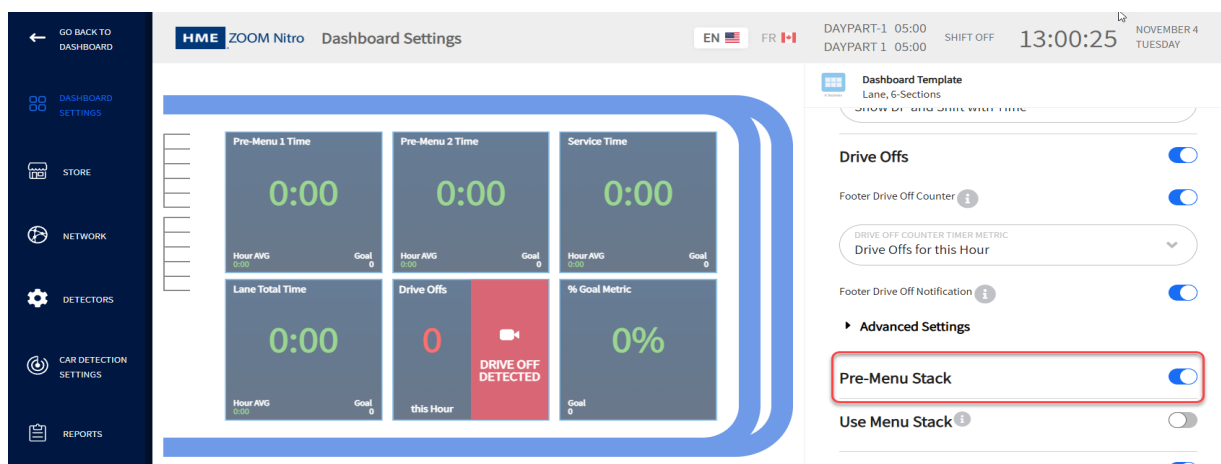


Fig. 3.11

The Pre-Menu Stack is an area of the drive-thru lane where vehicles can still pull out and drive off before reaching the Pre-Menu ordering point. When this feature is enabled (Fig. 3.11), it is displayed on the Dashboard along with the Pre-Menu as part of the drive-thru lane (Fig. 3.12).

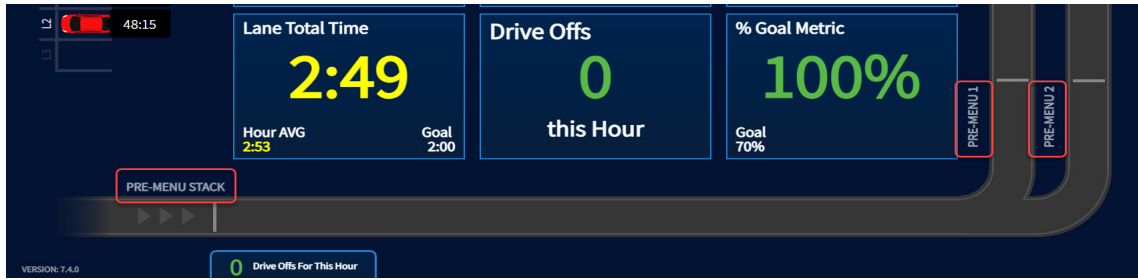


Fig. 3.12

Use Menu Stack is enabled by default, see Fig. 3.13, it combines Pre-Menu Stack and Pre-Menu into a single label called **Menu Stack** (see Fig. 3.14). This toggle is tied to the Pre-Menu Stack toggle above it: if you disable Pre-Menu Stack, the Menu Stack (if enabled) is also disabled, and if you enable Use Menu Stack, it will also enable the Pre-Menu Stack (if disabled). Toggle the switch to disable if you would prefer to see both Pre-Menu Stack and Pre-Menu labels displayed separately on the Dashboard, as shown in Fig. 3.12.

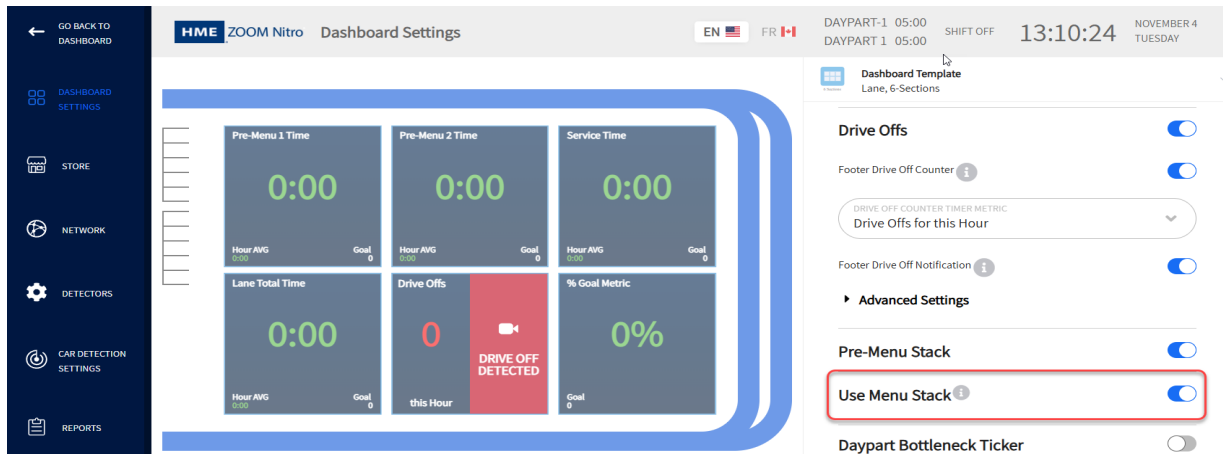


Fig. 3.13

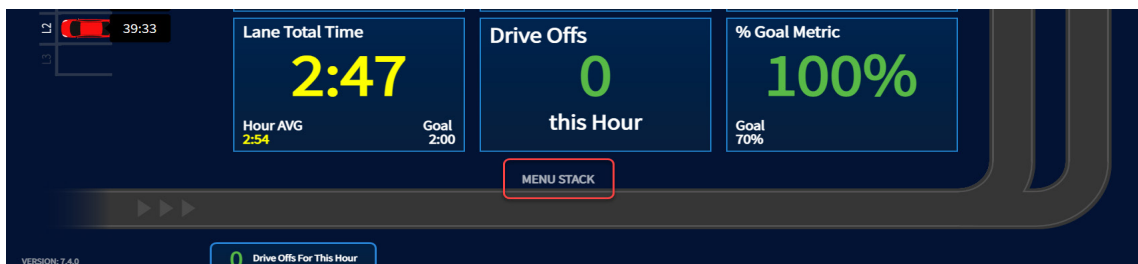


Fig. 3.14

Lane Settings

To edit what is displayed on your Dashboard, use the column of associated fields on the right. The Dashboard Settings screen opens to “Lane Settings” by default.

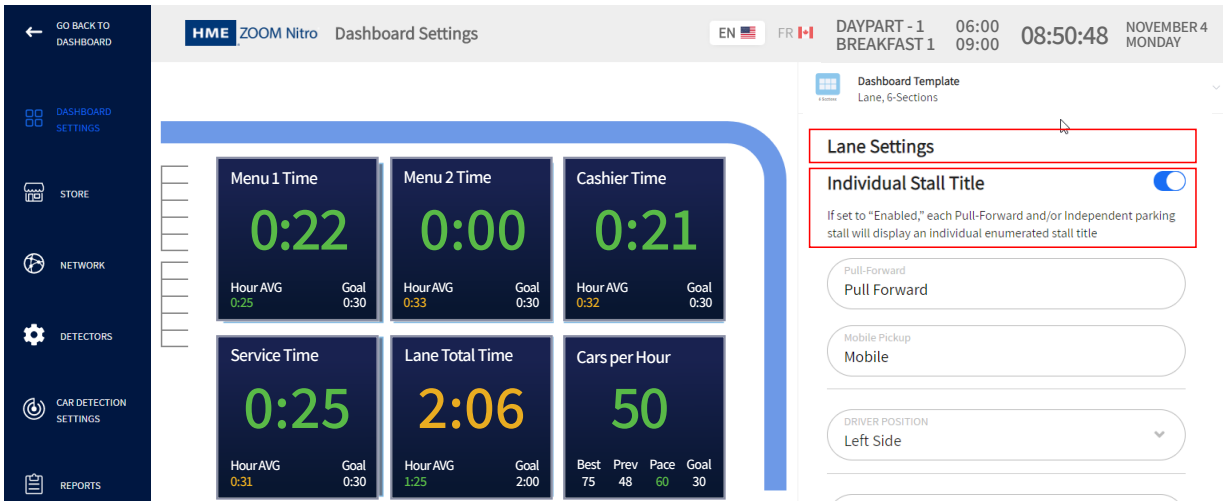


Fig. 3.15

When “Individual Stall Title” is enabled, the first letter of the name applied to a detector is used along with a stall number (detector names are configured in the DISPLAY NAME fields of CAR DETECTION SETTINGS). For example, if an independent detector uses the display name “Mobile,” then M1 will become the label used for the first individual stall title when this option is enabled. These titles will appear on the Dashboard stall graphic, as shown in Fig. 3.16, which, in this example consists of two spaces/stalls labeled M1 and M2.



Fig. 3.16

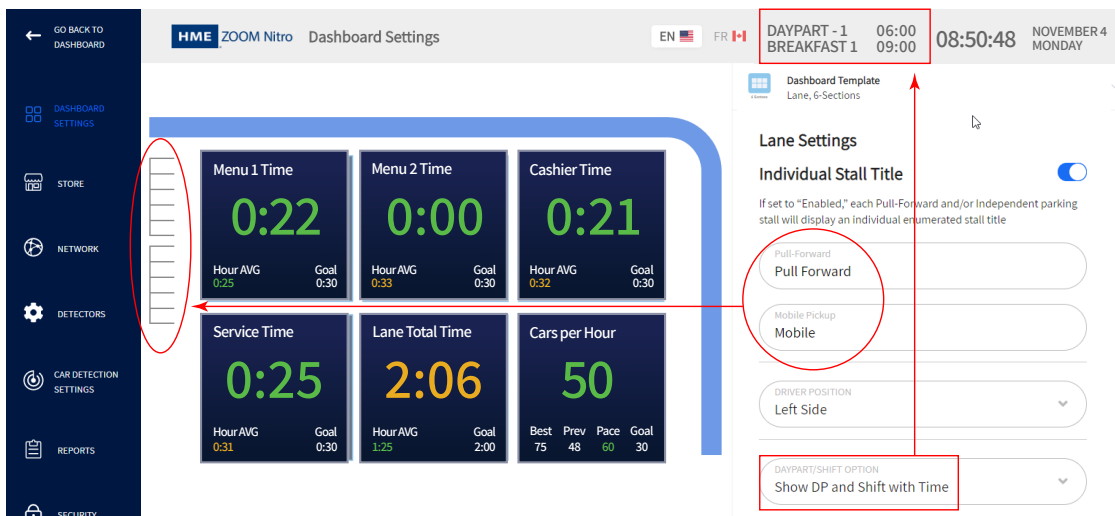


Fig. 3.17

The individual stalls can be oriented vertically or horizontally. Horizontal is the orientation shown in Fig. 3.17, (red car in Fig. 3.14). To change orientation, go to “Independent Detectors” on page 61.

Menu Item	Description
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; width: fit-content;"> <small>Pull-Forward</small> Pull Forward </div>	<p>Pull-Forward: Click in this field to edit and give your wait area a descriptive name. This field is for pull-forward detectors.</p>
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; width: fit-content;"> <small>Mobile Pickup</small> Mobile Pickup </div>	<p>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).</p>
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; width: fit-content;"> <small>DRIVER POSITION</small> Left Side ▼ </div>	<p>DRIVER POSITION: The default Driver Position is on the Left Side (standard in the United States and other countries). Click the down arrow and choose Right Side if you need to display it on the right. Changing the Driver Position changes the orientation of the lane and wait area graphics accordingly.</p>
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; width: fit-content;"> <small>DAYPART/SHIFT OPTION</small> Show DP with Time ▼ </div>	<p>DAYPART/SHIFT OPTION: Select different combinations of Daypart (DP), Shift, and Time to display at the top of your Dashboard screen (see Fig. 3.13).</p>
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; width: fit-content;"> <small>LEADERBOARD DISPLAY</small> <small>USE SINGLE MONITOR FOR DISPLAYING DASHBOARD AND LEADERBOARD</small> <div style="float: right;"> <input checked="" type="checkbox"/> </div> </div>	<p>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.</p> <p>The following three fields are visible if the Leaderboard display is enabled.</p>
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; width: fit-content;"> <small>DASHBOARD DISPLAY DURATION</small> 00:10 </div>	<p>Dashboard Display Duration: This sets the length of time the Dashboard is displayed before alternating back to the Leaderboard.</p>
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; width: fit-content;"> <small>LEADERBOARD DISPLAY DURATION</small> 00:10 </div>	<p>Leaderboard Display Duration: This sets the length of time the Leaderboard is displayed before alternating back to the Dashboard.</p>
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; width: fit-content;"> <small>ONLY SWITCH WHEN LANE IS EMPTY</small> Yes ▼ </div>	<p>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.</p>

If you scroll to the bottom of **Lane Settings**, you will see **Advanced Settings**. Click to expand and see next section "Advanced Settings - Goals" on page 19.

Advanced Settings - Goals

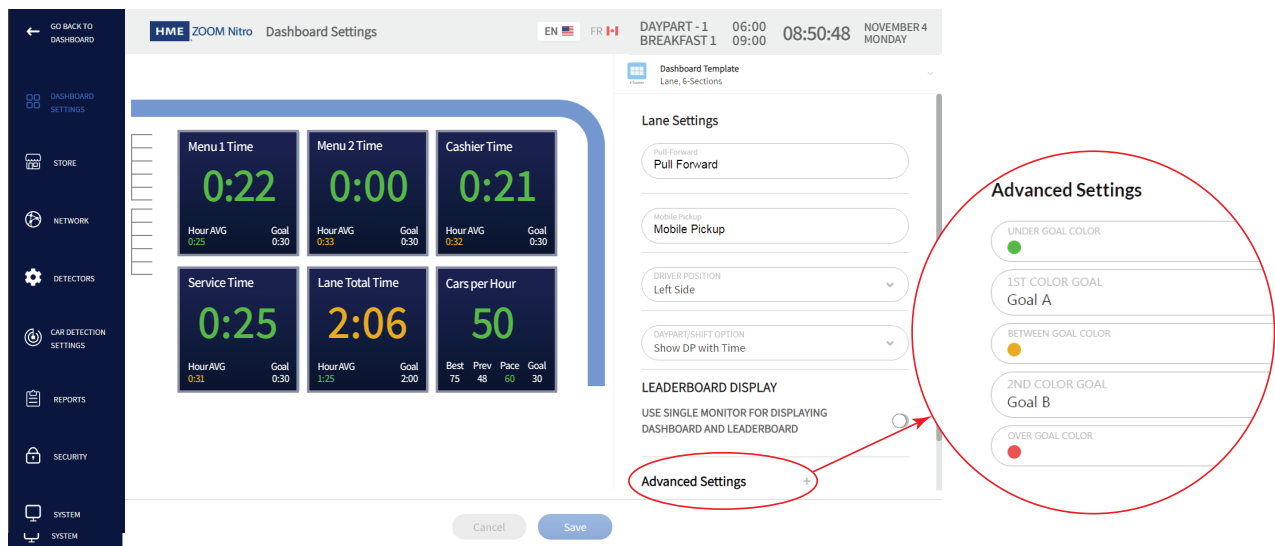


Fig. 3.18

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 30). 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 create a range of targets for specific events, allowing performance to be gauged against them.

NOTE: Goals under Lane Settings apply only to Lane Total of vehicles in the 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 goal. 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 falls between the two goals (A and B in this example), you are on target to meet your goal. 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 goal. 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. 3.19).

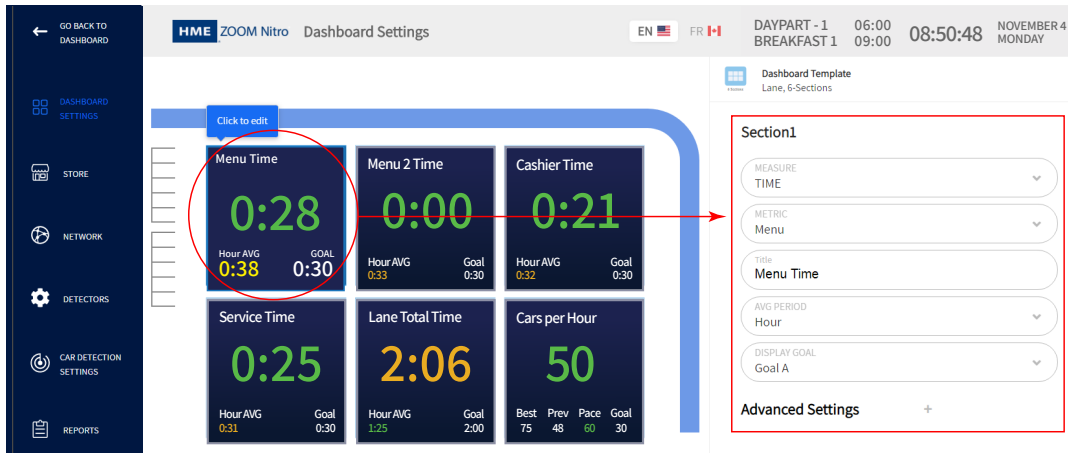


Fig. 3.19

The editable field associated with each value in the **Menu Time** Data Section is shown in Fig. 3.20. The Metric used in this example is Menu (the second field from the top under **Section1** in Fig. 3.19); these events are defined under “Chapter 6 - Car Detection Settings” on page 41. The value at the center (0:28 in Fig. 3.20) is green because this event occurred in under 30 seconds, the lower time limit set by goal A (0:30 in Fig. 3.20). The hour average (0:38 in Fig. 3.20) 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.

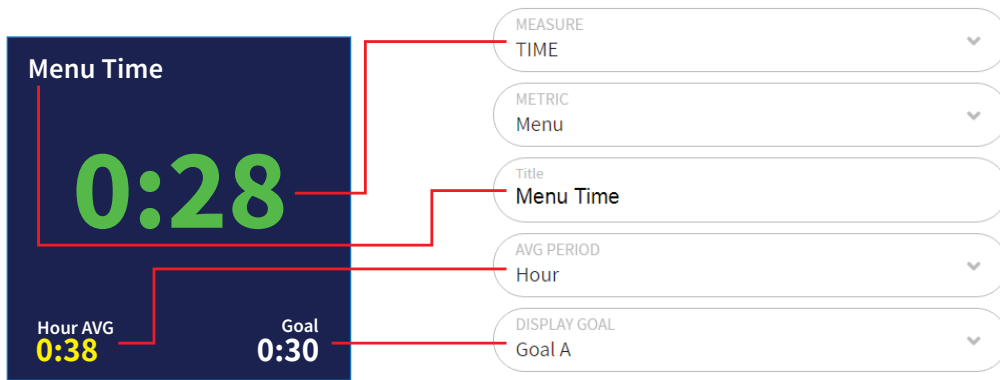
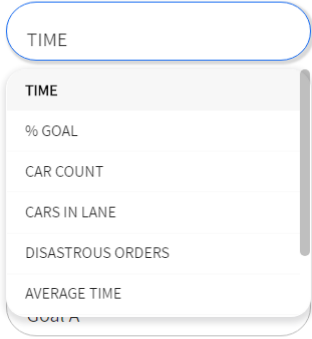


Fig. 3.20

Menu Item	Description
Section1	This value is the large number displayed in the center of the Data Section (0:28 in Fig. 3.20). 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.
MEASURE TIME	

Menu Item	Description
-----------	-------------



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.

Rank	Restaurant	Avg Time (Curr Hr)
1	My Store	1:10
2	123456	1:29
3	Store619	1:39
4	Store858	1:57
5	54321	0:00

Fig. 3.21

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

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.

If your store uses a Dual Lane layout, CAR COUNT will also offer you LANE SELECTION options. You can choose a car count for either lane or a combined count for both lanes.

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.

If your store uses a Dual Lane layout, CARS IN LANE will also offer you LANE SELECTION options. You can choose cars in lane for either lane or a combined count for both lanes.

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.

Drive Offs (if applicable): These are vehicles in the Pre-Menu Stack/Pre-Menu zone that drive off before ordering. See details on page 14, Fig. 3.9 and 3.10. This option is only available when using Nitro Vision AI.

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

Drive Thru-Put: Calculates the number of cars each hour the drive-thru can serve based on the slowest detection point average and the time remaining in the hour.

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

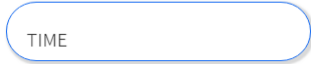




Current Bottleneck: This tells you what event/detection point is causing the current bottleneck. Based on the set number of vehicles in the Rolling Avg. settings.

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.

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. 3.21).

Lead Car Order Summary: This gives you an overview of the order for the lead vehicle in your drive-thru lane. (Only visible when POS is enabled.)

Menu Stack Car Count: This is the total number of vehicles in the combined Pre-Menu and Pre-Menu stack (Menu Stack must be enabled on the dashboard to receive an accurate count, see Fig. 3.13).

Menu Item	Description
	MEASURE - drop-down list continued: Statistical Summary (if applicable): This shows the selected summary data for the current Hour, Daypart, and Day periods. This option is only available for specific section panes within select Dashboard Templates; see Dashboard Templates under "Dashboard Layout" on page 10 for more details.
	METRIC - drop-down list: Choose your metric to display from the drop-down list. These metrics are defined under the Car Detection Settings section (see Chapter 7 - 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 in 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 in the other. To differentiate one from the other, you might call one "Menu 1 Time" and the other "Menu 1 Avg".
	AVG PERIOD - drop-down list: 15 min: This is 15 minutes of the clock hour, beginning on the 15-minute mark. 15 min trailing: This is a continuous rolling 15 minutes of the last 15 minutes trailing the current time and updates every minute. 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 - 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 30).

** See Advanced Settings under "Lane Settings" on page 17.

Data Sections - Example 2

This Data Section (middle of bottom row) 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. 3.22).

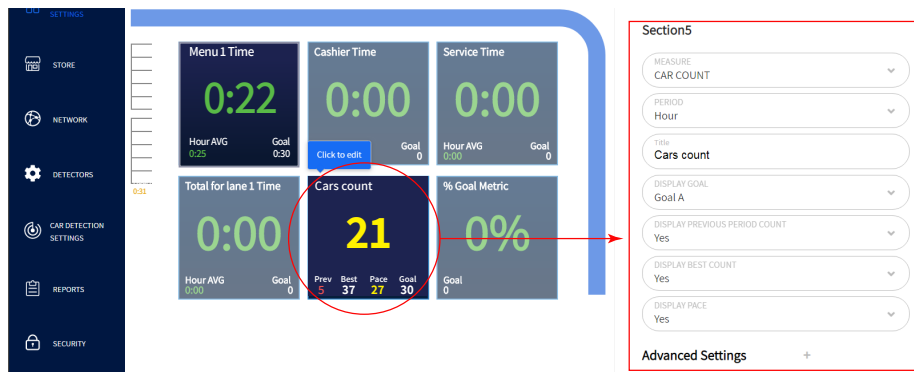


Fig. 3.22

The row of numbers at the bottom of the Data Section in Fig. 3.23 is 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 from 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.

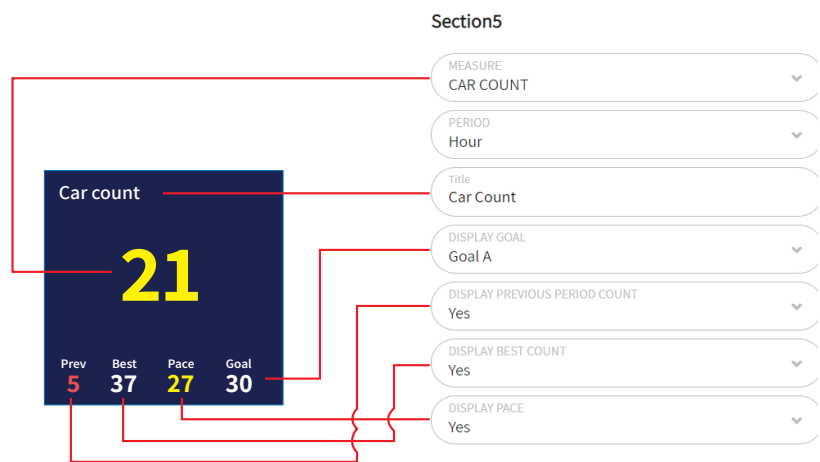


Fig. 3.23

In Fig.3.23, 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 32 and then selected in the Advanced Settings of this section (Section5 in this example).

Data Sections - Example 3

This Data Section shows a Curbside-Only dashboard for stores that use reserved mobile spaces/ parking stalls for mobile orders or curbside pickup instead of a drive-thru lane. Fig. 3.24 shows a store with two spaces/stalls reserved for mobile orders.

NOTE: Vision AI is required for a Curbside-Only configuration.

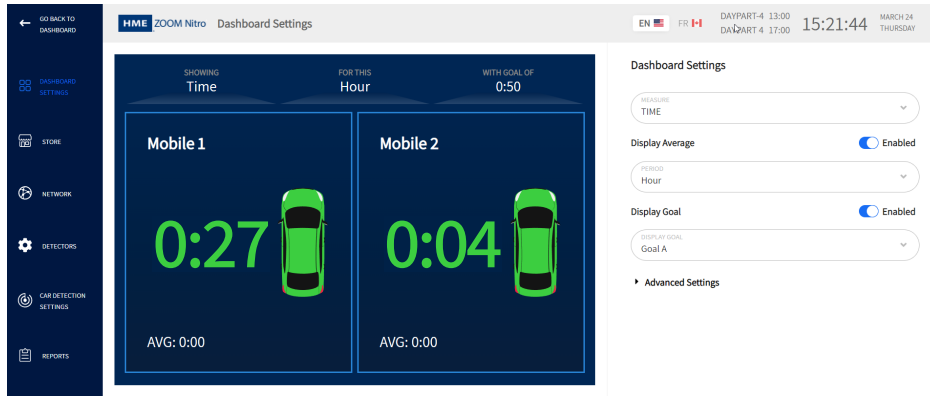
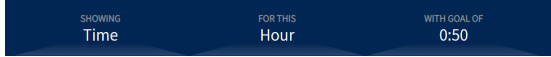




Fig. 3.24

NOTE: Each space/stall does not need to be configured individually. Once the Dashboard Settings are configured, those same settings are applied to all the active spaces/ stalls (two in this example). The selected settings are displayed at the top, above the Data Sections as shown in the graphic below, while the actual values for each stall are displayed within the corresponding Data Section (e.g., 0.27 for Mobile 1, 0.04 for Mobile 2).



Menu Item	Dashboard Settings Description
 Display Average <input checked="" type="checkbox"/> Enabled	<p>This value is the large number displayed in the center of the Data Section</p> <p>MEASURE - drop-down list: TIME, AVERAGE TIME.</p> <p>Time: This is the default option and is the elapsed time for an event happening, beginning when a vehicle is first detected at the stall. When TIME is the selected option, you can enable "Display Average" so that it also displays the AVERAGE TIME option in the Data Section as well, see Fig. 3.24.</p> <p>Average Time: This is the sum of the measured times for each vehicle within the user-selected period, divided by the number of vehicle departures.</p>
	<p>This option sets the period you wish to measure.</p> <p>PERIOD - drop-down list: Half-hour, Hour, Daypart, or Day.</p> <p>Daypart is a day segment that is user-defined in STORE settings.</p>
Display Goal <input checked="" type="checkbox"/> Enabled 	<p>When Display Goal is enabled, you can select which Goal to display. In this example, it is "Goal A," which has a value of 0:50 seconds (the value displayed under "WITH GOAL OF" above the Data Sections in Fig. 3.24).</p>
Advanced Settings	<p>These settings allow you to choose your Goal range. See "Advanced Settings - Goals" on page 19 for more information.</p>

Chapter 4 - Store

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

Details

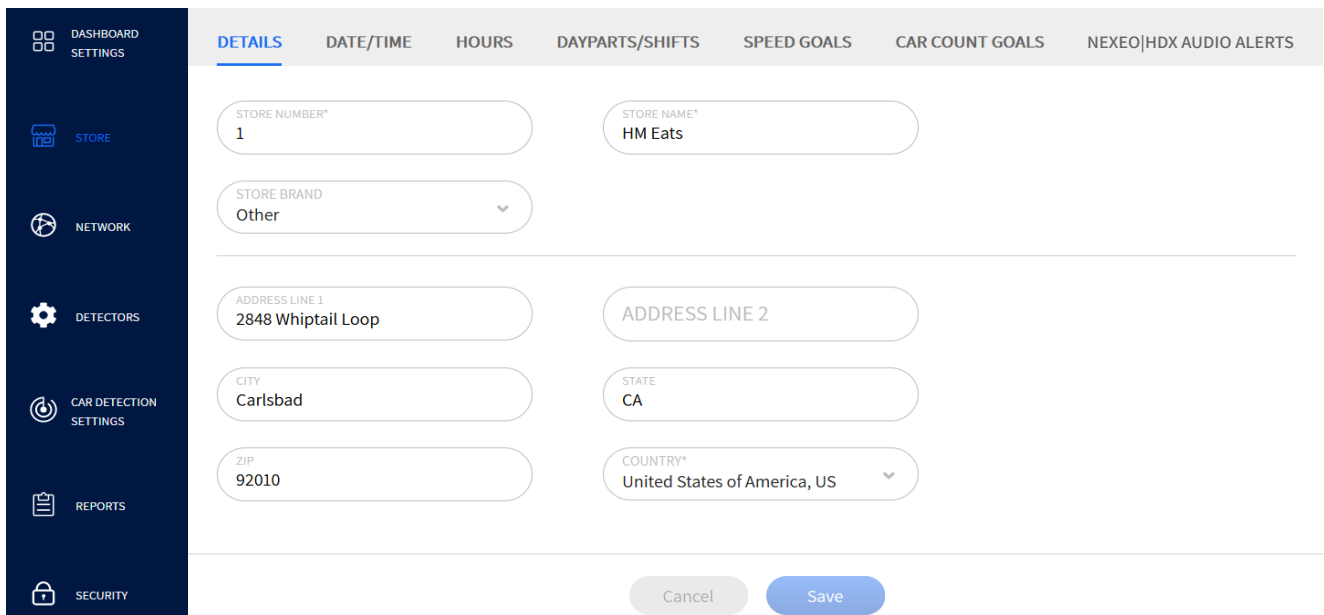


Fig. 4.1

What is this screen for? This screen allows you to enter store details such as Store Name, Store Number, Store Brand, and Store Address. The Store Number field can accept an alphanumeric entry.

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, our technical support personnel can quickly locate and provide you with any requested assistance.

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 access this information remotely 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

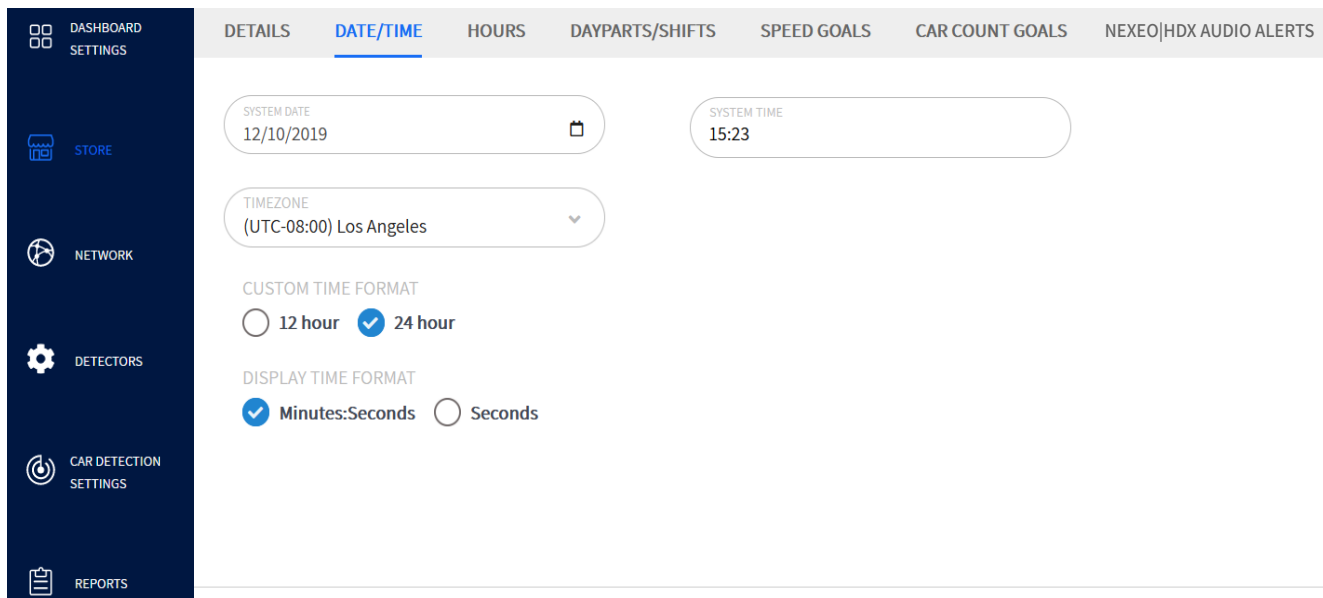


Fig. 4.2

What is this screen for? This Date/Time 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

DAY	OPEN TIME	CLOSE TIME	OFF/ON
Sunday			<input type="checkbox"/>
Monday	05:00	23:00	<input checked="" type="checkbox"/>
Tuesday	05:00	23:00	<input checked="" type="checkbox"/>
Wednesday	05:00	23:00	<input checked="" type="checkbox"/>
Thursday	05:00	23:00	<input checked="" type="checkbox"/>
Friday	05:00	23:00	<input checked="" type="checkbox"/>
Saturday	05:00	00:00 (next day)	<input checked="" type="checkbox"/>

Cancel Save

Fig. 4.3

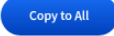
What is this screen for? This screen allows you to configure your store’s business hours and days.

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 OFF/ON () 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’s Open Time or Close Time is the same every day of the week, change the first Open or Close Time on the list, then click the  button beneath the time field to populate the other days with this same time.

Dayparts/Shifts

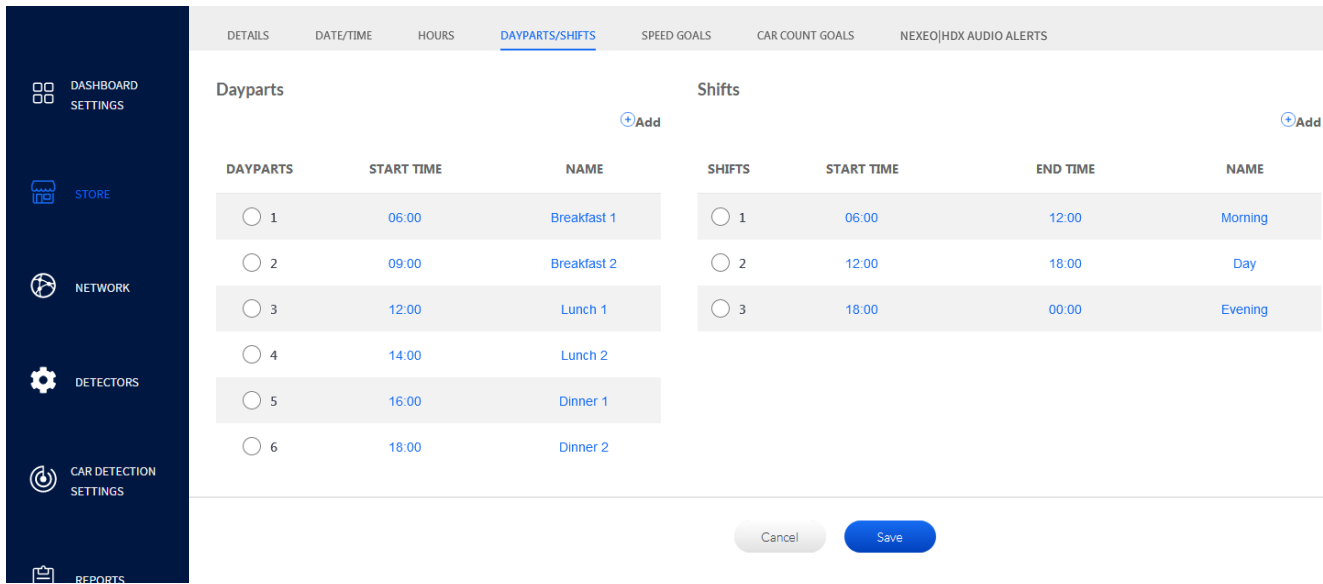


Fig. 4.4

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; it automatically ends at the start time of the next daypart segment. The last daypart ends at the store’s closing hour (for a 24-hour store, the store’s closing time is the same as its opening time).

Shifts are blocks of time typically assigned to employee work periods, such as the morning, afternoon, and night shifts. Unlike dayparts, shifts may overlap with other shifts or begin later than the end of a previous shift; this is why they are assigned a start time and an 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 a store’s opening time, but cannot begin before it. Similarly, an end shift can end before a store’s closing time, but cannot end after it.



Why is it needed? Dayparts and Shifts enable you to monitor your store’s activity at different times of day, which can range from slow to 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 fluctuations in business activity. 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 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 the **SHIFTS** section. 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

automatically assigns sequential numbers to the **DAYPARTS** and **SHIFTS** columns as more dayparts 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 service 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

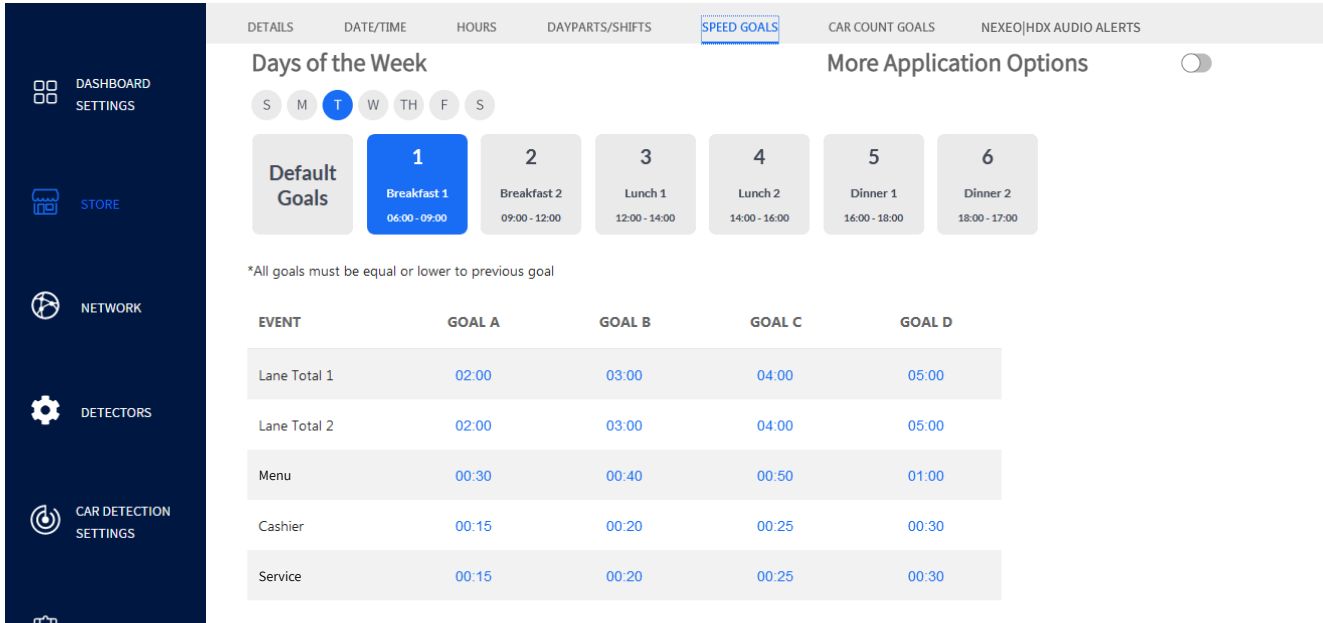


Fig. 4.5

What is this screen for? Speed Goals 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, Lane Total 2, Menu, Cashier, and Service (two lane-total events plus three detection-point events).

In this example, the current day of the week is Tuesday. 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 to easily identify an event’s performance against these goals (see “Lane Settings” on page 17 and “Data Sections - Example 1” on page 20 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 event change across all dayparts of a day, all days of the week, or both, enable the “More Application Options” feature and select an option from the drop-down list. See the following explanation of options.

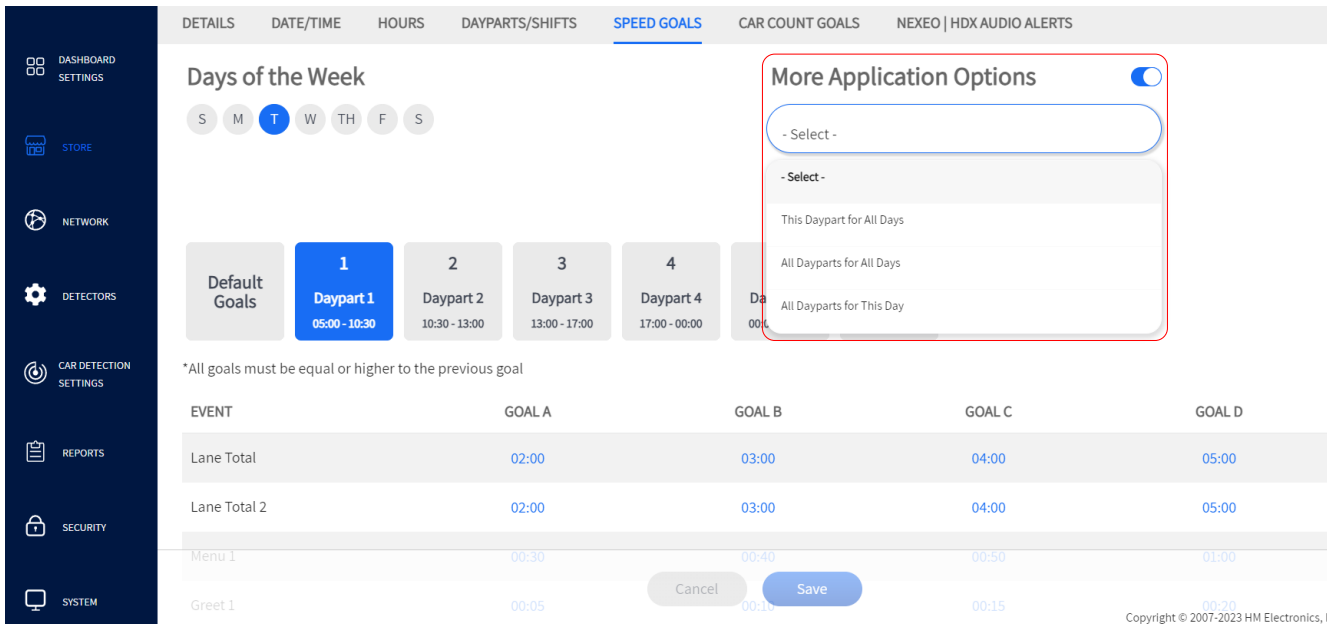


Fig. 4.6

Fig. 4.6 shows the drop-down list of options available when More Application Options is enabled. These options allow you to apply speed goal changes across multiple dayparts, days, or both, saving you from manually repeating the change for each targeted daypart or day. These options are as follows:

This Daypart for All Days: This option lets you change speed goals for a daypart and apply them only to that same daypart across all active days of the week.

For example, if your store operates every day of the week, and you wish to change your Lane Total Goal D to 05:30 but only for Daypart 1 (Fig. 4.6). This change will only be applied to Daypart 1 for all seven days (i.e., Dayparts 2 - 6 in this example will not be affected by the change).

All Dayparts for All Days: This option lets you change speed goals for a daypart and apply them to all dayparts across all active days in your business week.

For example, if your store operates every day of the week, and each day is split into six dayparts. Your change will then be applied to all 42 dayparts in your business week (7 days x 6 dayparts).

All Dayparts for This Day: This option lets you change speed goals for a daypart and apply them to all dayparts on that active day.

For example, suppose your store's day is divided into six dayparts (as it is in Fig. 4.5 and 4.6). Then, you change your Lane Total Goal D to 05:30 for the current Daypart 1 (in Fig. 4.6). All Dayparts for that day only (i.e., Tuesday in this example) will have their Lane Total Goal D changed to 05:30; the other days will not be affected.

Car Count Goals

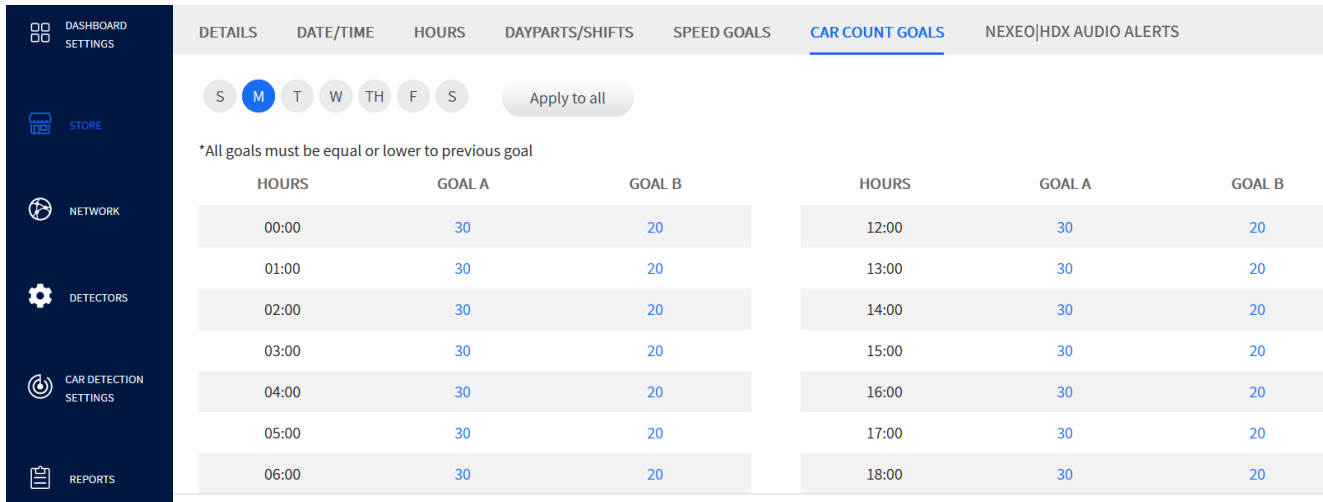


Fig. 4.7

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


Why is it needed? Setting goals is 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 make it easy to identify performance against the set goals.

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

Example: Fig. 4.7 shows the days of the week and hours of the day (a 24-hour clock is 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 (the 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 yield a yellow value; and 30 vehicles or more yield a green value. See the example of “Car Count” (Fig. 3.23) in “Data Sections - Example 2” on page 23.

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 as 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.*

NEXEO | HDX Audio Alerts

DETAILS	DATE/TIME	HOURS	DAYPARTS/SHIFTS	SPEED GOALS	CAR COUNT GOALS	NEXEO HDX AUDIO ALERTS
Lane Total Alert						<input checked="" type="checkbox"/>
Lane Total 2 Alert						<input checked="" type="checkbox"/>
Pull-Forward Area Alerts				2 of 2 Enabled		<input checked="" type="checkbox"/>
Mobile Area Alerts				1 of 3 Enabled		<input checked="" type="checkbox"/>
Vision AI Drive Off Alerts						<input checked="" type="checkbox"/>
Vision AI Pre-Menu Stack Alerts						<input checked="" type="checkbox"/>

Fig. 4.8

NOTE: Since these audio alerts are used across two systems, they must also be enabled on the NEXEO® base station to be functional.

What is this screen for? If your store also uses a NEXEO | HDX™ system for crew communication, this option allows you to set audible alerts for crew members using NEXEO | HDX headsets.

Why is it needed? These alerts inform crew members when a parameter or goal limit is reached. It also allows them to quickly respond to resolve an issue if necessary.

Lane Total Alert: Enable this and select a goal from the drop-down list to receive an audible alert when a vehicle exceeds the selected goal.

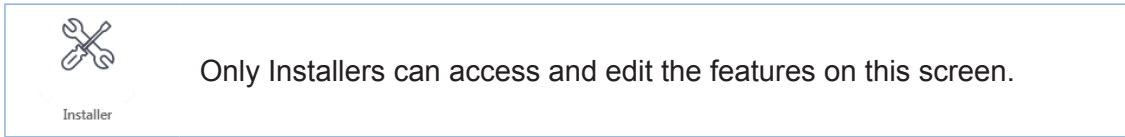
Pull-Forward Area Alerts: Enable this and select a location from the drop-down list to receive an audible alert when a pull-forward is detected. Select from the Play Alert drop-down list when to play the alert. Also, select which goal you would like to hear the alert for.

Mobile Area Alerts: Enable this and select a location from the drop-down list to receive an audible alert when a vehicle is detected at an independent detector. Select from the Play Alert drop-down list when to play the alert.

Vision AI Drive-Off Alerts: Enable this if you wish to trigger an audible alert when a vehicle drives off from the Pre-Menu Stack.

Vision AI Pre-Menu Stack Alerts: Enable this to trigger an audible alert when the Pre-Menu Stack reaches a specified number of vehicles (the range is 1 to 10). Select from the Play Alert drop-down list when to play the alert (the range is immediately to After 2 minutes).

Chapter 5 - Network



Local Network

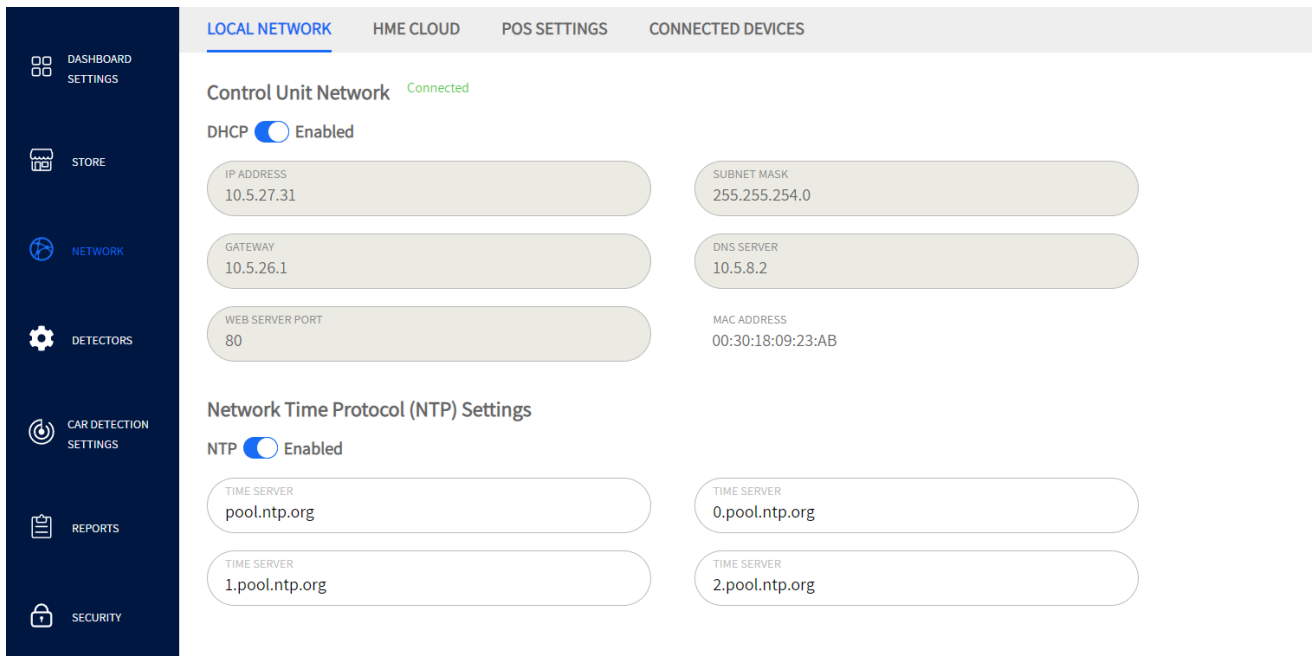


Fig. 5.1

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: A Domain Name System (DNS) server is a directory of domain names and their corresponding Internet Protocol (IP) addresses.

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

MAC ADDRESS: The unique identifier for the ZOOM Nitro CU when connected to a 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 so that reports from multiple locations can be easily correlated.*

When NTP is enabled, the system prevents the user from editing 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 support up to four servers.

HME CLOUD

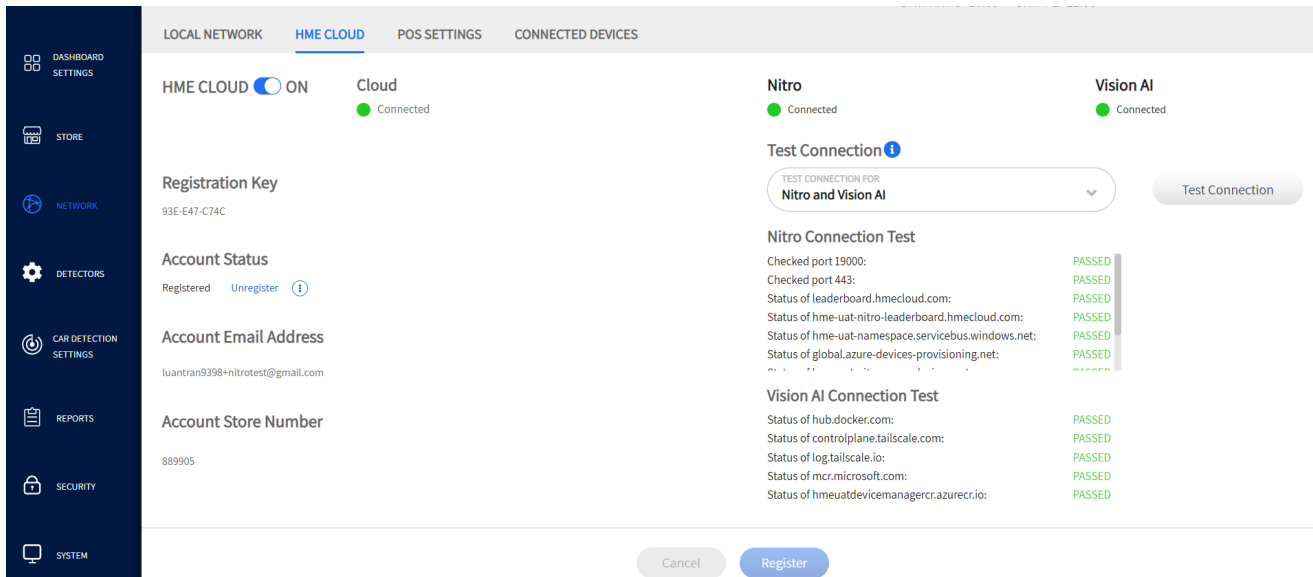


Fig. 5.2

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, such as software upgrades. Also, your records and data history are backed up and stored in the HME CLOUD.

Example: Fig 5.2 shows you have turned the HME CLOUD feature “ON.” The Nitro Connection Status shows that you are connected to the Cloud. The Registration Key is a unique identifier for your store. All HME products installed at your store will use this registration key. The Account Email Address is populated when you are registered. To change this email address, you must first unregister by clicking on the word Unregister. An email address only needs to be entered if you have an account set up. If not, leave blank and click “**Save**” to finalize.

The **Connection Status** fields at the top of the screen indicate what is connected or disconnected (green or red, respectively). The ZOOM Nitro store in Fig. 5.2 is connected to the Cloud and also has Nitro Vision AI installed, so a green **Connection Status** is displayed for all three. The “**Test Connection**” drop-down list allows you to select which systems you would like to run a connection test on. This connection test can reveal potential problems, if there are any. Even if you don’t have a system such as Vision AI installed, this test can still be run and is a viable test if you desire to have Vision AI installed. Fig. 5.2 shows an example of the connections checked during this connection test. In this example, both Nitro and Vision AI were tested, and all connection tests displayed beneath the “**Test Connection**” field have passed, indicating that both system connections are good.

Conditions: While you do not need a registered account to operate your system, HME recommends one. A registered account provides access to a range of additional benefits and support.

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

POS Settings

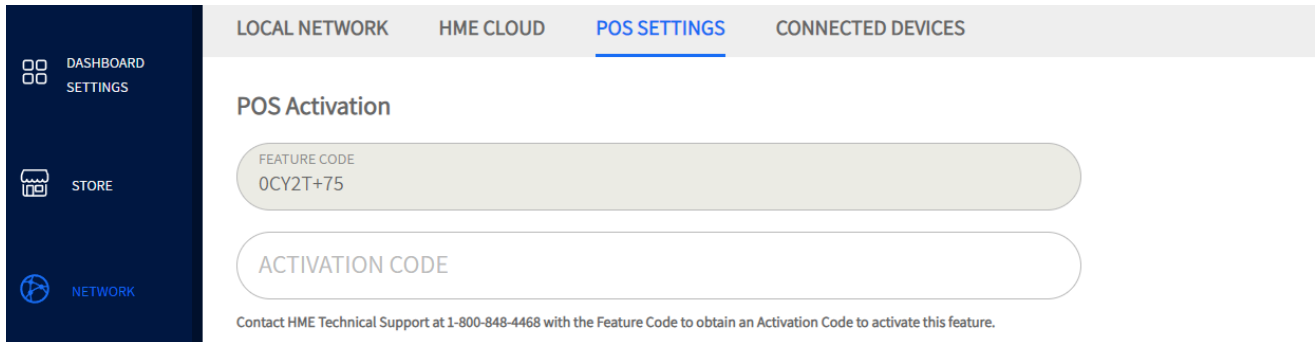


Fig. 5.3

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.

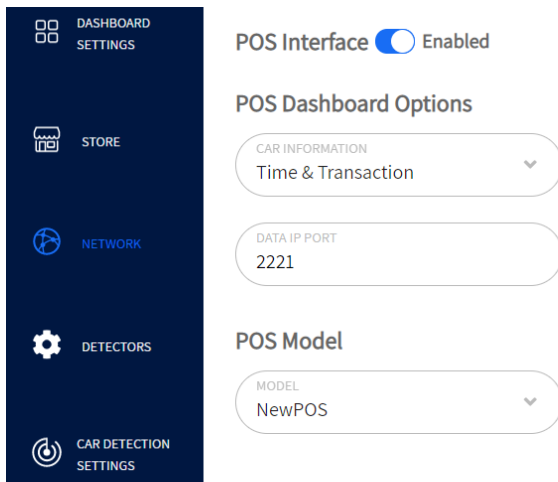


Fig. 5.4

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 on for POS data. 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 POS Model drop-down list can be integrated with ZOOM Nitro. This list includes NewPOS, Oracle Symphony, Xpient, and NCR Radiant.

Dashboard options let you choose which information is displayed. The Car Information drop-down list includes Time Only, Transaction # Only, Time & Transaction, or Time & Order.

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)

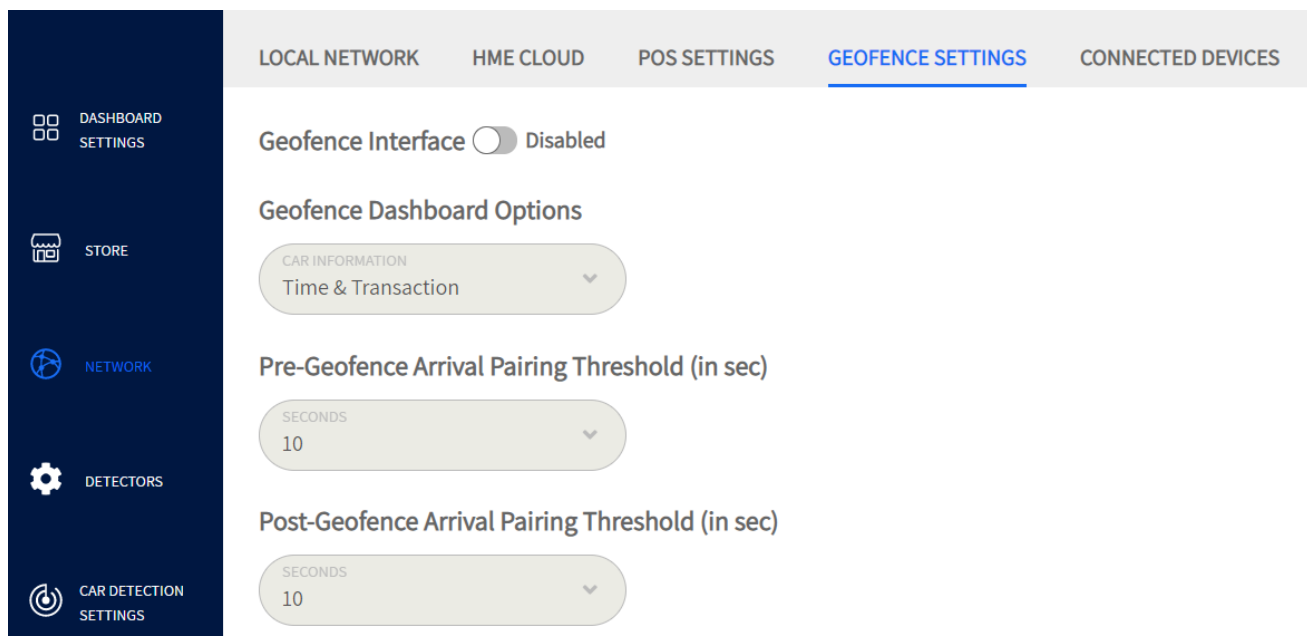


Fig. 5.5

NOTE: *Geofence Settings is an optional feature. If not displayed on your screen, it is not available for your store. A 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.*

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 Fig.5.6) to distinguish it from a standard label that does not have this border.

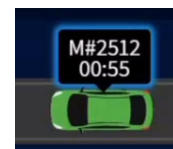


Fig. 5.6

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.

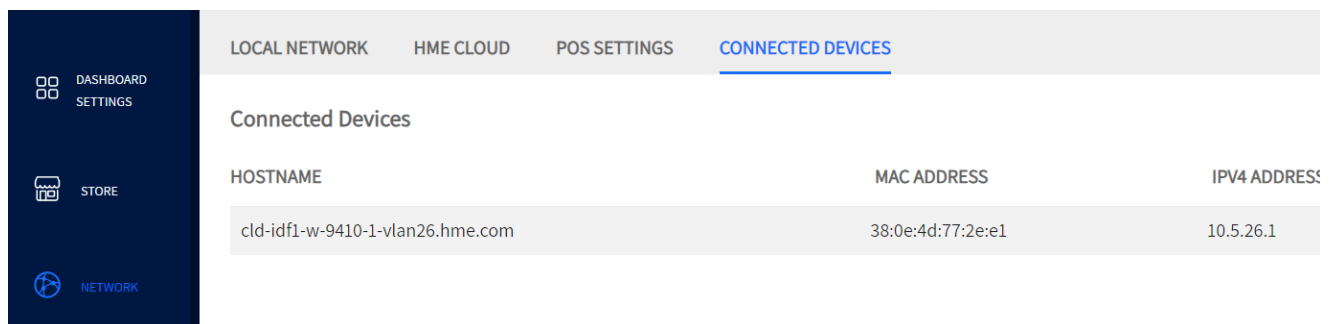
Pre-Geofence Arrival Pairing Threshold (in sec): There is a latency period involved when using a geofence. Due to varying communication speeds between devices and networks, a geofence message may be sent to the device before the vehicle enters the geofence perimeter. This message will queue for 1-15 seconds (depending on the setting) until the visitor enters the geofence,

ensuring it is paired with the correct visitor.

Post-Geofence Arrival Pairing Threshold (in sec): Due to varying communication speeds between devices, a geofence message may be sent to the device after the vehicle has arrived and departed from the geofence perimeter. This will allow the transaction to be paired with the visitor 1-15 seconds (depending on the setting) after the vehicle has departed the geofence perimeter.

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

Connected Devices





HOSTNAME	MAC ADDRESS	IPv4 ADDRESS
cld-idf1-w-9410-1-vlan26.hme.com	38:0e:4d:77:2e:e1	10.5.26.1

Fig. 5.7

What is this screen for? The Connected Devices screen displays all devices connected to the ZOOM Nitro system, which may now include newer technologies like Vision AI. Pertinent information, such as MAC and IP addresses from Vision AI components, can be viewed here.

Chapter 6 - Detectors

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

Installer Manager

Camera

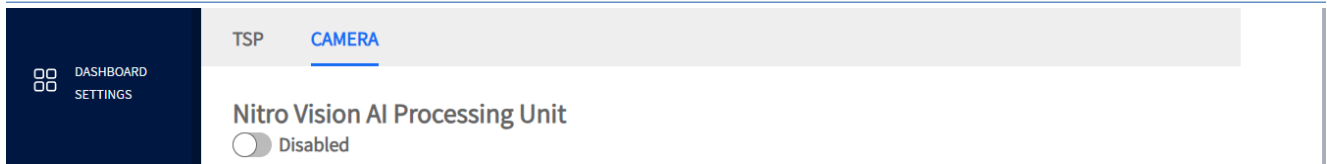


Fig. 6.1

What is this screen for? The system supports two types of detector technology, TSP and Camera (Vision AI). TSP is the standard and most commonly used technology. Vehicle detection using cameras is a newer technology that allows vehicles to be identified and tracked in drive-thru environments or designated pick-up zones (either mobile or pull-forward spaces). A store must meet a set of prerequisites to have Vision AI installed. Stores with a **Single Lane** or **Y Lane drive-thru** are currently supported. Mobile spaces and Pull-Forward spaces are also supported (however, **Pull-Forward windows** are not yet supported using this technology). If your Lane Configuration uses a Dual Lane or Tandem Lane, Vision AI can still be used for Mobile spaces and Pull-Forward spaces. Lane Configurations using Mobile-Outside or Inside Lane are treated like a Y Lane.

Please contact HME if you would like to know more about Vision AI or to inquire about having it installed at your store. Additional Vision AI information can also be found online under ZOOM Nitro (click on the link or scan the QR code on the back cover). When the Nitro Vision AI Processing Unit is enabled, the screen populates (see Fig. 6.2). The features on this screen are configured by the installer, and your Camera location is set up as a Drive-Thru, a Pick-Up Zone (for mobile or pull-forward spaces), an Extended Stack, or a combination of locations if multiple cameras are used.

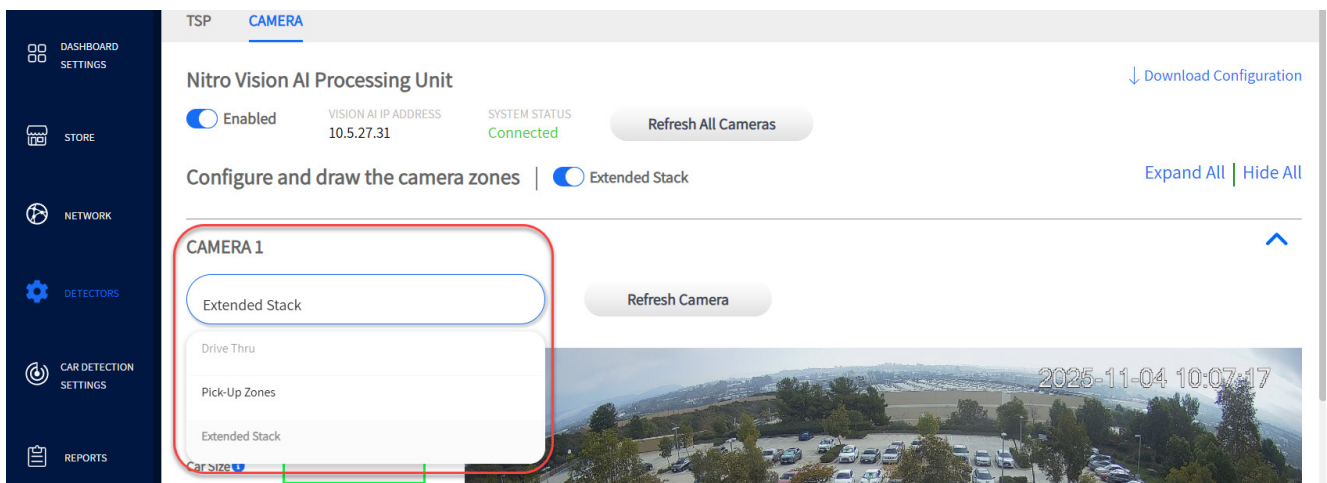


Fig. 6.2

Drive-Thru

Fig. 6.3 shows an enabled Single Lane drive-thru setup which allows cars in the Pre-Menu (orange foreground area) and Pre-Menu Stack (red area) to be detected and displayed on the dashboard. Drive-thru lane cameras also need to be mapped to the appropriate processor under **CAR DETECTION SETTINGS>LANE DETECTORS**.

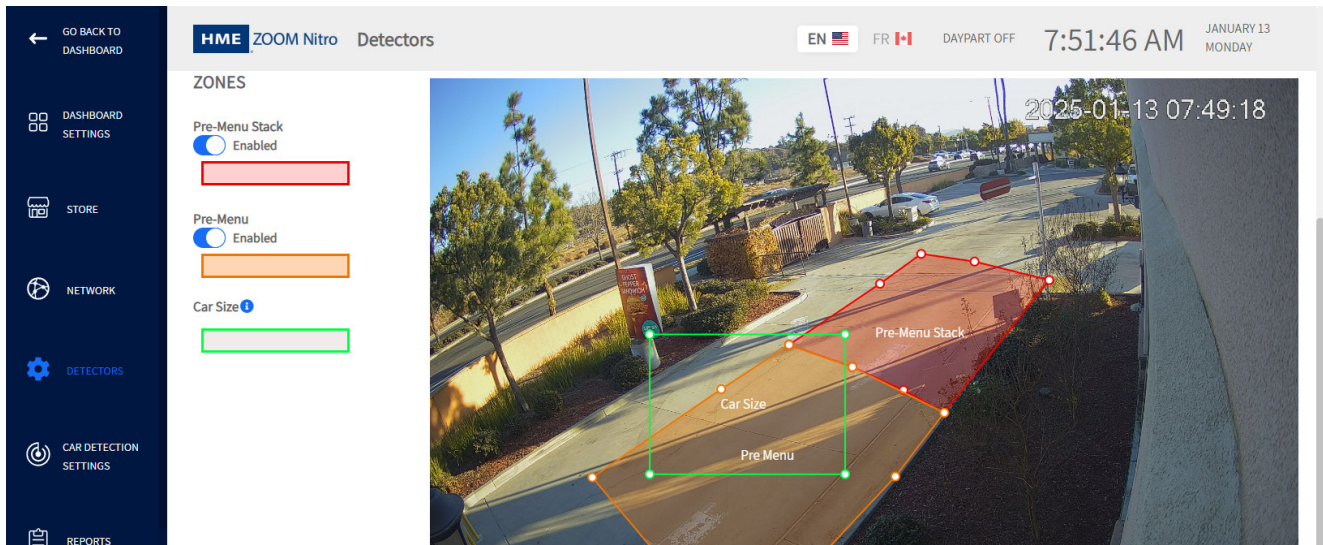


Fig. 6.3

Fig. 6.4 shows an enabled Y Lane drive-thru setup, which allows cars in two Pre-Menus (orange foreground areas) and Pre-Menu Stack (red area) to be detected and displayed on the dashboard. Drive-thru lane cameras also need to be mapped to the appropriate processor under **CAR DETECTION SETTINGS>LANE DETECTORS**.

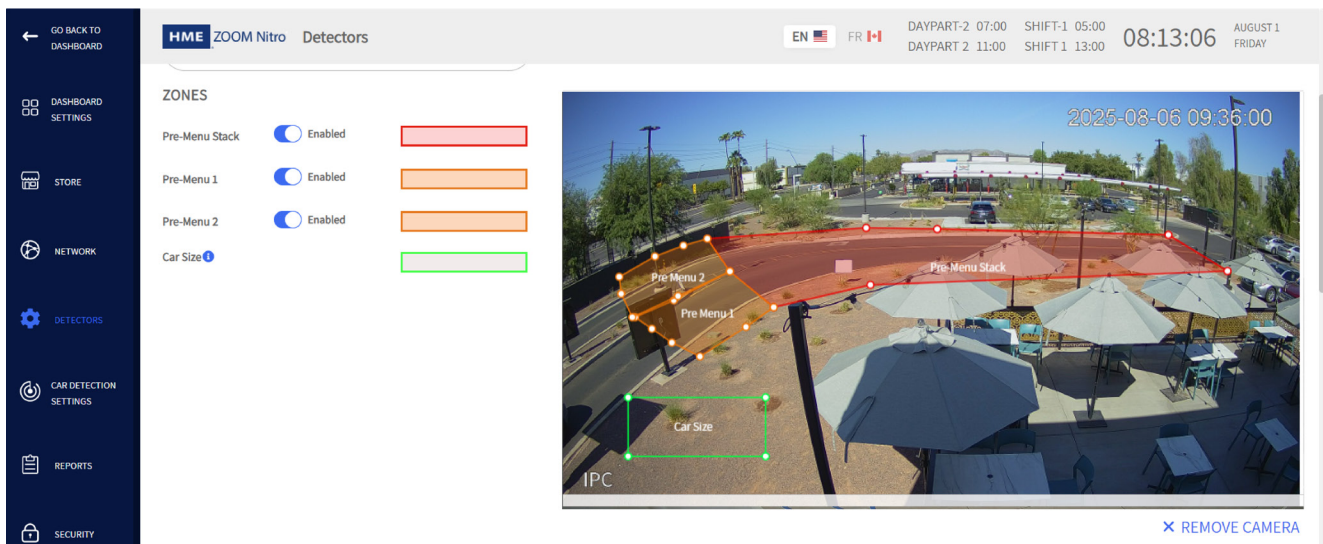


Fig. 6.4

Extended Stack

Fig. 6.5 shows the **CAMERA 1** drop-down list when the Extended Stack is enabled (the Extended Stack option does not appear in the drop-down if the toggle is disabled). While Extended Stack requires a dedicated camera, it must be used in conjunction with another Drive-Thru camera (i.e., it does not function independently). Extended Stack allows a store to capture more vehicles beyond the Pre-Menu Stack, thus providing an extended range of metrics. It is combined with the Pre-Menu Stack data and treated as a single metric on the dashboard (not as a separate metric).

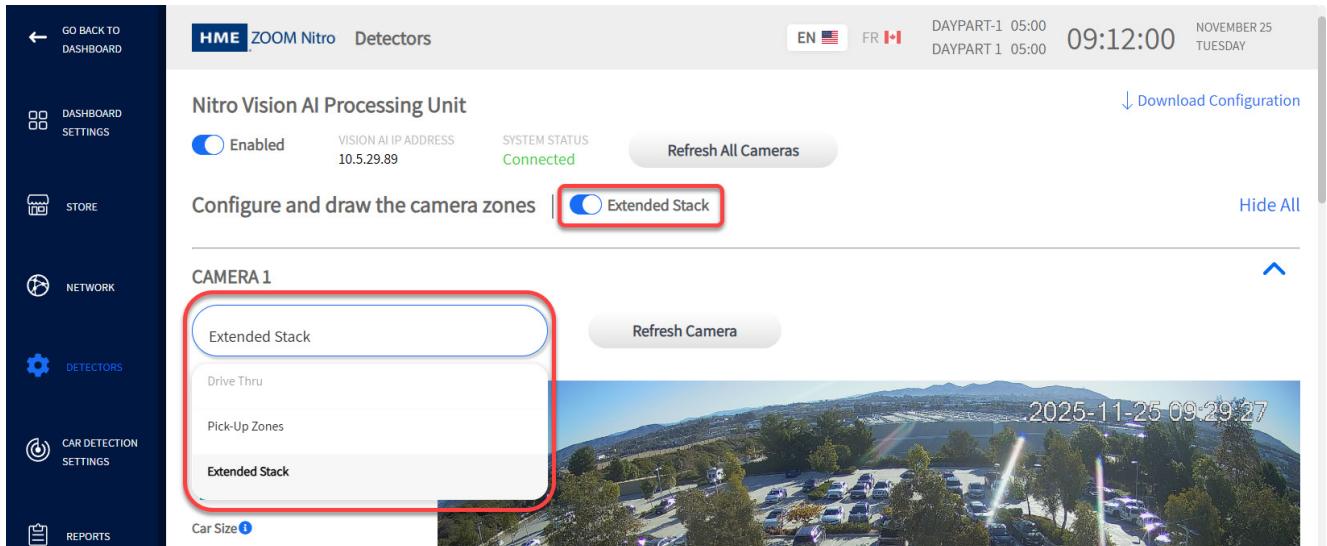


Fig. 6.5

Fig. 6.6 shows an example of an Extended Stack with a vehicle entering it (from the right). The Drive-thru Pre-Menu/Pre-Menu Stack camera and zones (not visible) are to the left of this zone so that the vehicle entering will pass through the Extended Stack and then into the Pre-Menu Stack before reaching the Pre-Menu.

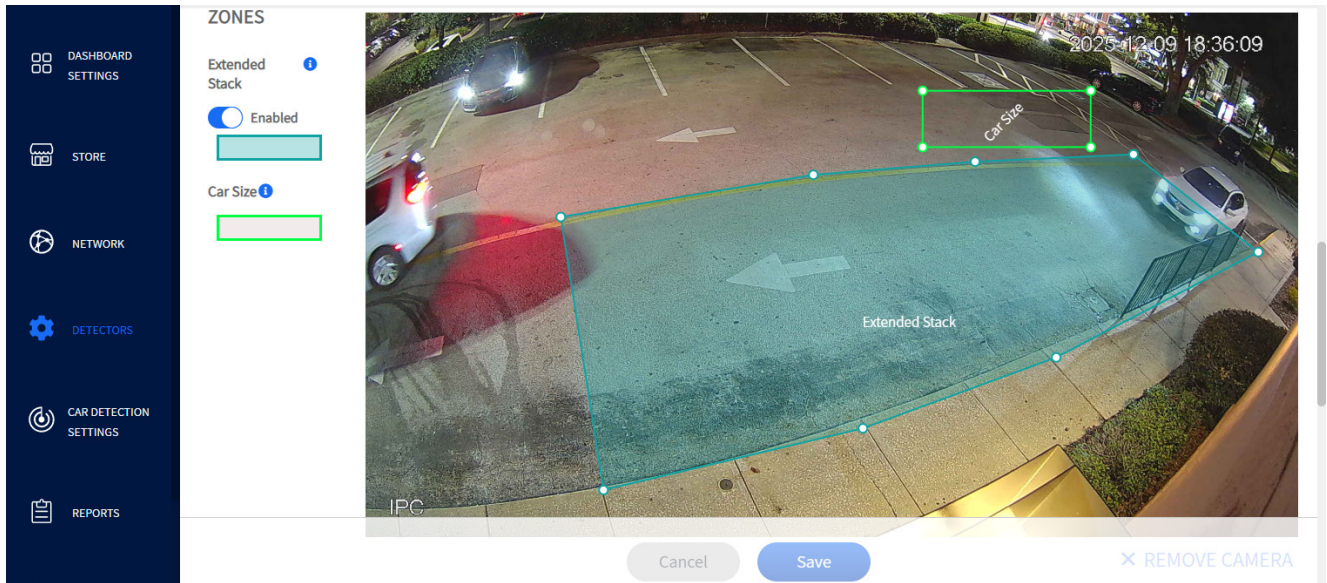


Fig. 6.6

Pick-Up Zones and Pull-Forward Spaces

Fig. 6.7 shows three enabled mobile spaces (violet areas), which allow cars in these spaces to be detected and displayed on the dashboard. Mobile space cameras also need to be mapped to the appropriate processor under **CAR DETECTION SETTINGS>INDEPENDENT DETECTORS**. A single camera can monitor up to four mobile spaces. The system supports a maximum of eight mobile spaces if two cameras are used.

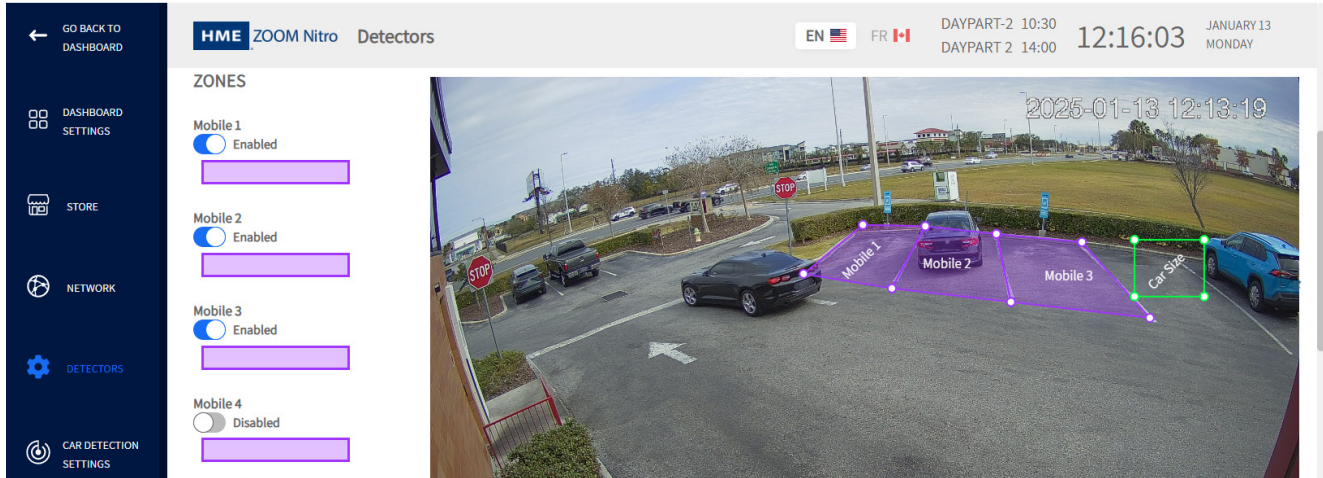


Fig. 6.7

Fig. 6.8 shows two enabled pull-forward spaces (blue areas), which allow cars in these spaces to be detected and displayed on the dashboard. Pull-forward space cameras also need to be mapped to the appropriate processor under **CAR DETECTION SETTINGS>LANE DETECTORS**. The system supports a maximum of two pull-forward spaces.

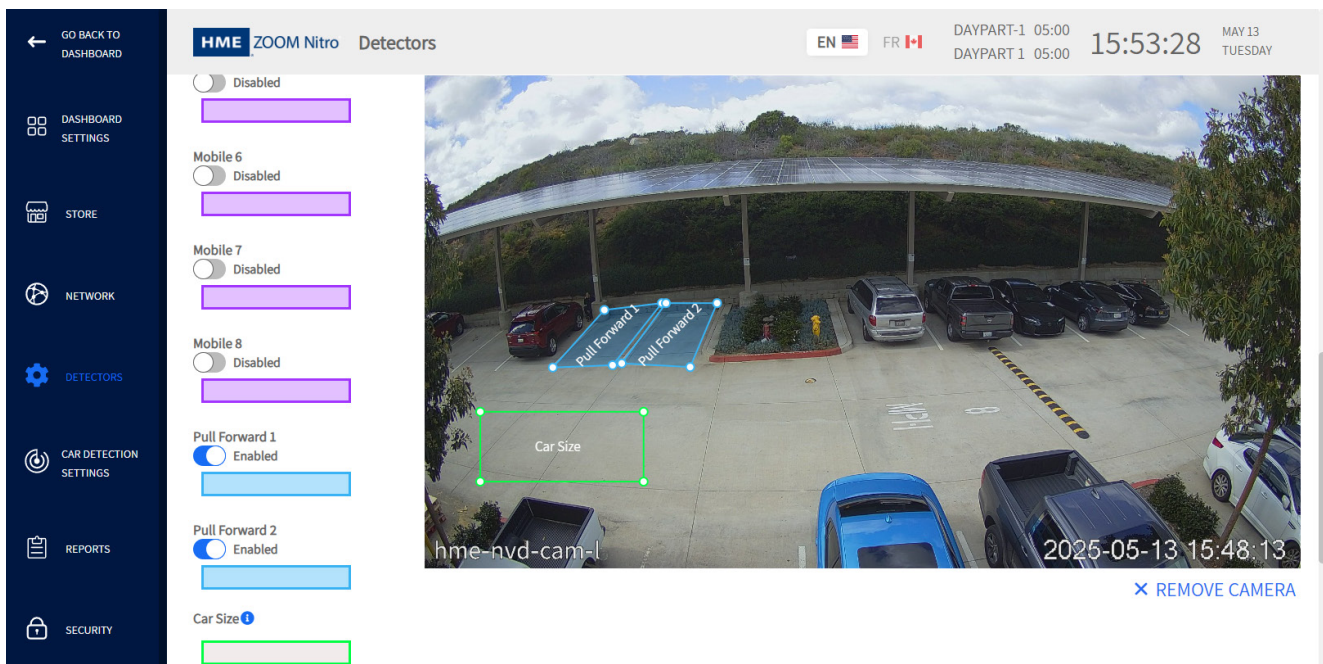


Fig. 6.8

TSP50

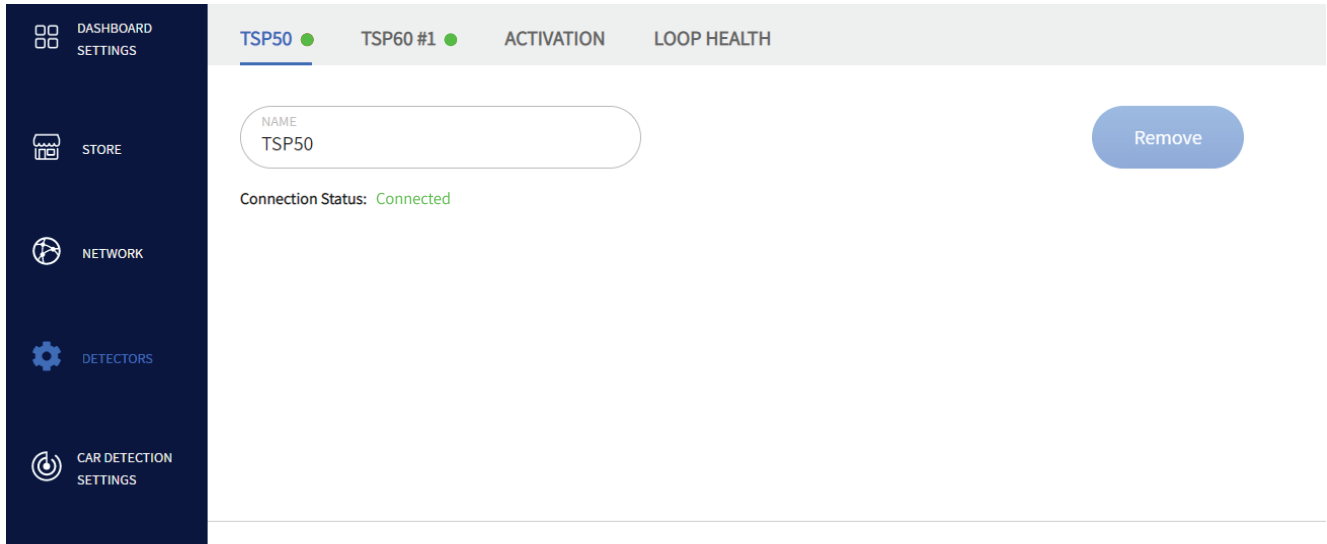


Fig. 6.9

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 in TSP Settings (covered in this chapter) is only available on the TSP60.

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

The TSP model your store is using determines what TSP is displayed at the top of the screen. In Fig. 6.9, 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. 6.9 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. 6.9, 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

The screenshot displays the configuration interface for a TSP60 device. The top navigation bar includes 'TSP50', 'TSP60 #1' (selected), 'ACTIVATION', and 'LOOP HEALTH'. The main content area is divided into three sections: 'Greet Detectors', 'External Detectors', and 'On-Board Detectors'. A sidebar on the left contains navigation options: 'DASHBOARD SETTINGS', 'STORE', 'NETWORK', 'DETECTORS', 'CAR DETECTION SETTINGS', and 'REPORTS'. The 'Greet Detectors' section shows 'Grt A' with 'Audio Greet' and 'Alternate Greet' options. The 'External Detectors' section shows 'Veh 1' with 'Polarity configuration' options for 'Negative' and 'Positive'. The 'On-Board Detectors' section shows 'Veh 5' with 'External Detector Mode' and 'Diagnostic Mode' options, and four dropdown menus for 'VEHICLE PRESENCE AUTO RESET', 'DETECTION SENSITIVITY', 'RELEASE SENSITIVITY', and 'DETECTION DELAY'. The 'Reset' and 'Remove' buttons are visible in the top right.

TSP50 ● **TSP60 #1** ● ACTIVATION LOOP HEALTH

Connection Status: **Connected**

Firmware version: 9a73383

NAME: TSP60 #1 SERIAL NUMBER: 03598A38

Advanced Logging: Off On

Reset Remove

Greet Detectors

▼ Grt A

Connection type

Audio Greet Alternate Greet

▶ Grt B

External Detectors

▼ Veh 1

Polarity configuration

Negative Positive

▶ Veh 2

▶ Veh 3

▶ Veh 4

On-Board Detectors

▼ Veh 5

External Detector Mode: Off On Diagnostic Mode: Off On

VEHICLE PRESENCE AUTO RESET: Reset after 20 minutes

DETECTION SENSITIVITY: Normal

RELEASE SENSITIVITY: Medium

DETECTION DELAY: 0 Seconds


▶ Veh 6

▶ Veh 7 **Activation required**

▶ Veh 8 **Activation required**

Fig. 6.10


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. 6.10 indicates it is connected. If an issue arises with your TSP, you can reset it by using the  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. 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. 6.10, 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 SERIAL NUMBER field is a unique identifier for the TSP; it cannot be changed. It correlates to the PCBA SN label found on the physical TSP60 (inside the hinged cover).

The green indicator  next to the TSP60 tab in Fig. 6.10 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  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. 6.10, 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  button becomes active. Once clicked, TSP60 #1 will disappear from the top of the screen, leaving only TSP50 displayed. Reconnecting 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 TSP60 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  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 physical 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 to be 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 results in slower detection, with a risk of small fluctuations causing missed detections.

RELEASE SENSITIVITY (low to extra high): Release sensitivity indicates how quickly the system signals 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 51). For example, if 5 seconds is selected here for Veh 6 and a 5-second delay is also selected for Veh 6 in Car Detection Settings, the total delay will be 10 seconds.

Activation

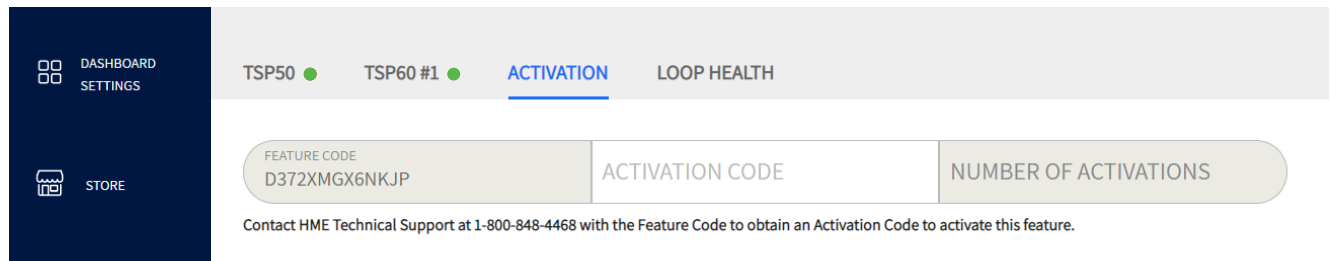


Fig. 6.11

What is this screen for? The Activation screen is used to activate additional onboard detectors if needed and is only present when a TSP60 is connected (i.e., if your system only has a TSP50 connected, this screen will not appear).

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. 6.12).

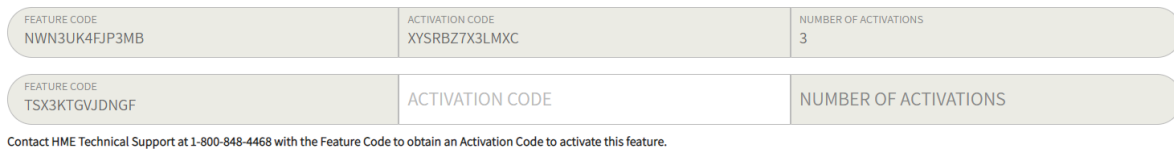


Fig. 6.12

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

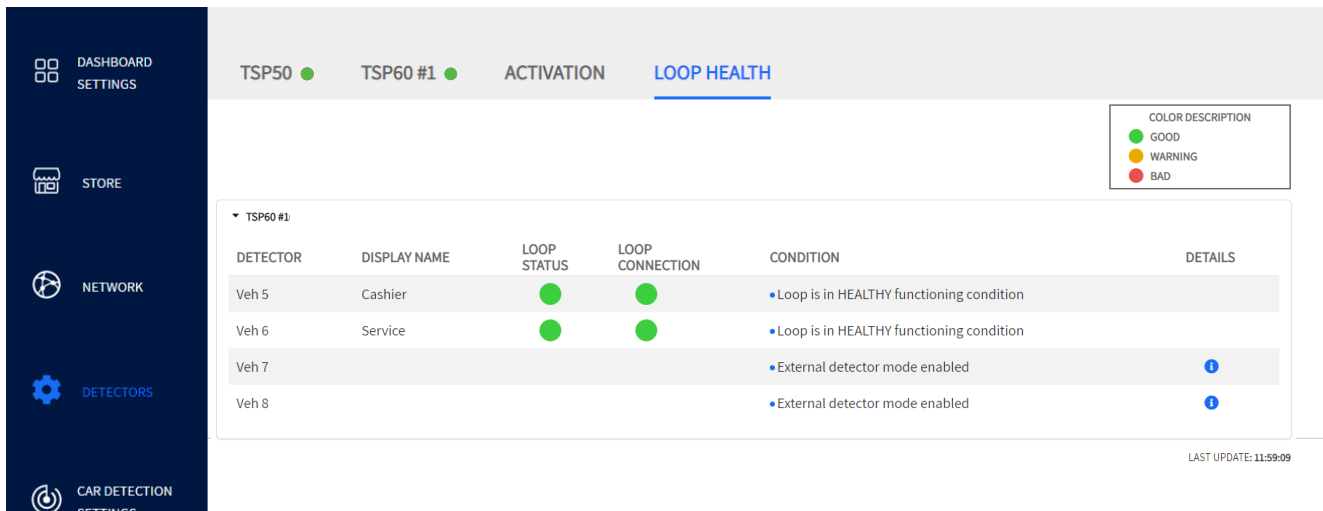


Fig. 6.13

What is this screen for? Loop Health 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 is 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 further 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. Immediate 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. 6.13, 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



Installer

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

Lane Detectors

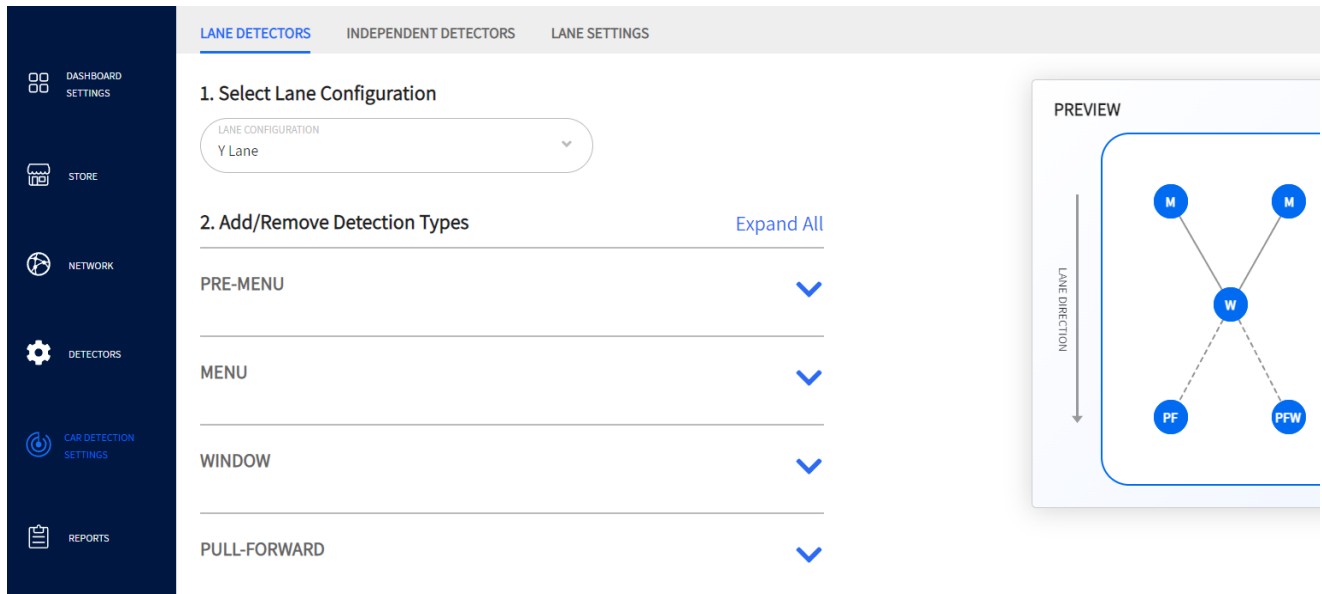


Fig. 7.1

7

CAR DETECTION SETTINGS

What is this screen for? The Lane Detectors screen lets you customize your system to your store's unique layout. Use the **1. Select Lane Configuration**, **2. Add/Remove Detection Types**, and **3. Configure Detector Mappings** options and configure them to match the general layout of your store.

Why is it needed? Your store layout must be configured properly to provide meaningful data. Data and measured events on the dashboard are based on the information entered here. Begin by selecting your lane type from the drop-down list under **Select Lane Configuration**.

Example: Fig. 7.1 shows a Y Lane store with two menus, one window, and two pull-forward detectors (one of which is a pull-forward window, indicated by the PFW acronym). To make adjustments to this Y Lane configuration, you can add or remove detectors in the **Add/Remove Detection Types** section.

This Y Lane has two menus. To make adjustments to these menus, click on the down-arrow to the right of **MENU** to expand (see Fig. 7.2). Toggle the **Include Greet** switch to enable and notice that it is now reflected in the two menu tiles beneath the switch (see Fig. 7.3). Toggle the **Include Merge** switch to enable if your Y Lanes also use merge detectors.

NOTE Take a snapshot of the dashboard before making changes, so the original settings can be restored if any configuration is lost or accidentally changed.

A CU reboot is required whenever any Lane Configuration settings or Detection Types are added or removed. CU cable swaps to Ports 1 and 2 also require a CU reboot.

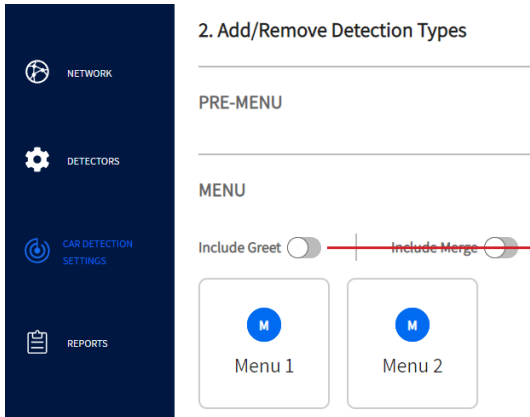


Fig. 7.2

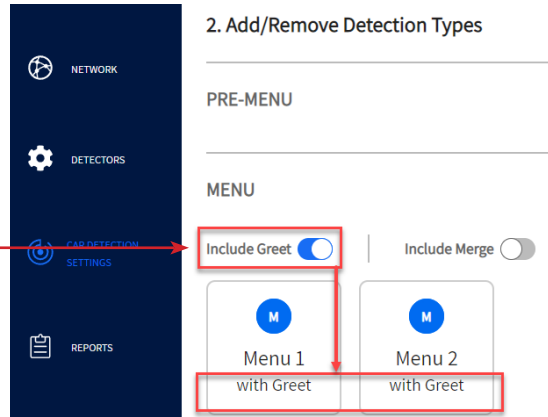


Fig. 7.3

This Y Lane has one window. To add another window, click on the down arrow to the right of **WINDOW** to expand and click **Add** (see Fig. 7.4). Notice a new window (Window 2) is now reflected in the **PREVIEW** graphic on the right (see Fig. 7.5). To remove Window 2, click **X** in the tile's upper corner.

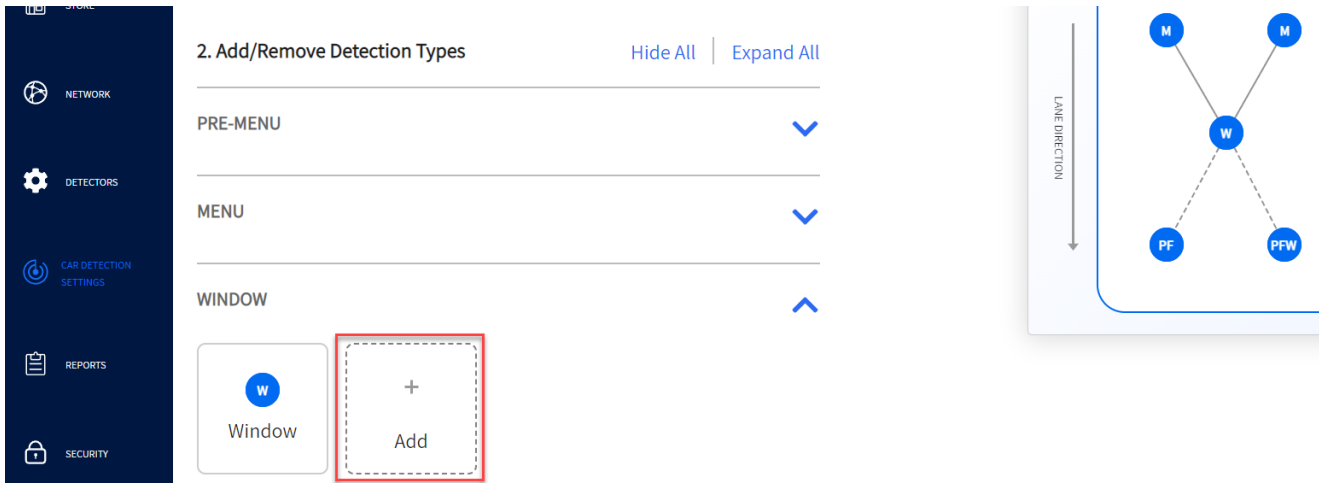


Fig. 7.4

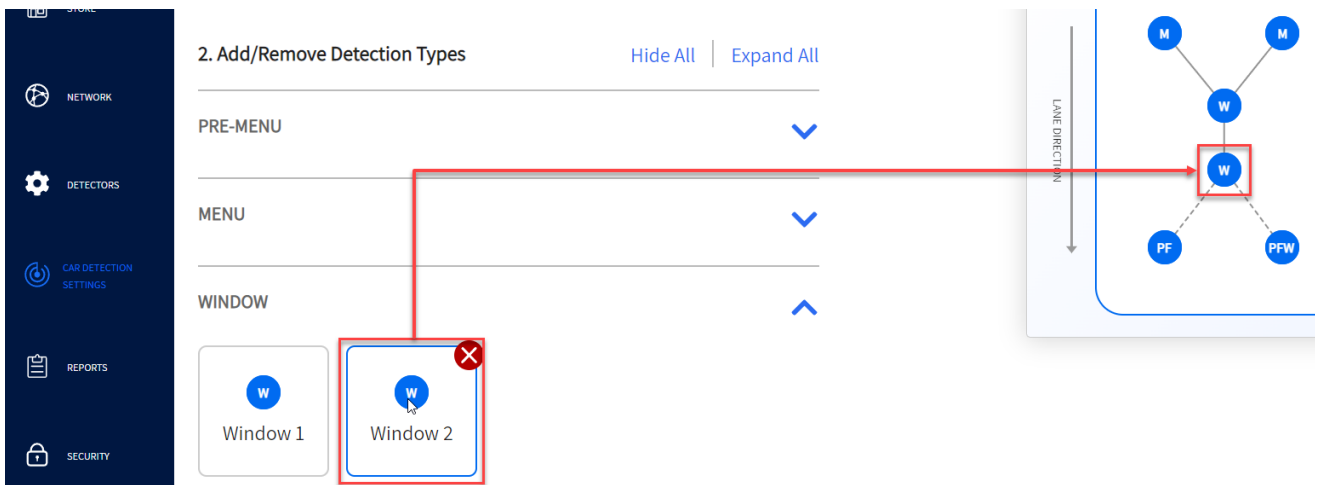


Fig. 7.5

To modify your Pull-Forward detectors, click on the down arrow to the right of PULL-FORWARD to expand. If your store uses a pull-forward window, toggle the **Include PF Window** switch and notice how it is now reflected in the tile beneath and in the **PREVIEW** graphic (see Fig. 7.6). On the Dashboard, this pull-forward window is displayed above the end of the lane (see Fig. 7.7). For Single Lane and Y Lane configurations, the total number of pull-forward detectors is limited to three and only one of these can be used as a pull-forward window. Dual Lane configurations can have four pull-forward detectors (two per lane), but they do not currently support a pull-forward window since only one is available.

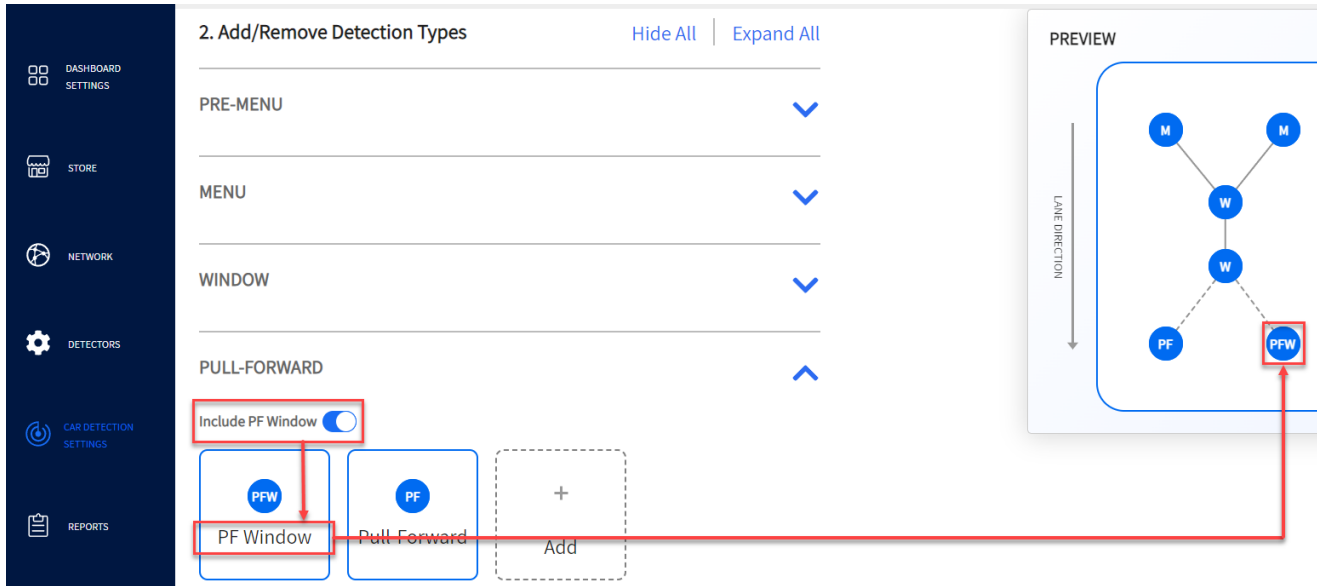


Fig. 7.6



Fig. 7.7

The **Configure Detector Mappings** section allows you to map your detectors 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 choose your QUEUE SIZE from the drop-down list, which is the number of vehicles that can fit between this detection point and the next. For example, in Fig. 7.8a, “Menu” (the first detector) is mapped to Veh 1, assigned the display name “Menu 1,” and the queue size selected is “4 Cars.” This indicates that four vehicles can fit between this detection point and the next detection point (Menu 2). The last detection points do not have a queue size because there are no other detection points/zones in the lane beyond this point. If your system uses more than one TSP, use the PROCESSOR field to select the one corresponding to each detector mapped (in this example, only one TSP50 is used).

Fig. 7.8b shows how the mapping will look when cameras are used for the Pre-Menu and Pull-Forward spaces. The PROCESSOR field has VPU selected while the DETECTOR field has the camera #. Three cameras are used in this example. Cam 1 (not shown) is used for mobile spaces and configured under Independent Detectors, while cameras 2 and 3 are configured here under Lane Detectors.

NOTE: Queue size does not include the vehicles at the detection points, just those in between. Twenty feet (6.1 m) per vehicle is the estimated measurement used.

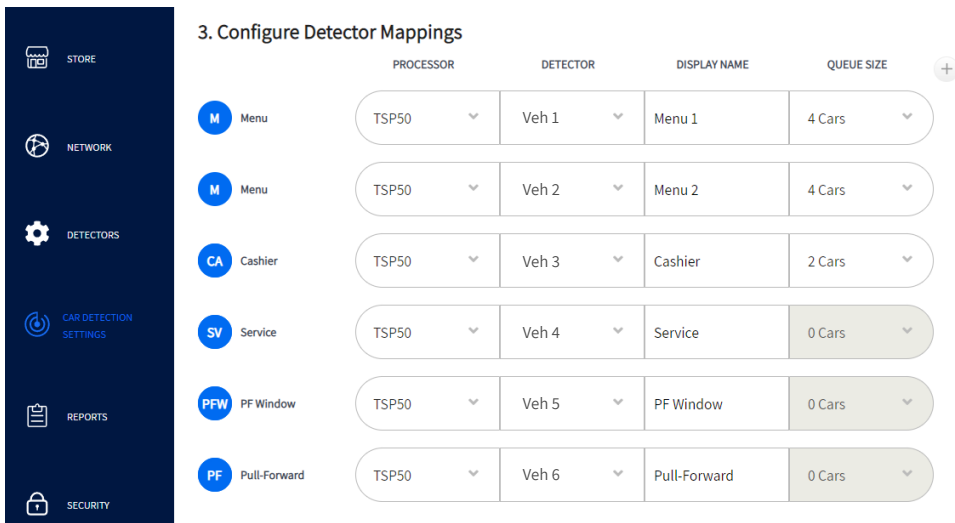


Fig. 7.8a

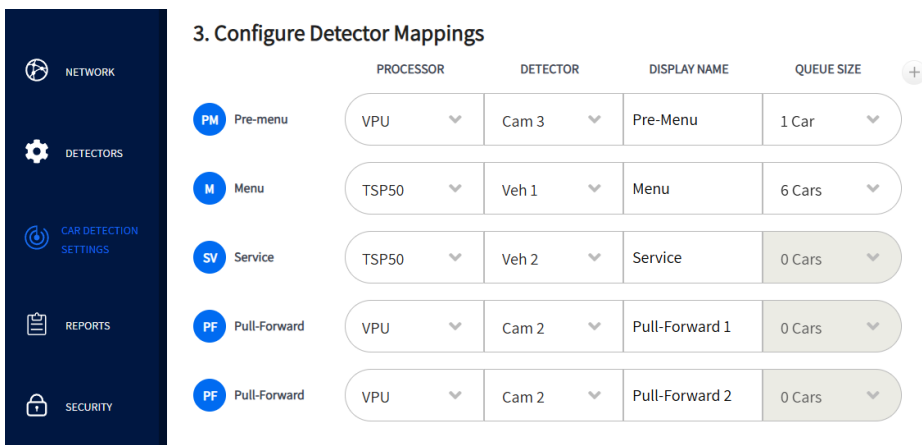


Fig. 7.8b

If a different choice is made from the **Select Lane Configuration** drop-down list, the **Add/Remove Detection Types** and **Detector Mappings** sections change accordingly. For example, if you choose a “**Single Lane**” configuration, the PREVIEW graphic changes to a Single Lane layout graphic.

If Curbside-Only is selected from the **Select Lane Configuration** drop-down list, there are no further configurations to be made here since Curbside-Only stores do not use drive-thru lanes. You must go to the **INDEPENDENT DETECTORS** screen to configure Curbside-Only parameters there. These changes are then reflected on the Dashboard.

NOTE: *The Curbside-Only option is only available for stores using Vision AI. Contact HME if you would like to know more about this option.*

Some **Y Lane** stores dedicate one lane to mobile orders. The lane chosen can be either the inside lane or the outside lane (the inside lane indicates the lane closest to the store building, while the outside lane indicates the lane furthest away). Mobile orders can be distinguished from lane-placed orders by the neon blue border included around the order label (see Fig. 7.9). The mobile lane is also labeled as such on the Dashboard.

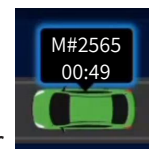


Fig. 7.9

The following is a brief description of different detector types.

- Pre-Menu Detector: A detector that tracks vehicles prior to arriving at the menu detectors.
- Greet Detector: A detection metric that tracks the time between when a vehicle is detected at the menu detector and when the order taker greets the customer via the headset.
- Merge Point Detector: A detector located in each lane of a Y Lane configuration just before the lanes end and merge into a single lane. This helps track the sequence of vehicles merging from either lane into the single lane to help maintain order integrity and prevent confusion.
- Pull-Forward Detector: A detection space off the lane where a vehicle might be requested to pull into while they await their order. A Pull-Forward window functions exactly the same as a Pull-Forward space, but is a window on the building rather than a space separate from the lane. The Pull-Forward window detection point is physically located after the last window in the lane. While Vision AI supports pull-forward spaces, it does not yet support pull-forward windows.

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 DETECTION DELAY under “TSP60” on page 46).
- 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 to Veh 3 from the DETECTOR drop-down list.

Lane Detectors using Vision AI

Vision AI uses cameras to detect vehicles. Fig. 7.10 shows a Single Lane drive-thru with three detectors. In this example, Vision AI is used only for the first detector and a TSP for the other two.

Under 2. Add/Remove Detection Types

- From the PRE-MENU drop-down, click/tap the + (Add) tile.

Since the first detector (Pre-Menu) is a camera, the correct Processor and Detector must be selected from the drop-down lists when mapping, so the Pre-Menu will be configured as follows:

Under 3. Configure Detector Mapping

- Under PROCESSOR: Select VPU (this is always the processor used with a camera).
- Under DETECTOR: Select the appropriate camera (if more than one is used). Cam 1 is selected in this example.
- Under DISPLAY NAME: Enter a descriptive name for the camera.
- Under QUEUE SIZE: Select the queue size based on how many cars fit between the Pre-Menu and Menu (usually 1 car for Pre-Menu, but this field is configurable if more than one car fits).
- Under DELAY: This sets the minimum time the car must remain in the zone before it is detected and processed.
- Under DISCARD: Adjust the amount of time if you need to verify that the vehicle present is a real customer and not an accidental trigger caused by a passing vehicle.

The other two detectors (Menu and Window) are standard detectors, so Veh 1 and Veh 2 are connected to TSP60#1.

1. Select Lane Configuration

LANE CONFIGURATION: Single Lane

2. Add/Remove Detection Types Hide All | Expand All

PRE-MENU

3. Configure Detector Mappings

	PROCESSOR	DETECTOR	DISPLAY NAME	QUEUE SIZE	DELAY	DISCARD
PM Pre-menu	VPU	Cam 1	Pre-Menu	1 Car	0 Seconds	0 Seconds
M Menu	TSP50	Veh 1	Menu	6 Cars	2 Seconds	0 Seconds
SV Service	TSP60 #1	Veh 2	Service	0 Cars	1 Second	0 Seconds

Fig. 7.10

Fig. 7.11 shows a Single Lane drive-thru with five detectors. In this example, Vision AI is used for the first, fourth, and fifth detectors and a TSP for the other two. When used for a Pull-Forward zone:

Under 2. Add/Remove Detection Types

- From the PULL-FORWARD drop-down, click/tap the + (Add) tile. In this example, two are added. See Fig. 7.11. (Pull-Forward Windows are not currently supported using Vision AI.)

Under 3. Configure Detector Mapping

- Under PROCESSOR: Select VPU (this is always the processor used with a camera).
- Under DETECTOR: Select the appropriate camera (if more than one is used), Cam 2 is selected in this example.
- Under DISPLAY NAME: Enter a descriptive name for the camera.
- Under QUEUE SIZE: 0 (not applicable for Pull-Forward spaces, so this field is not active).
- Under DELAY: This sets the amount of time it takes the vehicle to move from the previous detector to the pull-forward space before detection begins.
- Under DISCARD: Adjust the amount of time if you need to verify the pull forward is real and not an accidental trigger caused by a passing vehicle. This is the minimum time the vehicle must remain in the Pull-Forward space to be considered valid. Anything under this time is discarded.

The other two detectors (Menu and Window) are standard detectors connected to TSP50.

The screenshot displays the 'CAR DETECTION SETTINGS' interface. On the left is a navigation menu with options: DASHBOARD SETTINGS, STORE, NETWORK, DETECTORS, CAR DETECTION SETTINGS (selected), REPORTS, and SECURITY. The main content area is divided into two sections:

2. Add/Remove Detection Types (with 'Hide All' and 'Expand All' links):

- PRE-MENU (dropdown arrow)
- MENU (dropdown arrow)
- WINDOW (dropdown arrow)
- PULL-FORWARD** (dropdown arrow, expanded to show two 'PF' tiles labeled 'Pull-Forward 1' and 'Pull-Forward 2').

3. Configure Detector Mappings (table):

	PROCESSOR	DETECTOR	DISPLAY NAME	QUEUE SIZE	DELAY	DISCARD
PM Pre-menu	VPU	Cam 1	Pre-Menu	1 Car	0 Seconds	0 Seconds
M Menu	TSP60 #1	Veh 1	Menu	5 Cars	2 Seconds	0 Seconds
SV Service	TSP60 #1	Veh 2	Service	0 Cars	1 Second	0 Seconds
PF Pull-Forward	VPU	Cam 2	Pull-Forward 1	0 Cars	3 Seconds	0 Seconds
PF Pull-Forward	VPU	Cam 2	Pull-Forward 2	0 Cars	3 Seconds	0 Seconds

On the right, a 'PREVIEW' diagram shows a vertical lane with a downward arrow labeled 'LANE DIRECTION'. The lane contains five circular nodes: PM, M, W, PF, and PF. The two bottom PF nodes are enclosed in a red box, which is connected by a red line to the 'PULL-FORWARD' section of the settings interface.

Fig. 7.11

When pull-forward spaces are configured, they appear on the dashboard in the same location as mobile spaces (see Fig. 7.12).

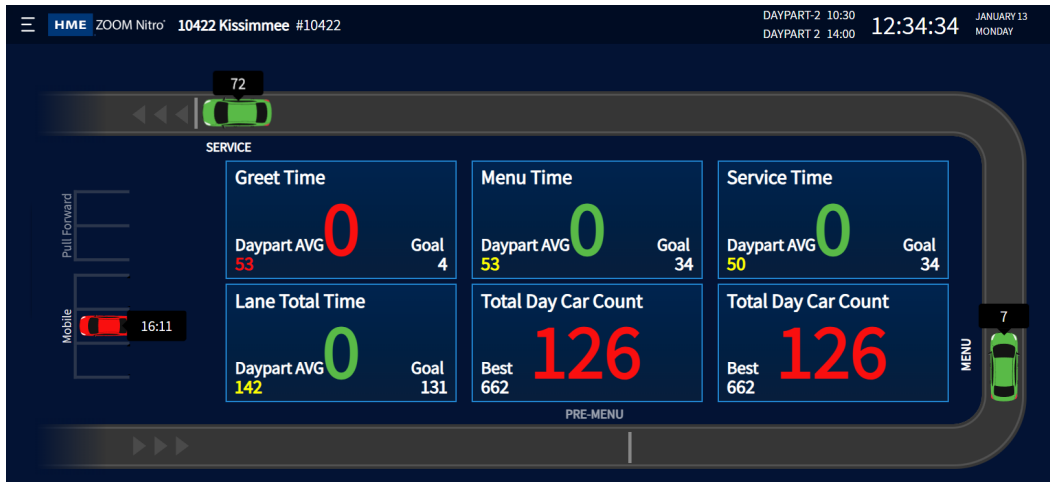


Fig. 7.12

Fig. 7.13 shows a Y Lane drive-thru selected under **1. Select Lane Configuration**. The PREVIEW graphic shows there are seven detectors. In this example, Vision AI cameras are used for the first two detectors and the last two detectors, while a TSP is used for the middle three detectors.

Under **2. Add/Remove Detection Types**

- From the PRE-MENU drop-down, click/tap the + (Add) tiles to select two detectors.
- From the PULL-FORWARD drop-down, click/tap the + (Add) tiles to select two detectors.

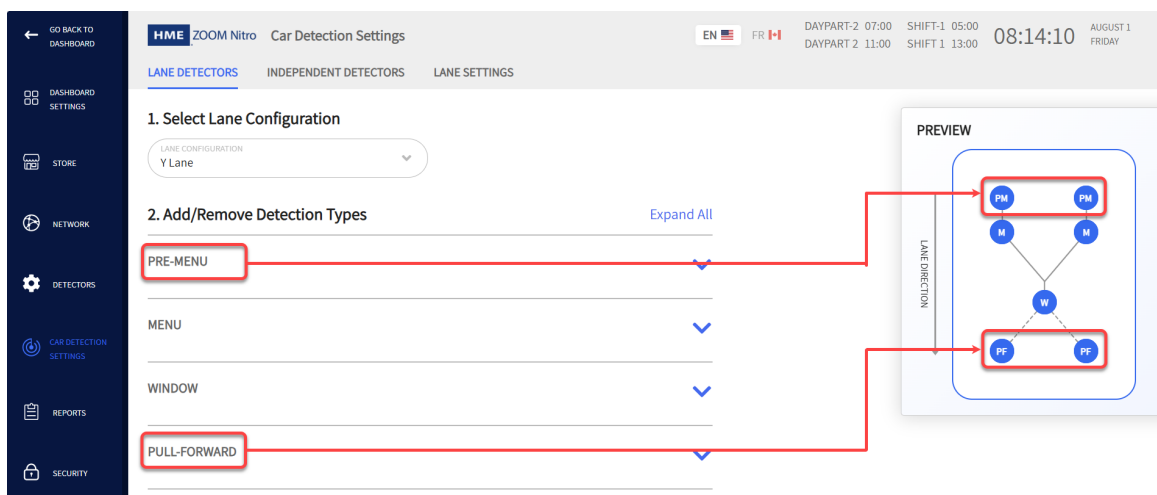


Fig. 7.13

Since the first two detectors (Pre-Menu) and last two (Pull-Forward) are cameras, the correct Processor and Detector must be selected from the drop-down lists when mapping (see Fig. 7.14). The Pre-Menu and Pull-Forward will be configured as follows:

Under **3. Configure Detector Mapping**

- Under PROCESSOR: select VPU (this is always the processor used with a camera).
- Under DETECTOR: select the appropriate camera (if more than one is used). In this example, Cam 1 is selected as the Pre-Menu detector, while Cam 2 is selected as the Pull-Forward detector.
- Under DISPLAY NAME: Enter a descriptive name for the camera.
- Under QUEUE SIZE: This is the number of cars that can fit between the Pre-Menu and Menu (usually 1 car for Pre-Menu, but this field is configurable if more than one car fits). Queue size is not applicable to Pull-Forward spaces, so this field is not active.
- Under DELAY: For Pre-Menu, this sets the minimum time the car must remain in the zone before it is detected and processed. For Pull-Forward, this sets the amount of time it takes the vehicle to move from the previous detector point to the pull-forward space before detection begins.
- Under DISCARD: Adjust the amount of time if you need to verify that the vehicle present is a real customer and not an accidental trigger caused by a passing vehicle. For Pull-Forward, this is the minimum time the vehicle must remain in the Pull-Forward space to be considered valid. Anything under this time will be discarded.

The other three detectors (two Menus and a Window) are standard loop detectors, so Veh 5, 6, and 7 are connected to TSP60 #1.

3. Configure Detector Mappings

	PROCESSOR	DETECTOR	DISPLAY NAME	QUEUE SIZE	DELAY	DISCARD
PM Pre-menu	VPU	Cam 1	Pre-Menu 1	1 Car	0 Seconds	0 Seconds
PM Pre-menu	VPU	Cam 1	Pre-Menu 2	1 Car	0 Seconds	0 Seconds
M Menu	TSP60 #1	Veh 5	Menu 1	6 Cars	2 Seconds	0 Seconds
M Menu	TSP60 #1	Veh 6	Menu 2	6 Cars	2 Seconds	0 Seconds
SV Service	TSP60 #1	Veh 7	Service	0 Cars	1 Second	0 Seconds
PF Pull-Forward	VPU	Cam 2	Pull-Forward 1	0 Cars	0 Seconds	0 Seconds
PF Pull-Forward	VPU	Cam 2	Pull-Forward 2	0 Cars	0 Seconds	0 Seconds

Fig. 7.14

Independent Detectors

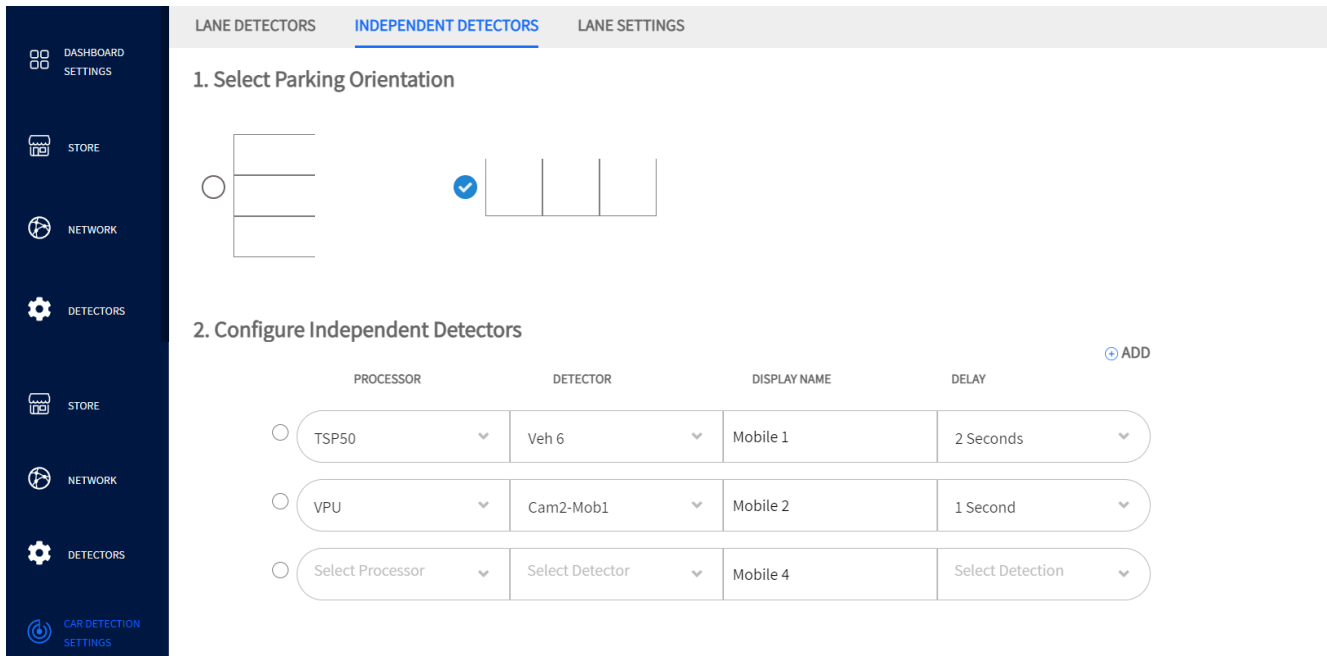


Fig. 7.15

What is this screen for? The Independent Detectors screen is for detectors that are not part of a drive-thru lane (therefore independent and not dependent on other detectors within the lane).

Why is it needed? Your store may not use drive-thru lanes, but has areas for mobile orders or curbside pickup. As standalone detection points, they are configured separately.

Example: Fig. 7.15 shows the parking orientation selected is vertical. It will change the stall layout from a horizontal to vertical orientation. Fig. 7.15 also shows a TSP50 and Camera in use. Detector Veh 6, for example, is connected to the TSP50 and is assigned the name Mobile 1 with a detection delay of 2 seconds (available detectors are selected from the DETECTOR list). The detection delay time enables you to add a delay to eliminate any false or unwanted detections. The second detector, Cam2-Mob1, is a camera, and therefore, the PROCESSOR selected is VPU. The order in which the detectors are displayed here also reflects the order in which they appear on the Dashboard.

NOTE: *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 to Veh 7 from the Detector drop-down list. If only one TSP is being used, the number of independent detectors available is dependent on how many lane detectors are already in use elsewhere. For example, if your store uses eight detectors and five are used in the drive-thru lane, then only three are available as independent detectors.*

Independent Detectors are not available if Tandem Lane is the Lane Configuration selected under Lane Detectors.

To remove a detector, check the circle to the left of the PROCESSOR field, then click **REMOVE**. If your system uses more than one TSP, then the number of available independent detectors increases accordingly (excluding lane detectors in use). Click **ADD** to add another Independent Detector page if configuring more than four independent detectors. Four pages are supported here (16 detectors).

Independent Detectors using Vision AI

Vision AI uses cameras to detect vehicles. The example in Fig. 7.16 shows three mobile spaces using a camera as the detector type (up to four mobile spaces, or two pull-forward spaces, or a combination of both can be monitored using a single camera). Three mobile spaces will be configured as follows.

- Under PROCESSOR: Select VPU (this is always the processor used with a camera).
- Under DETECTOR: Select the appropriate mobile number (if more than one space is used).
- Under DISPLAY NAME: Enter a descriptive name for the mobile space.
- Under DELAY: This sets the time the car must remain in the zone before it is detected and processed.

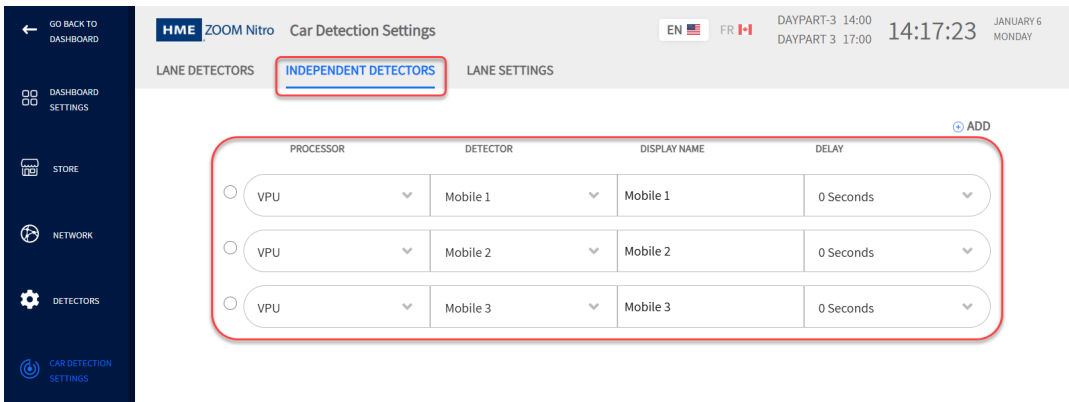


Fig. 7.16

Fig. 7.17 shows how these mobile spaces appear on the dashboard (the position shown here is horizontal; see Fig. 7.15 to change the position to vertical). The camera view shown in Fig. 6.4 has a car parked in the Mobile 2 space, which is reflected here on the dashboard.

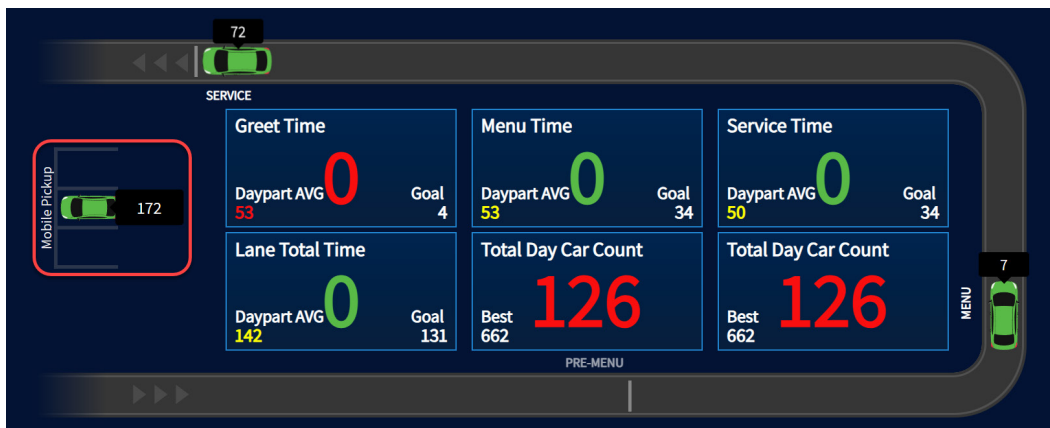


Fig. 7.17

Lane Settings

Fig. 7.18

What is this screen for? The Lane Total for lane events is set here. The Lane Settings screen lets you 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 as either two separate event totals within a Single Lane configuration or as the same event total for each lane when 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. 7.18). 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 default delay is 5 seconds, but the available delay range is between 0 and 120 seconds. Click in the field and use the pop-up keypad to change the delay as needed.

Advanced settings

Pullout & Pullin Settings: Pullouts are when a vehicle is detected entering the drive-thru lane, but is not detected at the last detection point. Pullins are when a vehicle enters the drive-thru lane after the menu detection point without being detected there.

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 7.18 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.

Lane Settings using Vision AI

If the customer wants to include Pre-Menu events as part of their lane total, use the drop-down lists to select: “Pre-Menu” in the START TOTAL field, and “Arrival” in the START AT field. See Fig. 7.19.

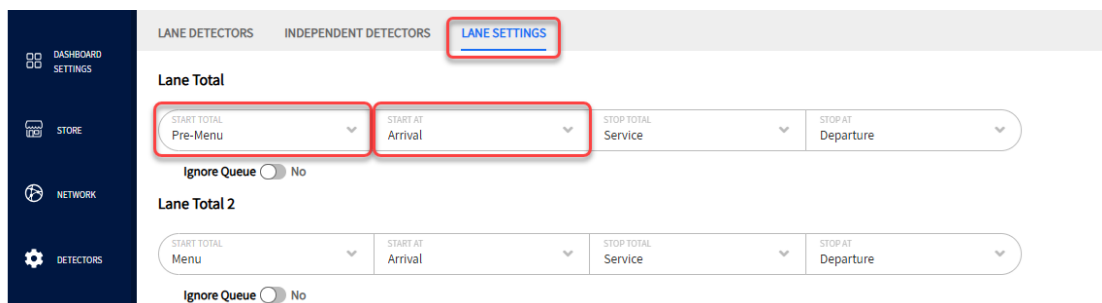


Fig. 7.19

Chapter 8 - Reports

Summary

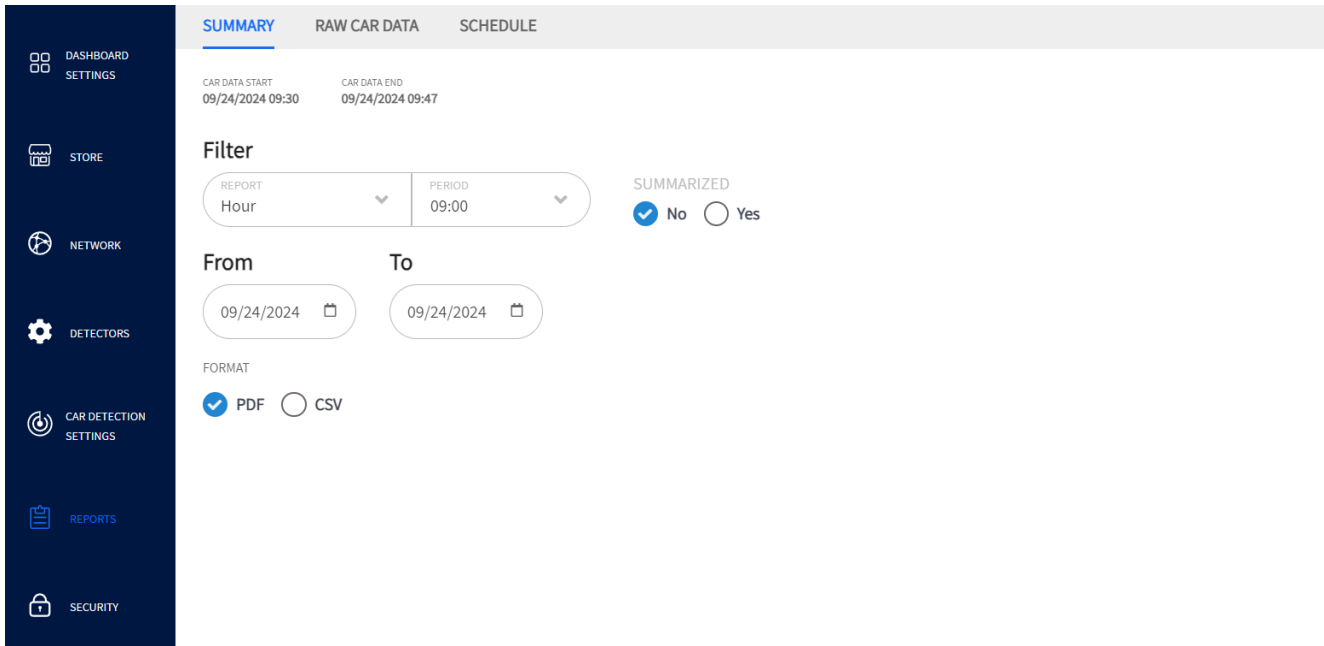


Fig. 8.1

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

Why is it needed? You may wish to analyze your measured events for specific time periods. 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 09:00 from September 24, 2024, to September 24, 2024.

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 periods.

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. Retrievable records depend on the time limits and available storage space. 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 72).

Raw Car Data

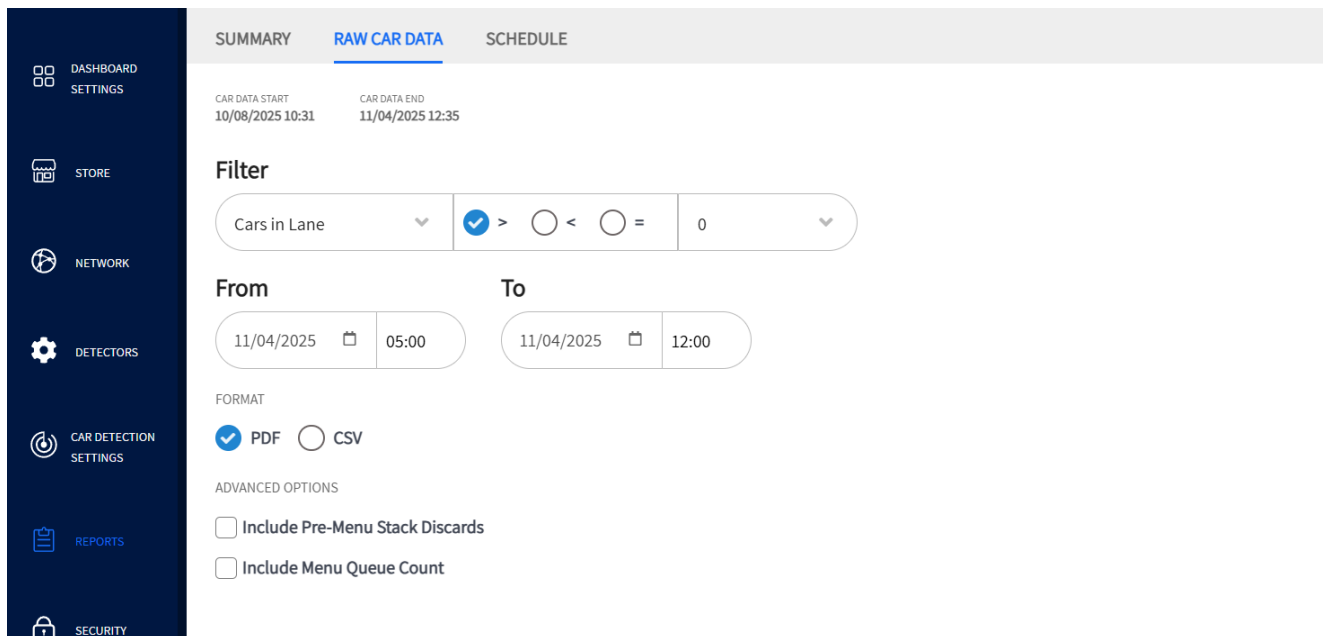


Fig. 8.2

What is this screen for? The Raw Car Data feature allows you to generate a detailed record for every vehicle that passes through the drive-thru lane. It enables the user to filter results by a location or event (selected 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. RCD (Raw Car Data) will also show mobile orders separately from lane-placed orders (and orders orders).

Example: Fig. 8.2 shows an RCD report for Cars in Lane greater than zero for the hours between 05:00 and 12:00 on November 4, 2025. PDF is the selected export format.

Include Pre-Menu Stack Discards: If using Vision AI, you can also choose to include Pre-Menu Stack Discards in your report. The default is off (do not include), so check the round checkbox if you wish to include the Pre-Menu Stack Discards.

Discards defined: If a vehicle is detected for only ten seconds or less, but not detected after this time limit, it is discarded by the system. For example, Vehicles driving through a parking lot may at times pass through or across a drive-thru lane. The system detects the vehicle, but because it had no intention of joining the drive-thru lane or ordering, the detection is not considered valid and is therefore discarded.

Include Menu Queue Count: Selecting this checkbox adds the menu's queue count to the metric selected in the Filter field.

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

Schedule

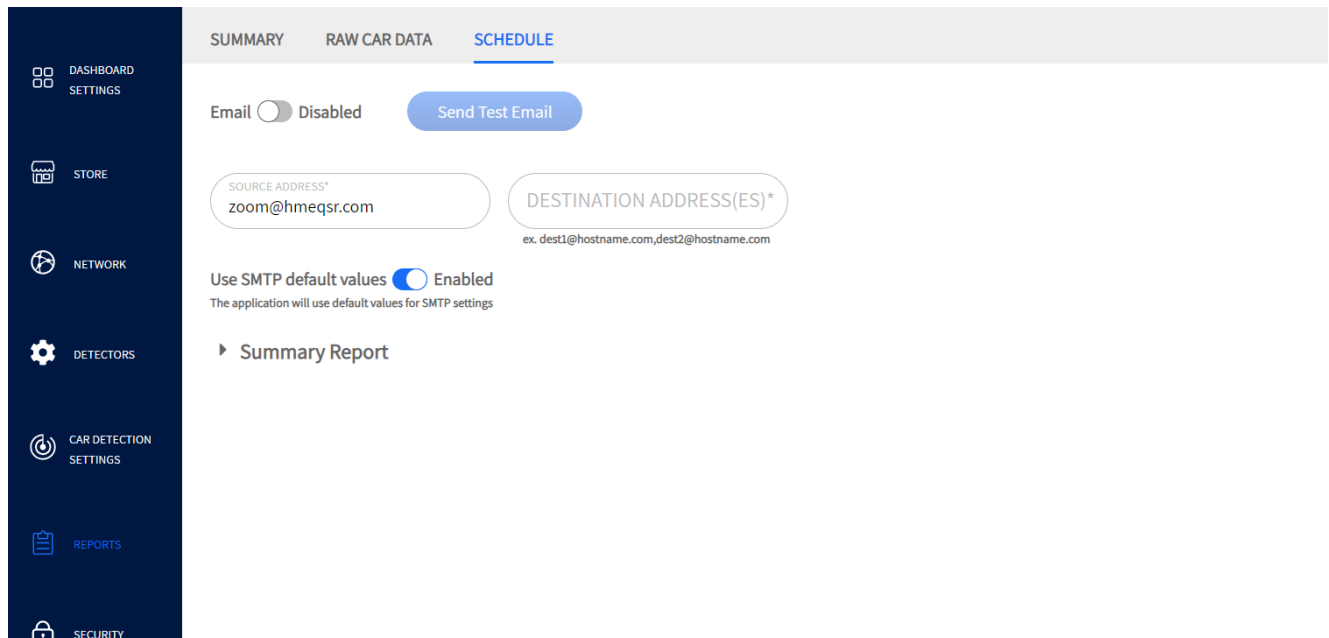


Fig. 8.3

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: The location to which the scheduled report is sent. 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 (assuming the standard SMTP server configuration). 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 when it is disabled.

Click on “**Summary Report**” to expand this option (see Fig. 8.4). 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. 8.4).

Use the “+” sign to the right of a field to expand for an additional row of options (e.g., the Hour option in Fig. 8.4).

▼ Summary Report

Hour Enabled

START 12:00 AM

END 05:00 AM

START 05:00 AM

END 10:00 AM

Send reports at the end of the day

Dayparts Disabled

START

END Breakfast

Send reports at the end of the day

Shifts Disabled

Early Morning Afternoon Evening

Send reports at the end of the day

Day Disabled

START Monday

END Sunday

Week Disabled

A report will be sent at the end of each week.

Week begins on:

DAY Monday

Month Disabled

A report will be sent at the end of each month.

Year-To-Date Disabled

A report will be sent at the end of each month with the accumulation of data from the beginning of the year through the end of each month.

Year begins on:



MONTH January

DAY 1

Cancel Save

Fig. 8.4

Chapter 9 - Security

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

Login

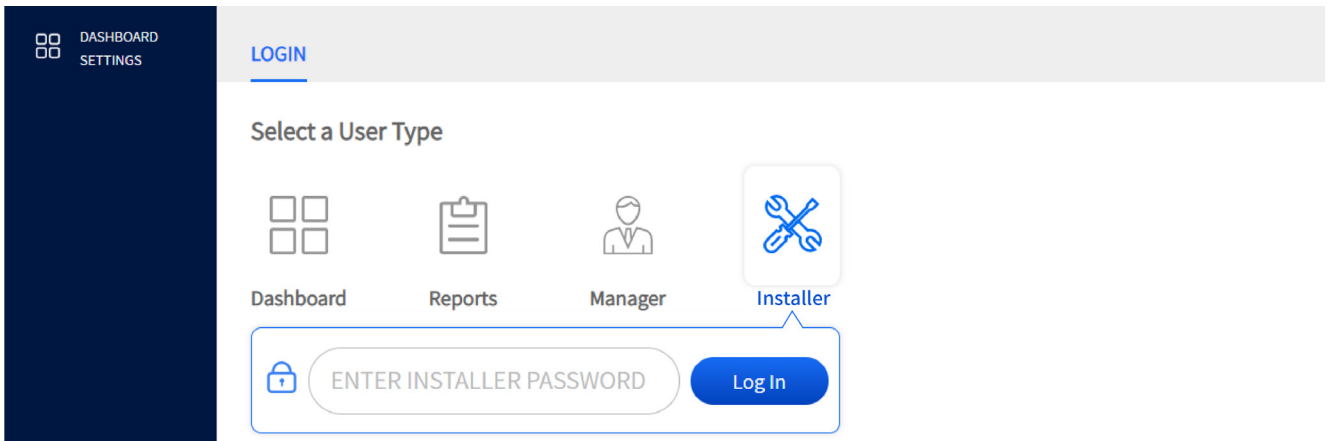


Fig. 9.1

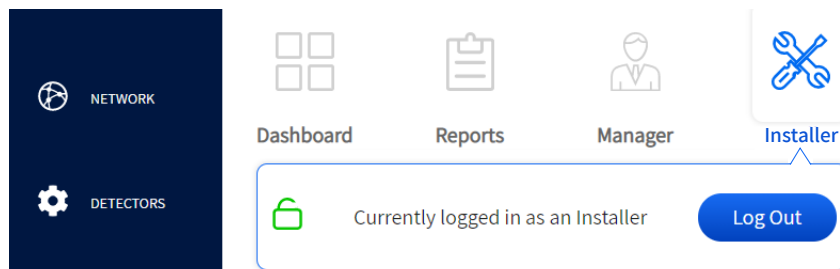


Fig. 9.2

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 to generate reports.

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

Installer: Allowed 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 “Log Out” 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.

NOTE: *If you need a temporary password to get started, call HME Technical Support at 1-800-848-4468. The system times out after 15 minutes of inactivity, and your temporary password is valid only for 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. Therefore, use this temporary password as soon as you receive 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.

Automatic Log Out: After eight minutes of inactivity, a dialog box appears with a three-minute countdown timer (Fig. 9.3). This dialog box prompts the user to select the option **Yes, stay logged in** or **No, log me out**. If neither option is selected, this timer continues to count down to zero, after which the system automatically logs the current user out.

NOTE: *If you have changed any settings but have not saved them, they will be lost if you are automatically logged out or if you choose the **No, log me out** option. Your settings will revert to the previously saved settings. Therefore, save your settings beforehand if you anticipate periods of inactivity.*

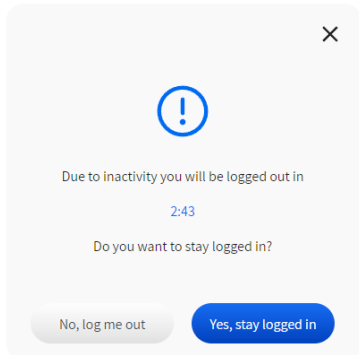


Fig. 9.3

Password

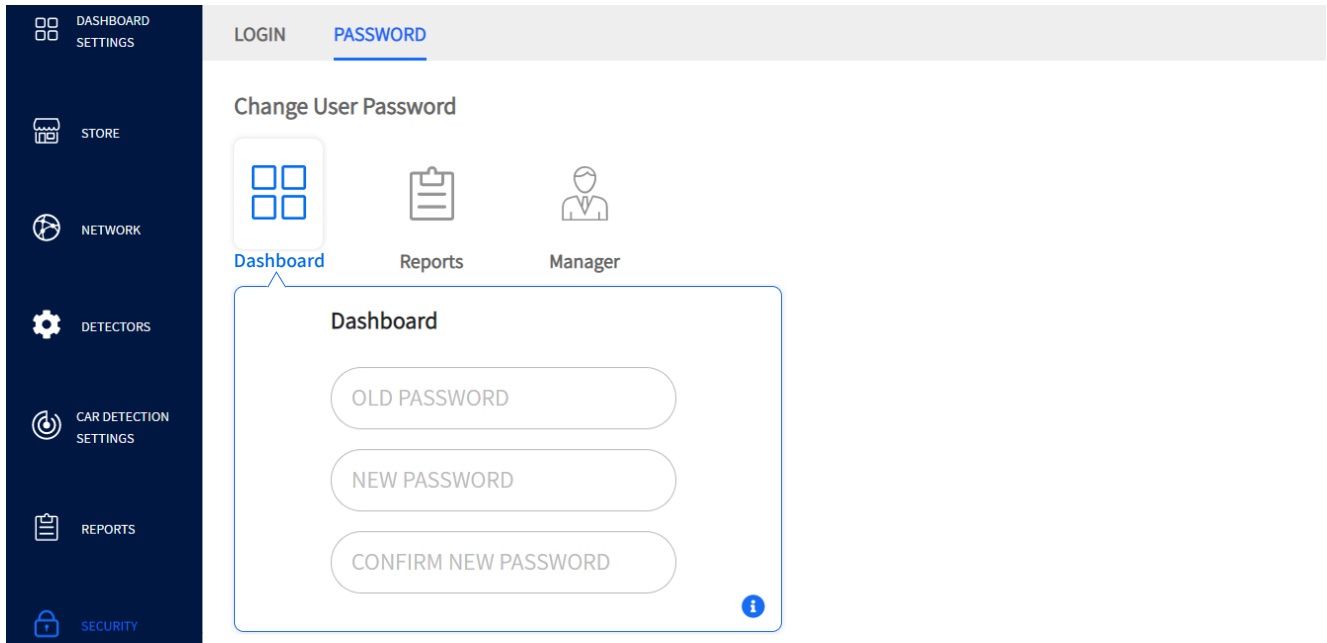


Fig. 9.4

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. 9.4, the Dashboard password screen is active.


Conditions: Passwords are assigned by the Installer and then by the Manager. Passwords must contain at least **eight alphanumeric characters**, containing a combination of all of the following:

- **at least one uppercase letter**
- **at least one lowercase letter**
- **at least one number**

See “NOTE” under “Login” on page 69 for information on receiving a temporary password if you need it.

Chapter 10 - System


Installer


Manager

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

Status

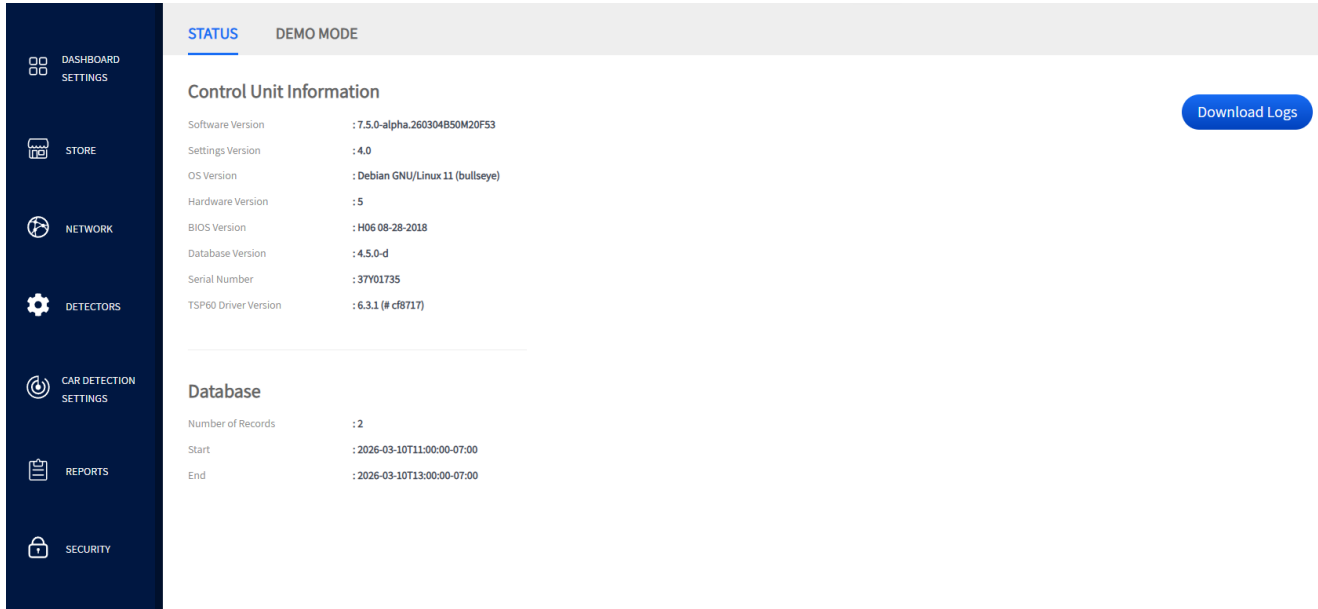


Fig. 10.1

What is this screen for? The Status screen 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 for troubleshooting or upgrading.

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 run continuously. The End date is the most current (if the system is running). The number of records stored is cumulative and depends on factors such as available storage space, maintenance requirements, etc.

The **Download Logs** button downloads system logs as a zip file and provides a history of system activity. End users do not use it, but it is primarily a troubleshooting feature for HME Technical Support.

Demo Mode

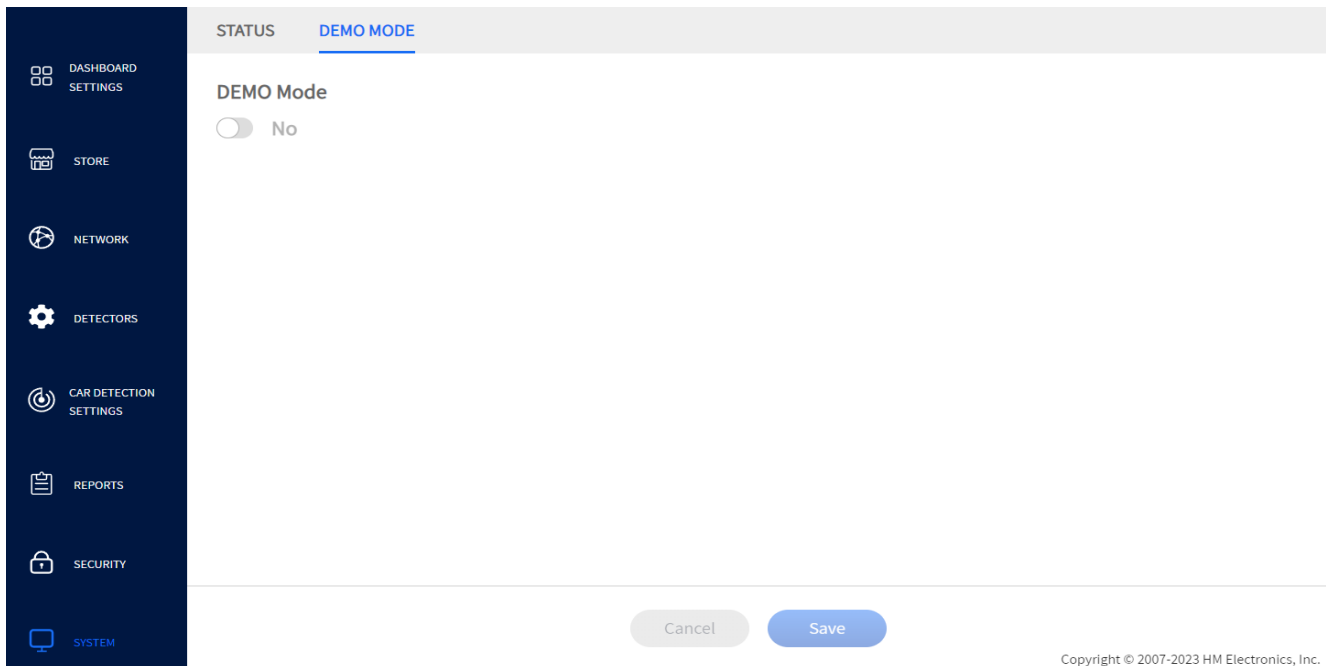


Fig. 10.2

What is this screen for? This is an installer-only feature. Demo Mode allows a customer to see a simulated drive-thru environment without having a complete physical system installed.

Why is it needed? It is primarily used for corporate labs and allows them to simulate a large volume of vehicles to populate their drive-thru, metrics, and reports with the simulated data generated.

Chapter 11 - Help

If the help provided in this section is not sufficient, please get in touch with 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

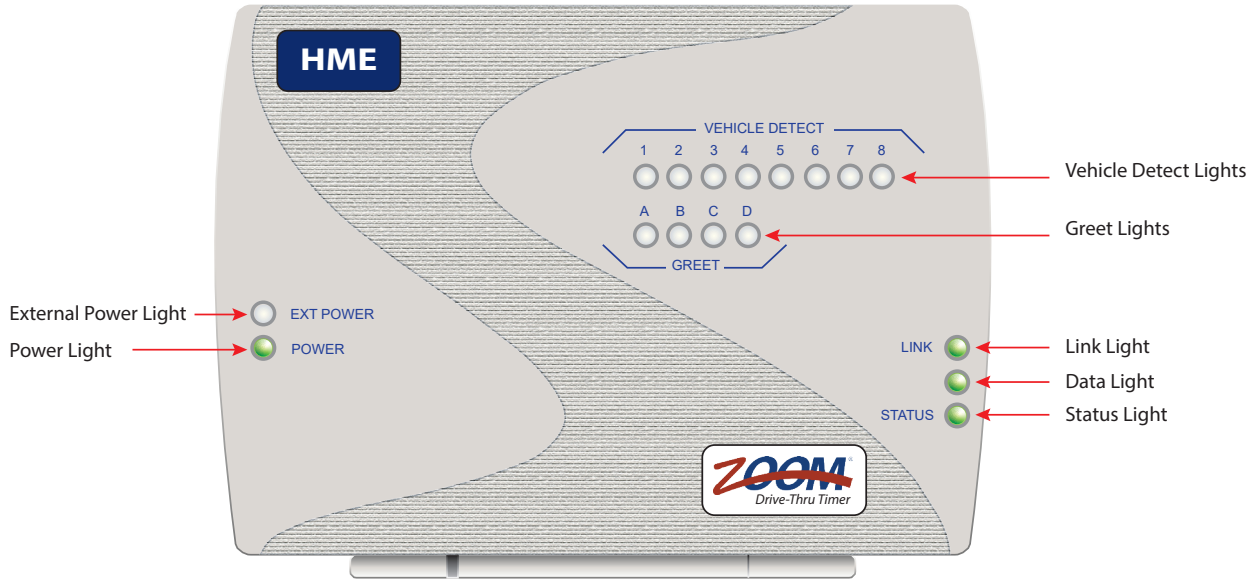


Fig. 11.1

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

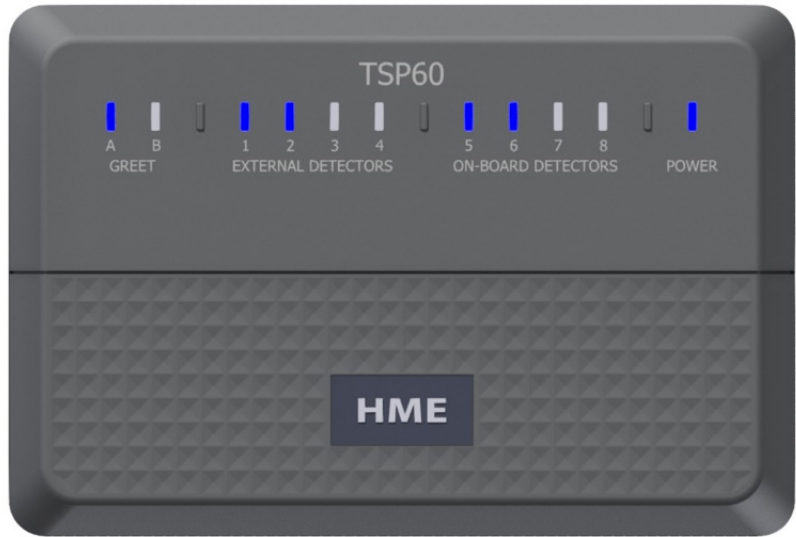


Fig. 11.2

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. Fig. 11.3 shows how to open the TSP60. 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.

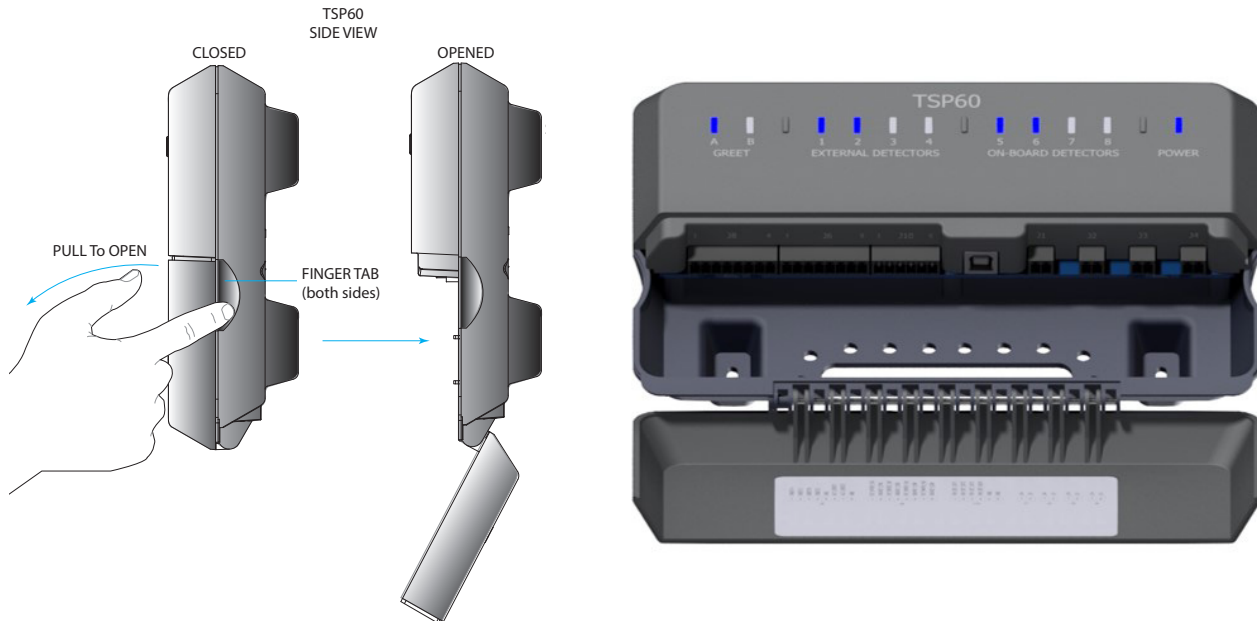


Fig. 11.3

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 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, is generally followed by the model number (e.g., CU60 is CU 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.

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 enables 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 20 or “Data Sections - Example 2” on page 23.

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.”

Delay: This is the amount of delay time set at a detection point before vehicle detection begins and is processed.

Detector/Detection Point: A location, generally in a drive-thru lane, where a vehicle’s presence is sensed by a loop or other detection hardware such as a camera. 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 standalone detectors. E.g., a mobile pickup or wait area.

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.

Discard: This is the minimum amount of time a vehicle must be present at a detection point to be treated as valid. Anything under this time is an invalid detection and is discarded. It is used to eliminate false triggers such as those caused by a passing vehicle.

DNS Server: Domain Name System Server is a directory of domain names and their corresponding Internet Protocol (IP) addresses. This is the Internet's equivalent of a phone book.

Drive Off: This is when a vehicle is in line to order (pre-menu) but then decides to leave or drive off before placing an order. This can be due to long wait times or a change of mind.

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

Extended Stack: If your system has a Vision AI camera set up to capture the Pre-Menu and Pre-Menu Stack zones in a drive-thru lane, Extended Stack uses another dedicated camera to capture vehicles further back in the lane before they enter the Pre-Menu Stack camera's field of view.

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. As a computing term, the cloud 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/Mobile Lane: two entry point detectors and one exit point detector.
- Dual Lane type: two entry point detectors and two exit point detectors.
- Tandem Lane: one entry point, with two in-line ordering points 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.

MAC Address: (Media Access Control Address) is a unique identifier for a device on a network. It's a 12-digit alphanumeric attribute that is usually found on the device network interface card (NIC). It ensures that data packages reach the correct destination.

Menu Stack: This is a Vision AI feature. It is the default cosmetic label choice used for the drive-thru lane graphic displayed on the dashboard. It combines the "Pre-Menu" and "Pre-Menu Stack" labels into a single label for a simplified layout. Technically, it is the sum of the Pre-Menu Stack, Pre-Menu, and Menu Queue (Menu Queue is the space between the Pre-Menu and Menu).

Mobile Pickup: A designated or reserved parking space or stall in the customer parking lot for mobile orders placed using a smart device. 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).

Nitro Vision AI: Is a newer technology using cameras that allows vehicles to be detected, identified and tracked through a drive-thru environment or designated spaces used for pull-forward, curbside or mobile pickup orders.

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

Pick-Up Zones: These are zones supported by Nitro Vision AI. They can be either mobile spaces or pull-forward spaces or a combination of both. The system can support a maximum of eight mobile spaces (four per camera) and two pull-forward spaces.

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.

Pre-Menu: A Nitro Vision AI term, this is a detection point where a car next in line is waiting to order. It is located just before reaching the menu ordering point.

Pre-Menu Stack: A Nitro Vision AI term, this is an area behind the pre-menu where customers queue but can potentially exit the area and drive off if they decide not to wait.

Pullin: A vehicle that enters the drive-thru lane after the menu detection point without being detected at the menu detection point.

Pullout: A vehicle is detected entering the drive-thru lane, but is not detected at the last 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. A Pull-Forward window is a window on the building rather than a space separate from the lane. The Pull-Forward window detection point is physically located after the last window in the lane.

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.

Registration Key: This is unique identifying key generated when a new store is initiated by the sales department. It allows HME products to be linked to a specific store ensuring easier installations with reduced errors.

Report: A generated document that compiles a specific set of data or measured events for a specified period of time. It 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.

Statistical Summary: This is a dashboard section pane which shows the selected summary data for the current Hour, Daypart and Day periods.

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, unless otherwise specified.

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.

VPU: Video Processing Unit is a specialized electronic device used for processing image and graphical data intended for output to a display device.

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, including QSRs or stores with drive-thru lane environments.

Chapter 12 - Specifications

CU60

Dimensions	4.33" x 4.57" x 1.93" (110 x 116 x 49 mm)
Power Supply	12 V, 60 W, AC Adapter, US Power Cord
Chipset	Intel® Celeron® N2930 1.83 GHz, 2.16 GHz Burst Quad-core SoC
Memory	4 GB total memory, Low Voltage 1.35 V Required
Storage	128 GB mSATA Solid State Storage
LAN	Realtek RTL8119I GbE
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 °C, Storage Temperature -20 – 85 °C

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

NOTE: For specifications regarding other components like the monitor or cables, please reference the OEM (Original Equipment Manufacturer) documentation.

Chapter 13 - HME CLOUD

The HME CLOUD offers many resources not available through the ZOOM Nitro dashboard. This section covers features generally used via the HME CLOUD.

Snapshots

Snapshots let you save your settings so you can use them again or transfer them to other devices. They also serve as a backup in case settings are accidentally changed or lost.

To Create a Snapshot

1. When you first log in to the HME CLOUD portal, you are greeted with the WELCOME page.

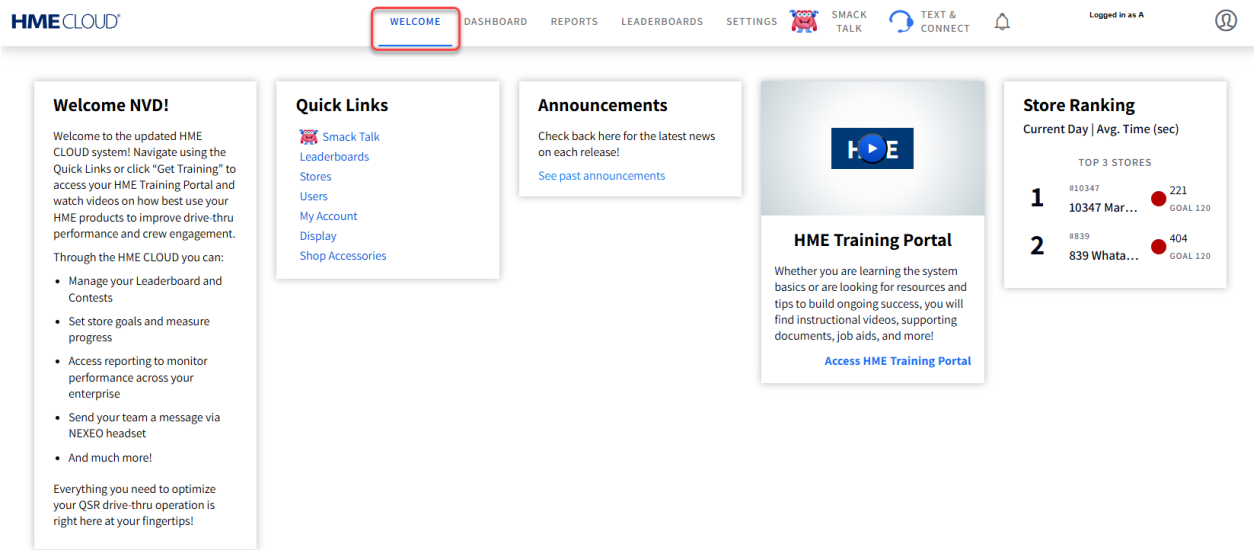


Fig. 13.1

2. Tap/click on the SETTINGS tab.

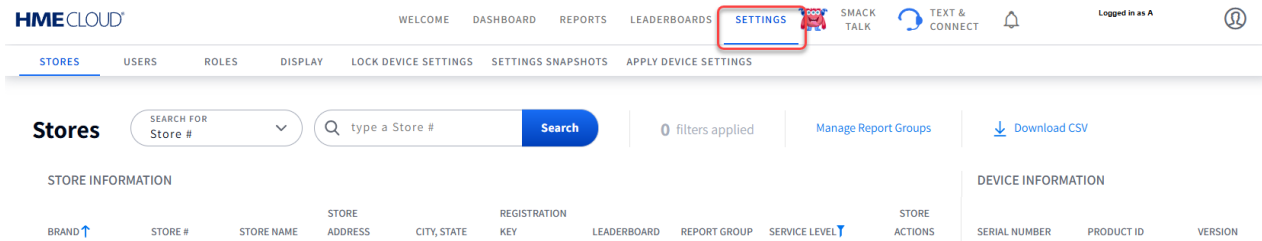


Fig. 13.2

3. Tap/click on the SETTINGS SNAPSHOTS tab on the lower menu bar and then tap/click on the Create Snapshot button.

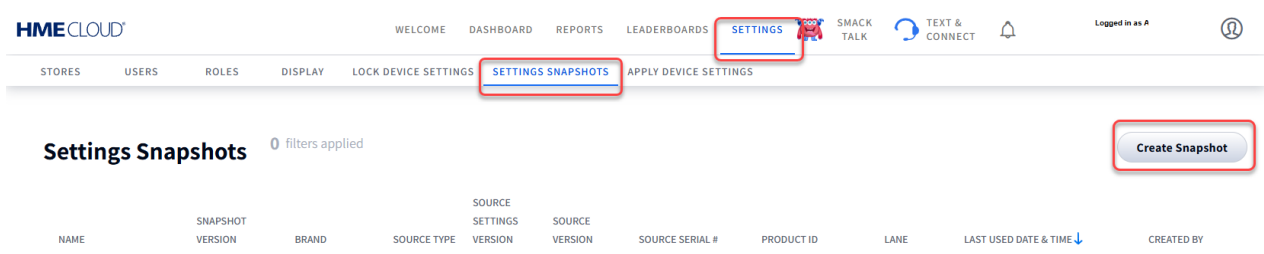


Fig. 13.3

4. Populate the Create Snapshot dialog box that appears. You will be prompted if any fields are not correctly populated. Tap/click the Create Snapshot button on the lower right to save your snapshot.
5. Your new snapshot will appear on the Settings Snapshot page (shown here behind the dialog box).

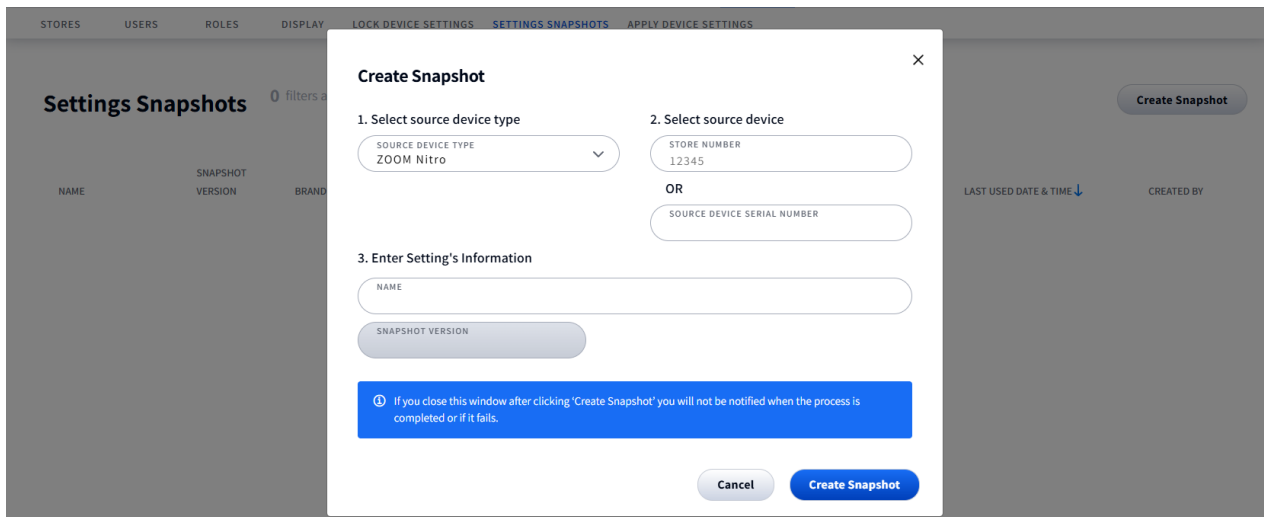


Fig. 13.4

To Apply a Snapshot

1. From the SETTINGS page, select DEVICE SETTINGS from the lower menu bar.

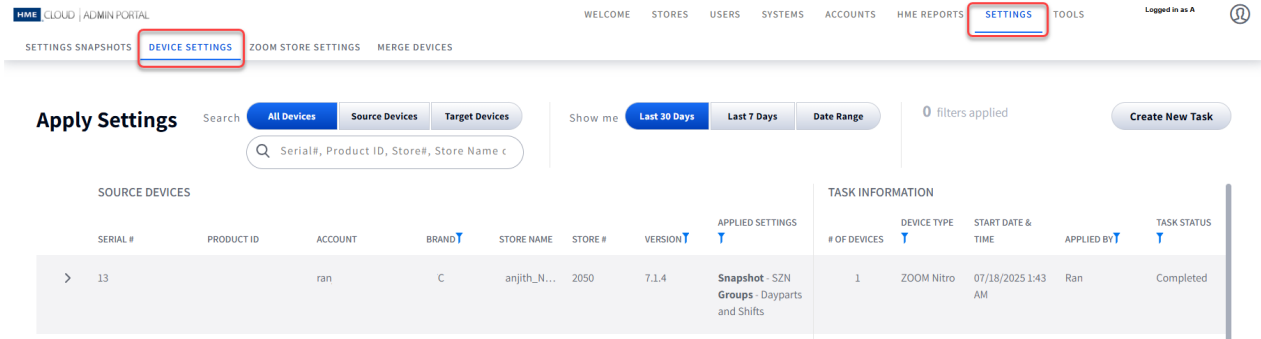


Fig. 13.5

2. Tap/click on the Create New Task button on the right.

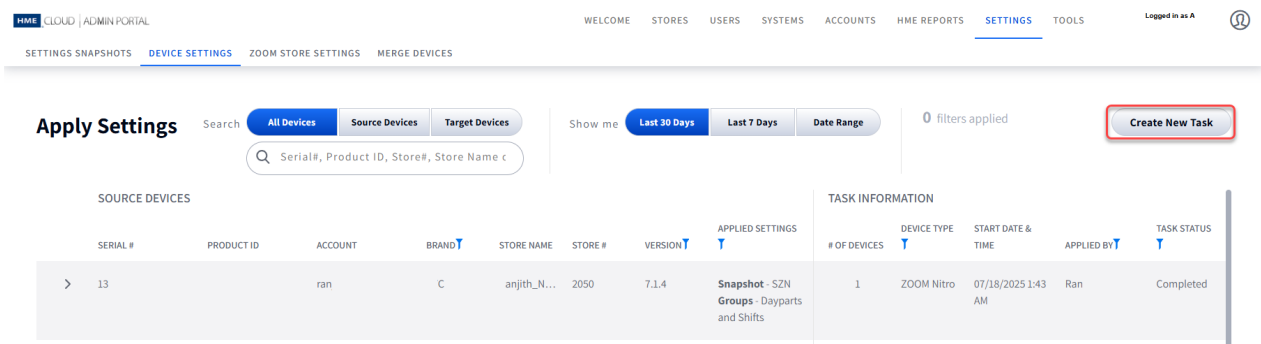


Fig. 13.6

3. This will open the Create New Task page. Select your DEVICE TYPE (ZOOM Nitro in this example).

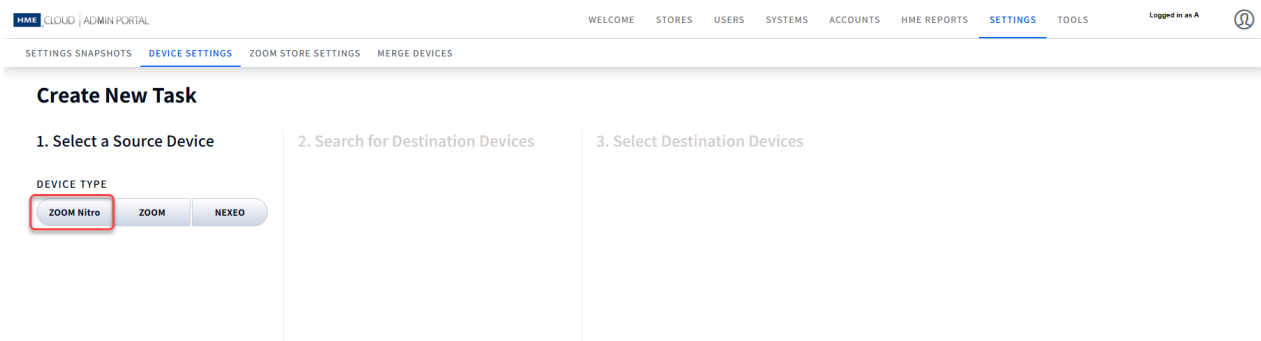


Fig. 13.7

4. Another option will appear. Choose a SELECT BY option (Settings Snapshot in this example).

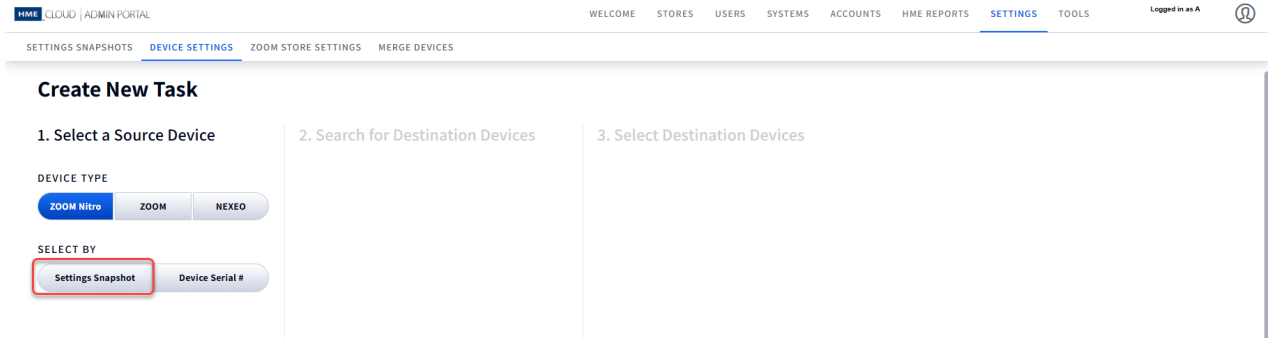


Fig. 13.8

5. If you know the snapshot filename, you can enter it directly into the SNAPSHOT field (Fig. 13.9). Or, beneath the field, you can tap/click the **Select a Snapshot** option to open a list of available snapshots (Fig. 13.9).

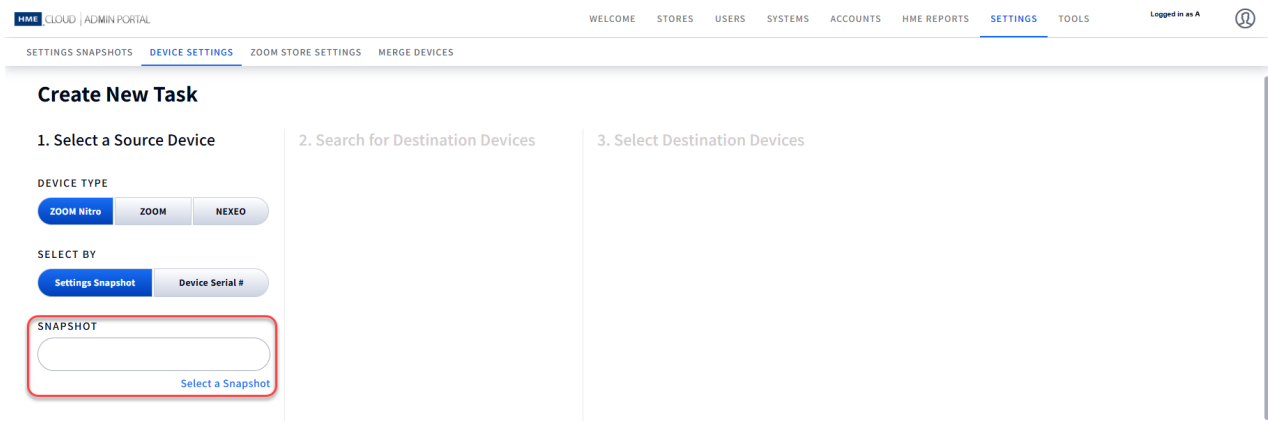


Fig. 13.9

6. Tap/click the Select option at the end of the row to choose the Snapshot you wish to apply.

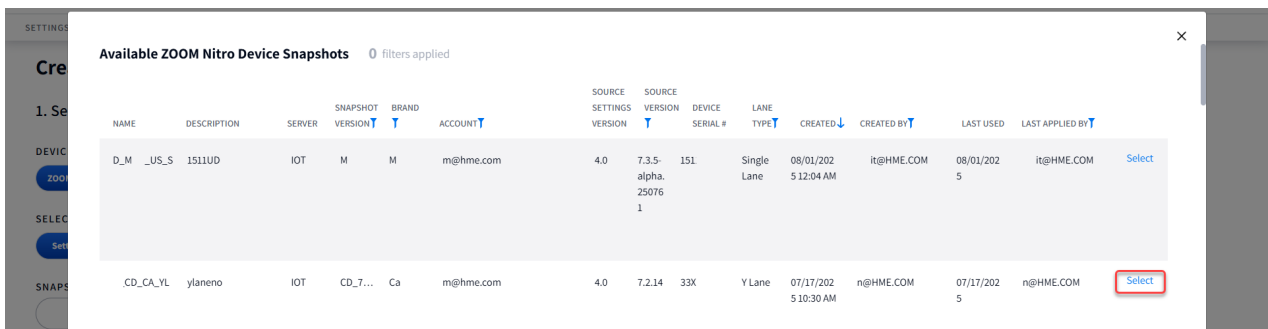


Fig. 13.10

7. The SNAPSHOT field populates with the new selection. The green checkmark indicates the selection is valid. Next, select from the CHOOSE DEVICE SETTINGS TO APPLY option.
 - All Settings: This option selects and applies all the listed settings.
 - Groups of Settings: This option lets you select individual settings from the list. (The Groups of Settings option is selected in this example.)

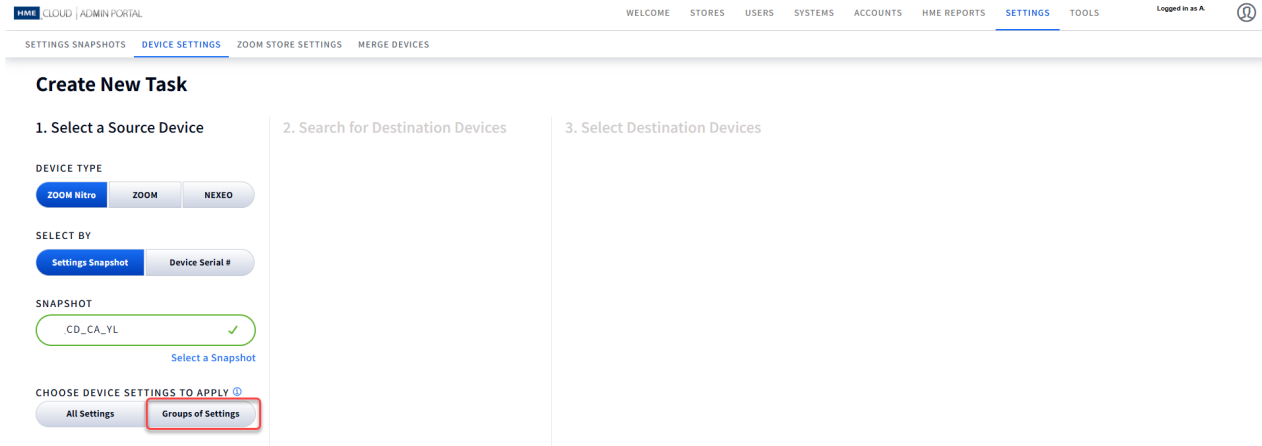


Fig. 13.11

8. The Settings options appear. Check the box of the settings you wish to apply. (Store Hours is selected in this example.)

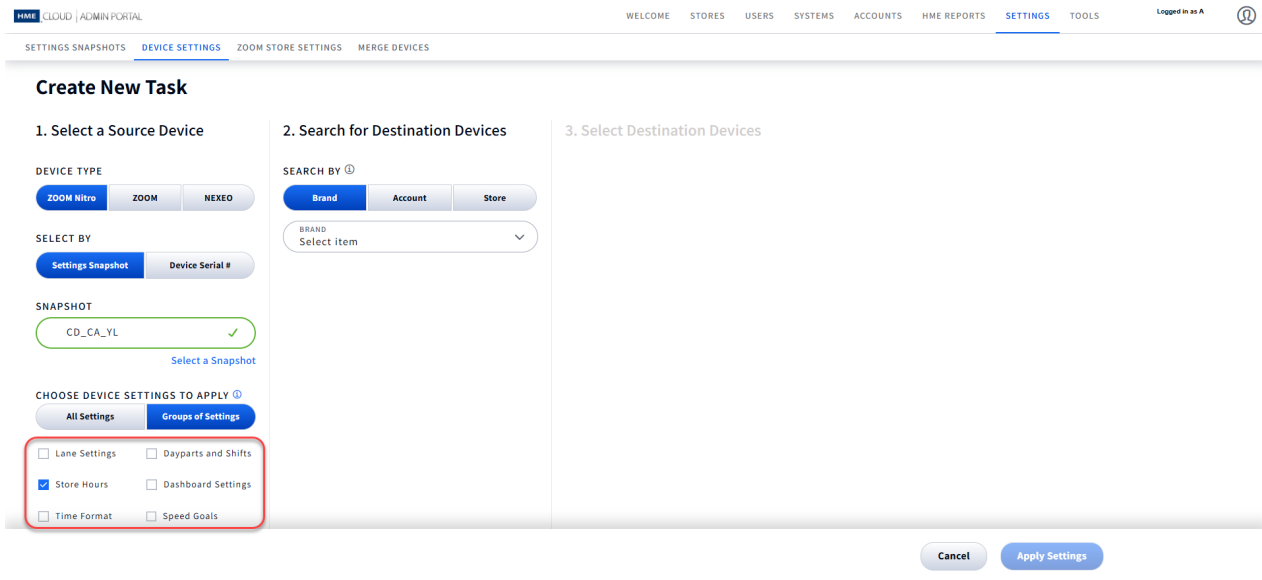


Fig. 13.12

9. All the listed settings in Fig. 13.12 are configured through the ZOOM Nitro dashboard. Here is a brief description of each of the settings.

Lane Settings: Sets your lane layout and what is displayed on your dashboard. Your Lane Settings are configured here. This feature is found under the Dashboard Settings and Car Detection Settings menu options.

Store Hours: Sets the times your store is open or closed. This feature is found under the Store menu option - Hours tab.

Time Format: Sets the Time Zone for your location, 12 or 24-hour format, and Minutes or Seconds time format. This feature is found under the Store menu option - Date/Time tab.

Dayparts and Shifts: Sets the daypart and shift periods. Dayparts are part of the day you can break into smaller segments, whereas Shifts are blocks of time normally attributed to employee work periods. This feature is found under the Store menu option - Dayparts/Shifts tab.

Dashboard Settings: Sets your general layout and what is displayed on your dashboard. Your lane Settings and Data Sections are configured here. This feature is found under the Dashboard Settings menu option.

Speed Goals: Sets time goals using adjustable thresholds. It enables you to monitor and motivate performance. It uses color codes for goals underperforming, on target, and exceeding expectations. This feature is found under the Store menu option – Speed Goals tab.

These features are explained under their relevant chapters in this guide.

- You now must select a destination device to apply your settings. This is done in column 2. Select from the SEARCH BY drop-down list (Brand is selected in this example).

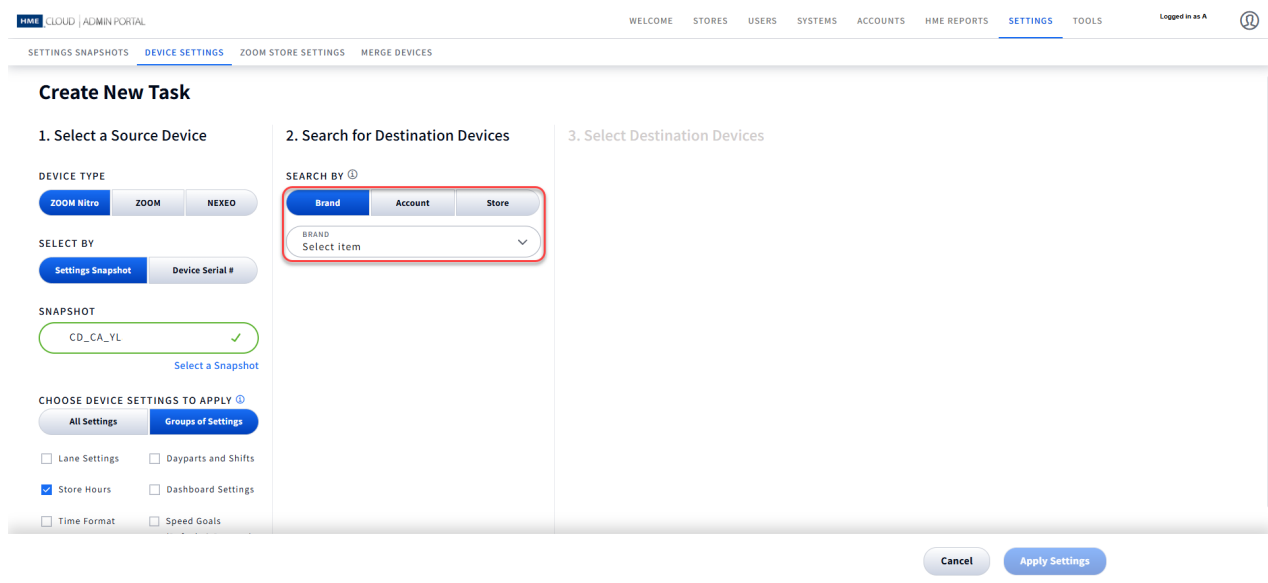


Fig. 13.13

- Once the SEARCH BY fields are populated (Ca (for Brand) and US (for Country) in this example, see Fig. 13.14), column 3 will appear to the right, listing all available destination devices. You must now check the boxes for all the devices you wish to apply your settings to.
- Once a box is checked, the Apply Settings button at the bottom right becomes active. Tap/click to apply.

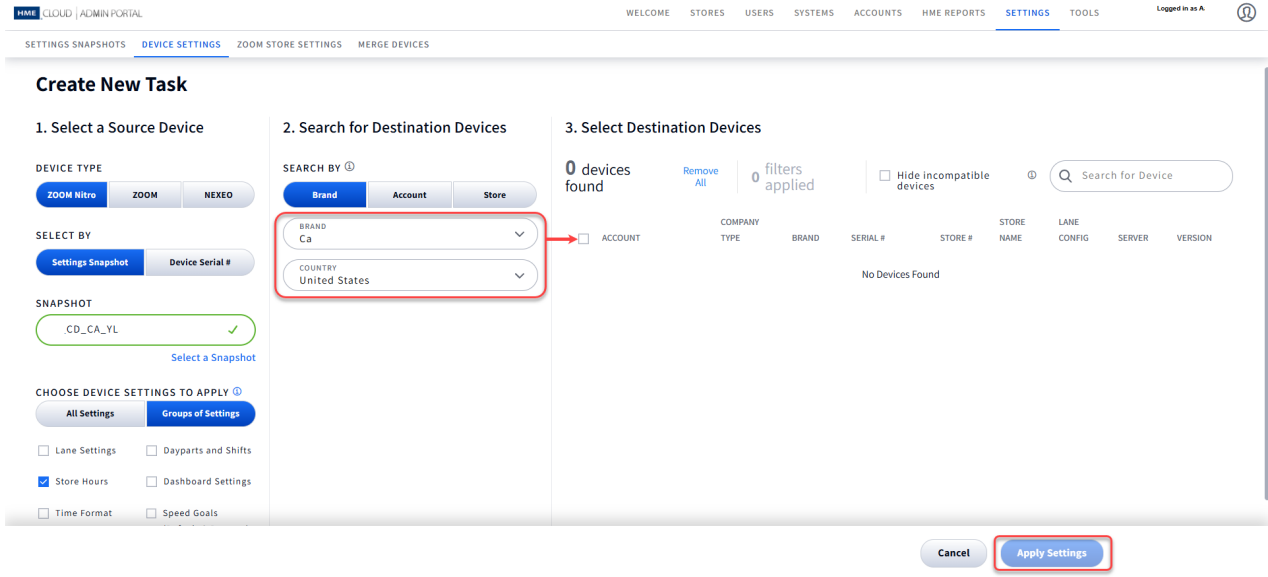


Fig. 13.14

Lock Device Settings

Locking settings is a new feature that allows the administrator/account owner the ability to lock settings on ZOOM Nitro for any or all of your stores via the HME CLOUD.

1. Once you log in to HME CLOUD, click/tap on the SETTINGS tab.
2. Click/tap on the LOCK DEVICE SETTINGS tab.
3. The blue and red buttons allow you to lock/unlock all stores with one click. But to be more selective and only lock certain stores, check the box to the left of any listed store to lock it. The SETTINGS STATUS field will change from unlocked to locked. Uncheck the box to unlock.
4. Save your selection.

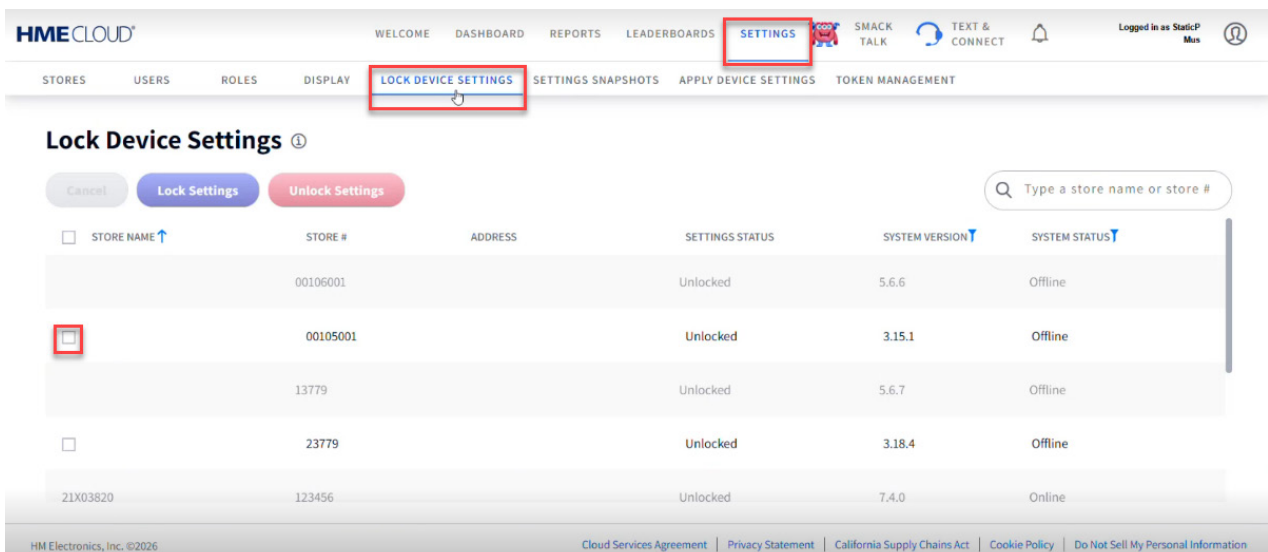


Fig. 13.15

When this feature is applied to a store, the settings that are locked are:

- Dashboard Settings - Locked
- Store
 - Dayparts/Shifts - Locked
 - Speed goals - Locked
 - Car Count goals - Locked
- Detectors
 - TSP - Locked
 - Camera - Locked
- Security
 - Password - Locked

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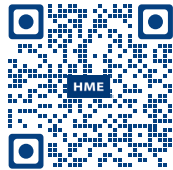
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- ZOOM Nitro Vision AI 14



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