



PROMIX LCD

ADVANCED TRANSIT MIXER CONTROL SYSTEM

PLEASE READ ALL INSTALLATION AND OPERATING INSTRUCTIONS IN FULL BEFORE OPERATING THE MIXER AND RETAIN FOR FUTURE REFERENCE.

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Important! Please Read all Setup and Calibration Information before Installation

Your new *PROMIX LCD Advanced Control System* has some preset calibration and setup parameters.

ALL parameters in “Vehicle & Mixer Configuration” and “System Setting” menus must be checked and adjusted by qualified and trained personnel. Failure to set parameters correctly may result in damage to the control system, vehicle or mixer components or injury to persons.

Please consult the relevant section of this manual for calibration and setup procedures. Vehicle specific wiring diagrams and information are supplied in addition to this manual.

All wiring must be properly installed and terminated to ensure long term, trouble free service. We strongly recommend installation is only carried out by persons with a trade qualification in Auto Electrics (Electrical Mechanics – Automotive) as a minimum.

IMPORTANT! - On vehicles with a 12v electrical system, the E/stop relay needs to be Bosch P/N 0 332 019 150 (12v coil) and suggested rating for cooler fan fuse is 30A.

On vehicles with a 24v electrical system, the E/stop relay needs to be Bosch P/N 0 332 019 203 (24v coil) and suggested rating for cooler fan fuse is 15A.

Chute Solenoids must not exceed 12V@2.5A (30Watts) Maximum.

Park light Input - Please insure Yellow/Black wire is connected. Do not connect to dash light dimmer circuit. This allows the LCD to dim to the dimmer set setting via the LCD for night use. (Very Important)

WARNING! - Do not connect any other wiring or devices (eg. Two Way radios, CB radios, sound systems, entertainment systems, data collection or telemetry systems etc.) to the control system, control system wiring harness or control system accessories. Unauthorised connections can interfere with correct functionality and compromise the safety of the system. WoodTech Electronics reserves the right to withdraw any warranty on the product or to consider it null and void in case of any such connections.

The control system has a rich feature set including monitoring of input supply voltage. Low voltage will trigger an **Input Power Supply Error** and prevent system operation until supply voltage is above 10 volts. A stuck toggle switch will trigger a **Faulty Front Panel Switch Error** at power on.

Faulty Panel Switch Warning



Input Power Supply Warning



PROMIX LCD

ADVANCED TRANSIT MIXER CONTROL SYSTEM

PROUDLY DESIGNED AND MANUFACTURED IN AUSTRALIA

The ***PROMIX LCD ADVANCED TRANSIT MIXER CONTROL SYSTEM*** has been designed and manufactured by WoodTech Electronics in South East Queensland. Using state-of-the-art Pick-and Place SMT assembly machinery and the latest in Vapor Phase and Selective Soldering processes. All software and graphic design are produced in-house.

To ensure high quality, our products are manufactured on our premises. This also allows us to maintain a high level of service as we are not at the whim of external manufacturers and their lead times.



The new generation Promix LCD control system represents, by far, the best value for money in the market. The rich set of features, include the latest touch screen displays, audible and visual warnings, J1939 CAN connectivity and GPS engine (just to name a few) brings transit mixer control technology into the 21st century.

All designed and manufactured right here in Australia by WoodTech Electronics.

FEATURES

Australian Designed and Manufactured

The entire Promix LCD System is built in Australia by engineers who have extensive experience in designing, manufacturing and commissioning electronic control systems for the heavy equipment and transport industries. As a result, many unique features are included to enhance system operation, promote ease of use, reduce operator fatigue and minimize downtime.

- 9-35v operation – NO Voltage Reducer needed
- On-board synthesized female voice (“Nicole”) provides spoken audible warnings
- GPS engine for automatic road speed-based functions and time update
- Protection against reverse polarity
- Solenoid current compensated for changes in voltage and temperature.
- Spike protected
- Over voltage protected
- Pump solenoid outputs short circuit protected
- Fail safe – loss of power results in no bowl rotation. (bowl may be operated by manual overrides located on pump solenoids if this unlikely situation occurs.) - Audible warning system to alert operator of certain conditions.
- Universal system suits all common hydraulics / vehicle combinations, selectable via a simple menu system.
- Major reduction in spare parts inventory due to wiring harness and main control board designed for universal application – one part suits all vehicles / hydraulics.

If a fault should occur, a comprehensive Diagnostic Screen has also been incorporated to give a visual aid to repair, without the need for specialized tools or knowledge. If at any time a fault is detected in either the receiver board or the main pc board within minutes the board can be changed and the system can be back on line. This eliminates costly down time.

The Remote Control System

The advanced 915MHz remote control system utilizes the latest in Frequency Hopping Spread Spectrum technology (FHSS). Why is this important? Because it is the most immune to interference and therefore works more effectively on the job site than either 433MHz or 27MHz systems.

The IP65 rated remote control hand piece contains a rechargeable battery, which is recharged automatically when returned to the cradle. The multi-stage charger is computer controlled for fast charging and maximum battery life.

Also supplied is a translucent silicone rubber cover to further assist in protecting the remote from environmental and physical damage.

As this system is Australian made, all components are readily available so spare parts can be purchased at very cost-effective prices. As your fleet of mixers grows spare parts could be held at your own depot for fast and efficient repairs if required.

LCD Display

The super bright (1000mcd), full colour touch screen display shows operating mode and status at a glance. Display brightness is automatically dimmed and the dimming level can be easily set to suit operator comfort.

The simple menu system allows easy and repeatable adjustment of all system parameters and settings without reprogramming or opening the console.

GPS (GNSS) Receiver

The on-board GNSS (Global Navigation Satellite System) engine is best-in-class for both sensitivity and accuracy. It achieves this by receiving signals from both the GPS (USA) and GLONASS (Russian) satellite constellations at the same time.

This information is used for road speed-based functions where J1939 CAN connection is not available and to update the systems Real Time Clock (RTC) to ensure accuracy.

The GPS icon on the Main Screen will turn green when valid data is available. Where system information is available via GNSS and J1939 (eg. Road Speed), J1939 has priority.

System Real Time Clock (RTC) – System Time

The RTC is used to time stamp when system parameters were changed and saved. System time is UTC (Universal Time Coordinated) and cannot be updated manually. This ensures system integrity and no possibility of tampering with access time stamps.

Spoken Audible Warnings and Prompts

Nicole is our system voice. She alerts the operator to various system error conditions and operating modes. The operator does not have to take their eyes off the road or the job as they can now hear important information via Nicole's smooth Australian voice.

J1939 CAN Connectivity

J1939 CAN network is the connectivity backbone of modern heavy equipment vehicles. Many manufacturers provide "bodybuilder" data for telematics via a dedicated Fleet Management Systems (FMS) connector.

Promix LCD can read all the required vehicle input signals via this method. This method can significantly reduce installation time and is the preferred connection method of many vehicle manufacturers.

We have been working with vehicle manufactures to ensure that all the required data is available via the FMS connector where possible. We are also sourcing the correct mating connectors so that connection is plug and play.

The CANBus icon on the Main Screen will turn green when valid data is available.

Operation via the Cabin Console

Functions that are common to both the hand held Remote Control and the cabin Control Console operate in the same manner regardless of the operating position.

ENG UP / ENG DN Switch

Pressing this switch up increases the Engine revs. Pressing it down decreases the Engine revs.

DIS / Mix Switch & Travel Hi Speed

Pressing this switch up increases the discharge bowl speed smoothly from zero to maximum rpm. This allows for almost unlimited bowl speed control. Pressing the MIX switch whilst discharging will decrease the discharge bowl speed.

Pressing this switch down increases the mix bowl speed smoothly from zero to maximum rpm. This allows for almost unlimited discharge rates to suit any job requirements. Pressing the DISCHARGE switch whilst mixing will decrease the mix bowl speed.

Nicole provides a spoken alert every few seconds to remind the operator the mixer is in discharge. The Mode widow shows discharge status and the mixer animation shows discharge direction.

Pressing this switch down whilst in Travel mode will temporarily increase the Travel speed. This is useful when traveling up a steep incline to reduce the risk of product spilling from the rear of the mixer. The driver is alerted to this mode by Nicole and text in the Mode window.

Chute Raise / Chute Lower Switch

Pressing this switch up will raise the chute.
Pressing this switch down will lower the chute.

Remote / Cabin Switch

Switches operational control between the Control Console and the Remote Control. The switch needs to be held for at least one second for the mode to change. This is to prevent an unintentional change.

Stop & Halt / Resume Switch

Pressing this switch up will stop the bowl rotation and returns the hydraulic pump to the neutral position. It also clears the Resume memory.

By using the MIX or DISCHARGE switch, you can simply press and hold until desired speed and direction is achieved. Now if you wish to HALT the bowl and retain that direction and speed setting, all you do is press the HALT / RESUME switch momentarily and the program will halt the bowl and store that setting for you (**do not press the STOP /CLEAR button as this will clear the program memory**). If you then wish to start the bowl rotating in the same direction and speed, you need only press the HALT / RESUME switch and the program will return the bowl to the same direction and speed as was previously stored.

If the bowl is halted by pressing the HALT / RESUME switch, the MIX and DISCHARGE switches are locked out so that you cannot change the speed or direction of the bowl.

If at any time the STOP switch is pressed when the bowl has been halted by using the HALT / RESUME switch, the RESUME memory will be cleared and the hydraulic pump will be returned to the neutral position. This will then allow you to reset the bowl direction to whatever you like. While the bowl is rotating in either MIX or DISCHARGE direction, you are able to vary bowl speed and direction.

Plant Mix / Travel Switch

Pressing this switch up activates the Plant Mix function. Plant Mix increases the bowl speed to maximum and increases engine RPM to the preset upper limit. Plant Mix is stopped by briefly activating the Stop switch or by activating the service brake.

Pressing this switch down activates the Travel Mode function. Travel mode maintains a constant preset bowl speed (usually around 2rpm). This mode can be used whilst transporting the load from the batching plant to the job site. Travel mode is stopped by briefly activating the Stop switch.

Pressing the Mix switch whilst in Travel mode will temporarily increase the Travel speed. This is useful when traveling up a steep incline to reduce the risk of product spilling from the rear of the mixer. The driver is alerted to this mode by Nicole and the screen Mode display. Bowl speed can be reduced to the base travel speed by the Discharge switch

Emergency Stop Switch

When pressed, the console Emergency Stop switch will immediately remove all power from the mixer and thereby stop all functions.

To reset the Emergency, stop switch, briefly turn it in the direction of the arrow on top of the switch. The system will now perform a reset.

Operation via the Remote Control



Although the remote control transmitter is now commonly used in the mixer industry, there are added features programmed into the remote transmitter used in the WoodTech system. The most important system feature to understand the use of is the HALT / RESUME button.

When used on previous systems in conjunction with linear actuators to set the bowl rotation speed and direction, the STOP and RESUME buttons were simply used as a stop/start type system. With the introduction of the electronically controlled proportional hydraulics the use of the HALT / RESUME button has changed for the better. Please take the time to read and understand the use of the HALT / RESUME button.

To operate via the Remote Control, the REMOTE / CABIN switch on the control console must be in the REMOTE position.

Halt / Resume Button

By using the MIX or DISCHARGE buttons on the remote control transmitter, simply press and hold until desired speed and direction is achieved. Now if you wish to HALT the bowl and retain that direction and speed setting, all you have to do is press the HALT / RESUME button momentarily and the program will halt the bowl and store that setting for you (**do not press the STOP /CLEAR button as this will clear the program memory**). If you then wish to start the bowl rotating in the same direction and speed, you need only press the RESUME button and the program will return the bowl to the same direction and speed as was previously stored.

If the bowl is halted by pressing the HALT / RESUME button, the MIX and DISCHARGE buttons are locked out so that you cannot change the speed or direction of the bowl.

If at any time the STOP /CLEAR button is pressed when the bowl has been halted by using the RESUME button, the RESUME memory will be cleared and the hydraulic pump will be returned to the neutral position. This will then allow you to reset the bowl direction to whatever you like. While the bowl is rotating in either MIX or DISCHARGE direction, you are able to vary bowl speed and direction.

Stop / Clear Button

The STOP / CLEAR button stops the bowl rotation and returns the hydraulic pump to the neutral position. It also clears the Resume memory.

Engine UP Button

Increases the Engine revs.

Engine DN Button

Decrease the Engine revs.

Mix Button

Pressing and holding this button increases the mix bowl speed smoothly from zero to maximum rpm. This allows for almost unlimited bowl speed control. Pressing the MIX button whilst discharging will decrease the discharge bowl speed.

Discharge Button

Pressing and holding this button increases the discharge bowl speed smoothly from zero to maximum rpm. This allows for almost unlimited discharge rates to suit any job requirements. Pressing the DISCHARGE button whilst mixing will decrease the mix bowl speed.

When in discharge, every three seconds the buzzer will emit a short beep and the red discharge lamp on the control console will flash.

Chute Raise Button

Raises the chute.

Chute Lower Button

Lowers the chute.

Hardware Installation (Suggested Installation Procedure)

Please follow the instructions on the leaflet enclosed within the antenna packaging. The through glass antenna will perform the best when it is located high up on the vehicle and clear of other metallic objects. It is essential to clean the mounting areas thoroughly with the supplied alcohol cleaning pad to ensure maximum adhesion to the glass.

Window tinting can contain metallic film and affect operation of through glass antennas. A small square of the tinting film can be cut away where the antenna is to be mounted, or alternatively, mount the antenna on another window. The tinted strip across the top of some windscreens does not affect antenna performance.

Route the antenna cable from the antenna mounting location to the control console. Excess cable may be coiled up. Pass the cable through the cable gland and plug in to the mating connector on the receiver – hand-tighten only! Allow enough antenna cable inside the control box for the lid to close easily. Once the lid is closed, the cable gland may be hand tightened to hold the antenna cable secure. See Figure 2 for details.

Mount control box on pedestal or suitable support in cab.

Run wiring harness supplied under floor mat to passenger side of vehicle, making sure that there are no sharp objects that may cut or rub harness.

Locate suitable place in firewall or floor for 32mm cable gland to be fitted.

Using 32mm hole saw cut hole in firewall and fit cable gland if necessary.

Run main harness through cable gland (to first breakout point) and down passenger side of chassis rail towards rear of vehicle. When choosing route for harness avoid excessively sharp turns and sharp objects that may cut or rub harness. Avoid excessive heat sources such as exhaust systems. Secure main harness using cable ties.

Referring to wiring diagram, connect harness to accessories as optioned.

Fit and wire hydraulic cooler fan as per wiring diagram.

In fuse box locate suitable point to connect line fuses for fan relay (battery feed 20 amp) and control box (ignition feed 10 amp).

Connect black wires to secure and clean earth.

Install through glass antenna as per supplied Instruction sheet.

System should now be ready for testing. Please take the time to run through all functions from both the control console and the remote control. Perform adjustments / calibrations if necessary, referring to the relevant sections of this manual.

Remote Control Transmitter and Receiver

The remote control transmitter supplied with your system has already been coded to the receiver.



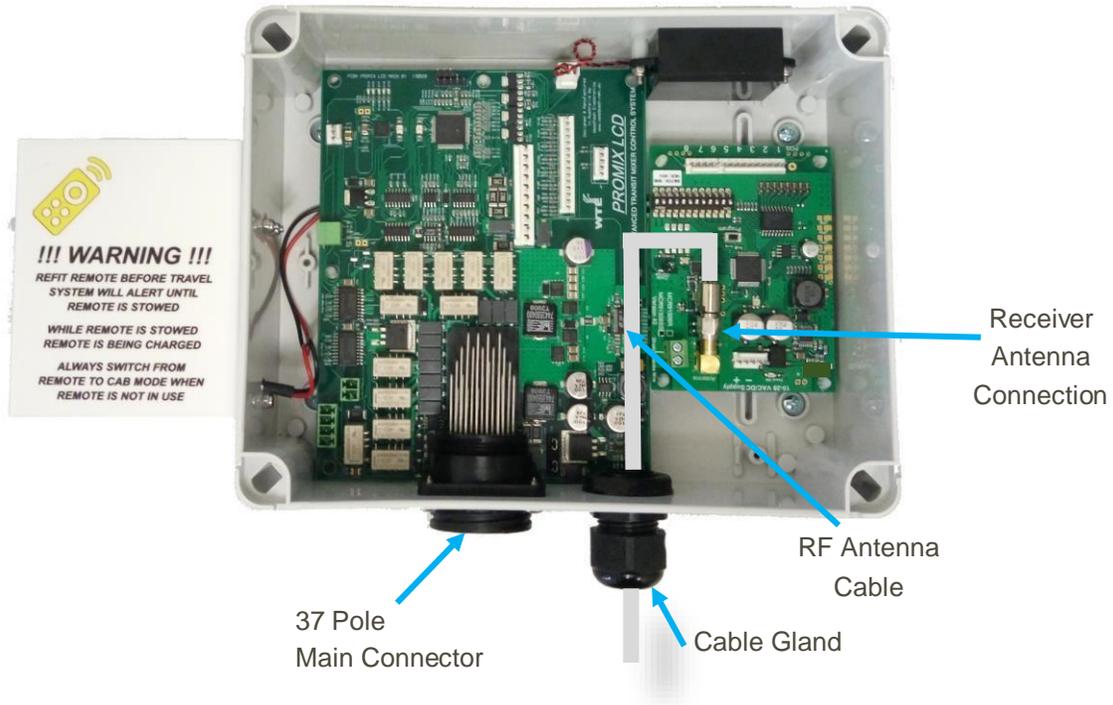
The hand held remote control transmitter contains a 12way dipswitch. In order for your transmitter to work with your console the code of the 12way dipswitch must match the code on the label beside the charging cradle (see image above). A “1” indicates the corresponding switch should be in the “ON” position. A “0” indicates the corresponding switch should be in the “OFF” position.

Under no circumstances change the settings of any dipswitch inside the console – these have been preset by the manufacturer.

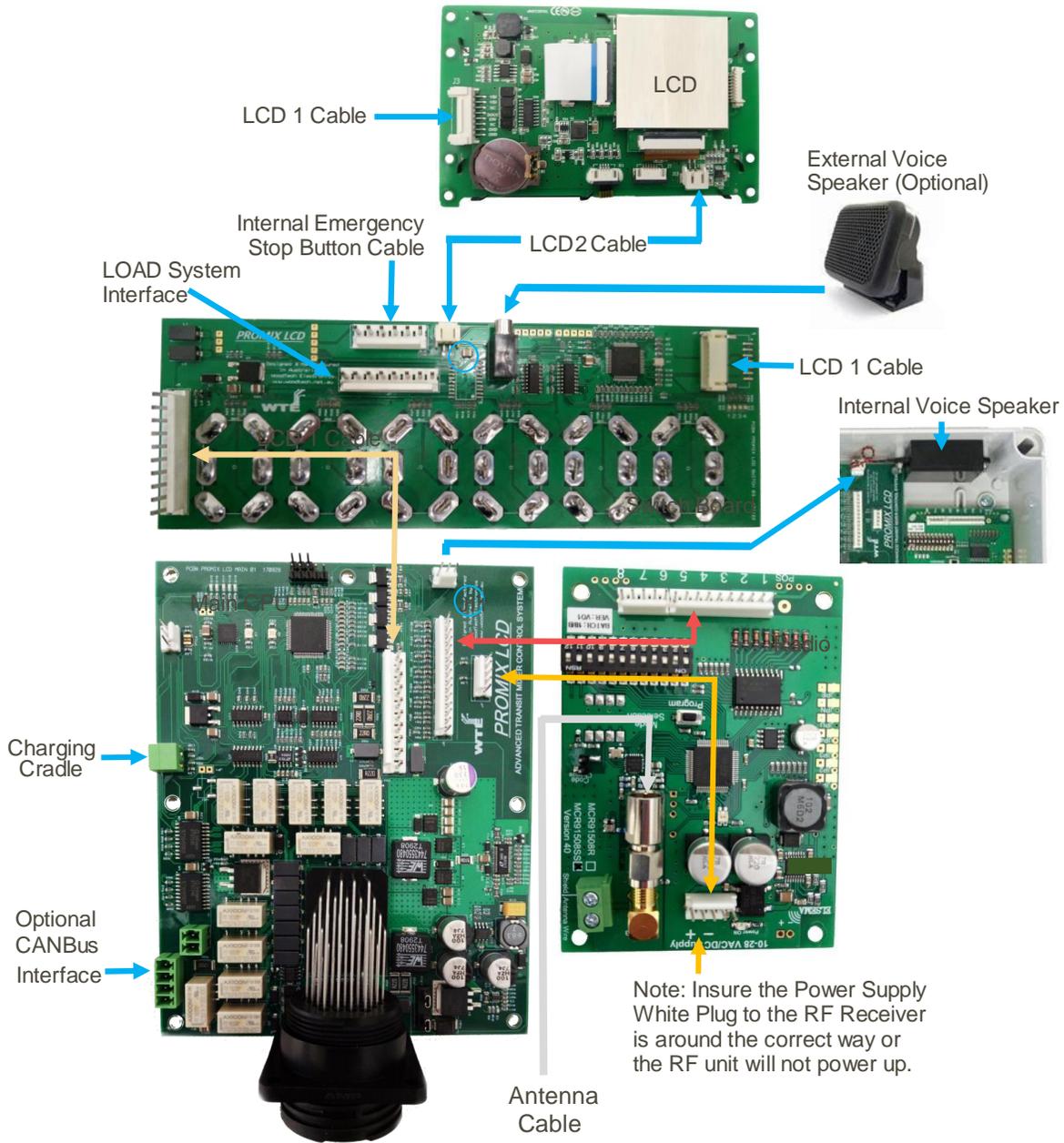
The remote control transmitter contains a rechargeable, Nickel Metal Hydride (Ni-MH), 9 volt battery. Service life is expected to be approximately one year; however, the number of charge / discharge cycles will ultimately determine useful service life. Should the battery require replacement, only use the same size and type.

If the battery becomes discharged, the red LED on the remote control transmitter will flash slowly when a function is pressed. Returning the remote to the holder will automatically charge the battery (vehicle ignition switch must be on; rear emergency stops not activated)

Receiver Antenna Cable Connection and Routing



Internal Hardware Connections and Routing



Wiring Codes

Control Console Wiring (37 Pole Connector).

Pin Number	Colour	Function
1	Black	Ground
2	Yellow (0.5mm)	CAN HI
3	Green (0.5mm)	CAN LO
4	Pink	Dump valve – manual pump only
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	Light Green	Rexroth solenoid common / Danfoss Pin A
12	Green / White	Rexroth discharge solenoid / Danfoss Pin B
13	Brown / White	Rexroth mix solenoid
14	Light Green	Rexroth solenoid common (looped internally to Pin 11)
15	-	-
16	Purple / Orange	Chute lower solenoid
17	Yellow / White	Cruise – revs down / Manual throttle – linear actuator

18	Yellow	Cruise – revs up / Manual throttle – linear actuator
19	Green / Brown	Fan on warning light
20	Green / Red	Fan relay terminal 86
21	Purple	Chute raise solenoid
22	Yellow / Pink	N.O. contacts of internal cruise / linear actuator relays
23	White / Orange	Manual pump – linear actuator
24	White	Manual pump – linear actuator
25	Brown	Remote accelerator port – Negative
26	Grey	Remote accelerator port - Signal
27	Orange	Remote accelerator port - +5v
28	Yellow / Purple	N.C. contacts of internal cruise / linear actuator relays
29	Blue	Park brake input
30	Yellow / Red	Service Brake (Footbrake/Stoplight) input
31	Green	Neutral input
32	Yellow / Green	Tacho input
33	Yellow / Blue	Spare
34	Yellow / Black	Headlight/Park light input
35	Yellow / Brown	Spare
36	-	-
37	Orange / Blue	+12v ignition input

Emergency Stop Relay Connections

Terminal Number	Wire Colour	Function
30	2 x Red	1- Fuse holder with 15A fuse; 2- to E/stop switch
87	Orange / Blue	+12v Ignition to control console
86	Blue	From E/stop switch
85	Black	Ground

Fan Relay Connections

Terminal Number	Wire Colour	Function
30	Red	Fuse holder with 20A fuse
87	Red / Yellow	Positive to fan
87	Green / Brown	Control console pin 19
86	Green / Red	Control console pin 20
85	Black /white	Fan thermo switch

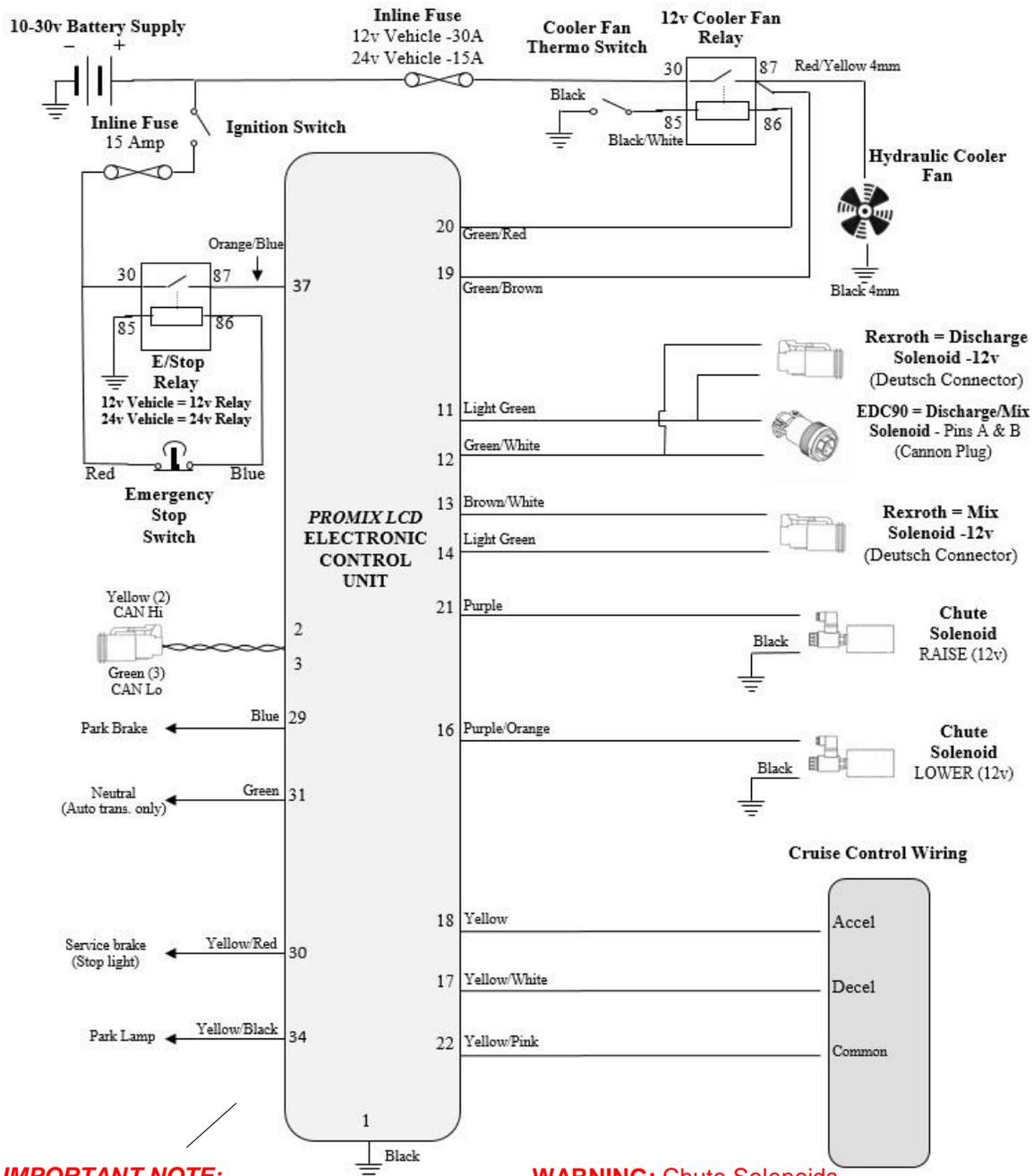
Note: If the hydraulic cooler fan does not require a thermo switch, the following three wires can be joined together at the cooler fan connection:

- Black 3mm wire
- Black 4mm wire
- Black / White 3mm wire

Promix LCD - Wiring Diagram

Rexroth Hydraulic Pump

Cruise Engine Revs V1.2

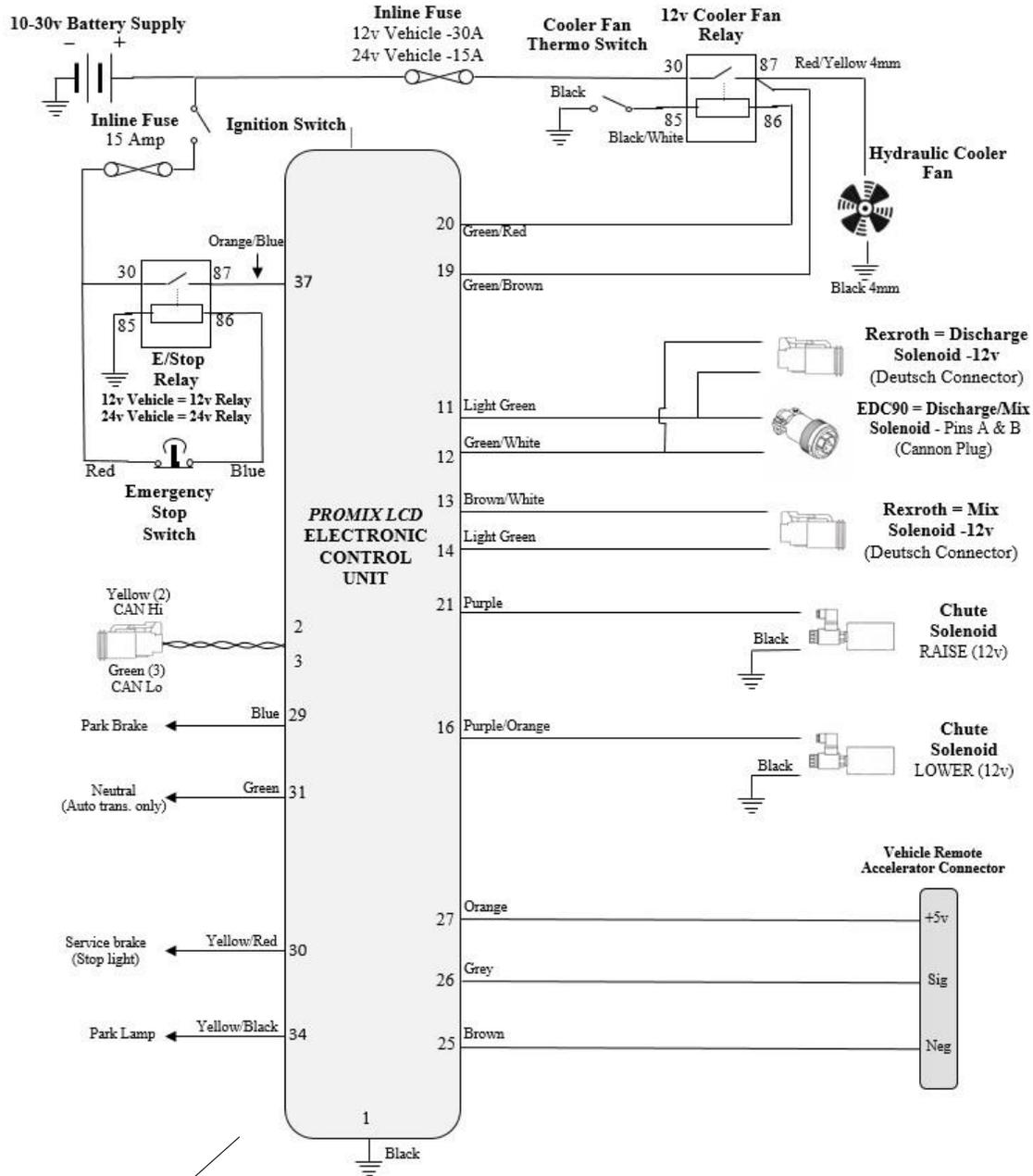


IMPORTANT NOTE:
Do not connect to Park Light Dimmer Circuit.

WARNING: Chute Solenoids must not exceed 12V@2.5A (30W att) MAX

Promix LCD - Wiring Diagram

Rexroth or EDC90 Hydraulic Pump Analog (Ratiometric) Type Engine Revs V1.3

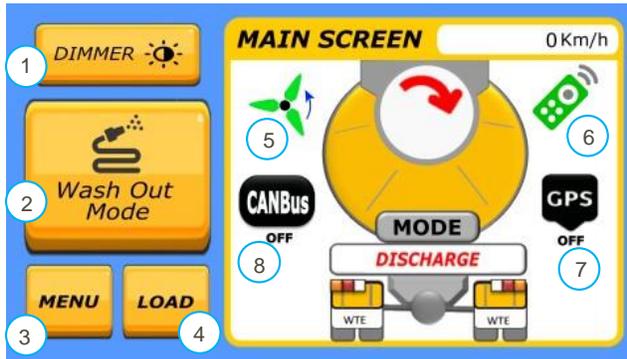


IMPORTANT NOTE:
Do not connect to Park Light Dimmer Circuit.

WARNING: Chute Solenoids must not exceed 12V@2.5A (30Watt) MAX

LCD Operation Screen

Screen Icons



1 Dimmer Button

Dims the LCD Backlighting to the selected value set via the Display Setting page.

2 Wash Out Mode Button

Proceeds to Wash Out Mode confirmation screen.

3 Menu Button

Pressing this button selects the Main Menu screen.

4 Load Button

View Actual Bowl Load and Tare Weight and only active if weighing hardware is installed.

(Please Note: This feature will be available in an upcoming Version)

5 Hydraulic Cooler Fan Icon

Indicates the status of the Fan relay – Black is OFF and Green is ON.

6 Hand Remote Icon

Indicates whether control is via cab console or the remote control – Black is cab and Green is remote.

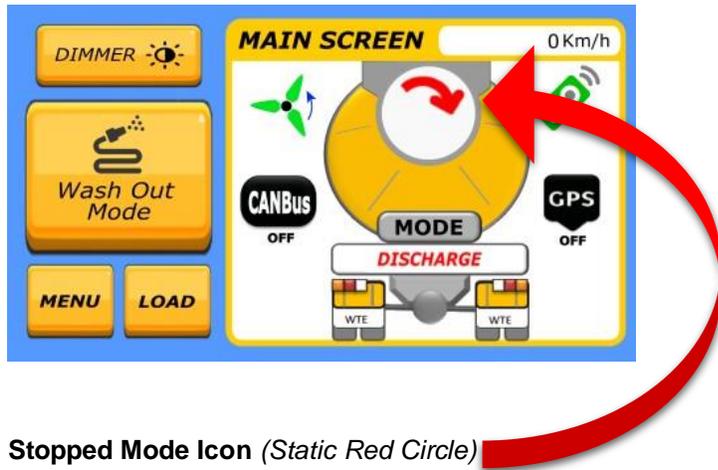
7 GPS Icon

GPS Status Indicator – GPS engine is receiving valid satellite data when icon is Green.

8 CANBus Icon

J1939 CAN Status Indicator – System is receiving valid CAN data when this icon is Green.

Bowl Mode Icons



Stopped Mode Icon (*Static Red Circle*)



Mix Mode Icon (*Blue Arrow Anti-Clockwise*)



Discharge Mode Icon (*Red Arrow Clockwise*)



Travel Mode Icon (*Green Rotating Circle*)



Halt Mode Icon (*Flashing Red Circle*)



Plant Mode Icon (*Purple Rotating Circle*)

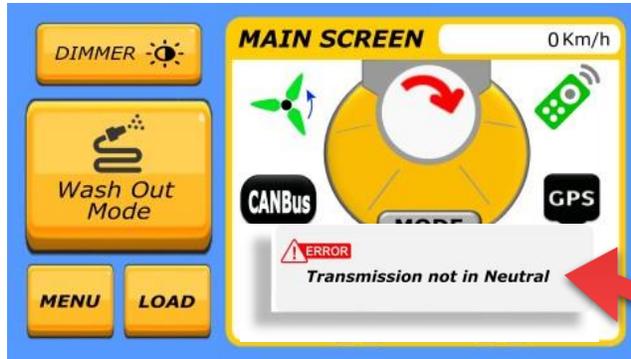


Wash Out Mode Icon. (*Rotating Circle with a wave motion*)



Errors & Warnings

The Promix LCD System comes with pop up Errors & Warnings which are overlaid on the Main Operation Screen.



To clear an error please press the **Stop Toggle Switch**



Main Menu Selection



Vehicle & Mixer Configuration Button

Adjust setup parameters for the specific vehicle and mixer combination. A PIN code is required for access. PIN code information is secret and unique for each OEM and will not be divulged to third parties.

View Diagnostics Button

View the status of all system inputs on one screen.

Weighing Setting Button

Access to Weighing System Settings. (Only Active if weighing hardware is installed)
(Feature will be available in an upcoming version)

System Setting Button

Access to mixer parameter Settings Menus

Display Setting Button

Set Nicole's Voice Volume and LCD Brightness Levels.

Factory Setting Button.

Product Build Setting (WTE Pin Code Access Only)

Back

Returns you back to the previous page.

Pin Code Access

Pin Code Access

Press on the White Box below to enter your 4 Digit Pin Number.

UTC Time:
14:01 22-03-2018

A 4-digit PIN Code is required to access the Vehicle & Mixer Configuration menus. This is to prevent unauthorized tampering of the settings relating to the specific vehicle and mixer combination.

Each OEM Customer has their own assigned PIN Code Access Number. PIN code information is secret and unique for each OEM and will not be divulged to third parties.

UTC Time is used to Log the time and date of the last known access.

Vehicle & Mixer Configuration 1

Use the Selection Buttons (on Right) to scroll the available selections.

Hyd Pump Control Type:
Rexroth SELECTION BUTTON

Vehicle Transmission Type:
Manual SELECTION BUTTON

Engine Revs Control Type:
Cruise SELECTION BUTTON

CONFIGURATION 1
Vehicle & Mixer Setup

NEXT

Hyd Pump Control Type:

Hydraulic Pump Control Type. Possible selections are:

- 1.Rexroth
- 2.Sauer Danfoss EDC90
- 3.Actuator (Pump)

Vehicle Transmission Type:

Possible selections are:

- 1.Manual
- 2.Automatic

Engine Revs Control Type

How the system controls Engine revs. Possible selections are:

- 1.Cruise Control (eg. Cummins)
- 2.Analog (Ratio metric) (eg. Isuzu, Hino, Mitsubishi)
- 3.Actuator (Engine)

Vehicle & Mixer Configuration 2

Use the Selection Buttons (on Right) to scroll the available selections

Transit Speed Control:
Preset [SELECTION BUTTON]

Park Brake Input:
Positive [SELECTION BUTTON]

Neutral Input:
Positive [SELECTION BUTTON]

[BACK] [CONFIGURATION 2] [NEXT]

Transit Speed Control:

Currently only one mode available:

- 1.Preset

Park brake Input:

Switch signal which indicates when the parking brake is set. The system can accept positive or negative switched signals on the same wire. Simply select the appropriate menu selection. This signal can also be decoded from the J1939 CAN data if available. Possible selections are:

- 1.Positive
- 2.Negative
- 3.CANBus

The installer can easily

Neutral Input:

Switch signal which indicates when the vehicle transmission is in neutral. The system can accept positive or negative switched signals on the same wire. Simply select the appropriate menu selection. This signal can also be decoded from the J1939 CAN data if available. Possible selections are:

- 1.Positive
- 2.Negative
- 3.CANBus

Vehicle & Mixer Configuration 3

Use the Selection Button (on Right) to scroll the Configuration topics.

The screenshot shows a configuration interface with a blue background. It contains three input fields, each with a corresponding 'SELECTION BUTTON' to its right. The first section is 'Service Brake Input' with the value 'Positive'. The second is 'Headlight Input' with the value 'Positive'. The third is 'Engine RPM Input' with the value 'Tacho Input'. At the bottom, there are three buttons: a yellow 'BACK' button, a grey 'CONFIGURATION 3' button, and a yellow 'NEXT' button.

Service Brake Input:

Switch signal which indicates that the driver operated brake foot pedal is being pressed. The system can accept positive or negative switched signals on the same wire. Simply select the appropriate menu selection. This signal can also be decoded from the J1939 CAN data if available. Possible selections are:

- 1.Positive
- 2.Negative
- 3.CANBus

Headlight Input:

Switch signal which indicates that the parking lights / headlights are switched on. This signal is used to automatically dim the display brightness. Possible selections are:

- 1.Positive
- 2.Negative
- 3.CANBus

Engine RPM Input:

(Not required at present. Feature will be available in an upcoming version)

- 1.Tacho Input
- 2.CANBus

Vehicle & Mixer Configuration 4



Hydraulic ramp rate is the time it takes for the hydraulic pump stroke to increase (or decrease) speed between minimum and maximum. The higher the value the faster the pump will ramp. Setting a value at or near 100% is very fast and may be dangerous. Use extreme caution when adjusting this setting.

The hydraulic ramp rate is across all system functions and will affect the ramp times during Plant Mix, Travel, Washout etc.

Vehicle & Mixer Configuration 5

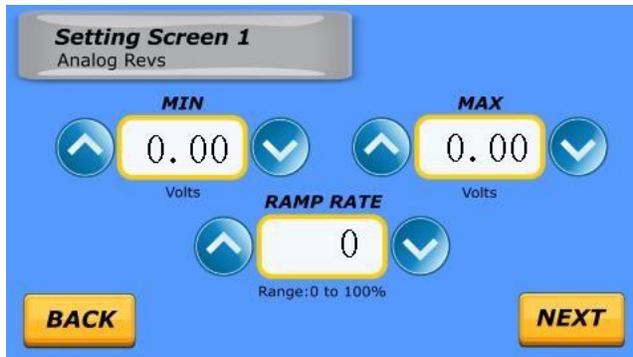
CANbus Resistor:

<input type="text" value="Enabled"/>	SELECTION BUTTON
<input type="text"/>	SELECTION BUTTON
<input type="text"/>	SELECTION BUTTON

BACK **CONFIGURATION 5**
Vehicle & Mixer Setup **NEXT**

Hydraulic ramp rate is the time it takes for the hydraulic pump stroke to increase (or decrease) speed between minimum and maximum. The higher the value the faster the pump will ramp. Setting a value at or near 100% is very fast and may be dangerous. Use extreme caution when adjusting this setting.

Analog Revs - System Settings 1



These settings are only applicable on vehicles where engine revs are controlled via a voltage input via a remote accelerator port or similar.

Most remote accelerator applications require a voltage of approx. between 0.4 – 1.0v before the engine will increase above idle. Because of this, there can appear to be some “dead time” from idle as you hold the Increase Revs button. The MIN adjustment value can be used to “tune out” this dead time by setting a minimum voltage somewhere between 0 – 1.0 volts. If the MIN value is too low, there will be noticeable “dead time” when initially increasing the rpm above idle. If the MIN setting is too high, the engine will not return fully to idle RPM. A little time spent getting this adjustment “just right” will improve the overall smoothness and operation of the system.

The voltage required for maximum engine RPM can be adjusted with the MAX setting.

The rate at which the engine revs ramp up and ramp down can be adjusted with the RAMP RATE setting. Increasing the RAMP RATE value makes the ramp time faster. Even when set to the fastest setting (100%), the vehicle ECU ultimately determines how quickly it will allow the engine to change rpm.

Some vehicles (eg. Mitsubishi) require the voltage to decrease for the engine revs to increase. This is easily achieved by setting appropriate values for MIN and MAX.

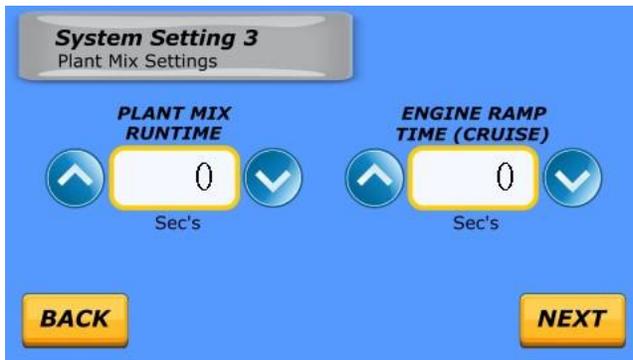
Transit Speed - System Settings 2



Base Travel Speed is controlled by the BASE SPEED setting. This is the percentage of hydraulic pump stroke during Travel Mode and has a range of 0-100%. Increasing this value will increase the base Travel bowl speed.

The other buttons on this page are currently inactive.
(This Feature will be available in an upcoming version)

Plant Mix - System Settings 3



Plant Mix can be set to run for a programmed period of time if desired. The PLANT MIX RUNTIME value sets the programmed time in seconds. At the completion of the programmed time, Plant Mix operation will stop and the mixer will automatically change to Travel Mode.

A PLANT MIX RUNTIME value of zero sets Plant Mix operation to manual mode where the process is started and stopped by the operator.

The ENGINE RAMP TIME (CRUISE) setting is only applicable on vehicles where engine revs are controlled via Cruise Control. This value is the time (in seconds) that the increase and decrease revs outputs will be activated during the initialization and completion of the Plant Mix function.

Wash Out - System Settings 4



The Washout function parameters can be adjusted on this screen.

MIX - Is the time (in seconds) the mixer will spend in the mixing direction on each part of the cycle.

DISCHARGE - Is the time (in seconds) the mixer will spend in the discharging direction on each part of the cycle.

NEUTRAL - Is the time (in seconds) the mixer will spend in the stopped state as the process transfers from the mix to discharge direction and vice versa.

RUNTIME - Is the total programmed run time of the function (in seconds). At the completion of the total time the system will return to the Stopped state

Auto Travel Mode - System Settings 5



Travel Mode may be set to automatically activate at a preset road speed. The **ROAD SPEED** parameter value sets the preset speed in Km/h.

A value of zero turns off the automatic activation. Travel mode may still be started and stopped by the operator.

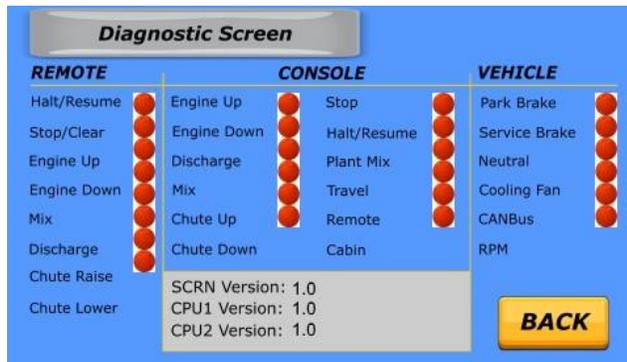
Hand Remote Speed Alert - System Settings 6



The Hand Remote Speed Alert may be set to automatically activate the visual and audible warnings at a preset road speed when the remote-control hand piece is not in the charging cradle. The ROAD SPEED parameter value sets the preset speed in Km/h.

A value of zero sets the visual and audible warnings to activate as soon as the remote hand-piece is removed from the charging cradle.

Diagnostic Screen



The Diagnostic Screen displays the status of system inputs via round indicators that are either Red or Green. If the input has a Green indicator, the input is active. If Red, it is inactive.

This handy screen can be used to check the functionality of the remote control buttons and the console toggle switches.

Also displayed are the Firmware versions for the various internal modules:

SCRN Version: LCD Firmware Version

CPU1 Versions: CPU Board Firmware Version

CPU2 Version: Switch Board Firmware Version

Dimmer & Volume Level - Display Setting 1



Dimmer Level Setting:

The LCD Back Light will reduce from full brightness to the dimmer level set value once the Dimmer Button has been pressed on the Main Screen Page or if the headlight Input is active.

Volume Level:

The Voice Volume Level range is from 0(Min) to 63(Max)

External Speaker:

An optional external speaker can be added if required.



The external speaker should have a 4-8 Ohm nominal impedance and be terminated in a 3.5mm mono plug. When the external speaker is plugged in the internal speaker will be disconnected. (See page 14 for speaker port connection location)