

contacta VLD1 Large Area Vehicle Hearing Loop Driver



contacta VLD1 Large Area Vehicle Hearing Loop Driver Installation Guide

[Home](#) » [contacta](#) » contacta VLD1 Large Area Vehicle Hearing Loop Driver Installation Guide 

Contents

- [1 contacta VLD1 Large Area Vehicle Hearing Loop Driver](#)
- [2 Product Overview](#)
- [3 Installation](#)
- [4 Software Operation](#)
- [5 Documents / Resources](#)
 - [5.1 References](#)
- [6 Related Posts](#)

contacta 

contacta VLD1 Large Area Vehicle Hearing Loop Driver



Specifications

- Product Name: Large Area Vehicle Hearing Loop Driver Software VLD1
- Release Date: June 2024
- Function: Enhances communication for passengers with hearing loss in transport vehicles
- Features: Class-D amplifier output stage, advanced DSP core

Product Overview

- The Contacta Large Area Vehicle Hearing Loop Driver [VLD1] enhances communication for passengers with hearing loss throughout transport vehicles such as buses and coaches. This dual-output driver powers phased array hearing loops with a Class-D amplifier output stage and an audio subsystem built around an advanced DSP core.
- This user guide provides instructions on how to setup and adjust the Contacta VLD1 using the provided software, available for download via the Contacta website at www.contacta.co.uk.

Installation

The software is provided as a standalone executable file. No installation is required. Once loaded, follow the instructions on the screen to connect to the VLD1 driver.

Software Operation

Once connected to the VLD1, the screen will display the driver's current settings and status. All functions become available. Any settings that are altered are immediately applied on the driver and will be kept even after disconnecting the GUI or power cycling.

System Connection

The Reset and Factory Reset section allows the VLD1 to be power cycled or restored to factory settings.

Driver Information

The driver's unique ID (UID) and the firmware's CRC is displayed in this section.

Load / Save Settings

The software can save all settings stored on the driver to a config file which can then be used to load settings to the same or another driver without manual changes.

Audio I/O

The VLD1 supports Input A/B/C (SPDIF) and Output A/B connections.

Enable Inputs

EN1 and EN2 inputs can be set to mute based on logic high or logic low signals.

Masking Noise

This feature allows adding a pink noise signal to the output signal to mask background noise at low levels (less than -32dB). Adjust the slider to the desired level to utilize this feature.

FAQ

- **Q: How do I connect the VLD1 driver to my vehicle's audio system?**

A: To connect the VLD1 driver, use the provided software to select the appropriate COM port and click Connect to establish a connection attempt.

- **Q: Can I manually edit the config file to change settings?**

A: The config file cannot be manually edited. All settings need to be changed using the software provided.

Large Area Vehicle

Hearing Loop Driver Software VLD1

Software and Setup Guide June 2024

Product Overview

The Contacta Large Area Vehicle Hearing Loop Driver [VLD1] enhances communication for passengers with hearing loss throughout transport vehicles such as buses and coaches. This dual-output driver powers phased array hearing loops with an Class-D amplifier output stage and an audio subsystem built around an advanced DSP core.

This user guide provides instructions on how to setup and adjust the Contacta VLD1 using the provided software, available for download via the Contacta website at www.contacta.co.uk.

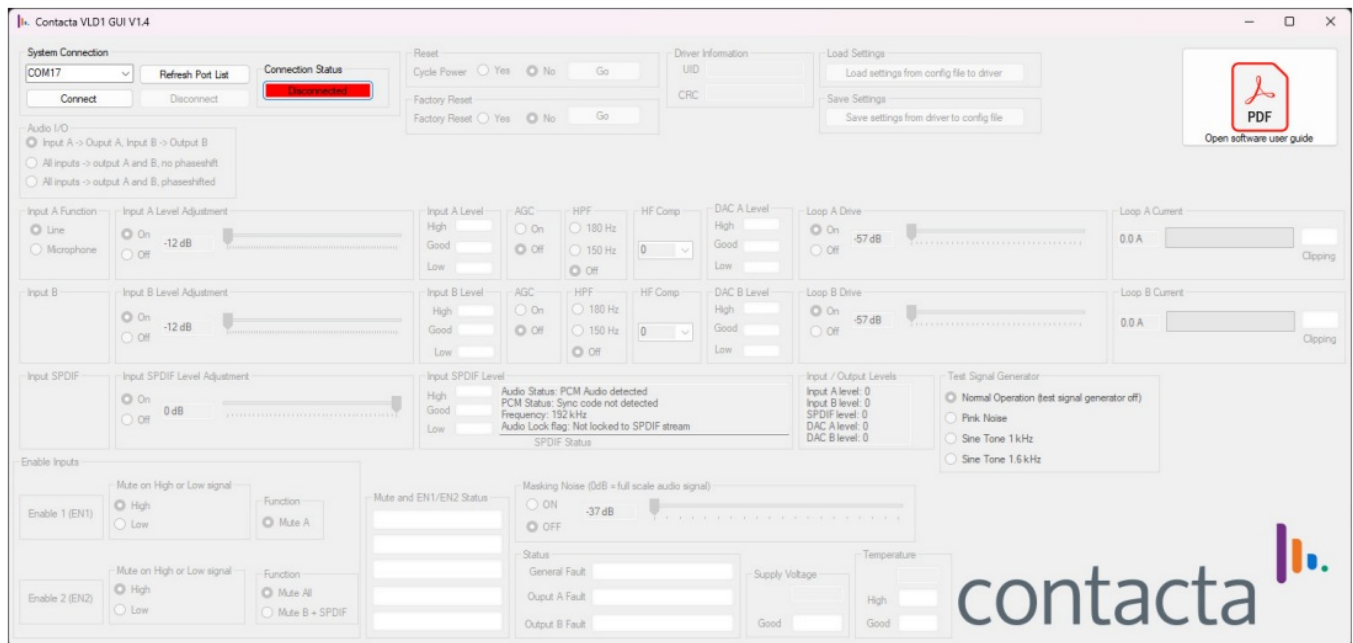
The operating software requires the following:

- PC running Windows 7 or a more recent version.
- NET Framework 4.8 Runtime. This is already installed on most Windows machines, but is also included with this software. It can be downloaded from Microsoft's website if necessary.
- Device driver for handling the communication with the VLD1. This device driver will be installed automatically once a connection is made from the PC to the VLD1. This driver can optionally be downloaded from FTDI's website: www.ftdichip.com
- USB type A to USB type B cable to connect the Windows PC to the VLD1.
- Screen resolution set to at least 1920×1080 with resolution scaling set to 100%.

The information in this document is subject to change without prior notice in order to improve reliability, design and function and does not represent a commitment on the part of the manufacturer. In no event will the manufacturer be liable for the direct, indirect, special, incidental or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages. This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

Installation

The software is provided as a standalone executable file. No installation is required. Once loaded, the following screen will appear:



The only controls available at this point are “Refresh Port List” and “Connect”. Select the COM port to which the VLD1 driver is connected and click “Connect” to make a connection attempt.

Software Operation

Once connected to the VLD1, the screen will be populated with the driver’s current settings and status. All functions become available. Any settings that are altered are immediately applied on the driver and will be kept even after disconnecting the GUI or power cycling.

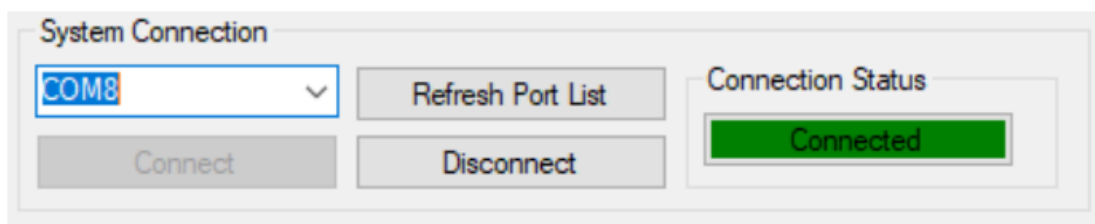


System Settings

The main categories on the software’s GUI (displayed and labelled on the previous page) are as follows:

1. System Connection [see page 7]
2. Power Reset and Factory Reset [see pages 7-8]
3. Driver Information [see page 8]
4. Load / Save Settings [see page 8-9]
5. Audio I/O Mode [see page 10]
6. Input A / B / C (SPDIF) Settings and Indications [see page 11]
7. Output A / B / C (SPDIF) Settings and Indications [see page 13]
8. Enable Inputs Settings and Indications [see page 14-15]
9. Masking Noise [see page 15]
10. Test Signal Generator [see page 16]
11. Driver Status and Health Information [see page 17]

System Connection



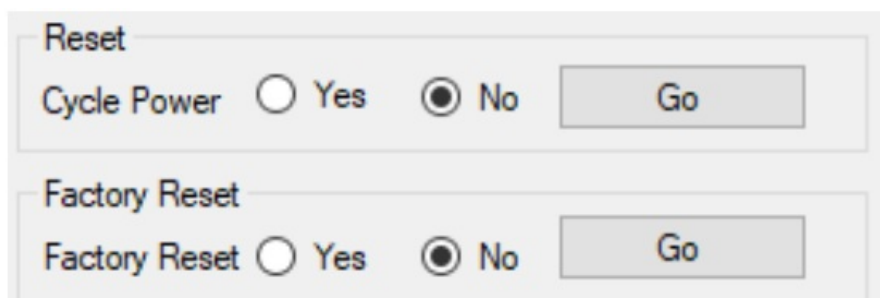
The System Connection interface includes a dropdown menu with 'COM8' selected, a 'Refresh Port List' button, a 'Connect' button, a 'Disconnect' button, and a 'Connection Status' section with a green bar labeled 'Connected'.

This section handles the USB connection.

- After connecting and powering up the VLD1, click “Refresh Port List” to display available COM ports.
- Select the correct port and click “Connect” to establish a connection.
- Pressing disconnect disconnects the USB connection.

If the incorrect COM port is selected, an error message appears. In this case, verify you have selected the correct port and try again. “Connection Status” indicates the state of the connection.

Reset and Factory Reset

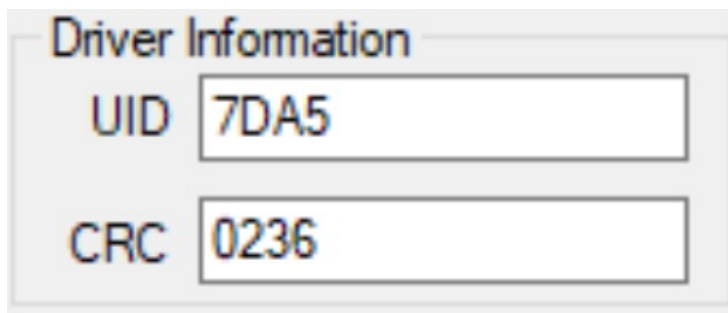


The Reset and Factory Reset interface contains two sections. The 'Reset' section has a 'Cycle Power' label, radio buttons for 'Yes' and 'No' (with 'No' selected), and a 'Go' button. The 'Factory Reset' section has a 'Factory Reset' label, radio buttons for 'Yes' and 'No' (with 'No' selected), and a 'Go' button.

The Reset and Factory Reset section allows the VLD1 to be power cycled or restored to factory settings.

- To power cycle the VLD1, select “Yes” in Cycle Power then press “Go”. The serial connection will be disconnected.
- To restore the VLD1 to its factory default settings, select “Yes” in the corresponding section followed by “Go”. The serial connection is disconnected.

Driver Information



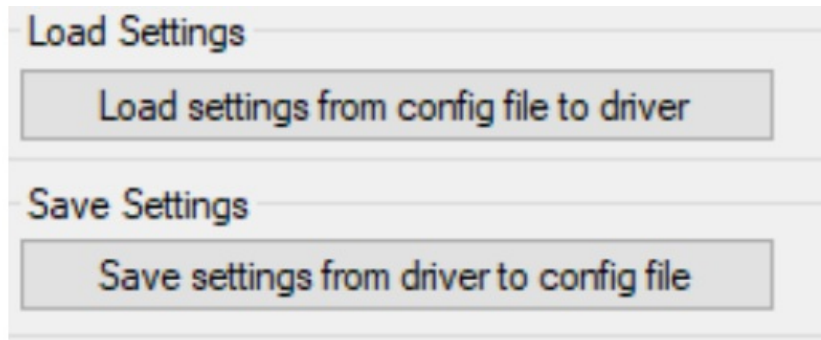
Driver Information

UID 7DA5

CRC 0236

The driver's unique ID (UID) and the firmware's CRC is displayed in this section.

Load / Save Settings



Load Settings

Load settings from config file to driver

Save Settings

Save settings from driver to config file

The software can save all settings stored on the driver to a config file. This can then be used to load these settings to the same or another driver without the need to manually change all settings.

- To save settings, select "Save settings from driver to config file". Choose a name and location for the config file.
- To load settings, select "Load settings from config file to driver". Choose a config file to apply these settings to the driver.

The following settings are stored in the config file:

- Audio I/O Mode
- Input A Function
- Input A/B/C Level Adjustment
- AGC A/B
- HPF A/B
- HF Comp A/B
- Loop A/B Drive Level
- EN1/EN2 Mute on High or Low
- EN2 Function
- Masking Noise Setting and Level

The config file cannot be manually edited to change settings and all settings need to be changed using the software instead.

Audio I/O

Audio I/O

☒ Input A -> Output A, Input B -> Output B

☐ All inputs -> output A and B, no phaseshift

☐ All inputs -> output A and B, phaseshifted

There are three modes to choose from.

1. Input A -> Output A, Input B -> Output – This mode routes Input A to Output A, and Input B to Output B. AGC, HPF, HFC are controlled individually.
2. All inputs -> Output A and B, no phaseshift – All inputs are routed together to both output A and B, with no phase-shift added. Since all inputs are added together, AGC A, HPF A, and HFC A is now disabled, and all inputs are now controlled using only AGC B, HPF B, and HFC B.
3. All inputs -> Output A and B, phaseshifted – All inputs are routed together to both output A and B, with a phase-shift added. Since all inputs are added together, AGC A, HPF A, and HFC A is now disabled, and all inputs are now controlled using only AGC B, HPF B, and HFC B.

Input A/B/C (SPDIF)

Input A Function <input checked="" type="radio"/> Line <input type="radio"/> Microphone	Input A Level Adjustment <input checked="" type="radio"/> On 3.75 dB <input type="radio"/> Off	Input A Level High <input type="text"/> Good <input type="text"/> Low <input type="text"/>	AGC <input type="radio"/> On <input checked="" type="radio"/> Off	HPF <input type="radio"/> 180 Hz <input type="radio"/> 150 Hz <input checked="" type="radio"/> Off	HF Comp <input type="text" value="0"/>
Input B	Input B Level Adjustment <input checked="" type="radio"/> On 0 dB <input type="radio"/> Off	Input B Level High <input type="text"/> Good <input type="text"/> Low <input type="text"/>	AGC <input checked="" type="radio"/> On <input type="radio"/> Off	HPF <input type="radio"/> 180 Hz <input type="radio"/> 150 Hz <input checked="" type="radio"/> Off	HF Comp <input type="text" value="0"/>
Input SPDIF	Input SPDIF Level Adjustment <input type="radio"/> On <input type="radio"/> Off - dB	Input SPDIF Level High <input type="text"/> Good <input type="text"/> Low <input type="text"/>	Input / Output Levels Input A level: 0 Input B level: 28 DAC A level: 0 DAC B level: 99		

This section controls all input adjustments.

If a VLD1 with SPDIF input is connected, the GUI will detect that the driver has SPDIF functionality and the slider will become available. It will then be possible to change the SPDIF gain with the same options as Input A and B.

Input A Function – Choose “Line” for a line level signal, and “Microphone” for a microphone input which enables the microphone bias.

Input A/B/C Level Adjustment – The slider controls each channel’s pre-amp gain, from -12 dB to 35.25 dB.

- Select “On” for normal operation.
- Selecting “Off” mutes the corresponding channel.
- Selecting “On” again restores the previous level.

If the connection to the driver is lost for some reason (for instance if the USB cable gets disconnected), the input will remain muted upon connecting to it again and will have to be manually set to a correct level.

Input A/B/C Level – Three different level indicators are shown: “Low”, “Good”, and “High”. For the AGC to work properly, the pre-amp gain must be adjusted so that the signal stays in “Good”.

AGC A/B – Turns the Automatic Gain Control on and off. Ensure the input signal is indicated to be “Good”.

HPF A/B – This feature removes low-frequency sounds from the hearing loop when background noise such as air conditioners might impact users. Select either 150Hz or 180Hz if required, or “Off” to turn off.

HF Comp A/B – Turns on the High Frequency Compensation, providing a selection of 7 predefined filters.

Input / Output Levels – Provides diagnostic information for input and output levels. These values are the internal raw values on the VLD1’s DSP chip. For normal operation, they can be ignored. Instead, the level indicators (Low, Good, or High) should be used.

Output A/B

The screenshot displays the 'Output A/B' control interface. It is organized into two main sections for Channel A and Channel B. Each section contains three sub-panels: DAC Level, Drive, and Current. Channel A shows DAC A Level with 'Good' selected, Loop A Drive set to 'On' at -57 dB, and Loop A Current at 0.01 A. Channel B shows DAC B Level with 'Good' selected, Loop B Drive set to 'On' at -57 dB, and Loop B Current at 0.15 A. Both current meters have a green bar and a 'Clipping' indicator.

Channel	DAC Level	Drive	Current	Clipping
A	Good	On (-57 dB)	0.01 A	Green
B	Good	On (-57 dB)	0.15 A	Green

DAC A/B Level – Indicates the level of the audio signal being fed to each output channel's DAC. This is the signal level after pre-amp gain, processed by AGC, HPF, HFC, but before any Output drive level has been applied. Make sure to keep it in the “good” range.

Loop A Drive & Loop B Drive – Sliders which control the drive level for each output stage. If a slider is all the way to the left, the drive is at -57 dB which effectively mutes that channel. The output can be adjusted from -26 dB to 6 dB.

- Select “On” for normal operation.
- Select “Off” to mute the corresponding output channel.
- Selecting “On” again restores the previous level.

If the connection to the driver is lost for some reason (for instance if the USB cable gets disconnected), the output will remain muted upon connecting to it again and will have to be manually set to a correct level.

Loop A Current & Loop B Current – Indicates how many amps each loop output produces, both visually and numerically. If voltage clipping is detected, the “clipping” box changes from the green to red.

If you have a channel’s DAC level in “good”, and the Drive slider high enough to expect a normal loop current, but instead you have a very low loop current, this could be an indication that the loop is open circuit.

Enable Inputs

The 'Enable Inputs' panel contains two main sections for EN1 and EN2, and a 'Mute and EN1/EN2 Status' section on the right.

Enable 1 (EN1):

- Mute on High or Low signal: ☐ High, ☒ Low
- Function: ☒ Mute A

Enable 2 (EN2):

- Mute on High or Low signal: ☐ High, ☒ Low
- Function: ☒ Mute All, ☐ Mute B + SPDIF

Mute and EN1/EN2 Status:

- Input A Muted (Red bar)
- Input B Unmuted (Green bar)
- Input C Unmuted (Green bar)
- EN1 Input: Low State
- EN2 Input: High State

EN1 and EN2 inputs can be set to mute if the signal connected to these ports are logic high or logic low (24V or 0V). EN2 can also change function to either Mute All or to only Mute B + C (SPDIF). In the “Mute and EN1/EN2 Status” the mute status of each input channel can be seen, as well as high or low state for both EN1 and EN2.

In the picture above, EN1 is set to mute channel A on a Low signal, and since we can see that EN1 is in a low state, Input A is now muted. EN2 on the other hand is set to Mute All, but is in a High state, so channels B + C stay unmuted. In the case when EN1 might say “don’t mute”, but EN2 says “mute”, EN2 takes priority and mutes all channels.

Masking Noise

The 'Masking Noise (0dB = full scale audio signal)' panel includes:

- Radio buttons: ☐ ON, ☒ OFF
- A text box showing the current level: -37 dB
- A horizontal slider bar with a blue handle positioned at the -37 dB mark.

This feature allows a pink noise signal to be added to the output signal. This may be helpful in masking background noise at low level (less than -32dB). It is not a cure for background noise and does not make levels above -32dB acceptable. To use this feature, select ‘on’ and adjust the slider to the desired level.

Test Signal Generator

The 'Test Signal Generator' panel includes:

- Radio buttons: ☒ Normal Operation (test signal generator off), ☐ Pink Noise, ☐ Sine Tone 1 kHz, ☐ Sine Tone 1.6 kHz

This feature provides the required signals needed for setting up a loop, negating the need for an external signal generator.

Selecting any of these settings bypasses the signal from the audio inputs.

The test signal generator will stay on until either “normal operation” is selected or the driver is power cycled.

Driver Status and Health

Status		Supply Voltage	Temperature
General Fault	No Fault Detected	24.3 V	31 °C
Output A Fault	No Fault Detected		High
Output B Fault	No Fault Detected	Good	Good

This section displays any potential faults, as well as the internal power supply's voltage and internal temperature. If no faults are detected (as in the image above) all indicate “no fault detected” on a green background. If, however, a fault is detected, the colour changes to red and the fault is presented.

General Fault – Indicates that there is a general fault in the system. Contact your dealer if the problem persists, noting any error codes.

Output A/B Fault – This indicates one of the following faults:

- Ground Fault. See VLD1 Installation & User Guide for more information.
- Open Fault. See VLD1 Installation & User Guide for more information.
- Output Stage Error. A fault is detected, and the driver is trying to recover.
- Output stage held in shutdown. A fault has been detected, and the driver failed to recover. Correct the fault and power cycle the VLD1 either from the GUI or by disconnecting the power, and reconnecting it.

Local dealer

UK & ROW

+44 (0) 1732 223900 sales@contacta.co.uk


www.contacta.co.uk

US & Canada

+1 616 392 3400 info@contactainc.com

www.contactainc.com

Documents / Resources

	contacta VLD1 Large Area Vehicle Hearing Loop Driver [pdf] Installation Guide VLD1 Large Area Vehicle Hearing Loop Driver, VLD1, Large Area Vehicle Hearing Loop Driver, Area Vehicle Hearing Loop Driver, Vehicle Hearing Loop Driver, Hearing Loop Driver, Loop Drive r, Driver
---	--

References

- [Innovative assistive technology solutions - Contacta](#)
- [Home - Assistive Hearing Technology & Solutions - Contacta Inc](#)

- [🏠 Home - FTDI](#)
- [📖 User Manual](#)

[Manuals+](#), [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.