

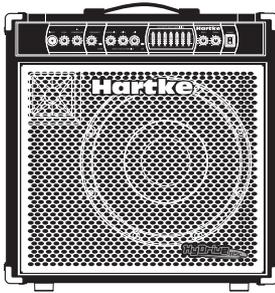
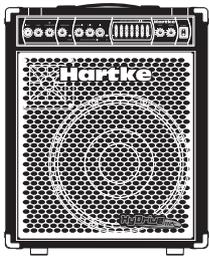
250 WATT BASS COMBO

HyDrive

112C

115C

210C



Owner's Manual



Caution: To reduce the hazard of electrical shock, do not remove cover or back.

No user serviceable parts inside. Please refer all servicing to qualified personnel.



WARNING: To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.

The lightning flash with an arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Important Safety Instructions

1. Please read all instructions before operating the unit.
2. Keep these instructions for future reference.
3. Please heed all safety warnings.
4. Follow manufacturers instructions.
5. Do not use this unit near water or moisture.
6. Clean only with a damp cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturers instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong is provided for your safety. When the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on and pinched particularly at plugs, convenience receptacles and at the point at which they exit from the unit.
11. Unplug this unit during lightning storms or when unused for long periods of time.
12. Refer all servicing to qualified personnel. Servicing is required when the unit has been damaged in any way, such as power supply cord or plug damage, or if liquid has been spilled or objects have fallen into the unit, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.

Table of Contents

Introduction	2
Hartke 112C 115C and 210C Combo Bass Amplifier Features.	4 - 5
Guided Tour - Front Panel	6
Guided Tour - Rear Panel	8
Setting Up and Using Your Hartke Hydrive Combo Bass Amplifier.	9 - 11
The Effect of the Shape Control.....	12
Using the Bass Attack Overdrive	13
Using Equalization	14 - 15
Hydrive Combo Sample Settings	16 - 17
Hydrive Combo Setting Template.....	18 - 19
Specifications.....	20

Copyright 2007, Samson Technologies Corp.

Printed December, 2007 v1.0

Hartke
45 Gilpin Avenue
Hauppauge, New York 11788-8816
Phone: 1-800-3-SAMSON (1-800-372-6766)
Fax: 631-784-2201
www.hartke.com

Introduction

Thank you for purchasing the Hydrive Bass Combo Amplifier from Hartke! We know you don't like reading owners manuals, but you've just purchased one of the finest bass amplifiers around, and we want to tell you about it. So, before you plug in and start popping and slapping, we'd like to suggest you take just a few moments to scan these pages. We'll make it as painless as possible, we promise—and, who knows, you might just pick up a tip or two.

The Hydrive series is new line up of 250-watt bass combo amplifiers featuring Hartke's Hydrive hybrid cone bass transducers. This manual covers three models, the 112C featuring a 300 watt, 12-inch Hydrive speaker, the 115C with a 300, watt 15-inch Hydrive speaker and the 210C with two, 150 watt, 10-inch Hydrive speakers. Hydrive transducers are a radical change, and improvement, in bass speaker technology. Hartke's unique hybrid cone speaker is constructed using an outside paper cone producing deep and warm low frequencies and an inside aluminum cone that produces mids that cut, yet are still sweet. Hydrive speakers incorporate a cast frame design, supporting robust motors constructed with large voice coils and neodymium magnets providing increased power handling while being lightweight! To complete the speakers systems, there's a 1-inch titanium compression driver with level control, producing the high frequency response that allows you to get a sweet tone that cuts through the backline. All of the Hydrive combos feature 250 watts of true, clean, robust linear power. The beefy power supply features a massive toroidal transformer and oversize filter caps. Plus, there's internal protection circuitry to help protect the amplifier and speaker during power up and power down. The Hydrive combos' front panel features a unique and powerful complement of signal processing and tone shaping controls. The Hydrive's input has been designed to handle the output signal from virtually any bass - passive basses with low output pickups, to active basses powered by dual car batteries will work fine. Next to the input is a variable Compressor control that allows you to squeeze the signal just a little or quite a bit. You can use the Compressor to help keep the signal clean or to dial up a sound. The Hartke Shape control adds a pre-set equalization curve with a slight lift in the low frequencies, a cut in the mids and then a slight lift again in the highs. The Shape circuit has a backlit on/off switch to engage the Shape EQ circuit. As you turn the Frequency control, you are adjusting the center frequency so the entire contour curve is adjusted. For added control on stage, the Shape circuit can be controlled using the optional Hartke FS2 footswitch. The Hydrive combos also feature Hartke's Bass Attack Overdrive. The Bass Attack Overdrive section has three controls: Harmonics- which is used to set the amount of drive; Brite- to add highs that additionally excite the harmonics; Mix- that blends the overdrive and the clean signal. You can add just a touch, which is almost unnoticeable(until you turn it off), a modern overdrive, or you can even dial up a creamy fuzz tone. On stage, the Overdrive circuit can be controlled using the optional Hartke FS2 footswitch. For expanded tonal control, the Hydrive combos feature a 7-band graphic EQ with, +/- 12 db cut and boost allowing you to contour a tone that's perfect for your sound. Finally, the Bass and Treble controls (with Bass providing a low frequency shelving EQ at 100 Hz and Treble, a high frequency shelving EQ at 8 kHz). The Hydrive cabinets are constructed using high quality plywood with extensive bracing and dado joinery, which makes them rigid

Introduction

and at the same time lightweight. The vinyl covering, steel grill and corners provide added protection while moving the amplifier from gig to gig. The road tough, black and chrome biker look says you're ready to rock! And of course, the Hydrive combos feature the world famous, and the original, Kickback design allowing you to project the sound directly at yourself while on stage. Hydrive combos are super clean and natural with enough tone and signal processing to produce a radical range of sounds. That versatility, together with Hartke's famous reliability, make the Hydrive combos the ideal amp for bassists playing jazz, funk, country, roots rock, death metal or for whatever style you create.

In these pages, you'll find a detailed description of the many features of your Hydrive Combos Combo Bass Amplifier, as well as a guided tour through its front and rear panels, step-by-step instructions for setting up and using the amp, additional information about equalization, plus full specifications. You'll also find a warranty card enclosed—please don't forget to fill it out and mail it so that you can receive online technical support and so we can send you updated information about this and other Hartke and Samson products in the future. Also, be sure to check out our website (www.hartke.com) for complete information about our full product line.

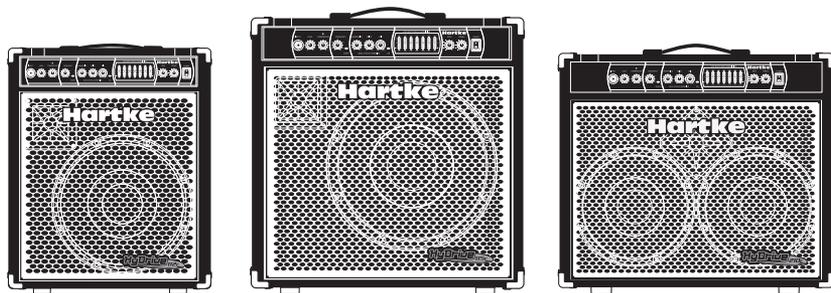
With proper care and adequate air circulation, your Hydrive combo will operate trouble free for many years. We recommend you record your serial number in the space provided below for future reference.

Serial number: _____

Date of purchase: _____

SPECIAL NOTE: Should your Hartke Hydrive Combos Combo Bass Amplifier 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 Samson 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 and packing materials. If purchased outside the United States, please contact your local distributor for warranty information.

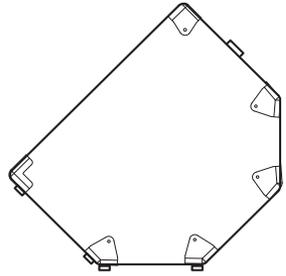
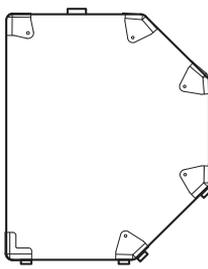
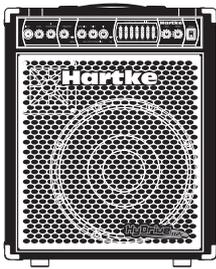
Hartke 112C, 115C and 210C Combo Bass Amplifier Features



The Hartke Hydrive Combos offer all the newest concepts in state-of-the-art hybrid drive bass amplification in an extremely compact size and affordable price. Here are some of their main features:

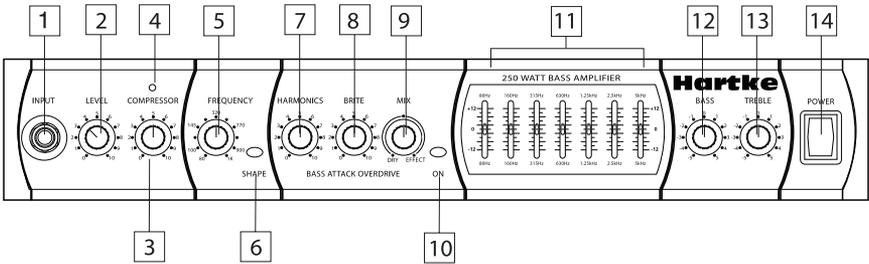
- The 112C delivers 250 Watts of power to its specially designed, 12-inch Hydrive bass driver, while the 115C delivers 250 Watts to its specially designed, 15-inch Hydrive bass driver and the 210C provides 250 Watts of power to the dual 10-inch Hydrive bass drivers.
- Flexible input that can accommodate a broad range of input levels, so that you can use the Hydrive Combos with pretty much any kind of bass, from passive models to those with active circuitry. It is almost impossible to overload the input of an Hydrive Combos bass amplifier!
- Bass and Treble plus a high-quality seven band Graphic Equalizer, allow you to create a broad range of tonal colors for your bass instrument.
- In addition to the bass, treble and graphic equalizer, the Hydrive combos feature the world famous Hartke Shape control. When engaged, the Shape control applies a preset equalization curve providing a tone contour that's sweet on most any bass. The Shape control knob allows the equalization curve to shift over frequency for even more tone control.
- Each combo also features Hartke's Bass Attack Overdrive circuit, which provides harmonics that can be adjusted to add a slight amount of tube-type warmth all the way to killer distortion.
- Line-level effects loop send (Preamp Out) and return (Amp In) jacks that allow you to connect to professional outboard effects processors.
- A dedicated AUX input is included allowing you to hook up a portable CD or MP3 player to practice along with.

Hartke 112C, 115C and 210C Combo Bass Amplifier Features



- Specially designed cabinet which can be used either flat on the floor or on its “kickback” position for increased high end clarity.
- A rear panel, line-level direct output, with PRE/POST switch on standard XLR connector is provided for interfacing with PA systems or recording mixing consoles.
- Bipolar circuit design ensures that every nuance of your bass performance is reproduced faithfully.
- Rugged plywood construction makes the Hydrive Combos eminently road-worthy.
- The Hydrive combos are beautifully appointed in tough black vinyl with chrome corners and matching steel grills, giving them a powerful appearance, and sound, on stage.
- Hartke extended three-year warranty.

Guided Tour - Front Panel



1. INPUT (1/4-inch Jack) - Connect your bass guitar to this standard 1/4" unbalanced jack. This Hydrive Combo Input has been designed to handle the signals from just about any bass with either passive pickups or with hotter pickups if your bass has active electronics (that is, if it has a battery).

2. LEVEL (control knob) - This is the overall volume control. For best signal-to-noise ratio, keep the output of your bass at or near maximum and adjust the Hydrive Combos Volume to the desired level.

3. COMPRESSION (control knob) - This control determines the amount of compression (peak signal reduction) by simultaneously adjusting both threshold and compression ratio (which ranges from 2:1 to infinity [limiting]). At the fully counterclockwise "Zero" position, the circuitry is bypassed and no compression is applied. As the knob is raised clockwise (at settings from "1" to "10"), increasing amounts of compression are applied.

4. COMPRESSION LED - The LED provides a visual indicator of the status of the compression circuitry. When the LED is off (for example, when the Limiter knob [see #3 above] is set to "Zero"), no compression is being applied. When flashing, compression is being applied to the incoming signal at a ratio of approximately 2:1. When steadily blue, the compression ratio is approaching infinity (limiting is being applied to peak signals). This LED "follows" the incoming signal, changing continuously as different amounts of compression and/or limiting are being applied.

5. FREQUENCY (control knob) - This control knob is used to set the center cut frequency for the Shape circuit. The Shape control adds a pre-set equalization curve with a slight lift in the low frequencies, a cut in the mids and then a slight lift again in the highs depending on it's setting.

6. SHAPE (switch) - This switch is used to engage the Hartke Shape circuit which adds a pre-set equalization curve with a slight lift in the low frequencies, a cut in the mids and then a slight lift again in the highs. For additional control on stage, the SHAPE switch can be controlled using a Hartke FS2 footswitch.

7. HARMONICS (control knob) - When the Bass Attack Overdrive switch is ON, the control knob adjusts the amount of overdrive distortion.

Guided Tour - Front Panel

8. BRITE (control knob) – This knob set the amount of high frequency tone control used to drive the harmonics in the Bass Attack Overdrive. The control is active when the Bass Attack Overdrive switch is ON.

9. MIX (control knob) – When the Bass Attack Overdrive switch is ON, the control knob is used to blend the dry and over driven signal. When set all the way to the left, the signal is 100 percent dry. When set to all the way to the right, the signal is 100 percent through the overdrive effect. When using the overdrive effect, a good place to start is right in the middle.

10. ON- (switch) – A backlit push switch used to turn on the Bass Attack Overdrive effect. For additional control on stage, the Bass Attack Overdrive ON switch can be controlled using a Hartke FS2 footswitch.

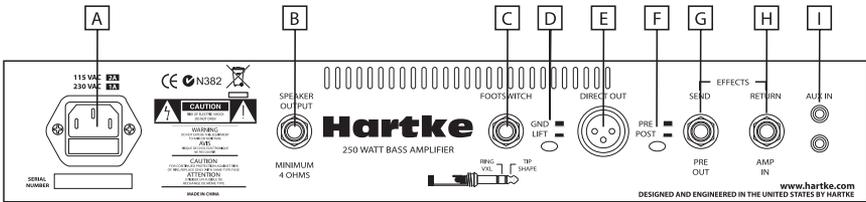
11. GRAPHIC EQUALIZER - These sliders allow you to “draw” the tonal response of the system by adding 12 dB of boost or attenuation to ten different narrow-band frequency areas (30 Hz, 80 Hz, 160 Hz, 315 Hz, 630 Hz, 1.25 kHz, 2.5 kHz, and 5 kHz). When a slider is at its center detented (“0”) position, the selected frequency area is unaffected (it is said to be flat). When a slider is moved up (above the “0” position, towards the “+12” position), the selected frequency area is boosted, and when it is moved down (below the “0” position, towards the “-12” position), the selected frequency area is attenuated. For more information, see the “Using Equalization” section on page 14 in this manual.

12. BASS (control knob) - This control provides approximately 15 db of cut or boost at 100 Hz, with a peak (bell) curve. When the knob is at the 12 o'clock (“0”) position, there is no boost or attenuation (that is, flat response). As it is turned clockwise from the “0” position, the frequency area is boosted; as it is turned counterclockwise from the “0” position, the frequency area is attenuated. For more information, see the “Using Equalization” section on page 14 in this manual.

13. TREBLE (control knob) - This peaking control provides approximately 15 db of cut or boost at 8 kHz. When the knob is at the 12 o'clock (“0”) position, there is no boost or attenuation (that is, flat response). As it is turned clockwise from the “0” position, the frequency area is boosted; as it is turned counterclockwise from the “0” position, the frequency area is attenuated. For more information, see the “Using Equalization” section on page 14 in this manual.

14. POWER (switch) - Use this to power the Hydrive Combos on or off. When powered on, an LED inside this switch is lit.

Guided Tour - Rear Panel



A. AC POWER (inlet) - Use the supplied grounded AC power cord to connect your Hydrive Combos amplifier to mains power. This cord comes supplied with the appropriate plug for your geographic area. **CAUTION:** Do not use an adapter to defeat the third grounding pin on this plug or severe electric shock may result!

B. Speaker Output (1/4-inch jack) – The jack is used to connect the internal 4-ohm Hydrive hybrid cone bass speaker system.

C. FOOTSWITCH (1/4-inch jack) – Use this 1/4-inch jack to connect the optional FS2 footswitch to control SHAPE and BASS ATTACK OVERDRIVE on and off from the stage floor.

D. GROUND LIFT (switch) – This switch disconnects the chassis ground from the audio ground. If you experience a buzz in the PA system when using the Direct Output, engage the Ground Lift switch.

E. Direct Output (XLR connector)- This standard, balanced male XLR connector provides a Line-level output signal from the Hydrive Combos amplifier. You'll usually use this to connect the Hydrive Combos signal to a Line-level input when interfacing with PA systems or recording mixing consoles.

F. PRE/POST (switch) – This switch selects the routing of Direct Output signal from before or after the pre amp controls. If PRE is selected, the signal sent to the direct output is directly from the Input. If POST is selected the signal that's sent to the direct output includes the Level, Compression, Shape and Overdrive plus the Bass Treble and Equalizer.

G. Preamp Out / Send (1/4-inch jack) - Use this 1/4" unbalanced jack to send signal to a professional outboard effects processor.* Output level is approximately 0 dB to +4 dB and is post-EQ and post-Shape but unaffected by the setting of the Volume control. The signal from this output is the same as that from the Direct Out on the rear panel.

H. Amp In / Return (1/4-inch jack) - Use this 1/4" unbalanced jack to return signal from a professional outboard effects processor.*

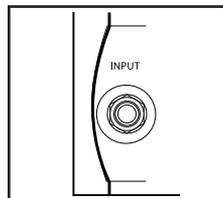
I. AUX INPUT - Your Hydrive Combo amplifier features an AUX INPUT on dual RCA connectors, which you can use with a portable CD player, cassette, mini disk or MP3 player. You can use the CD input to jam with pre-recorded tracks or to learn a riff from a favorite recording.

*In-line effects (such as foot pedals) intended for low signal levels should be placed between your bass and the front panel Hydrive Combos amplifier Input and not connected with the rear panel Effects Loop jacks.

Setting Up and Using Your Hartke Hydrive Combo Bass Amplifier

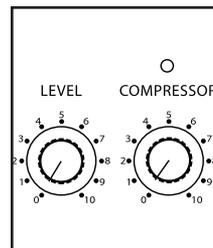
Setting up your Hartke Hydrive Combo Bass Amplifier is a simple procedure which takes only a few minutes:

1. Remove all packing materials (save them in case of need for future service) and decide where the amplifier is to be physically placed. You may decide to use the “kickback” position for additional directionality and high frequency clarity. To avoid potential overheating problems, make sure that the rear panel is unobstructed and that there is good ventilation around the entire unit.



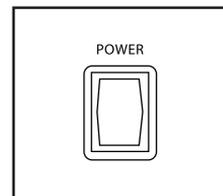
2. Before you plug-in the power cable, be sure the Power switch is in the off position. Connect the supplied power cable to the AC inlet located on the rear panel. Then, plug-in the 3-pin AC plug into any grounded AC socket. Don't turn the Hydrive Combos on just yet, though.

3. Use a standard instrument cable to connect your bass to the Input jack located on the Hydrive front panel. The Hydrive combo's Input has been designed to handle a wide range of input signals. So, if your bass has passive electronics (that is, if it has no battery), or if your bass has active electronics (that is, if it has a battery), you'll achieve a clean signal level.



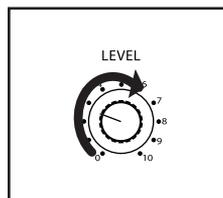
4. On the front panel of the Hydrive Combos, turn the Level and Compression control to their minimum (fully counter-clockwise) position. Set the Bass, Treble and all seven graphic EQ sliders to their “0” position.

5. Make sure the Bass Attack Overdrive ON switch is NOT engaged. That is, the light is off. We'll come back to the Bass Attack Overdrive in a separate section later in this manual. For more information, see the section Using the Bass Attack Overdrive on page 13.



6. Press the front panel Power switch in order to turn on your Hydrive combo amp; the LED in the switch will light up.

7. Set the output of your bass to maximum and then, while playing, slowly turn the Hydrive Combos Level control up until the desired volume is achieved. It's nearly impossible to overload the Hydrive combo amplifier, so if you hear distortion even at low Level settings, check for a faulty cable (if it's good, simply back off the output of your bass).



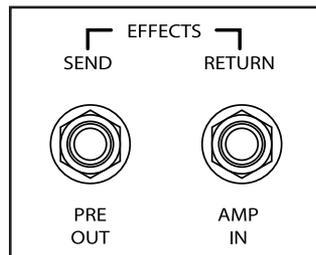
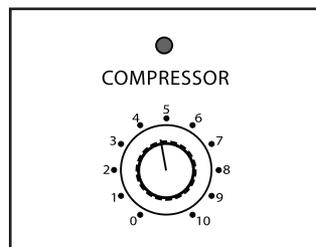
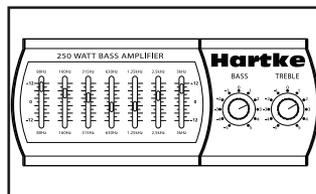
Setting Up and Using Your Hartke Hydrive Combo Bass Amplifier

8. Adjust the Bass, Treble and Graphic Equalizer controls to taste. (When you get a great setting that complements your instrument and playing style, it's a good idea to write it down for future use.)

9. Press in the Shape switch and turn the Shape knob both clockwise and counterclockwise to hear the effect of the Shape curve and filter on the sound of your bass. Leave the Shape knob at the point where it best complements your particular instrument and playing style. For more on SHAPE see the section Using the Shape Circuit on page 12.

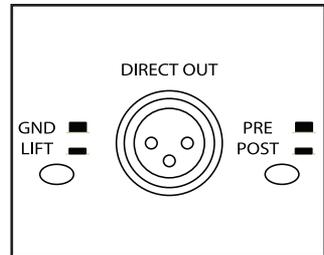
10. Now try out the Hydrive combo's Compression circuitry. Activate it by turning the Compression knob clockwise from its "Zero" position. As you turn the knob clockwise, the input signal from your bass becomes more and more severely compressed—you'll hear peak signals (such as string slaps and pulls) begin to sound increasingly "squashed," relative to the lower-level signals produced by standard playing. The result will be a decreased dynamic range but an overall leveling of signal throughout the full pitch range of your instrument. In the 112C, 115C and 210C, the Compression LED will be off when no compression is being applied, will go on whenever small amounts of compression are being applied and will flash or light steadily blue when limiting (severe compression) is being applied.

11. If you're using a professional external signal processor that has Line-level inputs and outputs, turn your Hydrive Combo amp off momentarily and then connect a standard audio cable between the rear panel Preamp Out jack and your effects processor input and another standard audio cable between your effects processor output and the Amp In jack. (If required, multiple effects processors can be daisy-chained together, output to input). Then turn the Hydrive Combos amp back on and play your bass while adjusting the controls of your effects processor(s). For best results, set both the input and output gain of the connected effects processor(s) to 0 dB (unity gain), so that there is no increase or decrease in level whether the effects are switched in or out.

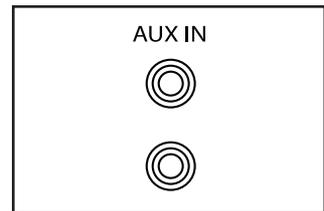


Setting Up and Using Your Hartke Hydrive Combo Bass Amplifier

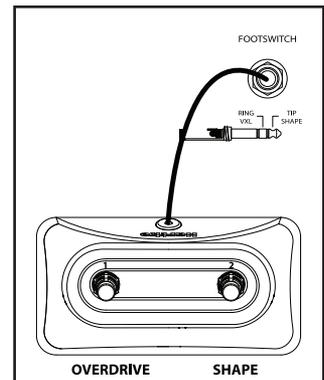
12. If you need to connect the Hydrive Combo to a PA system or a recording mixing console, connect a cable between the rear-panel Direct Out and a Line-level input on the mixer. (See E on page 8 in this manual for more information on the use of the Hydrive Combo Direct Out). The signal that is sent from the Hydrive's Direct Output can be configured as directly off the input or after the pre-amp by using the PRE / POST switch. If PRE is selected, the signal sent to the direct output is directly from the Input. If POST is selected, the signal that's sent to the direct output includes the Level, Compression, Shape and Overdrive plus the Bass, Treble and Equalizer. If you experience a ground loop hum when connecting the Hydrive combo to a PA system, try setting the Ground Lift switch to the Lift position.



13. The Aux Input can be used with a portable CD player, cassette, mini disk or MP3 player to jam with pre-recorded tracks or learn a riff from a favorite tune. In fact, you can plug any line level signal into the CD input including the signal from a keyboard or drum machine. Connect the CD player or other Line level device to the CD Input using standard RCA cable. You will want to use the volume control on the CD player or other Line level device to set the balance between the track and your bass. So, start with the volume control all the way down and slowly raise it until you reach a good balance with your bass.



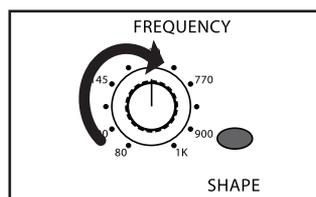
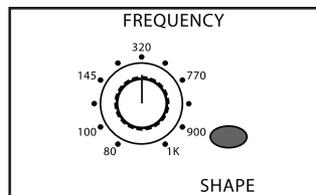
14. The Hartke Hydrive combo has a footswitch jack located on the rear chassis panel. Connect the optional Hartke FS2 dual-button footswitch to the rear panel Footswitch jack for increased control when performing on stage. Switch #1 allows you to switch between the Bass Attack Overdrive on and off. Switch #2 on the FS2 will control the on and off for the Shape control.



If you encounter difficulty with any aspect of setting up or using your Hartke Hydrive bass combo amplifier, you can call Hartke Technical Support (1-800-372-6766) between 9 AM and 5 PM EST, or contact your local distributor if you purchased your Hydrive combo outside the United States.

The Effect of the Shape Control

The Hydrive's unique Shape control enables the sound of your bass instrument to be enhanced at the touch of a button. When the front panel Shape switch is pressed in, a special equalization curve is activated that is designed to improve the sound of most electric bass instruments. This curve provides moderate boost at certain frequency areas and deep attenuation at other frequency areas. Furthermore, the front panel Shape control adds a filter to a selected frequency area within the Shape curve. As the Shape knob is turned clockwise, the filter is imposed on higher frequency areas; as it is turned counterclockwise, the filter is imposed on lower frequency areas. At the fully clockwise position, the filter is applied to the 1 kHz frequency area; at the fully counterclockwise position, the filter is applied to the 80 Hz frequency area.



Even when Shape is activated, the front-panel EQ controls remain operational. When all EQ controls are set to their "0" (flat) position, they add no boost or attenuation to the preset Shape curve. However, when any EQ controls are moved from their ("0") position, their boost or attenuation effect is superimposed upon the preset Shape curve. In this way, you can customize the sound of the Hybrid combo further still to complement your particular bass instrument and playing style.

Note that, when the Shape switch is out, the EQ controls operate on the "flat" signal coming from your bass (that is, there is no preset equalization curve imposed).

For expanded control on stage, you can use the optional FS2 footswitch to select the Shape on or off.

Using the Bass Attack Overdrive

The Hydrive combos feature Hartke's Bass Attack Overdrive circuit allowing you to add a little tube type overdrive, some edgy dirt or all out fuzz.

The Bass Attack Overdrive operates with three controls; the first is Harmonics, which is used to set the amount of overdrive.

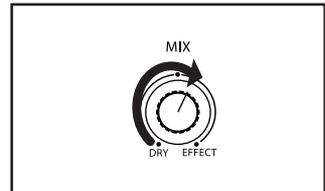
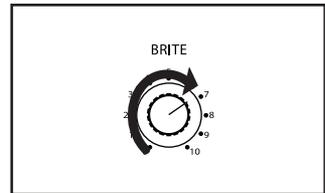
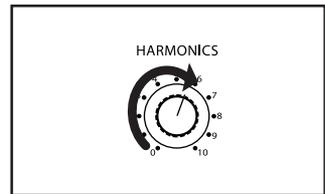
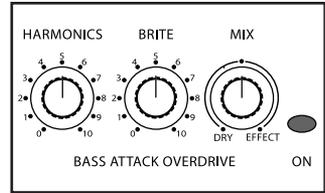
Next is BRITE, which is a high-frequency tone control inserted before the Harmonics that drives, or excites the Harmonics.

Finally, MIX allows you blend between the original clean signal and the overdriven signal.

If you want to add a little tube tone, start with all three knobs at the 12:00 position. Slowly move the MIX to the right adding in more Harmonics.

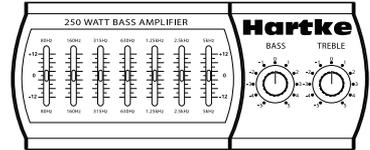
Now experiment with the Brite control to add more high-end distortion. Keep adjusting the Harmonics for even more fuzz. Often a little bit goes a long way. You may dial up a slight bit of overdrive and not even notice it's on, until you switch it off.

For expanded control on stage, you can use the optional Hartke FS2 footswitch to select the Bass Attack Overdrive on or off.



Using Equalization

The Hartke Systems Hydrive Combos Bass Amplifier gives you enormous control over shaping the sound of your bass, using a process called *equalization*. To understand how this works, it's important to know that every naturally occurring sound consists of a broad range of pitches, or *frequencies*, combined together in a unique way. This blend is what gives every sound its distinctive tonal color. The Hydrive Combos EQ controls allow you to alter a sound by boosting or attenuating specific frequency areas—they operate much like the bass and treble controls on your hi-fi amp, but with much greater precision.



The 112C, 115C and 210C offer standard Bass and Treble controls, plus seven bands of graphic equalization. This extended, dual stage equalization circuit allows you to tailor the mid-band with precise control and then boost and cut the bottom and top.

The Bass knob affects the low-frequency area at 100 Hz, and provides approximately 15 db of boost and attenuation. The Treble knob affects the high-frequency area at 8 kHz, and provides approximately 15 db of boost and attenuation. The Graphic Equalizer points are at 80 Hz, 160 Hz, 315 Hz, 630 Hz, 1.25kHz, 2.5kHz and 5kHz and the sliders provide 12 db of boost and attenuation. We carefully selected these frequency areas because they have maximum impact on bass signals. For example, the Bass (100 Hz) control affects the very lowest audible frequencies (in fact, most humans cannot hear below 20 Hz), while the High (5 kHz) control affects the “twang” of a bass string.

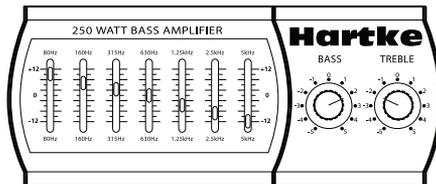
When a Bass or Treble knob is in its center detented position (“0”), it is having no effect. When it is moved right of center, the particular frequency area is being boosted; when it is moved left of center, the frequency area is being attenuated. When a Graphic Equalizer slider is in its center detented position (“0”), it is having no effect. When it is moved up above center, the particular frequency area is being boosted; when it is moved down below center, the frequency area is being attenuated. Turning all EQ controls up the same amount will have virtually the same effect as simply turning up the Volume; conversely, turning them all down the same amount will have virtually the same effect as turning down the Volume. Both approaches are pointless (after all, that’s why we gave you a Level control!)

Using Equalization

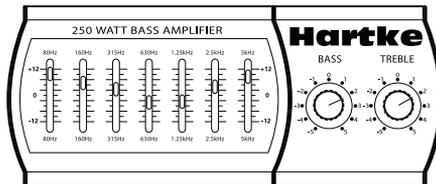
In many instances, the best way to deal with equalization is to think in terms of which frequency areas you need to attenuate, as opposed to which ones you need to boost. Be aware that boosting a frequency area also has the effect of boosting the overall signal; specifically, too much Low EQ boost can actually cause overload distortion or even harm the connected speaker.

The specific EQ you will apply to your bass signal is very much dependent upon your particular instrument and personal taste and playing style. However, here are a few general suggestions:

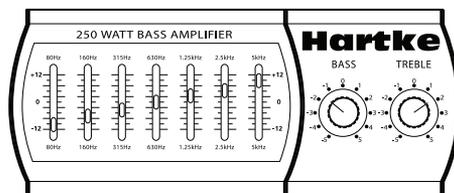
- For that super-deep reggae or Motown sound, boost the Bass EQ moderately while attenuating the Treble EQ.



- To remove boxiness and make your instrument sound more “hi-fi,” try attenuating the Mid EQ control.



- For a twangy, cutting sound, try boosting the Treble EQ. (Putting new roundwound strings on your bass will help a lot also!)



- Whenever you get a really good EQ setting for a particular instrument or song, *write it down* (you’d be amazed how easy it is to forget these things!). Use the blank setting templates on page 18-19 of this manual.

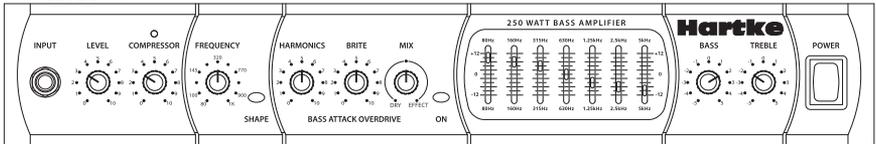
As you experiment with the EQ controls of the Hydrive Combos, don’t forget that your bass also provides significant EQ control in the form of its pickup and tonal settings—this can be particularly effective in instruments that have active circuitry.

Hydrive Combo Sample Settings

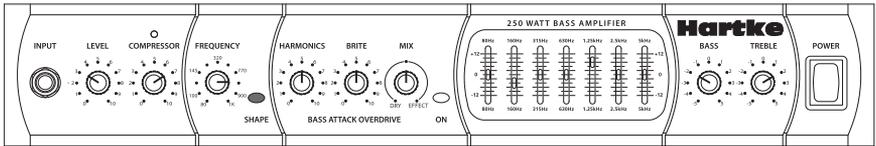
The Hydrive combos are powerful bass amps with a lot of personality. The amplifiers offer bassists a wide range of sounds and after playing just a short time; you'll find the tone that's perfectly suited for your playing style and your sound. To get you started, try some of the samples settings below. Remember, 112C, 115C and 210C use different speaker systems, plus different basses are made of different wood and have different pick-ups, so the sound will vary a little bit on each individual set-up. But still, the sample settings will get you close enough, so you can use your ear to tweak up the sound that's perfect for you.

On page 18 you'll find blank templates of the Hydrive amplifier section. Use these templates to write down the settings for your favorite sounds. Feel free to photocopy or scan the template page if needed.

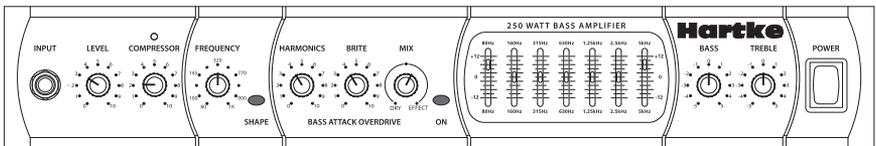
Root Down



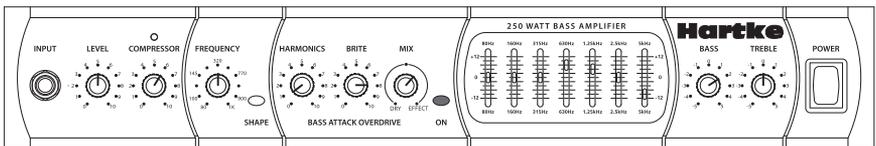
70's Fusion



Dazed and Confused

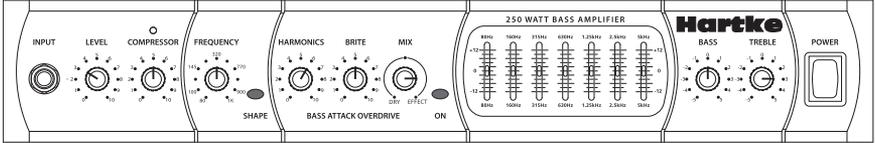


Continuum

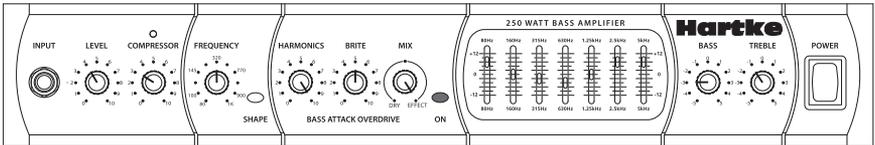


Hydrive Combo Sample Settings

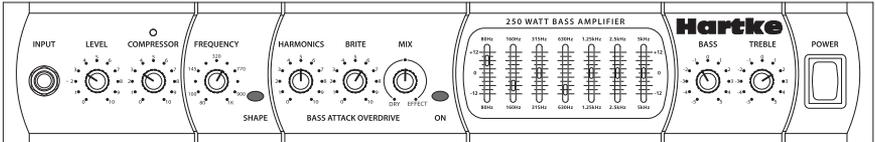
Modern Rock



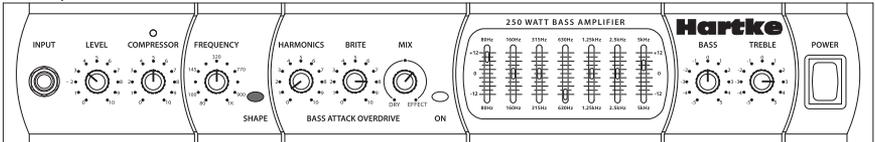
Classic Rock w/Fuzz



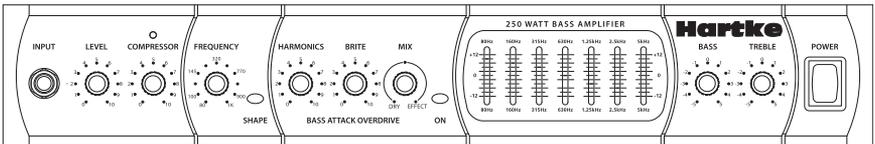
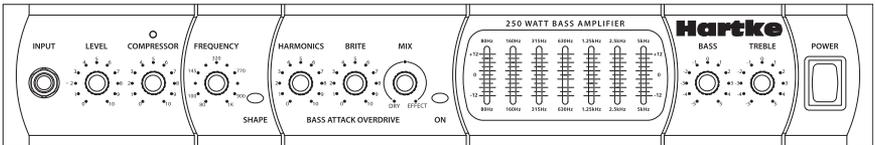
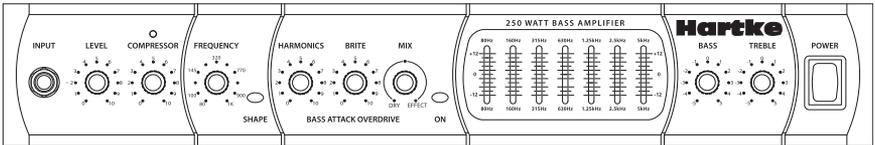
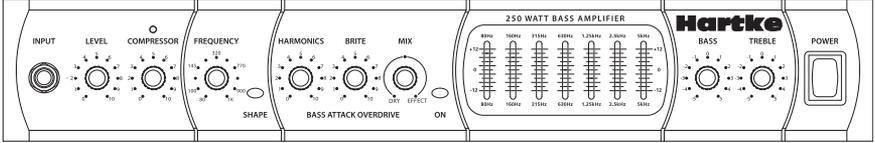
Punk Crunch



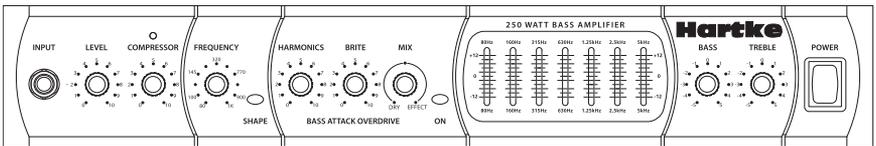
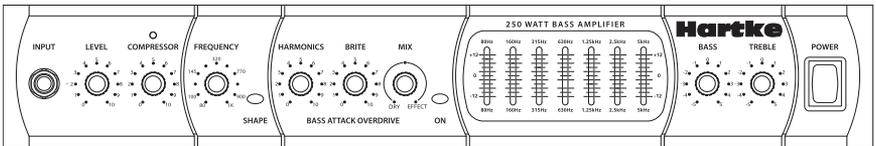
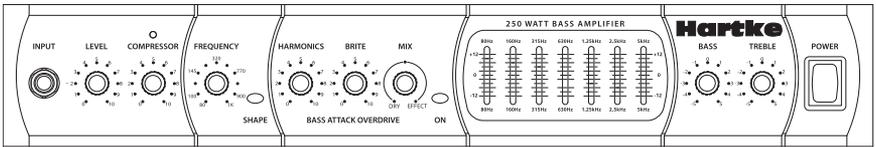
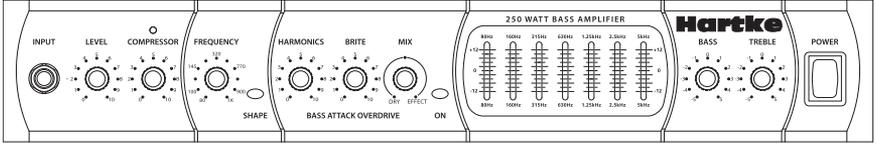
Slap



Hydrive Combo Setting Template



Hydrive Combo Setting Template



Specifications

Rated Output Power (@ 1 kHz, 4 ohm, 1% THD)	250 watts
Rated Input Level (@ 1 kHz)	-20 dBu
Total Harmonic Distortion (@ 1 dB below rated output, 1 kHz typical)	0.2%
Signal To Noise Ratio (re: 1 Wrms @ 1 kHz)	68 db
Dynamic Range (re: Rated output @ 1 kHz)	84 dB
Equalizer	
Bass (100 Hz)	±15 dB
Treble (8 kHz)	±15 dB
Graphic (80 Hz, 160 Hz, 315 Hz, 630 Hz, 1.25kHz, 2.5kHz and 5kHz)	±12 dB
Fuse Type	3AG slo-blo (US & Japan), TAL time delay (UK & European)
Fuse Rating	
US & Japan	5.0A
UK & European	2.5A
Weight	
112C	57.2 lbs. (26 kg)
115C	63.8 lbs. (29 kg)
115C	61.6 lbs. (28 kg)
Dimensions	
112C	18.52" (470.5 mm) H x 17.59" (447 mm) W x 15.75" (400 mm)D
115C	21.67" (550.5 mm) H x 18.89" (480 mm) W x 15.75" (400 mm)D
210C	16.27" (413.5 mm) H x 22.34.25" (593 mm) W x 14.96" (380 mm)D

Specifications are subject to change without notice.

Hartke

45 Gilpin Avenue

Hauppauge, New York 11788-8816

Phone: 1-800-3-SAMSON (1-800-372-6766)

Fax: 631-784-2201

www.hartke.com