



AutoPilot Truck Bed Concierge



Owner's Manual

Sonny's Enterprises, Inc.
5605 Hiatus Road
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15v1



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WARNING *SAFETY REQUIREMENTS* WARNING

1. All employees must be thoroughly trained in safe operation and standard maintenance practices. All employees must review this entire manual monthly.
2. Do not enter the wash tunnel when the equipment is operating. Death or dismemberment may occur.
3. Do not wear loose fitting clothing or jewelry around moving equipment. Do not allow any part of your body or other objects (including ladders, hoses or tools) to come in contact with moving equipment. Entanglement may result causing death or dismemberment.
4. Do not leave a ladder or any other items such as wash down hoses or tools in the wash tunnel while equipment is running. Vehicle damage and injury, including death, can occur.
5. Always exercise caution when walking (never run) through the wash tunnel as there may be slippery conditions. Be careful so you do not bump into or trip over equipment.
6. Only those employees specifically instructed and trained by the location management are permitted to enter the wash tunnel to perform inspections or maintenance. At least two qualified maintenance people must be present when performing equipment repairs or preventive maintenance.
7. Do not perform any maintenance or work on equipment unless you first perform Lock-Out Safety Precautions. All electrically powered equipment must have manually operated disconnects capable of being locked in the "OFF" position. Equipment that has been "locked out" for any reason must be restarted only by the person who performed the "lock out" operation.
8. When working on any equipment that is higher than your shoulders, always use a fiberglass ladder that is in good condition.
9. Do not attempt to repair or adjust any pressurized liquid or pneumatic part, hose, pipe or fitting while that equipment is in operation.
10. Electrical connections and repairs must be performed by a Licensed Electrician Only.
11. Emergency "STOP" buttons must be well marked and their location and proper use reviewed with all personnel. Any activated "STOP" button must be reset only by the person who activated it. Clear the wash tunnel of any people, ladders, hoses, tools and other loose items before restarting the equipment. An audible device must sound to warn people that the equipment is starting.
12. Do not operate any piece of equipment that requires safety covers with those covers removed or improperly installed. Do not operate any piece of equipment if any component of that piece is suspected to be defective or malfunctioning.



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13. Store all cleaning and washing solutions and oils in a well-ventilated area. Clean up fluid spills immediately to prevent hazardous safety conditions. Be certain to follow all safety procedures on MSDS Sheets for each chemical product used.
14. All hydraulic and electric systems in the wash tunnel equipped with a torque relief or overload should be checked and set at the minimum amount that will allow for proper functionality under normal washing conditions.
15. No unauthorized people should ever be permitted in the wash tunnel or near the equipment at any time.

* * *

!! CAUTION !!

When a piece of equipment must be in operation during inspection or maintenance, one qualified technician must stay at the power disconnect switch while another qualified technician performs the inspection or maintenance.



INTRODUCTION

This Owner's Manual contains information that is vital to the successful installation, operation and maintenance of your SONNY'S AutoPilot vehicular control equipment.

Please read, and understand, the full contents of this manual before installation and operation of the equipment. Keep this booklet in a location where it may be used for ongoing reference.

Should you have any questions on the operation or servicing of this equipment please contact

**AUTOPILOT CARWASH CONTROL SYSTEMS
SONNY'S ENTERPRISES INC.
5605 Hiatus Road
TAMARAC, FLORIDA 33321
TELEPHONE: 800-876-3900 FAX: 954-721-7677**

THANK YOU FOR YOUR CONFIDENCE IN SONNY'S !!!!!





GENERAL OVERVIEW

OVERVIEW

The Truck Bed Detector System's intended use is to interrupt functions when a truck bed is detected. Ultrasonic technology is used to profile vehicles and safely control tunnel equipment.

FEATURES

Automatically detects open truck beds

Interrupts functions such as: Chemical Arches, Top Brushes, Top Air Dryer Nozzles

Controls up to 16 functions per system

Able to be monitored and be operated remotely

Totally configurable

UL Listed



INSTALLATION

INSTALLATION

The Truck Bed Detection System is intended to be mounted inside the equipment room. Locate the system on a stable wall with sufficient access to it.

POWER REQUIREMENTS

The system requires a dedicated 120 VAC (15 A) Branch Circuit Protection provided by the customer.

The system output relays contacts are UL rated 15 A / 277 VAC and 15 A / 28 VDC.

INPUTS

The **120 VAC input** power is connected to a 24 VDC power supply to power the system Source Controller.

All inputs are wired N/O Circuit.

The **Conveyor Input** is required when operating the System.

The **Pulse Input** is required to operate the system in the 3 different modes.

The **Simulated Pulse** is available **BUT** will not adjust when conveyor speed is changed

The **Ultrasound Sensor Input** is required when operating the system and should be mounted at a minimum of 100 inches from floor surface.

OUTPUTS

Each function can be wired independently through a N/C circuit.

Functions **Output Relay** are turned on based on their configuration.

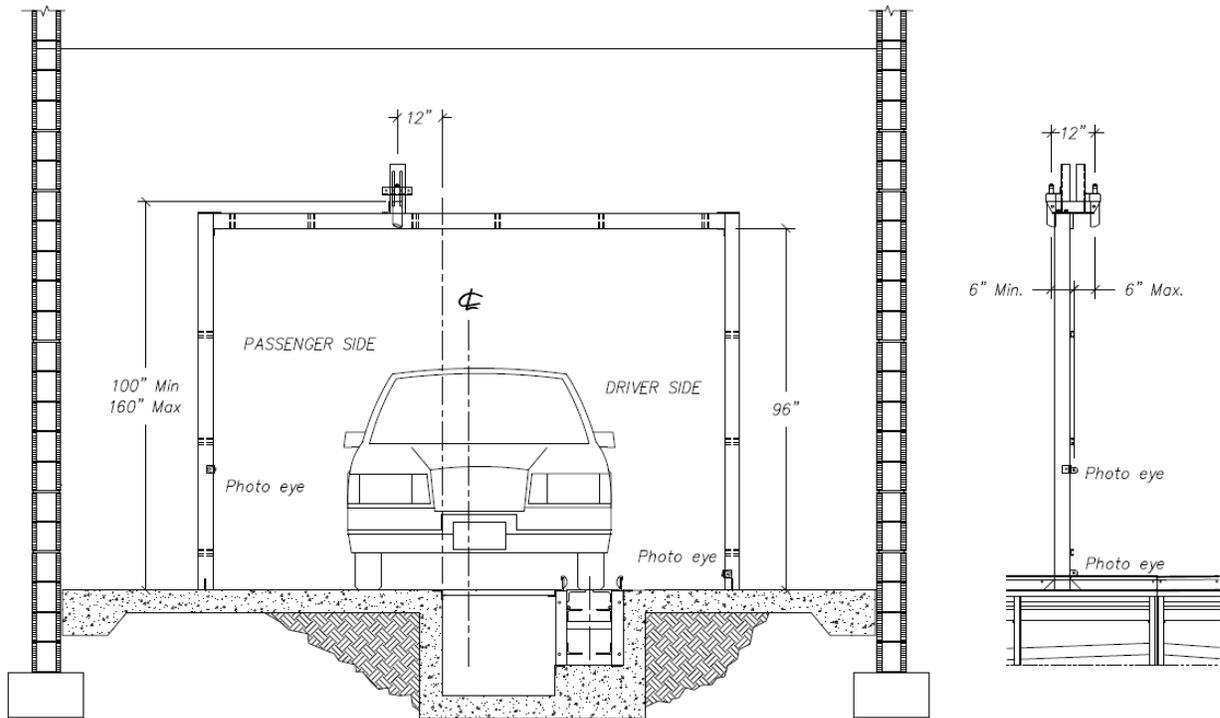
Functions can be manually overridden by using the **Override Latch** on the relays or the **HMI Interface** screen.

FIELD WIRING

Input wiring connections are done to the specifically labeled **Terminal Blocks**.

Output wiring connections are done directly at the corresponding **Function Relay**.

ULTRASOUND SENSOR



INSTALLATION

The sensor will be mounted in the same area as the entrance photocell.

The sensor is required to be mounted with enough room for open bed detection prior to any equipment it is controlling (approximately 4 feet from equipment location).

Mount the sensor between 100 inches and 160 inches off the finish floor on the passenger side approximately 1 foot from the conveyor pit.

The sensor **MUST** read a solid flat surface. If it is over the conveyor pit, the pit must be covered with a solid plate.

NOTE: If the ultrasound cable needs to be lengthened, It MUST be a shielded cable with the connection soldered.

SETUP

After mounting the ultrasound sensor, the customer needs to teach the sensor where the floor is located.

1	<p>Press the Teach button for 3 seconds (Gray circle).</p> <p>The green led will start flashing green meaning that the sensor is ready to learn the floor distance.</p>	
2	<p>Once the green led is flashing press the Teach button twice (gray circle). The green led will return to solid green again.</p> <p>NOTE: If the green led starts flashing again then step 2 needs to be repeated.</p>	

PULSE SWITCH

INSTALLATION

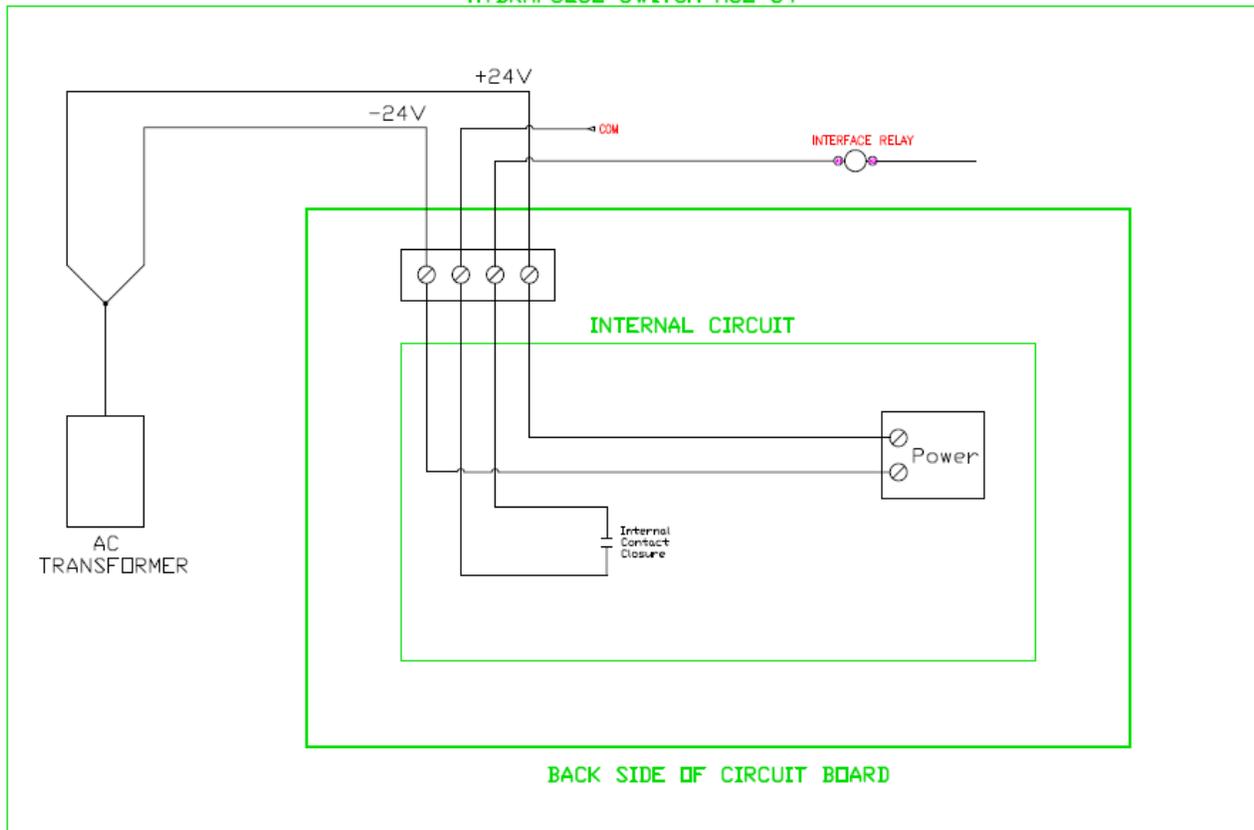
The pulse switch will be used to profile the vehicle length, position throughout the tunnel, and the truck bed length.

- The pulse switch is required to have a resolution of 10 inches/ pulse or less.

ACE-84 PULSE SWITCH SETUP

- If using a Hydrapulse Switch ACE-84, an interface relay needs to be installed.

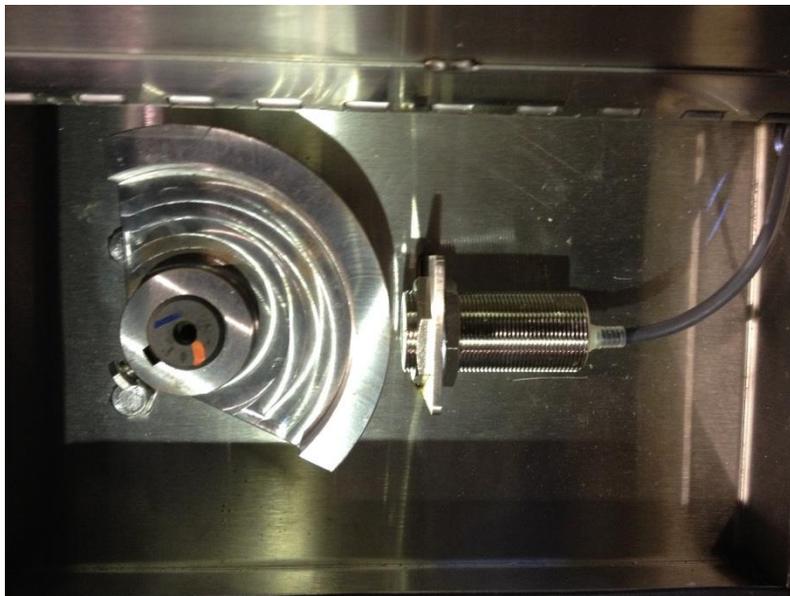
HYDRAPULSE SWITCH ACE-84



ICS PULSE SWITCH SETUP

- If using an **ICS pulse switch** follow the instructions below:

NOTE: the Omron proximity sensor used by ICS is a NPN signal sensor. The proximity sensor switches the 0 VDC through the black wire.



- ✓ Proximity sensor wires:
 1. Brown Wire: +24 VDC
 2. Blue Wire: 0 VDC
 3. Black Wire: Negative Signal
- ✓ If the **ICS pulse switch** is intended to be used with the **AP Truck Bed Concierge system**, The **+24 VDC** (brown wire) needs to be connected in the terminal labeled **PULSE** and the **signal** (black wire) needs to be connected in the terminal labeled **NT1**. Those two wire are used to power the 24 VDC or AC interface relay coil labeled **PULSE** inside the **AP Truck Bed Concierge system**.

DRB PULSE SWITCH SETUP

See page 27



INTERFACE & PROGRAMMING

MAIN SCREEN

This is the **MAIN** screen that will be displayed when the unit is powered up.



NOTE: The system will reboot and default to AUTO Mode, in case of a power loss.

LOGIN SCREEN

The **LOGIN** screen allows the user to enter the system and change/set all user related parameters and navigate through the different displays.

Step	Action	Screen Display
1	<p>To login to the system, press on the SONNY'S logo.</p> 	
2	<p>Press on the Name field, The KEYPAD will appear.</p> <p>Remember, these fields are case sensitive. Press the Cap button to change to lowercase (Green light will disappear).</p> <p>Type in the default Name: NAME: user</p> <p>Press the Enter key.</p> <p><i>Press on the Password field.</i></p> <p>Type in the default Password: PASSWORD: user</p> <p>Press the Enter key.</p> <p>Click the UNLOCK icon </p> <p>Click the HOME button. </p>	 <p>Press the Esc key at any time to escape out of the Keypad.</p>

PASSWORD CHANGE SCREEN

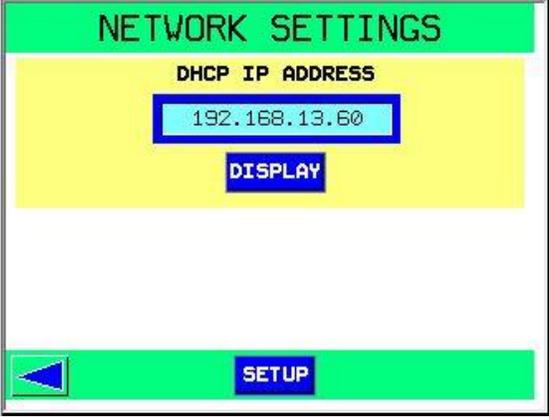
The **PASSWORD CHANGE** screen allows the user to change the default password to use your own password.

Step	Action	Screen Display
1	<p>Press the SONNYS logo.</p>  <p>At the login screen, press the next page button</p>  <p>The PASSWORD CHANGE Display will appear.</p> <p>NOTE: The NEXT PAGE Button is to reset user password. You need to login as an administrator.</p> 	
2	<p>Press on the Password field.</p> <p>The KEYPAD will appear.</p> <p>Remember, these fields are case sensitive:</p> <p>Cap light on: Uppercase.</p> <p>Cap light off: Lowercase.</p> <p>Type in the New Password.</p> <p>Press the Enter key.</p> <p>Press on the Confirm field.</p> <p>Type in the New Password again.</p> <p>Press the Enter key.</p> <p>Press the SAFE Button to confirm.</p> <p>Press the Exit Button to go to the Main Screen.</p>  	

NOTE: Password can ONLY be changed directly at the display, NOT REMOTELY.

NETWORK SETTINGS SCREEN

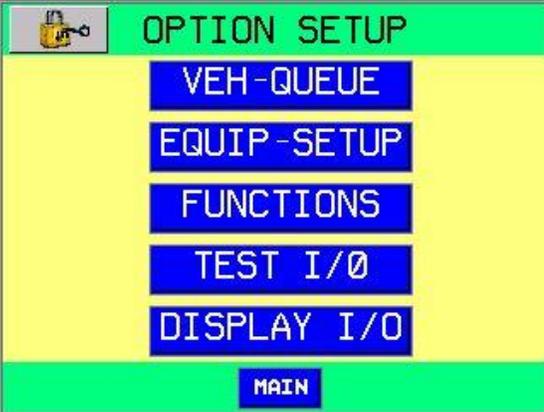
The **NETWORK SETTINGS** screen allows the user to view the designated DHCP IP address.

Step	Action	Screen Display
1	<p>To gain access to the Network Settings Screen press the Network Button at the top right corner.</p> 	
2	<p>Network Settings Screen will show the IP Address designated to connect to this device through network.</p> <p>DISPLAY: Display the DHCP IP Address.</p> <p>SETUP: will take you to the OPTION SETUP Screen.</p> <p>BACK: Return to the MAIN Screen.</p> 	



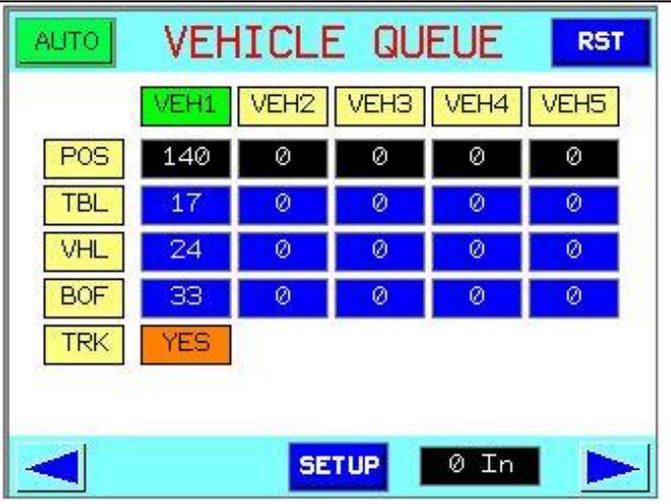
OPTION SETUP SCREEN

The **OPTION SETUP** screen allows the user to travel throughout the other system screens.

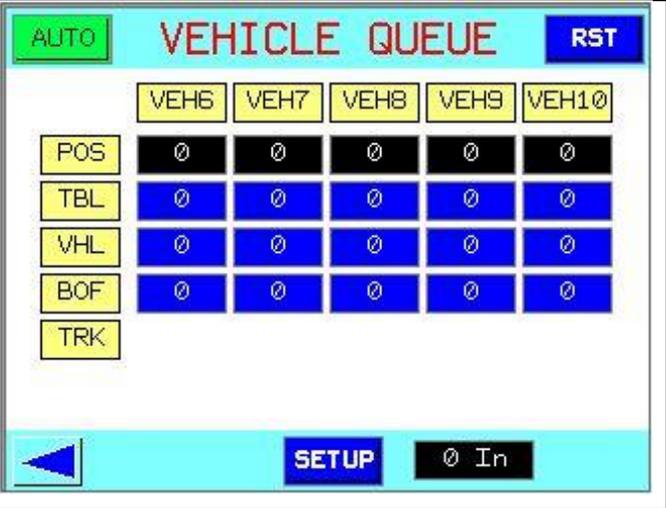
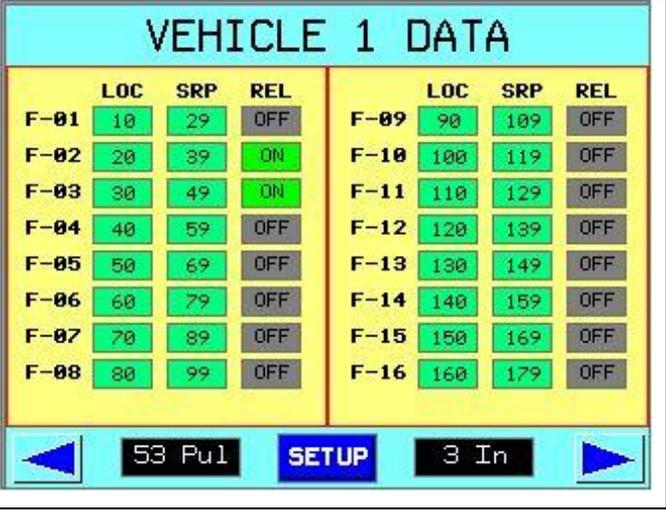
Step	Action	Screen Display
1	Press the RETRACT Button to go to the option Setup Screen. 	
2	Option Setup Screen offers 5 Screen Options: VEH-QUEUE: Vehicle Queue Screen EQUIP-SETUP: Equipment Setup Screen FUNCTIONS: Function Configuration Screen TEST I/O: Test the Input / Output Functions I/O DISPLAY: Display Input / Output Screen MAIN Button: Returns to the Main Screen. 	

VEHICLE QUEUE SCREEN

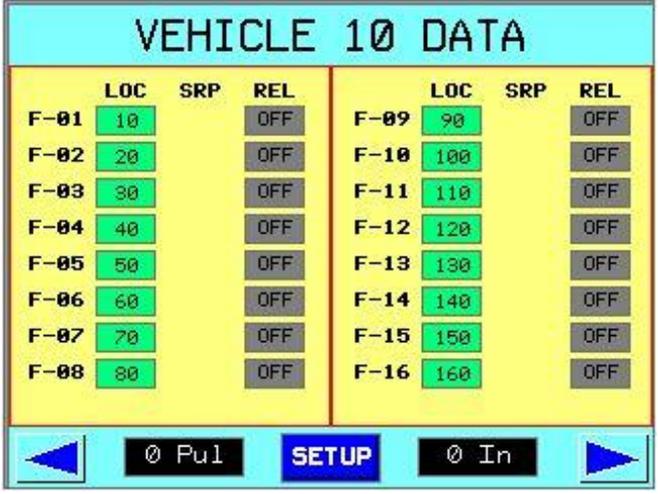
The **VEHICLE QUEUE** screen allows the user to monitor the vehicles in process.

<p>1 Press VEH-QUEUE Button on screen.</p> <p style="text-align: center;">VEH-QUEUE</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p> <p style="text-align: center;">SETUP</p> <p>ARROW RIGHT Button: Move to next VEHICLE QUEUE Screen.</p> <p>ARROW LEFT Button: Move to Previous Screen.</p>	
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VEHICLE QUEUE (Green)	Green color letters means the conveyor is running
VEHICLE QUEUE (Red)	Red color letters means the conveyor is stopped
POS	Front of the Vehicle position with respect to the Total Pulse Counter
TBL	Truck Bed Position (Pulses)
VHL	Car Length (Pulses)
BOF	Distance from the Roof to the Bed (Inches)
TRK	Vehicle is a Truck or not
AUTO	Manual-Auto Button
RST	Reset all the vehicle variables to zero (system needs to be in MANUAL)
0 IN	Ultrasonic Sensor Readings (Inches)
VEH1	Shows the Vehicle 1 specific parameters. Same for the other 4 buttons (VH2-VH3-VH4-VH5)

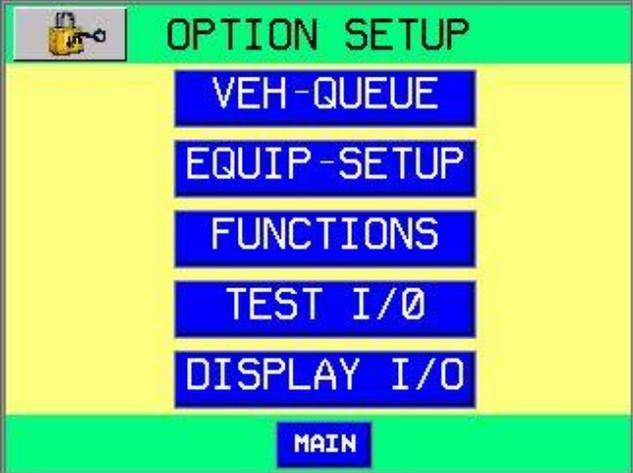
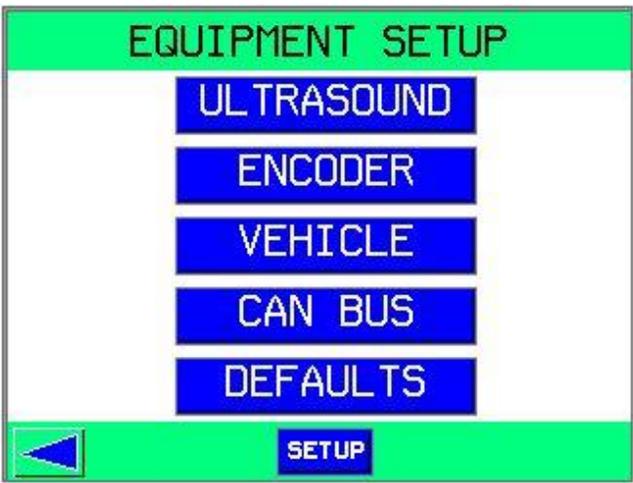
<p>2</p>	<p>ARROW LEFT Button: Move to Previous Screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p> <p>Press AUTO Button to switch system to MANUAL mode.</p> <p style="text-align: center;"></p>	 <p>The screenshot shows the 'VEHICLE QUEUE' screen. At the top left is an 'AUTO' button and at the top right is an 'RST' button. Below these are five vehicle columns labeled 'VEH6', 'VEH7', 'VEH8', 'VEH9', and 'VEH10'. Each column has five rows of buttons: 'POS', 'TBL', 'VHL', 'BOF', and 'TRK'. The 'POS' row has black buttons with '0', while the other rows have blue buttons with '0'. At the bottom, there is a left arrow, a 'SETUP' button, and a '0 In' display.</p>
<p>3</p>	<p>Press VH1 Button on screen.</p> <p></p> <p>ARROW LEFT Button: Move to the Previous screen.</p> <p>SETUP Button: Returns to the Option Setup Screen.</p>	 <p>The screenshot shows the 'VEHICLE 1 DATA' screen. It features two columns of data. The left column has headers 'LOC', 'SRP', and 'REL' for functions F-01 through F-08. The right column has the same headers for functions F-09 through F-16. Values for LOC and SRP are shown in green boxes, and REL values are shown in grey boxes (OFF or ON). At the bottom, there is a left arrow, a '53 Pul' display, a 'SETUP' button, and a '3 In' display with a right arrow.</p>

LOC	Location selected on the Function Configuration Screen.
SRP	Allows the user to know in which position the Relay will turn ON.
REL	Allows the user to know which Vehicle Specific Relay is being turned on.
	Allows the user to know specific vehicle pulse counter.
	Ultrasonic Sensor Readings (Inches).

<p>4</p> <p>ARROW LEFT Button: Move to VEHICLE QUEUE Screen.</p> <p>ARROW RIGHT Button: Move to next vehicle data screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen</p>	 <p style="text-align: center;">VEHICLE 10 DATA</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>LOC</th> <th>SRP</th> <th>REL</th> <th></th> <th>LOC</th> <th>SRP</th> <th>REL</th> </tr> </thead> <tbody> <tr> <td>F-01</td> <td>10</td> <td></td> <td>OFF</td> <td>F-09</td> <td>90</td> <td></td> <td>OFF</td> </tr> <tr> <td>F-02</td> <td>20</td> <td></td> <td>OFF</td> <td>F-10</td> <td>100</td> <td></td> <td>OFF</td> </tr> <tr> <td>F-03</td> <td>30</td> <td></td> <td>OFF</td> <td>F-11</td> <td>110</td> <td></td> <td>OFF</td> </tr> <tr> <td>F-04</td> <td>40</td> <td></td> <td>OFF</td> <td>F-12</td> <td>120</td> <td></td> <td>OFF</td> </tr> <tr> <td>F-05</td> <td>50</td> <td></td> <td>OFF</td> <td>F-13</td> <td>130</td> <td></td> <td>OFF</td> </tr> <tr> <td>F-06</td> <td>60</td> <td></td> <td>OFF</td> <td>F-14</td> <td>140</td> <td></td> <td>OFF</td> </tr> <tr> <td>F-07</td> <td>70</td> <td></td> <td>OFF</td> <td>F-15</td> <td>150</td> <td></td> <td>OFF</td> </tr> <tr> <td>F-08</td> <td>80</td> <td></td> <td>OFF</td> <td>F-16</td> <td>160</td> <td></td> <td>OFF</td> </tr> </tbody> </table> <p style="text-align: center;"> ◀ ⊙ Pul SETUP ⊙ In ▶ </p>		LOC	SRP	REL		LOC	SRP	REL	F-01	10		OFF	F-09	90		OFF	F-02	20		OFF	F-10	100		OFF	F-03	30		OFF	F-11	110		OFF	F-04	40		OFF	F-12	120		OFF	F-05	50		OFF	F-13	130		OFF	F-06	60		OFF	F-14	140		OFF	F-07	70		OFF	F-15	150		OFF	F-08	80		OFF	F-16	160		OFF
	LOC	SRP	REL		LOC	SRP	REL																																																																		
F-01	10		OFF	F-09	90		OFF																																																																		
F-02	20		OFF	F-10	100		OFF																																																																		
F-03	30		OFF	F-11	110		OFF																																																																		
F-04	40		OFF	F-12	120		OFF																																																																		
F-05	50		OFF	F-13	130		OFF																																																																		
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F-07	70		OFF	F-15	150		OFF																																																																		
F-08	80		OFF	F-16	160		OFF																																																																		

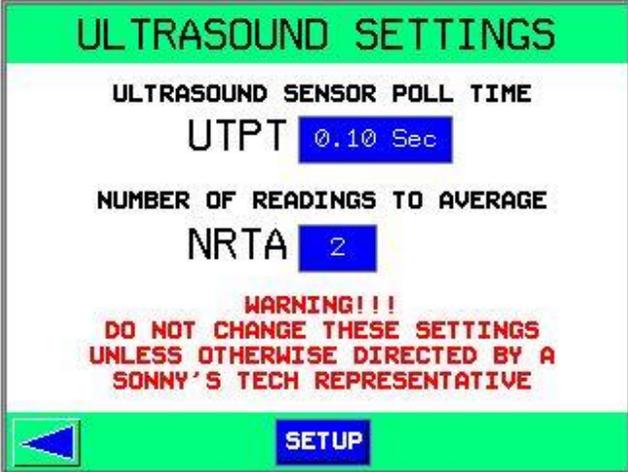
EQUIPMENT SETUP SCREEN

The **EQUIPMENT SETUP** screen allows the user to configure the parameters for the system.

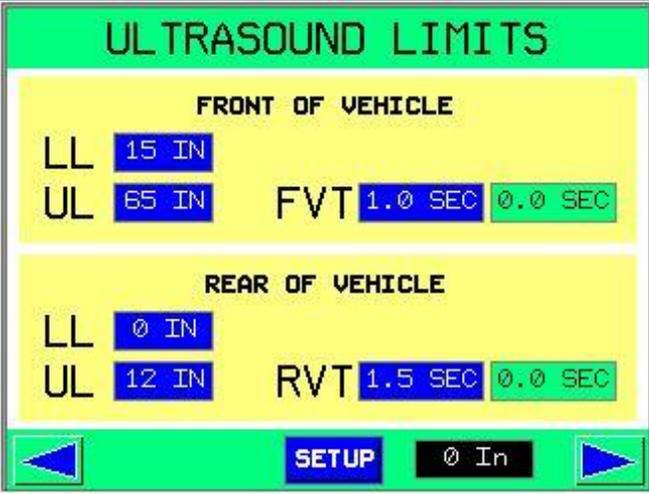
Step	Action	Screen Display
1	<p>Press EQUIP-SETUP Button on screen.</p>  <p>Main Button: Returns to the Main Screen.</p> 	 <p>The screen shows a green header with a padlock icon and the text "OPTION SETUP". Below the header are five blue buttons with white text: "VEH-QUEUE", "EQUIP-SETUP", "FUNCTIONS", "TEST I/O", and "DISPLAY I/O". At the bottom of the screen is a green bar with a blue button labeled "MAIN".</p>
2	<p>ULTRASOUND: Move to the ULTRASOUND SETUP Screen.</p> <p>ENCODER: Move to the BACK-UP ENCODER Screen.</p> <p>VEHICLE: Move to the VEHICLE SETUP Screen.</p> <p>CAN BUS Button: Move to the CAN-OPEN OUTPUTS Screen.</p> <p>DEFAULTS Button: Move to the FACTORY VALUES Screen.</p> <p>ARROW LEFT Button: Move to the previous screen.</p> <p>SETUP Button: Return to the OPTION SETUP Screen.</p>	 <p>The screen shows a green header with the text "EQUIPMENT SETUP". Below the header are five blue buttons with white text: "ULTRASOUND", "ENCODER", "VEHICLE", "CAN BUS", and "DEFAULTS". At the bottom of the screen is a green bar with a blue left-pointing arrow button and a blue button labeled "SETUP".</p>

ULTRASOUND SCREEN

The following screens will assist the user in configuring the Ultrasound Sensor parameters.

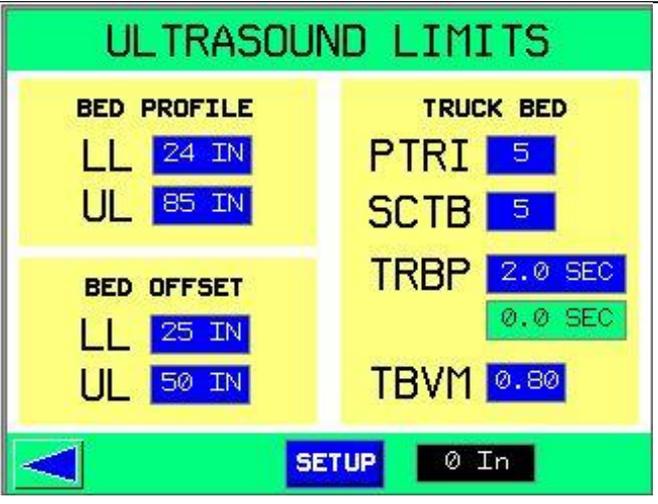
<p>1</p> <p>Press ULTRASOUND Button on screen.</p> <p style="text-align: center;">ULTRASOUND</p> <p>Press UT SETTING Button on screen.</p> <p style="text-align: center;">UT SETTINGS</p> <p>ARROW LEFT Button: Move to the previous screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p>		 <p>The screenshot shows a green header with the text 'ULTRASOUND SETUP'. Below the header are three blue buttons with white text: 'UT SETTINGS', 'UT LIMITS', and 'UT WATCH'. At the bottom of the screen is a green bar containing a blue left-pointing arrow button and a blue button with the text 'SETUP'.</p>
<p>2</p> <p>ARROW LEFT Button: Move to the previous screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p>		 <p>The screenshot shows a green header with the text 'ULTRASOUND SETTINGS'. Below the header, the text 'ULTRASOUND SENSOR POLL TIME' is followed by 'UTPT' and a blue box containing '0.10 Sec'. Below that, 'NUMBER OF READINGS TO AVERAGE' is followed by 'NRTA' and a blue box containing '2'. At the bottom, there is a red warning message: 'WARNING!!! DO NOT CHANGE THESE SETTINGS UNLESS OTHERWISE DIRECTED BY A SONNY'S TECH REPRESENTATIVE'. At the very bottom is a green bar with a blue left-pointing arrow button and a blue button with the text 'SETUP'.</p>

UTPT	Time in seconds between each consecutive ultrasound sensor reading
NRTA	Number of times UT sensor readings are collected and averaged

<p>3 Press UT LIMITS Button on screen.</p> <p style="text-align: center;">UT LIMITS</p> <p>ARROW RIGHT Button: Move to next ULTRASOUND LIMITS Screen</p> <p>ARROW LEFT Button: Move to the previous Screen</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p>	
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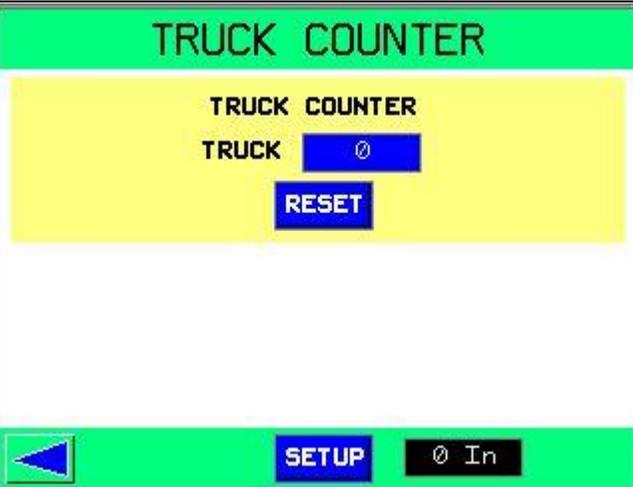
NOTE: Values are only used for illustration purposes. Values are subject to change based on specific encoder resolution.

FRONT OF VEHICLE SECTION: Only Ultrasound Reading within the LL and UL will be processed (INCH)	
LL	Lower Limit to detect the front of the vehicle
UL	Upper Limit to detect the front of the vehicle
FVT	Debounce time to detect the front of vehicle.
REAR OF VEHICLE SECTION: Only Ultrasound Reading within the LL and UL will be processed (INCH)	
LL	Lower Limit to detect the rear of the vehicle (Floor)
UL	Upper Limit to detect the rear of the vehicle (Floor)
RVT	Debounce time to detect the rear of vehicle

4	<p>ARROW LEFT Button Move to previous Screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p>	 <p>The screenshot shows a screen titled "ULTRASOUND LIMITS" with a green header. It is divided into three sections: "BED PROFILE" (LL: 24 IN, UL: 85 IN), "BED OFFSET" (LL: 25 IN, UL: 50 IN), and "TRUCK BED" (PTRI: 5, SCTB: 5, TRBP: 2.0 SEC, TBVM: 0.80). A "0 In" display is at the bottom right, and a "SETUP" button is at the bottom center.</p>
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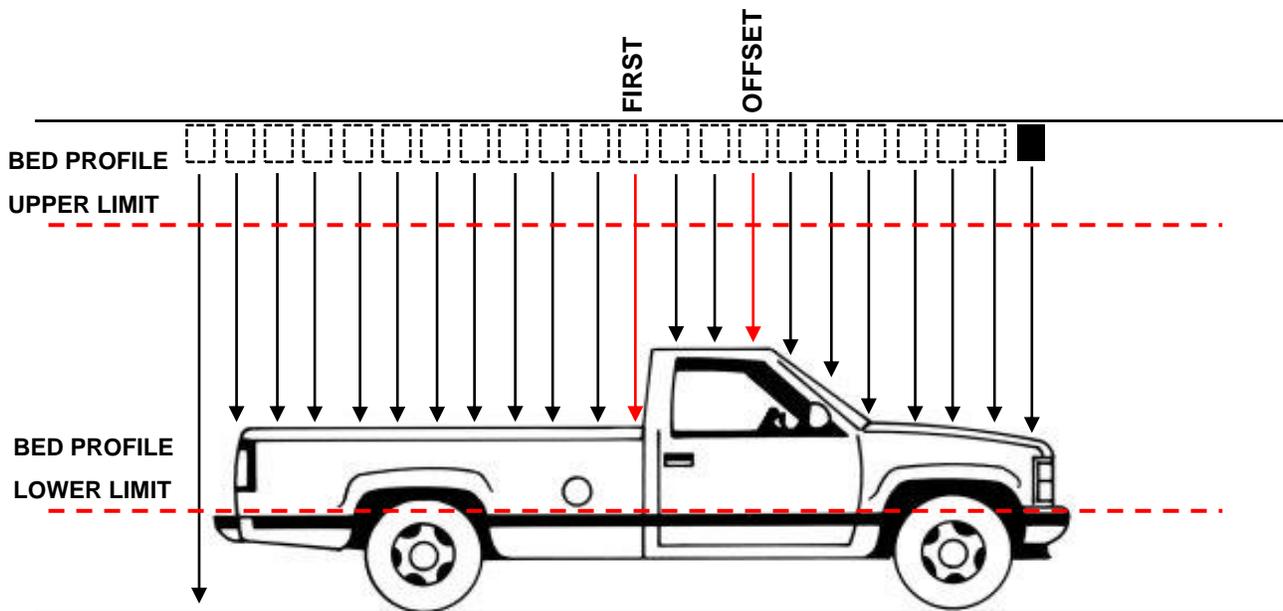
NOTE: Values are only used for illustration purposes. Values are subject to change based on specific encoder resolution.

BED PROFILE SECTION: Only Ultrasound Reading within the LL and UL will be processed (INCH)	
LL	Lower Limit to validate ultrasound sensor readings (Value used to calculate vehicle profile)
UL	Upper Limit to validate ultrasound sensor readings (Value used to calculate vehicle profile)
BED OFFSET SECTION: Only Values within the LL and UL will be processed (INCH)	
LL	Lower Limit to validate the drop between the Roof and the Truck Bed
UL	Upper Limit to validate the drop between the Roof and the Truck Bed
TRUCK BED SECTION: Values used in the Truck Bed Detection	
PTRI	Value used to compare the last ultrasound reading against the value enter in the field.
SCTB	Value used to start the truck bed profiling (pulses). Help to eliminate the front windshield
TRBP	Time required for the system to set the Truck Bed Position
TBVM	Multiplier used to validate the truck bed position

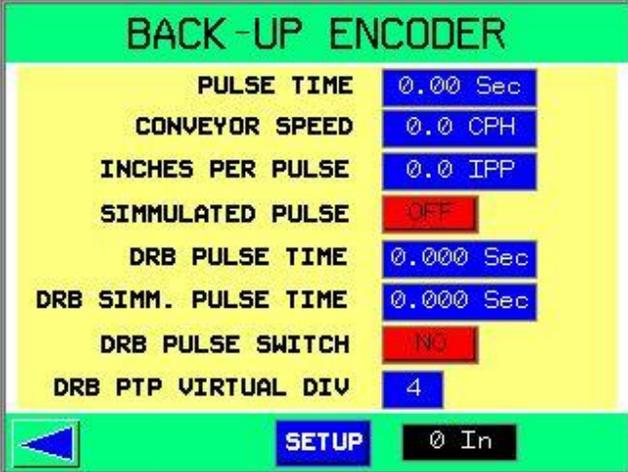
<p>5</p>	<p>Press UT WATCH Button on screen.</p> <p style="text-align: center;">UT WATCH</p> <p>ARROW LEFT Button: Move to the previous screen.</p> <p>ARROW RIGHT Button: Move to TRUCK COUNTER Screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p>	 <p>The screenshot shows the 'TRUCK BED PROFILE' screen with a green header. Below the header, there are two yellow sections. The first section is titled 'TRUCK BED READINGS' and contains 'OFFSET' (0 IN) and '0.0 SEC' (0.0 SEC). The second section is titled 'VALIDATED READINGS' and contains 'VALUE' (0 IN). At the bottom, there is a green bar with a left arrow, a 'SETUP' button, and a '0 In' display, followed by a right arrow.</p>
<p>6</p>	<p>ARROW LEFT Button Move to previous Screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p> <p>Reset Button: Will reset the counter to Zero.</p>	 <p>The screenshot shows the 'TRUCK COUNTER' screen with a green header. Below the header, there is a yellow section titled 'TRUCK COUNTER' containing 'TRUCK' (0) and a 'RESET' button. At the bottom, there is a green bar with a left arrow, a 'SETUP' button, and a '0 In' display, followed by a right arrow.</p>

NOTE: Values are only used for illustration purposes. Values are subject to change based on specific encoder resolution.

OFFSET	Roof of vehicle ultrasound reading
FIRST	Truck Bed ultrasound reading
VALIDATED	Ultrasound readings between the Bed profile UL and LL



BACK-UP ENCODER SCREEN

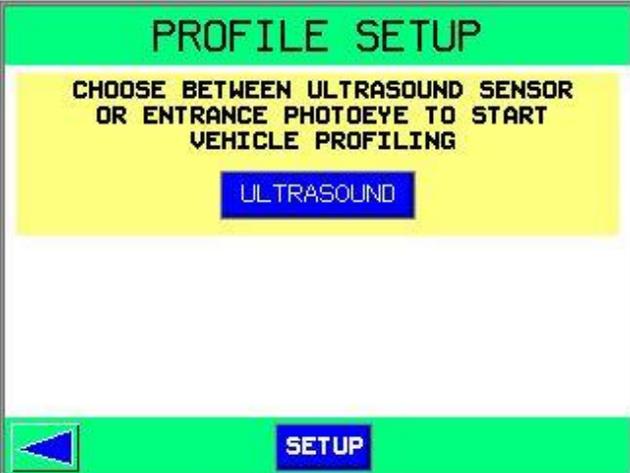
Step	Action	Screen Display
1	Press ENCODER Button on screen.  ARROW LEFT Button: Move to previous Screen. SETUP Button: Returns to the OPTION SETUP Screen.	

PULSE TIME	Time used to simulate a pulse (Read Only)
SIMULATED PULSES	ON – Simulate Pulses OFF – Use Conveyor Pulse Switch
DRB PULSE SWITCH	Select YES , If using DRB PULSE SWITCH
CONVEYOR SPEED	Conveyor Speed in car per hours
INCHES PER PULSE	Resolution of encoder in inches per pulse.
DRB PULSE TIME	Time between DRB sensor pulses (32 inches per pulse)
DRB PTP VIRTUAL DIV	Number used to simulate the pulses.
DRB SIMM. PULSE TIME	Simulated Pulse used for the actual Pulse.

Note: If using the drb pulse switch (32 inches per pulse):

- **Simulated pulses button needs to be turn on**
- **Drb pulse switch button needs to be selected as “yes”**

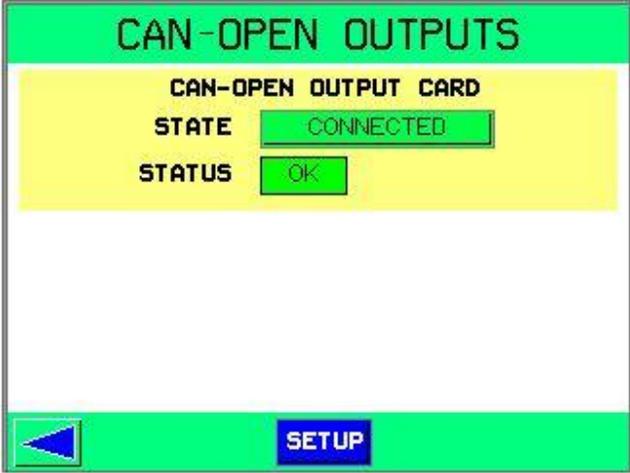
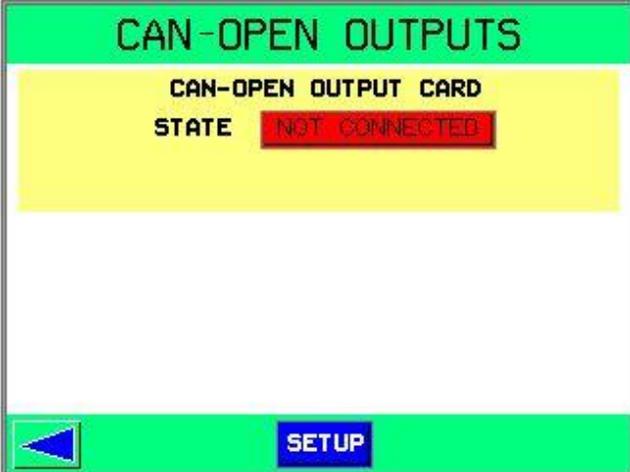
VEHICLE SETUP SCREEN

Step	Action	Screen Display
1	Press VEHICLE Button on screen.  ARROW LEFT Button: Move to previous Screen. ARROW RIGHT Button: Move to PROFILE SETUP Screen. SETUP Button: Returns to the OPTION SETUP Screen.	
2	Press ULTRASOUND Button  to switch between ultrasound and PHOTOEYE 	

NOTE: Values are only used for illustration purposes. Values are subject to change based on specific encoder resolution.

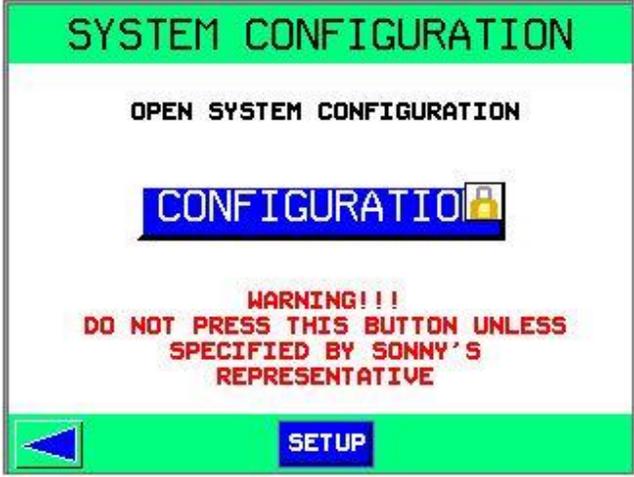
BAY LENGTH	Tunnel length from the ultrasound to the end of the tunnel (pulses)
MIN. LENGTH	Minimum car length allow to process (pulses)
MAX. LENGTH	Maximum car length allow to process (pulses)
QUANTITY	Maximum amount of vehicles allowed in tunnel

CAN-OPEN OUTPUTS SCREEN

Step	Action	Screen Display
1	Press CAN BUS Button on screen.  ARROW LEFT Button: Move to previous Screen. SETUP Button: Returns to the OPTION SETUP Screen.	
2	Press CONNECTED Button  to switch between State 	

STATE	CONNECTED – Activates the 16 functions NOT CONNECTED – Use just the 8 functions.
STATUS	OK – Confirm that 16 functions connection is available.

FACTORY VALUES SCREEN

<p>1</p> <p>Press DEFAULTS Button on screen.</p> <p style="text-align: center;">DEFAULTS</p> <p>ARROW LEFT Button: Move to previous screen.</p> <p>ARROW RIGHT Button: Move to SYSTEM CONFIGURATION screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p> <p>NOTE: Do not press the FACTORY button unless it is decided to reset the field values to factory default.</p>	
<p>2</p> <p>Press ARROW RIGHT Button on screen to move to SYSTEM CONFIGURATION screen.</p> <p style="text-align: center;"></p> <p>ARROW LEFT Button: Move to the previous screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p>	

NOTE: In order to reset values to DEFAULT, the system needs to be in MANUAL Mode. To change from AUTO to MANUAL, go to the VEHICLE QUEUE Screen in OPTION SETUP.

NOTE: The CONFIGURATION button is locked by default for system operation security purposes. In order to access the CONFIGURATION screen, please contact SONNY'S, to be guided by a representative.



FUNCTIONS SCREEN

The **FUNCTIONS** screen allows the user to setup the 8 or 16 Functions.

Step	Action	Screen Display
1	Press FUNCTIONS Button on screen. <div style="text-align: center; border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">FUNCTIONS</div> ARROW LEFT Button: Move to previous screen. ARROW RIGHT Button: Move to next FUNCTION screen. SETUP Button: Returns to the OPTION SETUP Screen.	

NAME	Specific Name of FUNCTION
DETECTION	1. Front of Vehicle. 2. Truck Bed. 3. Rear of Vehicle.
MODE	1. FUNCTION will turn on at the Detection Point, then it will remain ON for the specified number of ON DURATION pulses. 2. FUNCTION will turn on at the Front of Vehicle, then it will remain ON for the specified ON DURATION pulses. 3. FUNCTION will turn on at the Front of Vehicle, then it will remain ON for the complete length of Vehicle plus the ON DURATION pulses
LOCATION	Location of the FUNCTION (From the ultrasound sensor to the Front of Vehicle)
ON DURATION	Number of Pulses the FUNCTION will remain ON
FUNCTION	Move to an specific function display (Press on the Blue field and type the function number, then press the GO Button)



TEST I/O SCREEN

The **TEST OUTPUTS** Screen allows the user to override the **Output Function Relays**.

Step	Action	Screen Display
1	Press TEST I/O Button on screen. <div style="text-align: center; border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">TEST I/O</div> <p>ARROW LEFT Button: Move to previous screen.</p> <p>SETUP Button: Returns to the OPTION SETUP Screen.</p> <p>Press AUTO Button to switch system to MANUAL mode.</p> <div style="text-align: center; border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">MAN</div>	

NOTE: For system installers, is a good tool to test if the system is wired correctly. In order to switch and turn the relays ON/OFF, turn the system to MANUAL Mode.



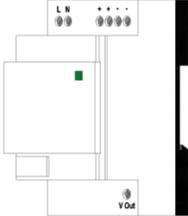
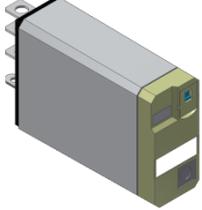
I/O DISPLAY SCREEN

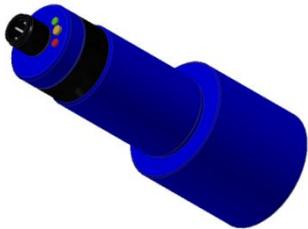
The I/O Screen allows the user to check the status of the system inputs and outputs.

Step	Action	Screen Display
1	Press I/O DISPLAY Button on screen. <div style="border: 1px solid black; padding: 2px; display: inline-block; background-color: #0000FF; color: white;">DISPLAY I/O</div> ARROW LEFT Button: Move to previous screen. SETUP Button: Returns to the OPTION SETUP Screen.	

<u>INPUTS:</u>	
CONVEYOR START	Allows the user to monitor the status of the CONVEYOR input.
PULSE SWITCH	Allows the user to monitor the status of the PULSES input.
ENT. PHOTOEYE	Allows the user to monitor the status of the ENTRANCE PHOTOEYE.
<u>OUTPUTS:</u>	
FUNCTION-01/16	Allows the user to monitor the relay status of the different FUNCTIONS.

REPLACEMENT PARTS

QTY	P/N	DESCRIPTION	PICTURE
1	10011592	CONTROLLER,COLOR,3.5",8DI,8RO,2AI,24V	
1	10010298	POWER SUPPLY 200VAC – 24VDC	
16	10010577	SPDT POWER RELAY SOCKET	
16	10010576	SPDT POWER RELAY W/LED	
3	10010411	24 VAC/DC THIN RELAY W/SOCKET	

1	10010710	ULTRASONIC SENSOR, 30 MM BARREL	
1	10010730	PVC SENSOR SHROUD ACCESSORY	
1	10011230 10010799	ENCLOSURE IP66 20"X20"X8" ENCLOSURE IP66 16"X16"X8"	
1	20013260 20013259	PLATE, AP TRUCK BED, 8 OUT, BACKING. PLATE, AP TRUCK BED, 16 OUT, BACKING.	
1	20011392	ANGLE, SONAR SENSOR MOUNTING	



WARRANTY & REPAIR

SONNY'S AutoPilot CarWash Control Systems

- Telephone technical support at (800) 876-3900 Ext. 251.
- Replacement on parts manufactured by AutoPilot for one (1) year after delivery.
- Replacement on parts **NOT** manufactured by AutoPilot (i.e. printers, monitors, routers, scanners, cash drawers, etc.) for ninety (90) days after delivery.

AutoPilot warrants all equipment, which it manufactures to be free from defects in material or workmanship under normal use and service for a period of one (1) year from the date of delivery. Any defect reported within one (1) year will be replaced by AutoPilot pending a technician's evaluation and all charges for labor and material will be borne by AutoPilot. Shipping costs will be assumed by the Buyer.

For all items being sent back to AutoPilot for replacement or repair, a Return Merchandise Authorization (RMA) number is required prior to shipping. Merchandise received without an RMA# will be returned to sender. If it is determined that either no fault exists in Company, or the damage to be repaired was caused by negligence of Buyer, its agents, employees or customers, Buyer agrees to pay all charges associated with each such repair. Any tampering, misuse or negligence in handling, installation or use of Equipment renders the warranty void.

Further, the warranty is void if, at any time, Buyer attempts to make any internal changes to any of the components of the Equipment; if at any time and for any reason the power supplied to any part of the Equipment exceeds the rated tolerance; if any external device attached by Buyer creates conditions exceeding the tolerance of the Equipment; or if at any time the serial number plate is removed or defaced.

THIS CONSTITUTES THE SOLE WARRANTY MADE BY COMPANY EITHER EXPRESSED OR IMPLIED. IN NO EVENT SHALL COMPANY BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AND BUYER'S REMEDIES SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF NONCONFORMING UNITS OR PARTS.

Repair

AutoPilot has a service and support department dedicated to analyzing, repairing and testing any WashPilot™ component in need of such services. In the event a component needs to be sent to AutoPilot for warranty replacement or repair, an evaluation must first be made over the telephone by an AutoPilot technician.



CUSTOMER SERVICE

Please contact SONNY'S AutoPilot CarWash Control Systems for installation and/or operational questions regarding this piece of equipment.

Please refer to the Parts list in this manual or the SONNY'S Parts Catalog and contact SONNY'S Customer Service Order Entry Department for any replacement parts for this piece of equipment.

This manual is available on Sonny's The CarWash Factory website (www.sonnysdirect.com) on the Product Manuals/Support page.

DEPARTMENT

Toll Free Main Line
Equipment Department

PHONE NUMBERS

800-876-3900
954-720-4100

FAX NUMBERS

954-721-7677
800-495-4049

Or you can email us at autopilotsupport@sonnysdirect.com

Thank you for being a SONNY'S AutoPilot CarWash Controls equipment owner!

From all of us here at

