LUIS Gen3 Introduction

- Three User Can Buses, All Autobaud!
- RHOHM Rheostat Module Option
- Closed Loop Vehicle Speed
- No More USB Hub!
- Improved Communications Reliability
- Upgrade from Gen2 for $4692

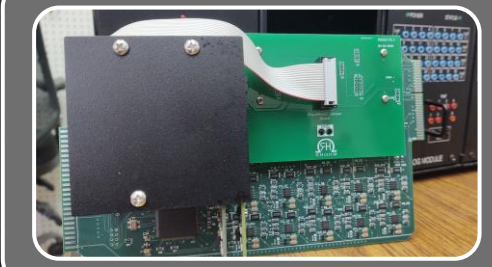
Topics of Discussion

- Hardware Changes
- Software Changes
  - GUI Controls
  - Home Screen
  - Behind the Scenes
- GUI Controls Explained
- Home Screen Tools Explained
- WaveMaker Server
- Server property
- Gen2 to Gen3 Conversion
- Using Gen2 HW with GEN3 App
- Contact Info & Pricing

GEN3 HARDWARE

Completely Revised Main Module

- New, significantly more powerful controller
- Eliminated internal USB hub (highest failure point)
- No relays, all solid state switching for increased reliability and repeatability
- 3 user CAN buses, all with auto baud rate detection and live status indication
- Improved serviceability with slide out PCB's similar to other modules



WaveMaker Control Board Replaced

- Dedicated controller board replaced with ribbon cable adapter to Main Module
- Improved PC communications reliability
- Removed USB connection; separate USB driver not required
- Centralized communications
- Eliminated processor EOL (End Of Life) issue
- Closed loop CAN bus now can be used to broadcast LUIS J1939 Sensor Data

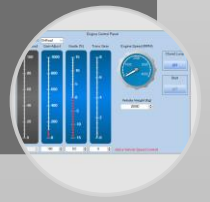
Rheostat Module Gen3 Option

- 16 channels available per module, up to 4 modules in a system
- Resistance range: 10Ω – 1 MΩ, step size approximately 1Ω
- Output can be set to open circuit for OOR testing
- Accurately simulates all known resistive element sensor types (pulled up or down)
- Voltage/Current protection: 24.5V/75mA
- Resistance channels are electrically bidirectional and support parallel/series channel chaining

GUI CONTROLS

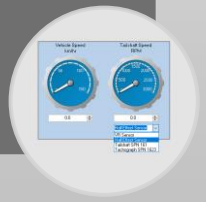
Engine Control Panel

- Formerly Closed Loop Control
- Select OnRoad or Industrial type (OnRoad links engine speed to vehicle speed, only on Gen3 hw)
- OnRoad Features: Define transmission gear ratio tables, set vehicle weight, set terrain grade
- Default gear ratio tables included for 8, 9, 10, 13 speed transmissions



Vehicle Speed Control

- Select tailshaft sensor type (Hall, VR, SPN 161, SPN 1623)
- Define rear axle ratio
- Define tire size
- Set units (metric or SAE)
- Set tone wheel teeth/rev
- Can be used in open loop or closed loop modes (only on Gen3 hw)



Accelerator Control

- Select from user defined accelerator profiles (such as single APS, dual APS, IVS, Frequency throttle, PWM throttle, J1939, etc)
- Switch between profiles via drop down list
- Channel selection, interlocks, message setup all defined in profiles which can be exported/imported

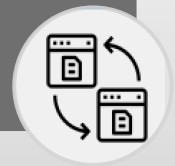
TSC1 Control

- Access to all bits/parameters
- Selectable broadcast rate
- Assign to user CAN bus A, B, or C
- Switch to enable/disable broadcast

HOME SCREEN

- Convert config file controls from Gen2 to Gen3
- Convert config file controls from Gen3 to Gen2
- Results shown in window for clarity

Convert to New Server



- Define accelerator profiles
- Several default examples included

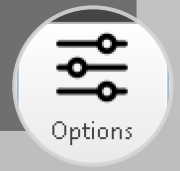
Accelerators

- Shows user CAN bus speeds and status
- Network server capable

Server List (revised)

- Set default server (ie Gen2, Gen3, Network Server, etc)
- New controls placed on screen will be set to use the default server automatically

Options (revised)



- Several fully defined default messages now included
- Icon pics to help distinguish rx/tx definitions

Datalink Sensors (revised)

- Device tree is now auto-expanded to show all modules
- When new firmware file is selected, text box shows what device the new file is valid for

Devices (revised)

BEHIND THE SCENES

New LUIS Gen3 USB Driver

- More robust communications between PC and Gen3 hardware

Install/Uninstall Issues Addressed

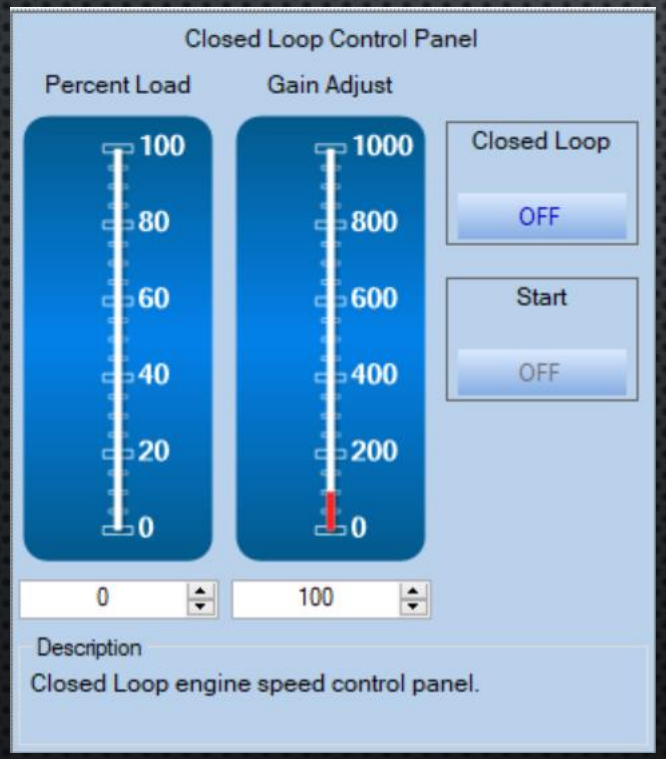
- Significant effort and tools expense invested to resolve issues with installation and removal
- New rev can be installed over existing Gen3 rev without need to uninstall previous Gen3 rev
- Gen2 must be manually uninstalled before installing Gen3
- Any issues with Gen2 manual uninstall can be resolved with installer guidance

Coming Soon

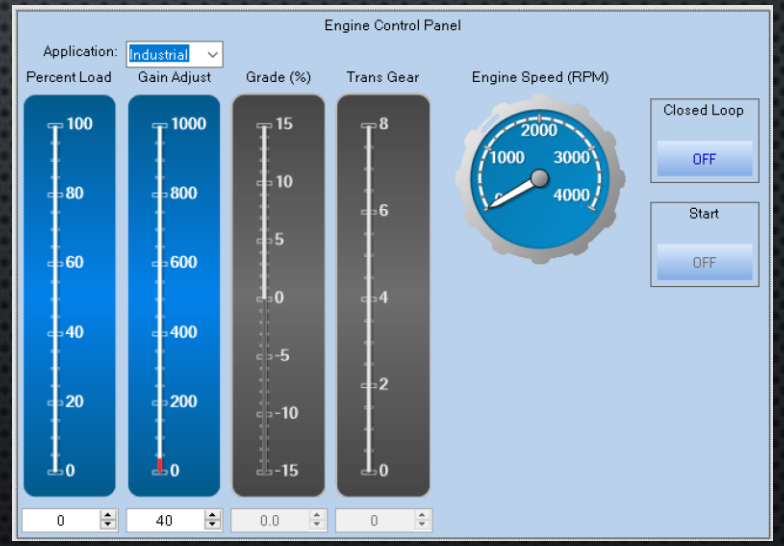
- Play back feature!
- LUIS Network Servers – Network capable control of LUIS Gen3 units with the ability to control several LUIS Gen3 simultaneously through local network connectivity. Additional hardware required.

CLOSED LOOP CONTROL → ENGINE CONTROL PANEL

LUIS GEN2

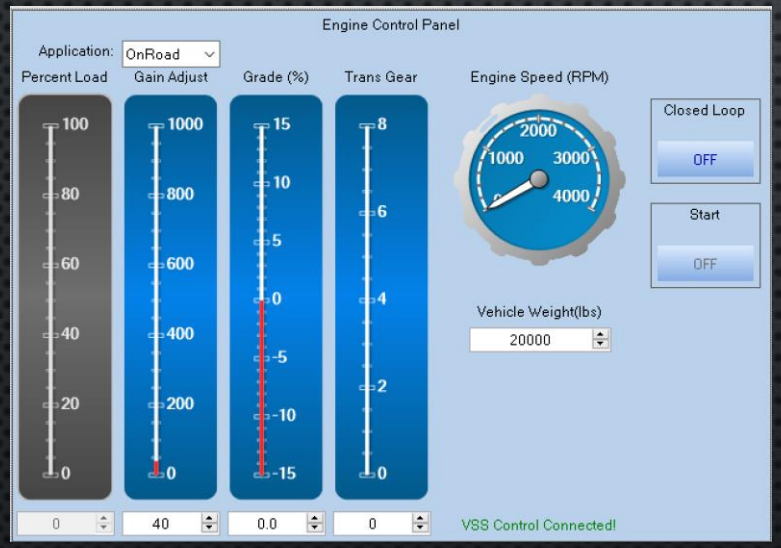


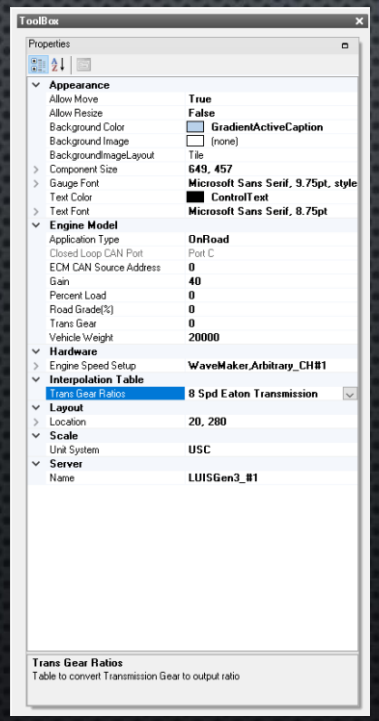
LUIS GEN3 (INDUSTRIAL)



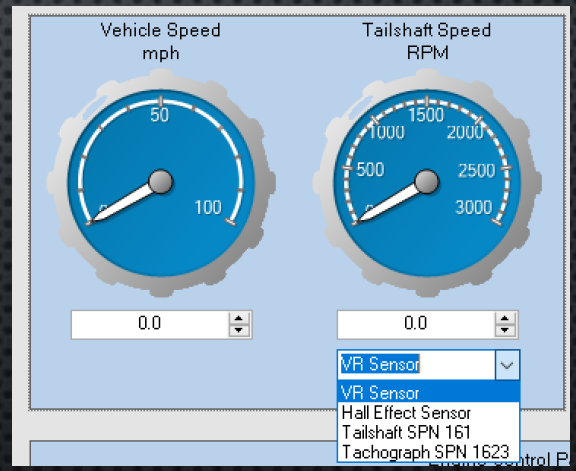
ONROAD CLOSED LOOP APPLICATION (REQUIRES GEN3 HW)

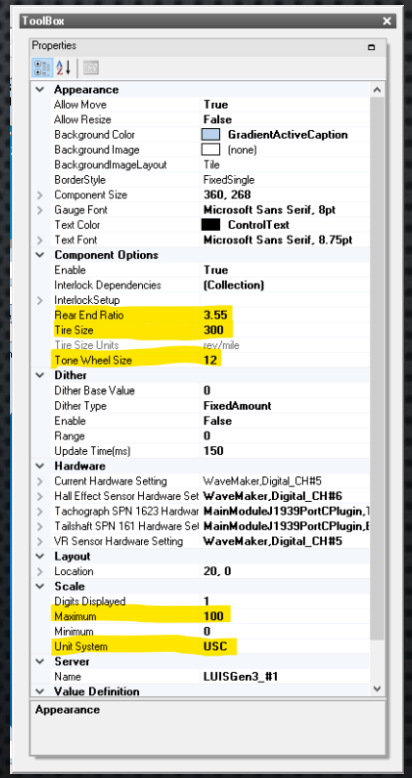
ENGINE CONTROL PANEL





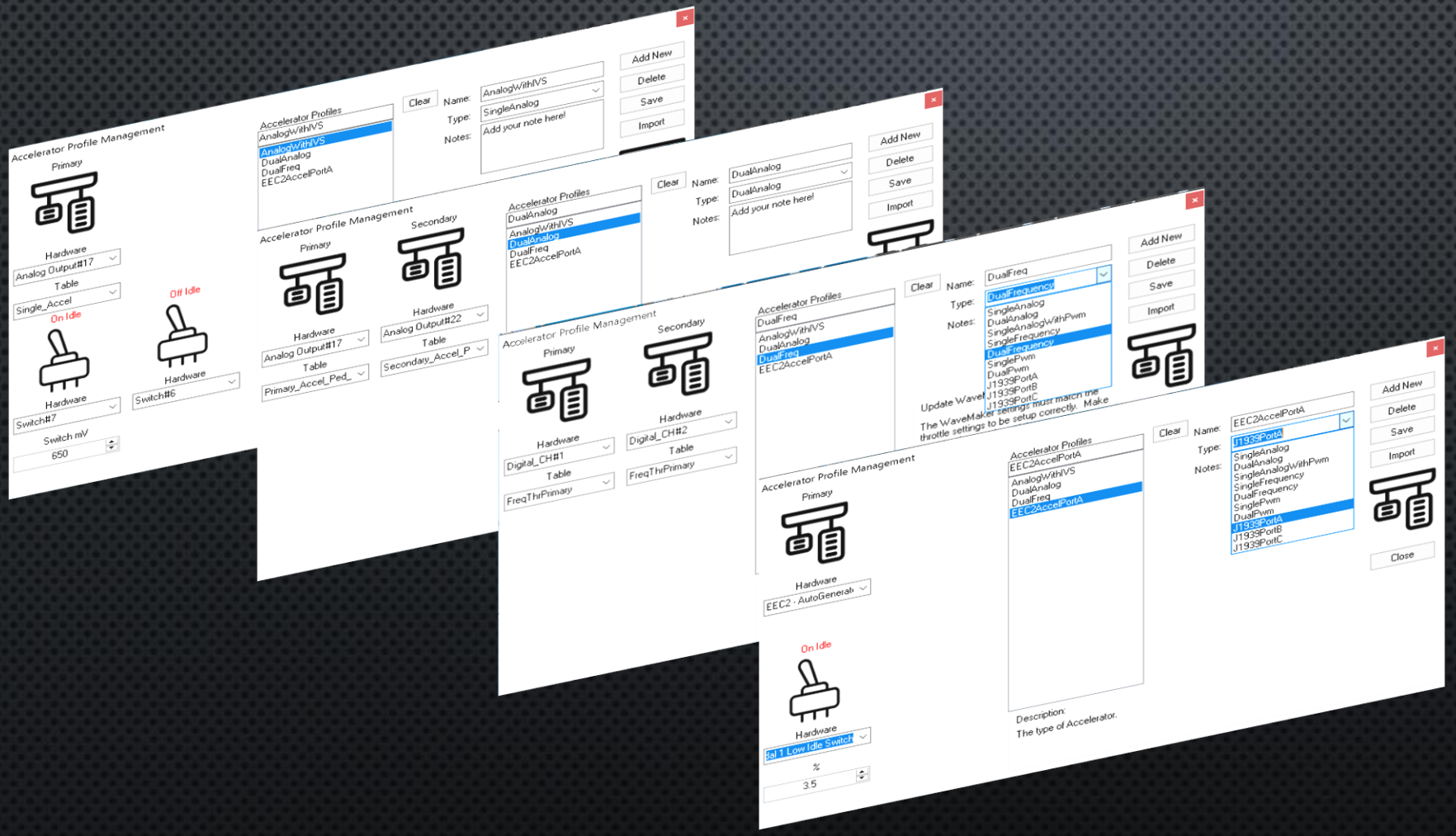
VEHICLE SPEED CONTROL



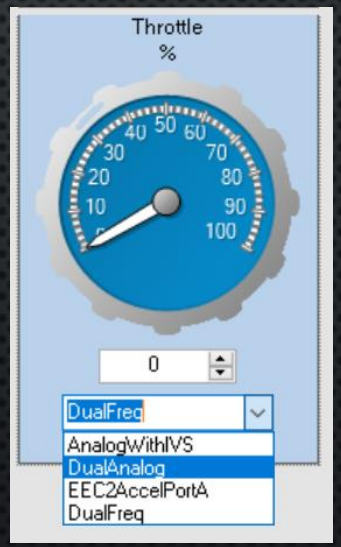


ACCELERATOR

PROFILES

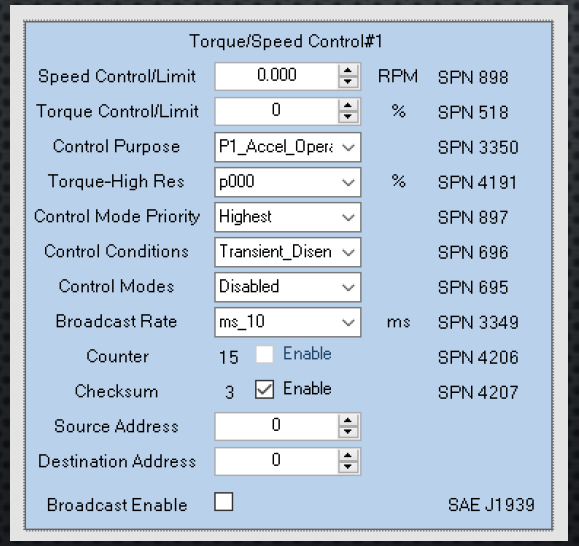


CONTROL

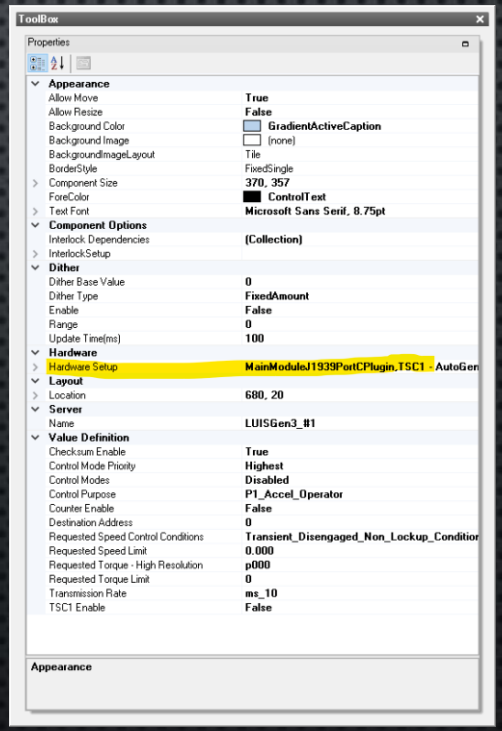


TSC1

GUI Control

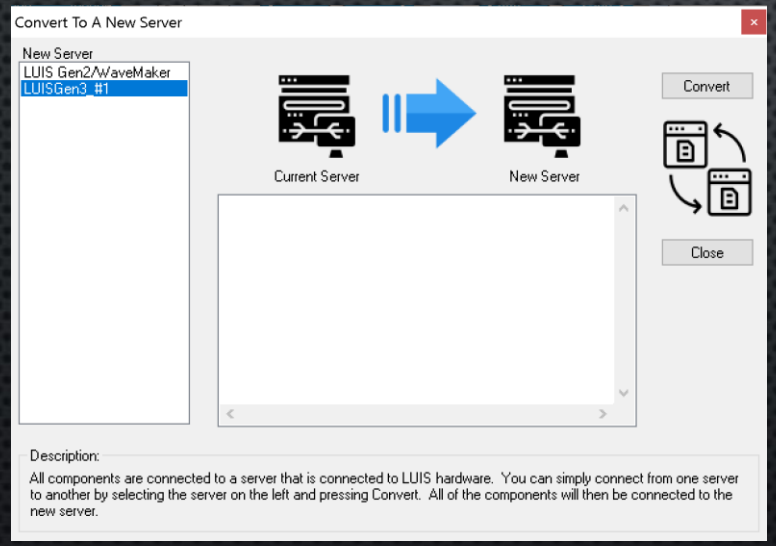


Properties

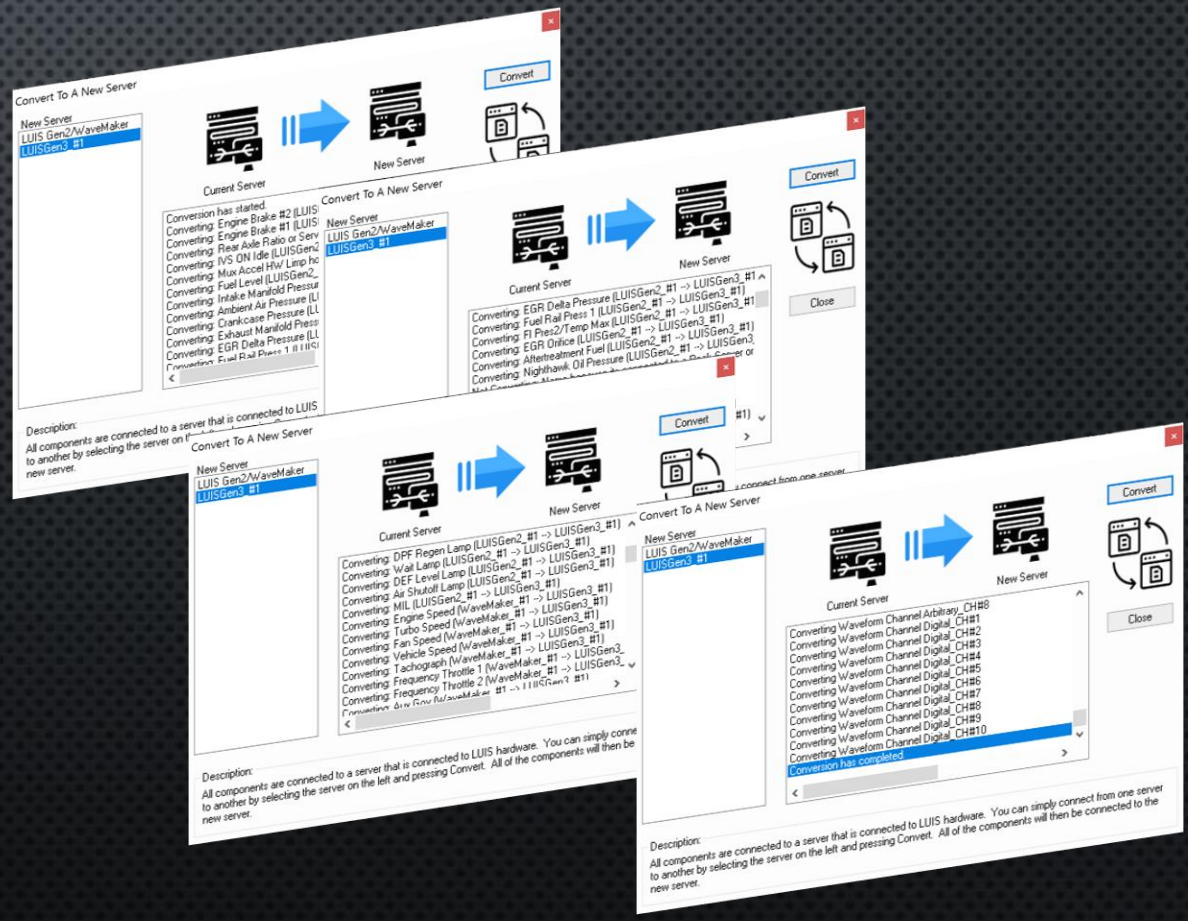


CONVERT TO NEW SERVER

START CONVERSION ON LOADED CONFIG FILE

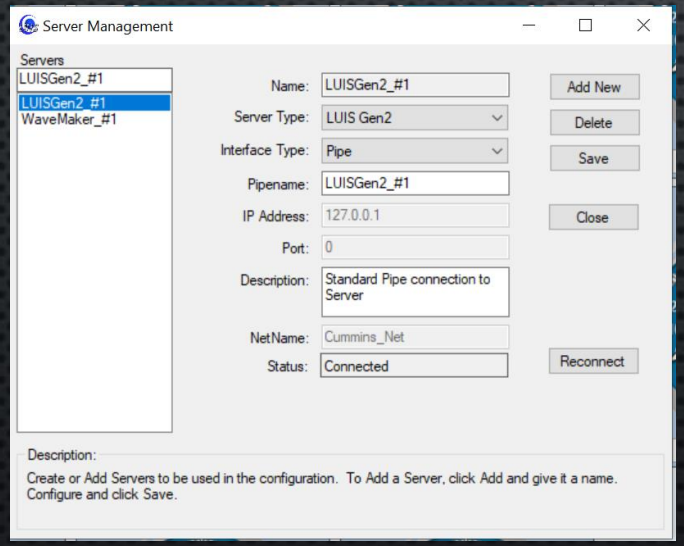


RESULTS

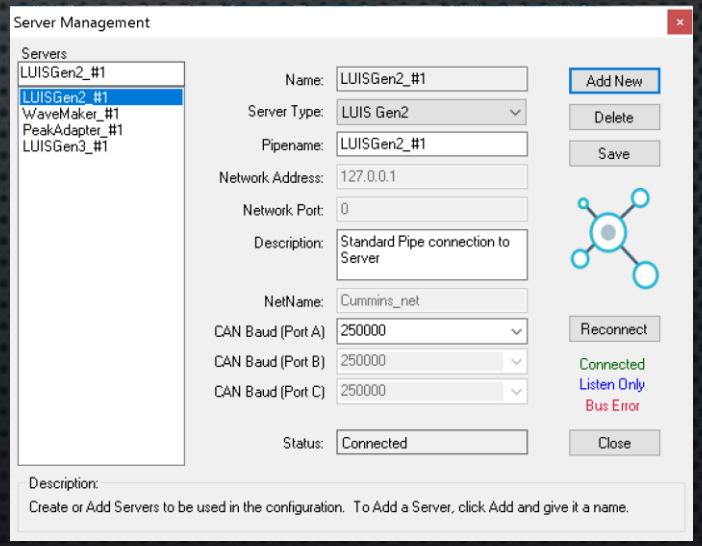


SERVER LIST

LUIS GEN2



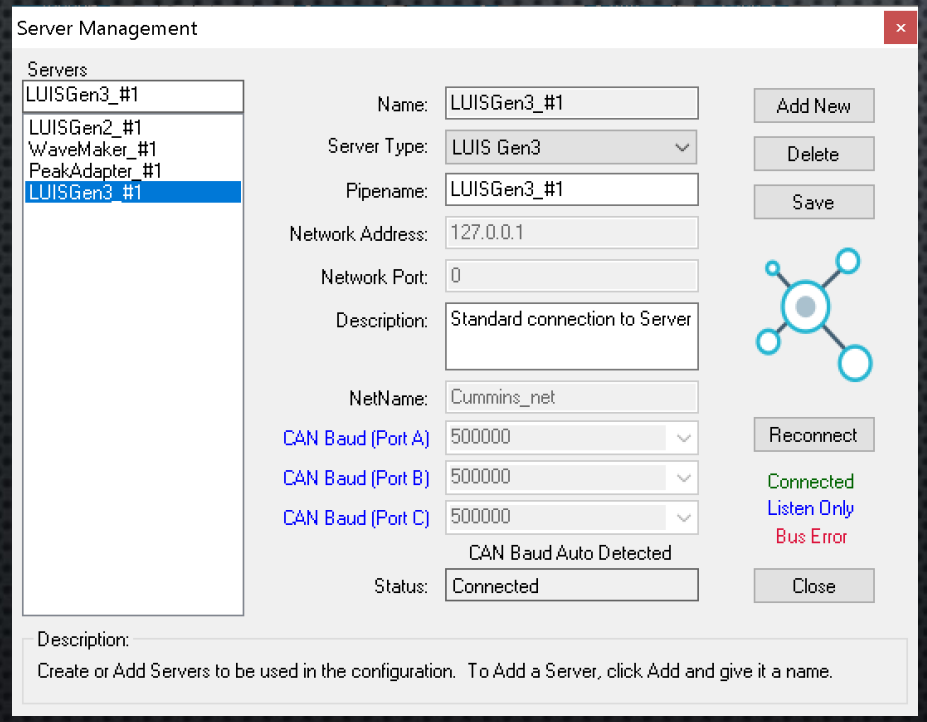
LUIS GEN3 CONNECTED TO GEN2 HW



SERVER LIST
(STATUS IS REFRESHED BY CLICKING ON **LUISGEN3_#1**)

LUIS GEN3, ECM OFF

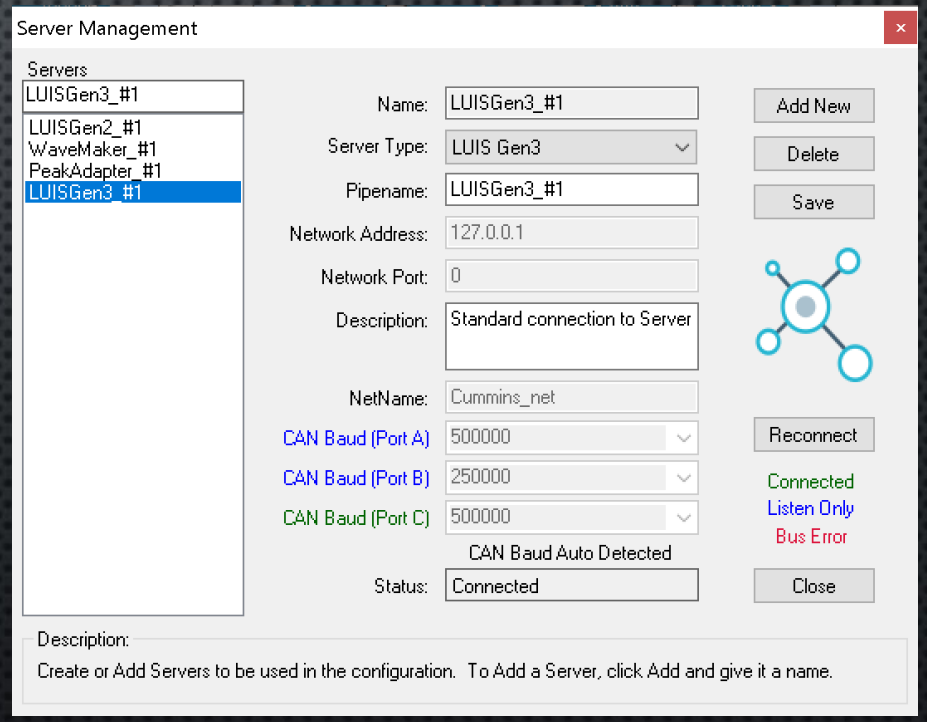
CAN A , B, C HAVE LISTEN-ONLY STATUS (BLUE) AT 500K



LUIS GEN3, ECM ON

CAN A, B ARE LISTEN ONLY (NO DEVICES PRESENT TO ACK OR TX/RX)

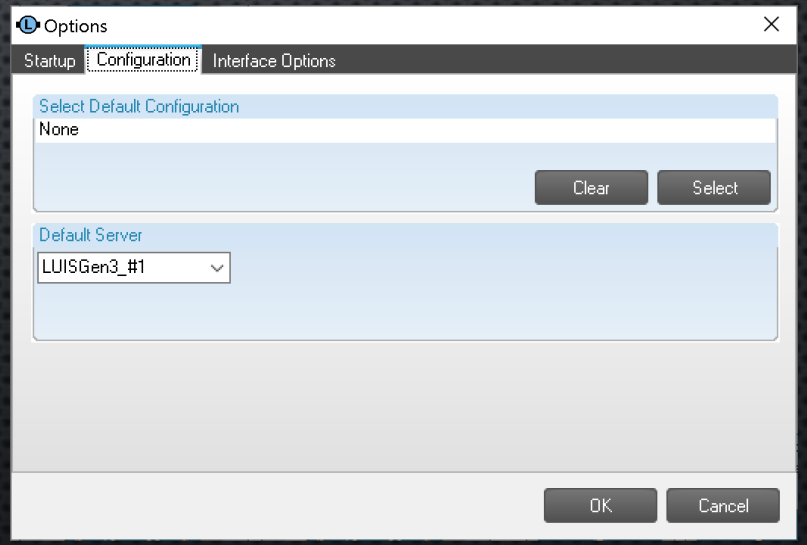
CAN C HAS CONNECTED STATUS (GREEN) AT 500K



OPTIONS

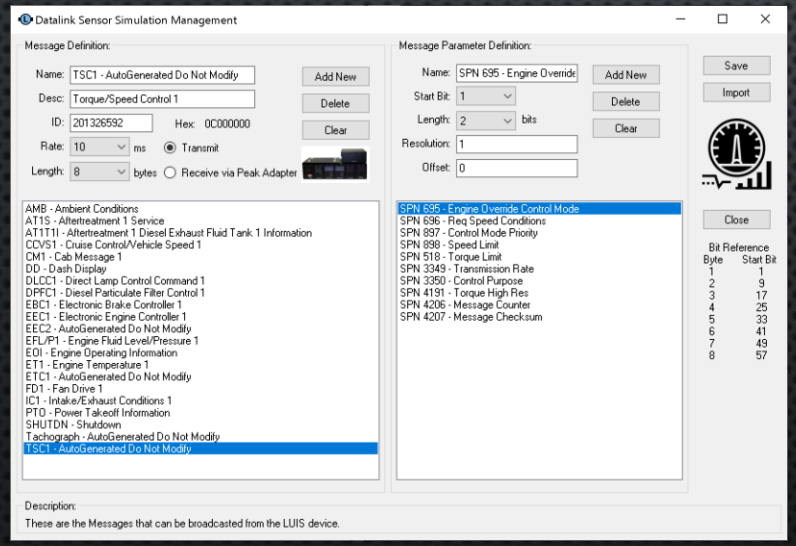
TOOLBAR LOCATION

SELECT DEFAULT SERVER FOR NEW GUI CONTROLS

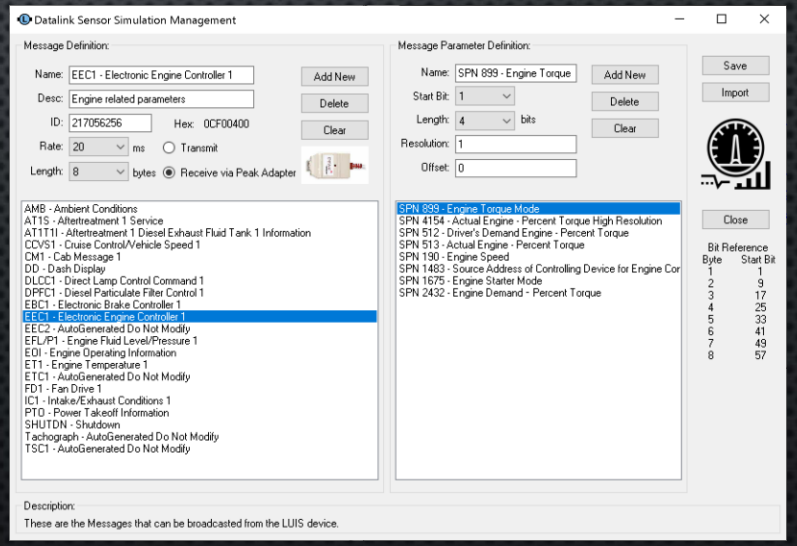


DATALINK SENSORS

TRANSMIT EXAMPLE

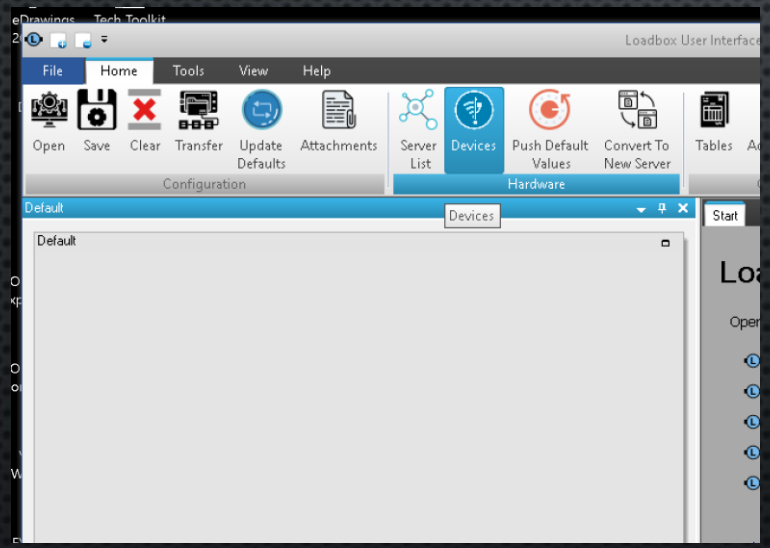


RECEIVE EXAMPLE

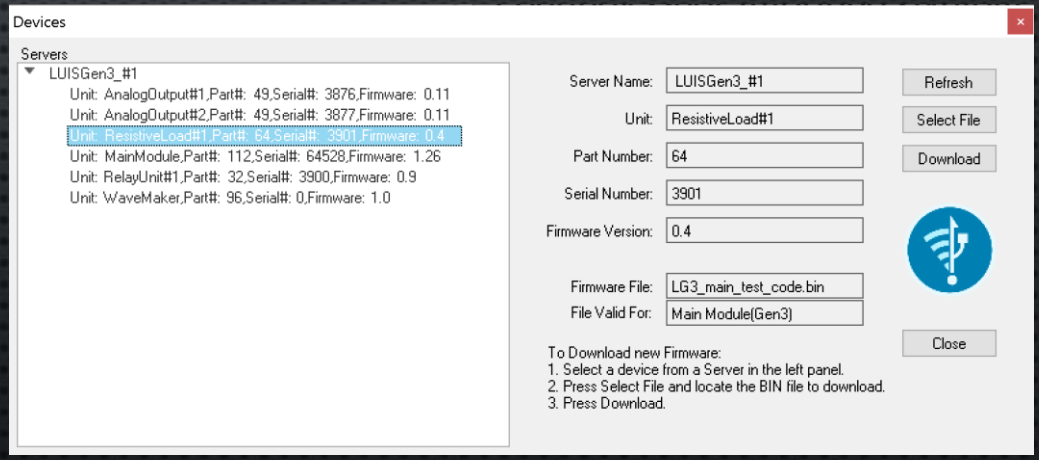


DEVICES

TOOLBAR LOCATION

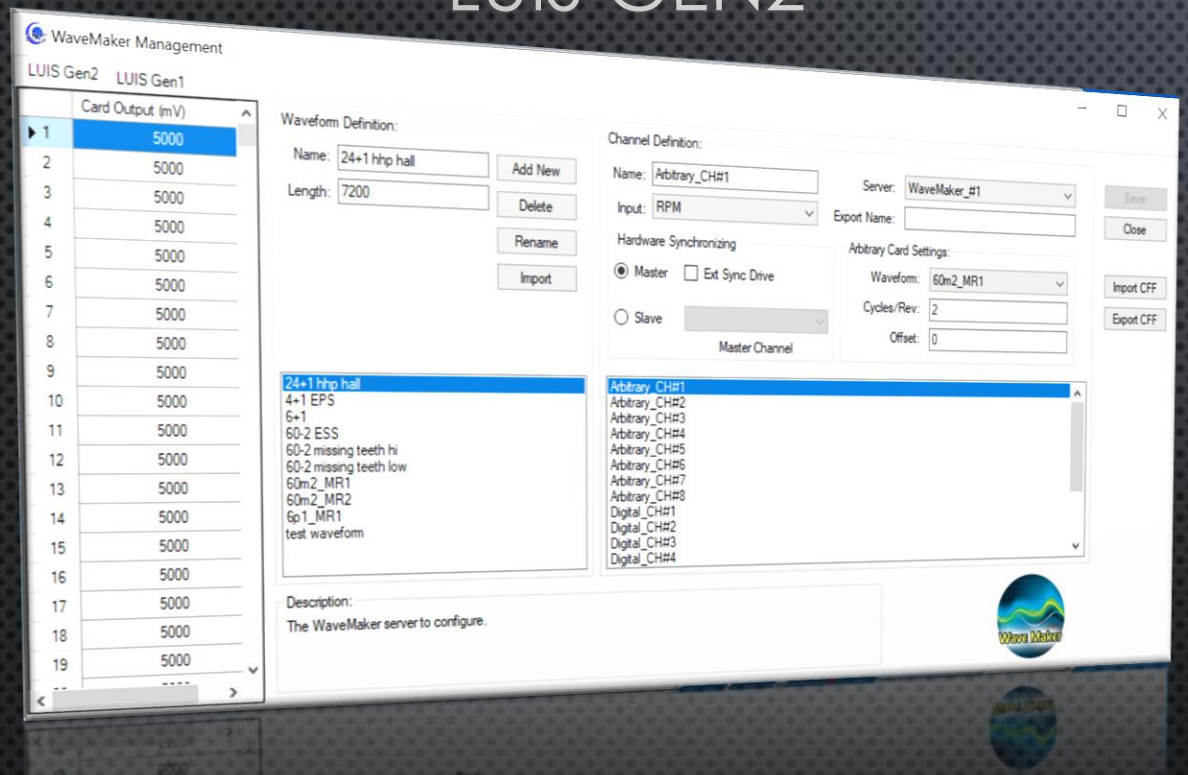


AUTO EXPANDED, INFO ON FILE SELECTION

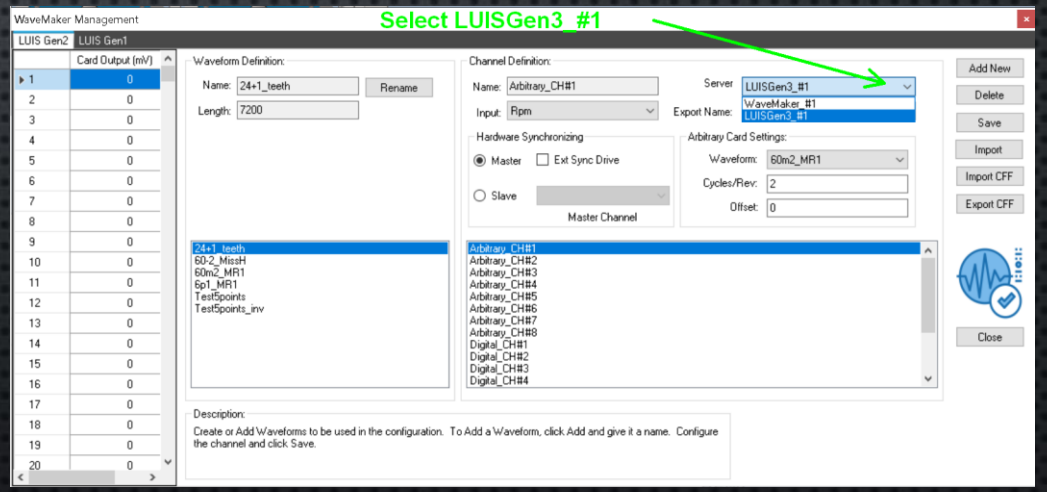


WAVEMAKER SETUP

LUIS GEN2

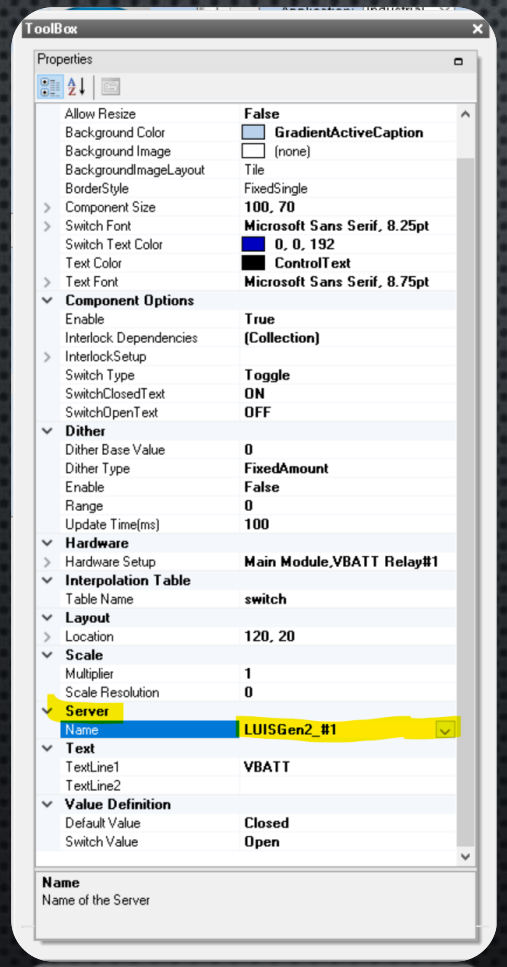


LUIS GEN3

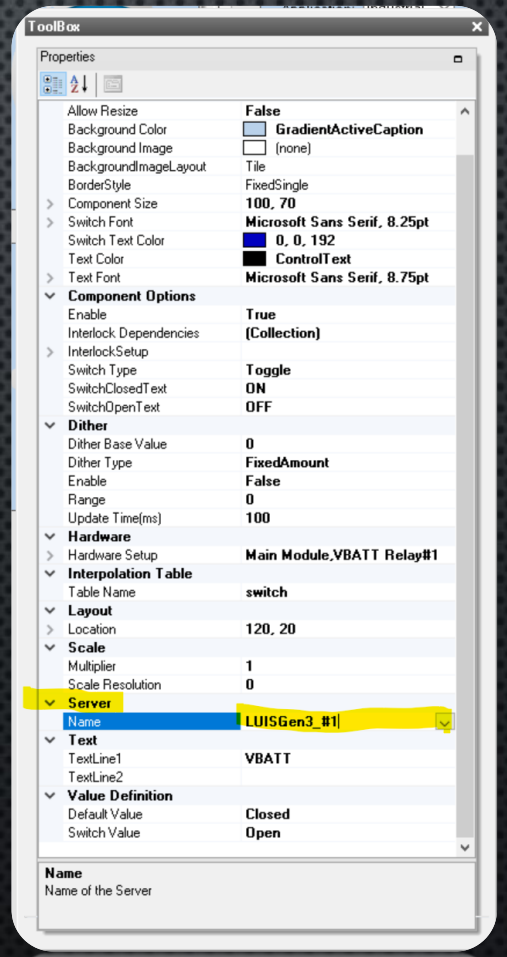


IMPORTANT SETTING IN "PROPERTIES" FOR EACH CONTROL!

CONTROLLING LUIS GEN2 HW



CONTROLLING LUIS GEN3 HW



Gen2 to Gen3 Conversion

- Replace Main Module assembly
- Replace WaveMaker Control Board
- Install LUIS Gen3 PC App
- Install Rheostat Module (Optional)

GEN2 HW WITH GEN3 APP

- Main Module firmware must be updated to rev 0.34+
- WaveMaker Module firmware must be updated to rev 0.34+