

# NARVA HUB USER MANUAL

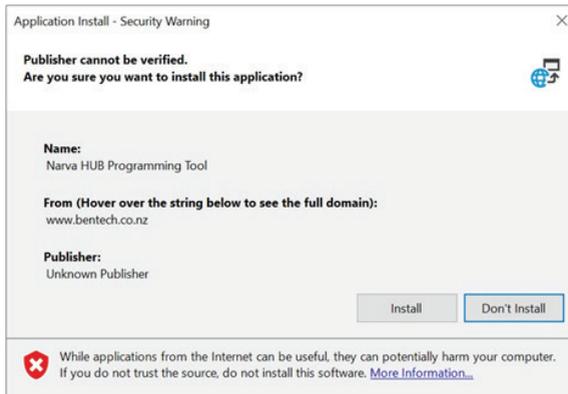
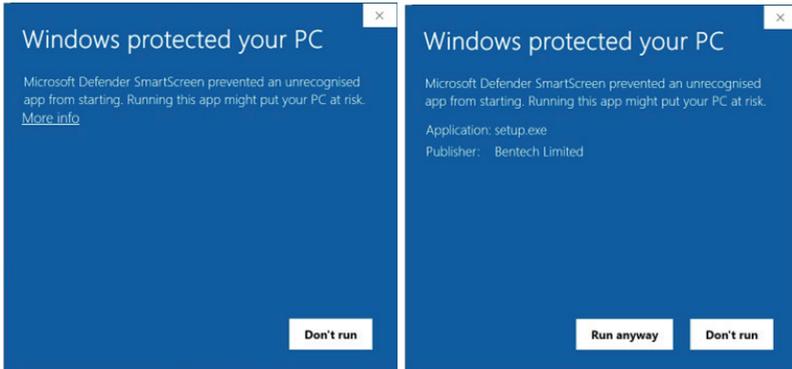


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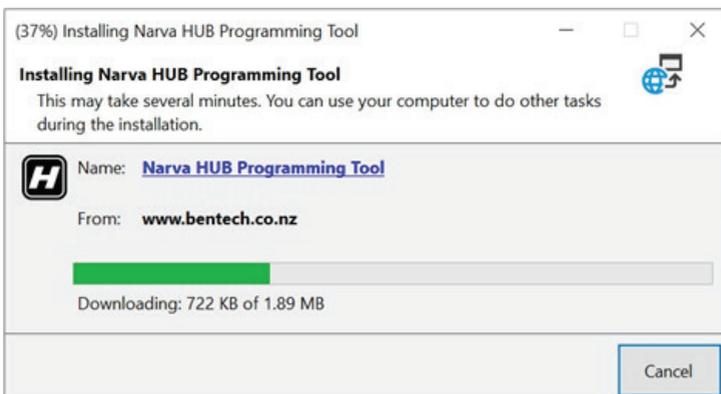
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## SOFTWARE INSTALLATION

1. Using a laptop or desktop, download the Narva HUB programming tool from: [https://wadegroupltd.com/applications/narva\\_hub/setup.exe](https://wadegroupltd.com/applications/narva_hub/setup.exe)  
**NOTE:** if you use a desktop you most likely won't be able to configure the unit when it's installed into a vehicle.
2. Run the installer. You may be prompted from Microsoft Defender SmartScreen. Click 'Run anyway'.



3. Wait for the install process to complete.



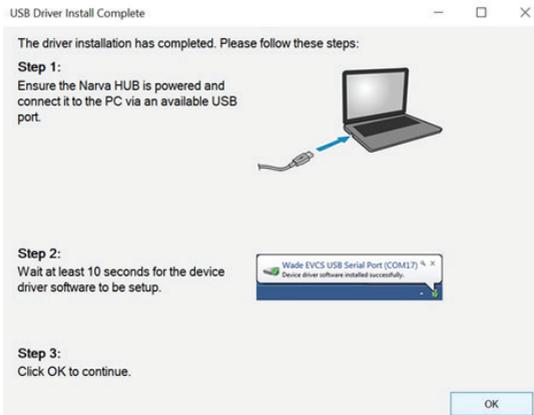
## RUN

1. Once the install is complete, it will run the application. The SmartScreen may prompt you again, so once again click 'More info' and then 'Run anyway'.
2. When the application runs, it will check for the Wade EVCS USB driver. If it is not found, it will prompt you to install it.

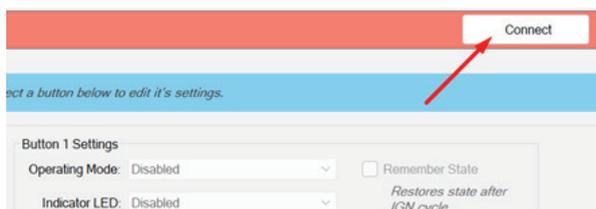


## NARVA HUB INSTRUCTIONAL INFORMATION

1. Once the install is complete, it will run the application. The SmartScreen may prompt you again, so once again click 'More info' and then 'Run anyway'.
2. When the application runs, it will check for the Wade EVCS USB driver. If it is not found, it will prompt you to install it.



Connection: When a connection is established with the Narva HUB, the status bar at the top will be green. If the USB has been connected and the bar remains Red, click the Connect button as shown below.



# NARVA HUB PROGRAMMING TOOL

The Narva HUB is configured and diagnosed using the Narva HUB Programming Tool as shown below. A single application is used for configuring a Narva HUB system as well as performing remote diagnostics and delivering device firmware updates.

The screenshot shows the Narva HUB Programming Tool interface. On the left, a sidebar lists 'Connected Devices' with details for three Narva HUB units (Hardware Version: 1.0, 2.2, 3.4; Firmware Version: 1.0.4, 1.0.5, 3.16.3). Below this is a 'Narva HUB Preview' showing a virtual device with buttons for 'Button 1', 'Button 2', 'Button 3', 'L1', 'S1', 'S2', 'S3', and 'OFF'. A 'Menu' button is at the bottom left. The main area displays 'Connection: Connected' at the top right. Below this is a 'Button Settings' panel with options for 'Operating Mode', 'Indicator LED', 'Output Channel', and 'Steer Tone'. A 'Button Icon Library' is shown as a grid of icons. The bottom section contains 'General Settings' for light bars, LEDs, and SUC lights, and 'Input Priority' for SUC A2, A3, and A4. At the bottom right, 'Set/Get Config Buttons' are visible. A 'Connection Status' bar is at the top right. A 'Operation Status' bar is at the bottom center.

Connected Devices

Narva HUB Preview

Menu

Connection Status

Button Settings

Button Icon Library

Set/Get Config Buttons

Operation Status

# NARVA HUB PROGRAMMING TOOL

## Button Settings

When connecting to a new Narva HUB, it will be configured with default settings similar to the image below.



To configure a button, it must firstly be loaded with a button icon. Choose an icon appropriate for the desired function and drag it from the icon library on the right onto the desired button on the Narva HUB preview. Click the button on the Narva HUB preview to display/edit the buttons settings.

**NOTE:** The icons are pre-loaded with default settings. Most settings can then be changed unless they rely on built in functions. For example, a light bar pattern.

## Operating Mode

The operating modes consist of:

- Disabled – The button does not function. When selected, the icon is removed.
- Momentary – The desired output or function is active while the button is pressed and held.
- Toggle – The desired output or function is turned on/off on each press of the button.
- Front – The secondary lights pattern consisting of the forward facing lights only. This applies to both the SLC and the Light Bar if installed.
- Rear – The secondary lights pattern consisting of the rear facing lights only. This applies to both the SLC and the Light Bar if installed.

## Indicator LED

The indicator LED on each RCH button can be set as one of the following options:

Setting	Description
Disabled	The LED will not illuminate
Solid	The LED will be illuminated when the button function is active
Flashing Slow	The LED will flash slow when the button function is active
Flashing Fast	The LED will flash fast when the button function is active

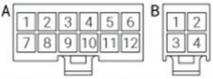
# NARVA HUB PROGRAMMING TOOL

## Output Channel

The button can be configured to turn on any available channel. The channels available are subject to the modules installed and the selections made in General Settings. For example, turning on *Disable Grill Lights* makes the grill light channels available to the button settings. See the Output Channels section for more details.

**HINT:** Once the Narva HUB configuration has been set up, the device pin outs are available via the View -> Pinouts menu. The pinouts can then be printed for ease of installation – See below default settings and pin out view example

**SLC Pins** View from WIRE SIDE of plug



Pin	Description	Function	Input Pullup	Max Current
A-1	Hom Out / In			0.5A
A-2				
A-3				
A-4				
A-5	Speaker -	Analogue		
A-6	Speaker +	Analogue		
A-7	Front Left Out	Lights		6A
A-8	Front Right Out	Lights		6A
A-9	Grille Left Out	Lights		6A
A-10	Grille Right Out	Lights		6A
A-11	Rear Left Out	Lights		6A
A-12	Rear Right Out	Lights		6A
B-1				
B-2				
B-3				
B-4				

Print Close

## Siren Tone

The siren tone for each button can be set to one of the built in software generated tones. If no siren tone is required, select *None*.

## Remember State

When set, the state of the button prior to the system being turned off (IGN and IGN Bypass turned off) is restored when the system is turned back on. The button state includes any output and siren tone that may be set. This feature can be useful when an output is being used to enable equipment power such as a radio.

**NOTE:** Remember State can only be set for buttons that have the *Toggle* operating mode.

## GENERAL SETTINGS

### Light Bar Installed – Possible Optional lightbar controller

Enable when the LBC is installed in the system.

#### Automatic Light Bar Dimming

Enables dimming of the light pattern brightness based on the light sensor in the Federal Signal Integrity light bar.

### I/O Module Installed

Enable when the Wade I/O Module is installed in the system.

#### Operating Mode

Select the mode of operation for the I/O Module as follows.

- IO Module – General Input/Output module.
- Pursuit Light Bar – Operates a Code 3 Pursuit light bar.
- Defender Light Bar – Operates a Code 3 Defender light bar.

### Bonnet Ajar

When enabled, the siren volume reduces while a signal is applied to the SLC A-4 input. This feature is useful to prevent extreme noise during unwanted siren activation while a technician is working in proximity to the siren speaker.

**NOTE:** The input changes to A-3 if the IGN Signal Input Enabled feature is enabled.

### IGN Signal Input Enabled

Enables input A-4 on the SLC as an ignition signal input. The ignition signal is used to turn the Narva HUB system on and off and if not used an IGN Bypass button must be configured for the system to operate.

#### Output

An optional IGN signal output can be selected which will turn on when the ignition...

### SLC Lights/Siren Active Out

When enabled, the chosen output will be active while any light or siren function is active.

#### Primary Lights Only

Enable to prevent the output when only the secondary lights pattern is active.

### Front/Rear 2-Channel Lights

Has the same effect on the grill light channels as Disable Grill Lights above.

**NOTE:** See outputs section for more details on this setting.

## GENERAL SETTINGS

### Disable Grill Lights

Disable the grill light feature and free the channels for button selection.

**NOTE:** See outputs section for more details on this setting

### IGN Controlled Grill Lights

Disables the grill lights when the IGN signal is OFF. This feature is useful when grill lights must be disabled if the vehicle is parked on the side of a road.

### Steady On LED Outputs

Changes all channels being used by the light patterns to steady on, effectively disabling all light patterns. This feature is useful when self patterned lights are required.

### Steady On Grill Lights

Changes the grill light operation to steady on, where the channels turn on while activated and do not follow the light patten.

### Quad Flash LEDs Only

Forces the secondary light pattern to be quad flash, the same as the primary light pattern. See Light Patterns for more details.

### Disable Lights Active Beep

Disables the periodic beep that the Narva HUB emits while a light pattern is active.

### Input Pull Up

All inputs consist of a 'pull down' style circuit, designed for positive signals. Configurable 10K $\Omega$  pull up resistors are available on the displayed inputs to support negative input signals. If the connected signal is negative (switched to ground) then the corresponding Pull Up must be enabled in order for the signal to be detected.

### Input Polarity

The polarity of the displayed inputs can be set to detect either a positive or negative signal.

**NOTE:** A Negative input polarity requires that the corresponding Input Pull Up be enabled.

## INPUTS

Several inputs are available on the SLC as follows:

### Horn

SLC channel A-1 can be wired to a vehicles negative horn signal to activate the SLC horn siren tone. When a horn button is configured, this output will also be driven to activate the vehicles horn and electronic siren horn.

**HINT:** When a horn is not required, leave this pin disconnected.

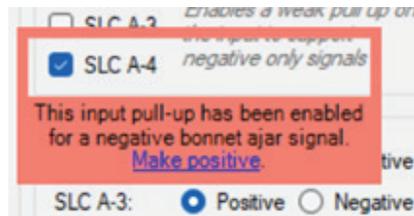
### IGN Signal

SLC channel A-4 can be wired to the vehicles ignition signal to enable the Narva HUB system when the ignition is turned on.

**HINT:** The ignition signal is typically driven positive; however, a negative signal can be supported by changing the Input Polarity to Negative and enabling the Input Pull Up.

### Bonnet Ajar

An optional bonnet ajar input can be wired to the vehicles bonnet open switch to reduce the siren volume. A typical bonnet ajar circuit is switched to ground (negative signal) so when enabled, the corresponding Input Polarity and Input Pull Up will automatically be configured as necessary. Any change will trigger a message highlight as shown below. The change can be reverted to the previous state by clicking on the blue link in the message.



The SLC input for the bonnet ajar defaults to A-4, but changes to A-3 if the IGN Signal Input is enabled.

## OUTPUTS

The channels available for button settings depend on the modules that are installed and the settings in the General Settings section.

Device	Channel	Function	Alternative Function
SLC	A-1	Horn	General Output
SLC	A-2	General Output	
SLC	A-3	General Output	Bonnet Ajar Input
SLC	A-7	Lights (Front Left)	
SLC	A-8	Lights (Front Right)	
SLC	A-9	Lights (Grill Left)	General Output
SLC	A-10	Lights (Grill Right)	General Output
SLC	A-11	Lights (Rear Left)	General Output
SLC	A-12	Lights (Rear Right)	General Output
SLC	B-1	General Output*	
SLC	B-2	General Output*	
SLC	B-3	General Output*	
SLC	B-4	General Output*	
LBC	Takedown	Light Enable	
LBC	Left Alley	Light Enable	
LBC	Right Alley	Light Enable	
IOM	A-3	General Output	
IOM	A-4	General Output	Dim
IOM	A-5	General Output	Left Alley
IOM	A-6	General Output	Rear Lights
IOM	A-7	General Output*	
IOM	A-8	General Output*	
IOM	A-11	General Output	
IOM	A-12	General Output	Right Alley
IOM	A-13	General Output	Takedown
IOM	A-14	General Output	Front Light
IOM	A-15	General Output*	
IOM	A-16	General Output*	

\*These channels are high power channels suitable for driving lights. Consult the technical specifications of the relevant device for further details.

## OUTPUTS

### Grill Lights

The grill lights form part of the light patterns where the left grill light follows the front right light and the right grill light follows the front left light.

**NOTE:** Several settings affect the operation of the Grill light channels as detailed in General Settings.

### Light Channels

The following table shows what channels are available for buttons based on the *Front/Rear 2 Channel Lights* and *Disable Grill Lights* settings:

Front/Rear 2 Channel Lights	Disable Grill Lights	Front Left	Front Right	Rear Left	Rear Right	Grill Left	Grill Right
OFF	OFF	NO	NO	NO	NO	NO	NO
OFF	ON	NO	NO	NO	NO	YES	YES
ON	-	NO	NO	YES	YES	YES	YES

### Pinouts

Pinout tables for relevant connected devices can be viewed from the View -> Pinouts menu. The pinouts are dynamically generated based on the current configuration and can be printed for ease of installation.

## CONFIGURATION PROGRAMMING

To program the configuration into the Narva HUB, simply click the *Set Config* button at the bottom right.



The Set Config button will highlight green when changes have been made in the tool that have not been sent to the Narva HUB. If the Get Config button is clicked, a prompt will ask to confirm the upload from the Narva HUB as it will overwrite any unsaved changes.

### Transfer Configuration

To transfer the configuration from one Narva HUB to another, do the following:

1. Connect the first Narva HUB and download the configuration by clicking *Get Config*.
2. Optionally save the configuration (see Save/Load Setup) to use later.
3. Disconnect the first Narva HUB and connect the second one.
4. Click Set Config to program the configuration.

## **OTHER SOFTWARE FEATURES**

### **Save/Load Setup**

The Narva HUB configuration can be saved to a file and loaded at a later time. This is particularly useful when you want to load a common configuration to multiple Narva HUB installations.

### **Login**

Authorised service personnel can login to retrieve special firmware updates and perform remote diagnostics. Please contact your local Narva HUB sales representative for more information.

### **Clear Log**

This menu option clears the Narva HUB system log stored in the device. It can be helpful to clear the log for clarity during diagnostics.

### **Diagnostics Report**

If you are requested to submit a diagnostics report by a support technician, you can do this via the Diagnostics > Submit Report menu item. This collects information about the connected Narva HUB system and submits it to the cloud to be analysed by the technician. Information that is submitted includes:

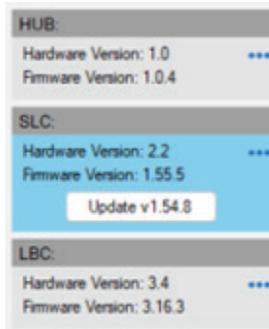
- Details provided by the user in the Submit Report dialogue
- Details of the connected devices
- Narva HUB configuration
- Narva HUB system logs
- Current system status

### **Diagnostics Mode**

Diagnostics mode enables the recording of additional events and information in the system log and should only be enabled when requested by a support technician. The mode automatically disables after a timeout

## FIRMWARE UPDATES

Updates are downloaded periodically in the background and are available to download into each unit via the device details panels on the left hand side as shown below. You can also check for updates at any time via the Help menu.



### Updating Firmware

To update the firmware of a connected device, simply click the Update button in the corresponding device panel. The status of the update process is shown in the status bar at the bottom of the application.

### Narva HUB

The Narva HUB will perform a restart during the update process, at which time it will disconnect from the PC. It will automatically reconnect once complete. If it does not, please cycle power and reconnect manually.

### All Other Devices

Firmware updates of all other devices involves the file being downloaded to the Narva HUB first, and then updated over the corresponding communication data cable. **Do NOT disconnect the device or turn off the power during a firmware update.**

**NOTE:** Additional firmware updates cannot be performed until the current process has completed.

## OPERATION

### Buttons

Apply the corresponding button stickers that match what is set in the configuration. Once configured the buttons should operate according to the configuration.

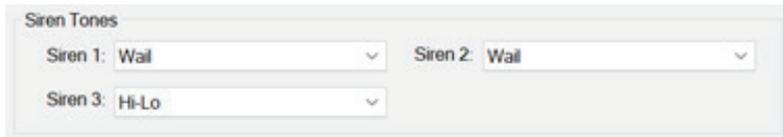
### Rotary Switch

The rotary switch on the Narva HUB has 6 positions that function according to the table below.

Position	Lights Mode	Siren Mode	
OFF	None	None	
L1	Secondary	None	See Light Patterns for details
L2	Secondary	None	See Light Patterns for details
S1	Primary	Siren 1	See Siren Tones for details
S2	Primary	Siren 2	See Siren Tones for details
S3	Primary	Siren 3	See Siren Tones for details

## SIREN TONES

The SLC comes with 8 built in siren tones that can be chosen for each of the three siren positions (S1, S2 and S3). The siren tones are selected in the Siren Tones section as shown below.



Siren Tones

Siren 1: Wail

Siren 2: Wail

Siren 3: Hi-Lo

NOTE: Siren tones are software generated and custom tones are available on request.

## LIGHT PATTERNS

Two light patterns are built into the SLC and LBC called Secondary and Primary. They are standard light patterns used for emergency vehicles and custom light patterns can be added on request. The timing of the patterns is detailed in the following table:

Pattern	Flashes Per Side	Flash Time (On + Off)	Cycle Time
Secondary	1	380ms + 380ms	760ms
Primary	4	45ms + 45ms	720ms

The light patterns are activated either by selecting a position on the rotary switch, or by activating a button that has a Front or Rear Operating Mode assigned to it (via a compatible button icon). If enabled, the Narva HUB emits a periodic beep while a light pattern is active.

## MANUFACTURER'S PRODUCT WARRANTY

### Applicable only to product sold in New Zealand

In addition to the rights that you may have as a consumer under the New Zealand Consumer Guarantees Act 1993, Brown and Watson International NZ Ltd (BWI NZ) provides a LIMITED REPLACEMENT GUARANTEE for BWI NZ products bought new in New Zealand that expires 3 YEARS from the date of original purchase.

Brown and Watson International NZ Ltd (6081127) of 19 Bell Avenue, Mount Wellington, Auckland 1060, telephone: 09 5254575, warrants that all products described in this manual will be free of failures in material and workmanship for a period of three (3) years from the date of the original purchase as new by the consumer, as marked on the invoice. This warranty is conditional upon the products having been used only for the intended purpose and in accordance with the instructions and on the products having been maintained and serviced in accordance with the instructions.

This warranty does not cover:

- Failures resulting from abuse or damage which was not caused by defective material or workmanship,
- Usual wear and tear,
- Products which have been modified or altered after purchase,
- Consequential damage claims will not be covered by this replacement guarantee.

To make a warranty claim the consumer should deliver the product to the original place of purchase with evidence of original purchase (such as an invoice) or to any other place which may be nominated by either BWI NZ so that a warranty assessment may be performed. BWI NZ will reimburse you for your reasonable delivery (freight) costs if it approves your claim. The consumer must also deliver an explanation in writing as to the nature of the claim. In the event that the claim is determined to be for a minor failure of the product then BWI NZ reserves the right to repair or replace it at its discretion. This replacement and restoration will be provided on a without prejudice basis, and without any admission of liability.

**IMPORTANT NOTE: Our goods come with guarantees that cannot be excluded under the New Zealand Consumer Guarantees Act 1993. The benefits given to you by this Manufacturer's Product Warranty are in addition to the rights you may have as a consumer under the Consumer Guarantees Act 1993.**