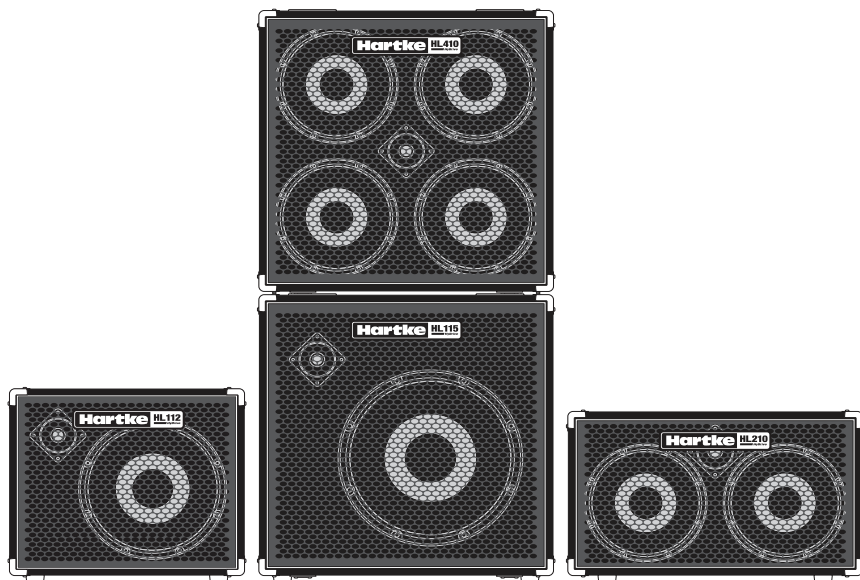


# Hartke

## HyDrive HL Series Bass Cabinets



**Owner's Manual**



If you want to dispose this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling.

Private household in the 28 member states of the EU, in Switzerland and Norway may return their used electronic products free of charge to designated collection facilities or to a retailer (if you purchase a similar new one).

For Countries not mentioned above, please contact your local authorities for a correct method of disposal. By doing so you will ensure that your disposed product undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health.

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# Introduction

We appreciate your business and congratulate you on purchasing a Hartke HL Series cabinet.

Welcome to the Hartke family! Before you plug in and start playing we suggest you take a seat and read through this quickstart guide.

The HyDrive HL series is our first generation of lightweight bass speaker enclosures featuring Hartke's patented HyDrive hybrid cone bass speakers with Neodymium magnets.

HyDrive speakers are constructed using an outside curved Kevlar®-loaded paper cone which produces solid low frequencies and an inside anodized aluminum cone to supply smooth mids and an extended high-end. This cutting edge design reproduces more of the bass guitar's fundamental frequency, providing a clean sound with a massive low end suitable for any type of musical genre.

With proper care and operation, your HyDrive cabinet will operate trouble free for many years. We recommend you record your serial number in the space provided below for future reference and keep a copy of the sales receipt as proof of warranty. The cabinet's serial number can be found on the jack panel.

Serial number: \_\_\_\_\_

Date of purchase: \_\_\_\_\_

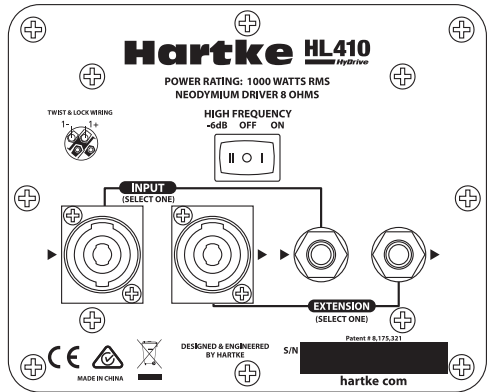
NOTE: Should your Hartke Cabinet ever require servicing, a Return Authorization (RA) number is necessary. Without this number, the unit will not be accepted. If purchased in the United States, please call Hartke at 1-800-372-6766 for a Return Authorization number prior to shipping. Please retain the original packing materials and, if possible, return the unit in its original carton.

If purchased outside the United States please contact your local distributor for warranty information.

# Connecting the HL Cabinet

The HyDrive HL Cabinets feature two 1/4" and two twist-and-lock connectors wired in parallel. Each connector can be used as an input from an amplifier or as a pass through to an additional speaker cabinet.

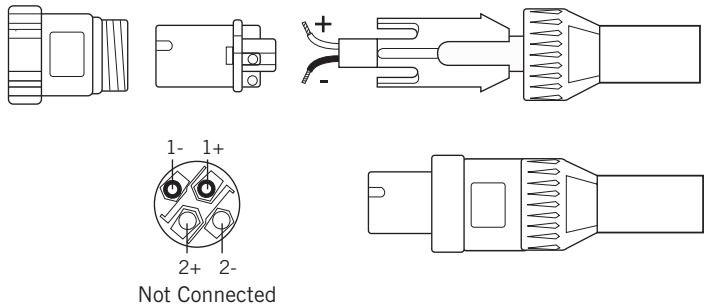
When connecting an HL series cabinet to another extension cabinet be sure to check the manufacturer's recommended impedance for the amplifier to avoid any damage. Read the section "About Impedance" for more information on connecting multiple speakers together.



**NOTE:** Never connect more than one amplifier to a HyDrive HL series enclosure. This will damage the speaker cabinet and void the warranty.

**NOTE:** Use only unshielded speaker wire with a gauge of 12 – 18 AWG. Do not use shielded instrument cables when connecting an amplifier to a speaker cabinet or when connecting an extension cabinet.

Use a standard 2-conductor cable, wired to pins 1+ and 1-, when connecting an amplifier to a Hydrive HL cabinet



## Using The High Frequency Level Control

The HyDrive HL cabinet has a control used to adjust the level of the 1" tweeter. The switch has three positions, ON, -6dB and OFF. When the switch is set to OFF, the tweeter is completely out of the circuit and off. Setting the switch to -6dB, will attenuate the tweeter by 6dB. When set to ON, you get the full level of the high-frequency tweeter.

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# About Impedance

Basically, impedance is the amount of current that will flow through a speaker at a certain voltage. It is measured in Ohms ( $\Omega$ ). The actual impedance of a speaker is not constant across all frequencies. So, for convenience we use the term “nominal impedance”, which refers to the impedance that a speaker presents to an amplifier at a reference frequency.

A speaker typically has an impedance rating of  $4\Omega$ ,  $8\Omega$ , or  $16\Omega$ . Generally, the lower the impedance of a speaker, the more power will be produced by the connected amplifier. For example, a  $4\Omega$  speaker will pull more power from your amplifier than an  $8\Omega$  speaker. If you connect a speaker with an impedance lower than the amplifier's output rating (minimum impedance), the amplifier can overheat and damage the power amplifier circuit. It is important to learn how to connect multiple speaker cabinets safely without damaging the speakers or your amplifier.

Here is a simple rule of impedance: When two speakers with the same impedance are wired in **parallel**, the total system impedance is **cut in half**, and when two speakers with the same impedance are wired in **series**, the total impedance is the **sum of the speakers individual impedance**.

Hartke HyDrive HL speaker cabinet input jacks are parallel connections. The formula to calculate the total impedance of a parallel speaker system is:

$$1/R_t = 1/R_1 + 1/R_2 + 1/R_3 + \dots 1/R_n$$

(*R is the rated impedance of a speaker cabinet*)

If all speakers have the same impedance, the total impedance will be equal to the impedance of a single speaker divided by the total number of speakers. For example, if you have two  $4\Omega$  speakers connected in parallel, the total impedance is 4 divided by 2, or  $2\Omega$ . You should be careful when connecting speakers in parallel to an amplifier. The impedance can quickly fall below safe levels. This is especially true when connecting speakers in parallel to an amplifier that is set to operate in bridge mode.

Typical Parallel Speaker Impedance Calculations:

$$\begin{aligned} 16\Omega + 16\Omega &= 8\Omega \\ 8\Omega + 8\Omega &= 4\Omega \\ 4\Omega + 4\Omega &= 2\Omega \\ 4\Omega + 8\Omega &= 2.7\Omega \\ 8\Omega + 16\Omega + 16\Omega &= 4\Omega \end{aligned}$$

# Specifications

## HL410

Description	4 x 10" Bass Cabinet
Power Handling	1000 Watts RMS
Impedance	8 Ohms
LF Drivers	250 watt, 10", paper/aluminum hybrid cones with neodymium magnets
HF Driver	1" Tweeter
HF level control	3-position switch (0,-6dB, Off)
Frequency Response	45Hz - 17kHz -3dB
-10dB LF Response	30Hz
Inputs	2 x Twist & Lock, 2 x 1/4" (wired in parallel)
Cabinet Type	Dual chamber, sealed
Cabinet Construction	Solid kiln dried lightweight plywood, extensive bracing, dado joinery, textured paint finish
Grille	Black perforated steel
Weight	45.4lb 20.6kg
Dimensions (H/W/D)	24.6" x 24" x 15" 626mm x 612mm x 383mm

## HL115

Description	1 x 15" Bass Cabinet
Power Handling	500 Watts RMS
Impedance	8 Ohms
LF Drivers	500 watt, 15", paper/aluminum hybrid cones with neodymium magnets
HF Driver	1" Tweeter
HF level control	3-position switch (0,-6dB, Off)
Frequency Response	35Hz - 17kHz -3dB
-10dB LF Response	20Hz
Inputs	2 x Twist & Lock, 2 x 1/4" (wired in parallel)
Cabinet Type	Vented
Cabinet Construction	Solid kiln dried lightweight plywood, extensive bracing, dado joinery, textured paint finish
Grille	Black perforated steel
Weight	39.2lb 17.8kg
Dimensions (H/W/D)	24.6" x 24" x 15" 626mm x 612mm x 383mm

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# Specifications

## HL210

Description	2 x 10" Bass Cabinet
Power Handling	500 Watts RMS
Impedance	8 Ohms
LF Drivers	250 watt, 10", paper/aluminum hybrid cones with neodymium magnets
HF Driver	1" Tweeter
HF level control	3-position switch (0,-6dB, Off)
Frequency Response	50Hz - 17kHz -3dB
-10dB LF Response	35Hz
Cabinet Type	Sealed
Cabinet Construction	Solid kiln dried lightweight plywood, extensive bracing, dado joinery, textured paint finish
Grille	Black perforated steel
Weight	27.5lb 12.5kg
Dimensions (H/W/D)	14.6" x 24" x 15" 372mm x 612mm x 383mm

## HL112

Description	1 x 12" Bass Cabinet
Power Handling	300 Watts RMS
Cabinet Impedance	8 Ohms
LF Drivers	300 watt, 12", paper/aluminum hybrid cones with neodymium magnets
HF Driver	1" Tweeter
HF level control	3-position switch (0,-6dB, Off)
Frequency Response	35Hz - 17kHz -3dB
-10dB LF Response	25Hz
Cabinet Type	Vented
Cabinet Construction	Solid kiln dried lightweight plywood, extensive bracing, dado joinery, textured paint finish
Grille	Black perforated steel
Weight	24.9lb 11.3kg
Dimensions (H/W/D)	16.5" x 19.2" x 15" 421.5mm x 489mm x 383mm

*At Hartke we are continually improving our products, therefore specifications and images are subject to change without notice.*

# **Hartke**

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