

# LX110

# V-AMPIRE

## User Manual

en

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# V-AMPIRE LX110

## IMPORTANT SAFETY INSTRUCTIONS



**CAUTION:** To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside; refer servicing to qualified personnel.

**WARNING:** To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure—voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's 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 the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.
- 12) Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
- 13) Only use attachments/accessories specified by the manufacturer.

14) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



15) Unplug this apparatus during lightning storms or when unused for long periods of time.

16) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

17) CAUTION - These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions.



# V-AMPIRE

## 45-Watt Digital Modeling Guitar Amp with Original BUGERA 10" Speaker

- ▲ Powerful 45-Watt digital modeling workstation with 16 classic amp and cabinet models
- ▲ Original heavy-duty 10" BUGERA dual-cone full-range speaker for faithful sound reproduction
- ▲ 100 memory locations—easily editable and storable
- ▲ 24-bit stereo multi-effects processor including first-class stomp box simulations
- ▲ Amp/speaker simulation, compressor, noise gate, EQ, modulation effects, delay and reverb simultaneously or in any combination
- ▲ Awesome modulation and pitch bend effects
- ▲ Extremely low-noise instrument input ensures maximum guitar signal integrity
- ▲ Stereo RCA Auxiliary input for line-level signals (CD, soundcard, monitoring, etc.)
- ▲ Remote preset selection and tuner activation (footswitch FS112 included) and remote Wah or continuous FX control (pedal FCV100 optional)
- ▲ Super-precise and adjustable auto-chromatic tuner
- ▲ High-quality components and exceptionally rugged construction ensure long life
- ▲ Conceived and designed by BEHRINGER Germany

## FOREWORD



Dear Customer,

Welcome to the team of V-AMPIRE users, and thank you very much for expressing your confidence in BEHRINGER by purchasing the V-AMPIRE.

Writing this foreword for you gives me great pleasure, because it represents the culmination of many months of hard work delivered by our engineering team to achieve a very ambitious goal: to present an outstanding guitar amplifier whose amazing functions offer

a maximum on flexibility and performance. The task of designing our new V-AMPIRE certainly meant a great deal of responsibility, which we assumed by focusing on you, the discerning user and musician. Meeting your expectations also meant a lot of work and night shifts. But it was fun, too. Developing a product usually brings a lot of people together, and what a great feeling it is when all who participated in such a project can be proud of what they've achieved.

It is our philosophy to share our enjoyment with you, because you are the most important member of the BEHRINGER team. With your highly competent suggestions for new products you've made a significant contribution to shaping our company and making it successful. In return, we guarantee you uncompromising quality as well as excellent technical and audio properties at an extremely reasonable price. All of this will let you give free rein to your creativity without being hampered by budget constraints.

We are often asked how we manage to produce such high-quality equipment at such unbelievably low prices. The answer is quite simple: it's you, our customers! Many satisfied customers mean large sales volumes enabling us to get better purchasing terms for components, etc. Isn't it only fair to pass these benefits on to you? Because we know that your success is our success too!

I would like to thank all of you who have made the V-AMPIRE possible. You have all made your own personal contributions, from the developers and the many other employees at this company to you, the BEHRINGER user.

My friends, it's been worth the effort!

Thank you very much,

Uli Behringer

## TABLE OF CONTENTS

<b>1. INTRODUCTION</b> .....	<b>5</b>
1.1 Before you get started .....	5
1.1.1 Shipment .....	5
1.1.2 Initial operation .....	5
1.1.3 Online registration .....	5
<b>2. CONTROL ELEMENTS AND CONNECTORS</b> .....	<b>6</b>
2.1 Front panel .....	6
2.2 Rear panel .....	8
<b>3. APPLICATION EXAMPLE</b> .....	<b>8</b>
<b>4. PRESETS</b> .....	<b>8</b>
4.1 Editing presets .....	8
4.2 Restoring the factory presets .....	9
<b>5. AMP/SPEAKER SIMULATION</b> .....	<b>9</b>
<b>6. EFFECTS PROCESSOR</b> .....	<b>10</b>
6.1 Effect descriptions .....	10
6.1.1 Delay algorithms .....	10
6.1.2 Modulation effects .....	10
6.1.3 Special effects .....	11
6.2 Reverb .....	11
6.3 Pedal function .....	11
6.3.1 FCV100 pedal calibration .....	11
<b>7. TUNER</b> .....	<b>12</b>
7.1 Tuning your guitar .....	12
7.2 Setting reference pitch "A" .....	12
7.3 Tuner Bypass volume .....	12
<b>8. INSTALLATION</b> .....	<b>12</b>
<b>9. SPECIFICATIONS</b> .....	<b>13</b>
<b>10. APPENDIX</b> .....	<b>14</b>
<b>11. WARRANTY</b> .....	<b>15</b>
<b>FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION</b> .....	<b>16</b>

## 1. INTRODUCTION

Congratulations! With the V-AMPIRE, you have the newest generation of guitar amps. It offers an extremely broad range of options and possibilities, the only limit being your own imagination. The V-AMPIRE LX110 is an all-rounder with so many features that you hardly need any other equipment.

### 1.1 Before you get started

#### 1.1.1 Shipment

Your V-AMPIRE was carefully packed at the factory, and the packaging was designed to protect the unit from rough handling. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage that may have occurred during transit.

- 👉 **If the unit is damaged, please do NOT return it to BEHRINGER. Instead, notify your dealer and the shipping company immediately. Otherwise, claims for damage or replacement may not be honored.**
- 👉 **Always use the original packing carton to prevent damage during storage or transport.**
- 👉 **Make sure that no children are left unsupervised with the unit or its packaging.**
- 👉 **Please ensure proper disposal of all packing materials.**

#### 1.1.2 Initial operation

Be sure that there is enough space around the unit for cooling. To avoid overheating, please do not place the V-AMPIRE near radiators and other equipment emanating heat.

- 👉 **Please keep in mind that all the equipment has to be grounded at all times. For your own protection, never change or disable the grounding on your equipment or on the cables! The unit must always be connected to the mains outlet with a protective earthing connection.**

#### 1.1.3 Online registration

Please do remember to register your new BEHRINGER equipment right after your purchase by visiting [www.behringer.com](http://www.behringer.com) (alternatively [www.behringer.de](http://www.behringer.de)) and kindly read the terms and conditions of our warranty carefully.

Should your BEHRINGER product malfunction, our goal is to have it repaired as quickly as possible. To arrange for warranty service, please contact the retailer from whom the equipment was purchased. Should your BEHRINGER dealer not be located in your vicinity, you may directly contact one of our subsidiaries. Corresponding contact information is included in the original equipment packaging (Global Contact Information/European Contact Information). Should your country not be listed, please contact the distributor nearest you. A list of distributors can be found in the support area of our website ([www.behringer.com/support](http://www.behringer.com/support)).

Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently.

Thank you for your cooperation!

### IMPORTANT NOTES CONCERNING INSTALLATION

- 👉 **The sound quality may diminish within the range of powerful broadcasting stations and high-frequency sources. Increase the distance between the transmitter and the device and use shielded cables for all connections.**

### WARNING!

- 👉 **We would like to bring to your attention the fact that extremely loud sound levels may damage your hearing as well as your headphones. Please turn the MASTER control all the way to the left before powering up the unit. Keep the volume at an appropriate level at all times.**

## 2. CONTROL ELEMENTS AND CONNECTORS

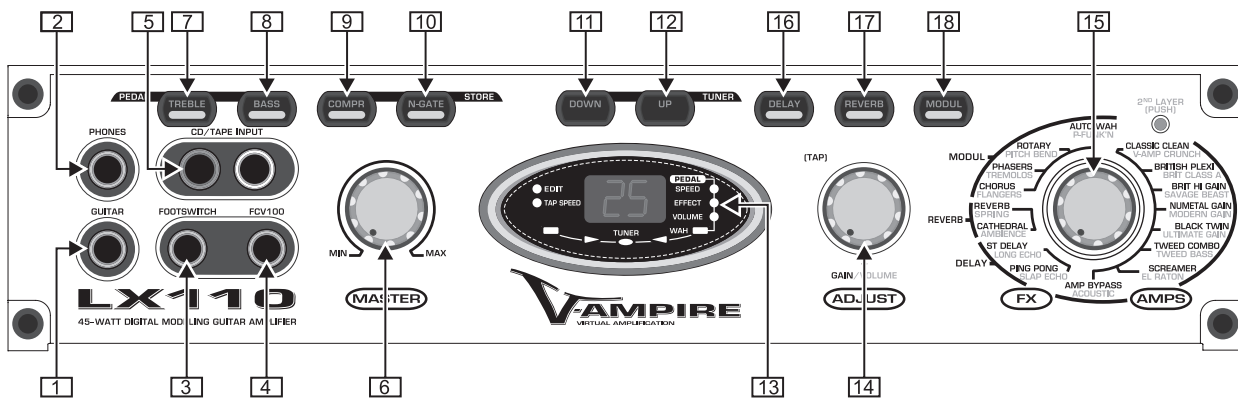


Fig 2.1: V-AMPIRE control elements (front view)

### 2.1 Front panel

- 1 The GUITAR socket is the 1/4" connector for your guitar. Please use a standard 1/4" TS connector.
- 2 The PHONES connector allows you to monitor the audio signal with standard headphones (e.g. BEHRINGER HP Series). This connector can also be used as a stereo line output.
- 👉 **Plugging in the headphones automatically mutes the power amp signal. So, before pulling the headphones connector from the socket, please turn the MASTER control fully left.**
- 3 The FOOTSWITCH jack is used to connect an FS112 footswitch for preset selection (UP/DOWN).
- 4 The FCV100 jack is used to connect an FCV100 expression pedal (not included), which can control various functions (effects parameters, wah-wah, volume, etc.).
- 👉 **To assign a function to the pedal, press the TREBLE and BASS button simultaneously (see 7 and 8). Please read Chapter "6.3 Pedal Function" for more information.**
- 5 The CD/TAPE INPUT RCA inputs allow you to feed in an additional stereo signal, for example, to play along to a drum computer or music playback.
- 6 Use the MASTER control to adjust the overall volume of the LX110.
- 👉 **The MASTER control is not programmable, i.e. its setting cannot be stored in a preset.**
- 7 After pressing the TREBLE control you can use the ADJUST control 14 to raise or lower the high-frequency range. Press and turn the control to change the frequency range you are modifying. The TREBLE button lights up when this function is active and flashes while you are editing its settings.
- 8 After pressing the BASS control you can use the ADJUST control 14 to raise or lower the low-frequency range. Press and turn the control to change the frequency range you are modifying. The BASS button lights up when this function is active, and flashes while you are editing its settings.
- 👉 **Press the TREBLE and BASS buttons simultaneously to assign a specific function to the expression pedal (the display shows "PA"). Please read Chapter "6.3 Pedal Function" for more information.**

- 9 Press the COMPR control to adjust the compressor. ADJUST 14 controls the sensitivity. Press and turn the control to adjust the attack and release times. The COMPR button lights up when this function is active and flashes while you are editing its settings.  
  
Chapter "6.1.3 Special Effects" explains in detail how the compressor works.
- 10 Press the N-GATE button to adjust the noise gate. ADJUST 14 controls the sensitivity. Press and turn the control to adjust the attack and release times. The N-GATE button lights up when this function is active and flashes while you are editing its settings.  
  
Chapter "6.1.3 Special Effects" explains in detail how the noise gate works.
- 👉 **When you press the COMPR and N-GATE buttons simultaneously, you can use the UP and DOWN buttons to select a memory location for the preset you are editing. Keep the COMPR and N-GATE buttons pressed for a while to store the preset. Please read Chapter "4. PRESETS" for more information.**
- 11 To select a preset (99 – 00, decremental), press the DOWN button once quickly. Keep the button pressed to scroll through the presets quickly.
- 12 To select a preset (00 – 99, incremental), press the UP button once quickly. Keep the button pressed to scroll through the presets quickly.
- 👉 **Pressing the DOWN and UP buttons simultaneously activates the TUNER mode of the V-AMPIRE. Press either one of the two buttons to deactivate the TUNER mode. Please read Chapter "7. TUNER" for more information.**

- [13] The *DISPLAY* shows the preset number or the selected effects model. It also informs you about any parameter changes while editing a preset. In *TUNER* mode, the *DISPLAY* indicates the target note, while in calibration mode, the calibration is shown in Hertz (Hz). The decimal points start to flash when the V-AMPIRE signal is overloading. The decimal points shine continuously when a 2<sup>nd</sup> LAYER AMP or FX model is active.

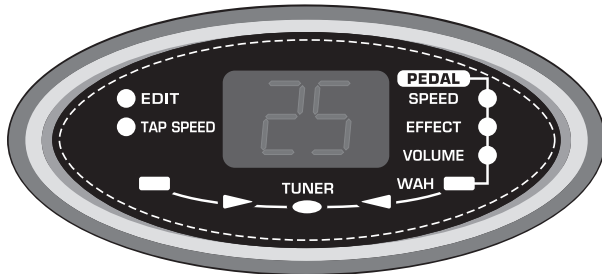


Fig. 2.2: The display of the V-AMPIRE

Status LEDs in the display:

**EDIT:** lights up when a preset has been edited but not yet stored.

**TAP SPEED:** flashes to indicate the effect speed adjusted with the TAP function for MODULATION and DELAY effects.

**PEDAL SPEED:** lights up when an effect speed parameter has been assigned to the expression pedal.

**PEDAL EFFECT:** lights up when any other effect parameter has been assigned to the expression pedal.

**PEDAL VOLUME:** lights up when the expression pedal has been set to control the volume or gain setting.

**PEDAL WAH:** lights up when the WAH effect has been assigned to the expression pedal and flashes when the WAH is active. In Tuner mode, this LED shows the pitch of the instrument.

**TUNER LEDs:** In Tuner mode, these 5 LEDs indicate the pitch of the instrument (incl. PEDAL WAH LED).

- [14] In general, the *ADJUST* control is used to adjust the GAIN settings of the presets and the effects parameters while editing a preset. Press and turn the control to determine the VOLUME settings and other effect parameters of the presets. Effect speed parameters can be adjusted by tapping the control several times (*TAP*). Additional information on the individual control elements can be found in Chapter “6. EFFECTS PROCESSOR”.
- [15] Next to the *FX/AMPS* control an LED shows the currently selected AMP model. The 2<sup>nd</sup> LAYER (*PUSH*) LED indicates that it is an AMP model from the 2<sup>nd</sup> LAYER (grey), otherwise it is a 1<sup>st</sup> layer AMP model (black). Turn the control to select a 1<sup>st</sup> layer AMP model/effect, press and turn the control to select a 2<sup>nd</sup> layer model.
- ☞ If one of the AMPS LEDs lights up (right half), use the *ADJUST* control to set the GAIN or VOLUME.
- ☞ If one of the EFFECT LEDs lights up (left half), the *ADJUST* control can be used to set the selected effect parameter.

- [16] Press the *DELAY* button to adjust the DELAY effect. Delay generates an echo-type delay of the input signal. The *FX/AMPS* control selects a DELAY model. *ADJUST* [14] controls the effect intensity. Press and turn this control to set the feedback level. The rhythm with which you tap the *ADJUST* control determines the intervals between the individual echoes (delay time). The *DELAY* button flashes in edit mode and shines continuously when the effect is active.

The delay effects are described in full detail in Chapter “6.1.1 Delay Algorithms”.

- [17] Press the *REVERB* button to adjust the REVERB effect. REVERB allows you to add a specific hall or room ambience quality to the overall sound. Use the *FX/AMPS* control to select one of four different reverb types: Ambience (2<sup>nd</sup> LAYER LED flashes), Cathedral, Spring (2<sup>nd</sup> LAYER LED flashes) and Reverb. *ADJUST* determines the reverb intensity (Mix). Press and turn this control to adjust the decay time. The *REVERB* button LED flashes in edit mode and shines continuously when the reverb effect is active.

The reverb types are described in full detail in Chapter “6.2 Reverb”.

- [18] Press the *MODUL(ulation)* button to select one of eight modulation effects with the *FX/AMPS* control: Chorus, Flanger, Phaser, Pitch Bend, Tremolo, Rotary, Auto Wah and P-Funk’n. The 2<sup>nd</sup> layer effects (2<sup>nd</sup> LAYER LED flashes) can be accessed by simultaneously pressing and turning this control. Depending on the selected modulation effect, the *ADJUST* control determines either the effect intensity (Mix) in the preset or the effect depth. Press and turn this control to edit a second parameter which depends on the effect selected. The speed parameter can be set by pressing *ADJUST* (*TAP*). Use the UP and DOWN buttons to selected different models within an effect. The *MODUL* button flashes in edit mode and shines continuously when the effect is active.

The modulation effects are described in full detail in Chapter “6.1.2 Modulation Effects”.

- ☞ Press the *DELAY* and *MODUL* button simultaneously to adjust the global input gain of the V-AMPIRE with the *ADJUST* control. With particularly low or high-level guitar signals set the control to the right or left of its center position respectively. Use the UP and DOWN buttons to activate an additional filter preset for optimizing the sound. Both buttons flash in edit mode.
- ☞ The modulation effects Auto Wah, Pitch Bend and P-Funk’n cannot be used in combination with the Wah-Wah effect. When either one of these three effects has been selected while the pedal is assigned to the Wah effect, the latter will be deactivated (WAH LED goes out in the display).
- ☞ Assigning the expression pedal to the Wah effect automatically disables the Auto Wah or Pitch Bend effect, so that the modulation effects are no longer active (all modulation effect LEDs go out).

Please see Chapter “10. APPENDIX” for a list of all functions.

## 2.2 Rear panel

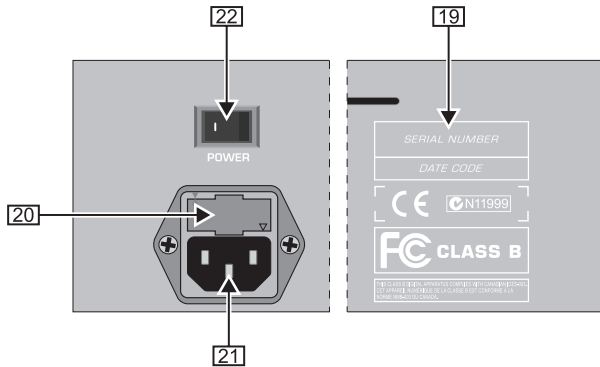


Fig. 2.3: Operating elements of the V-AMPIRE (rear panel)

- 19** SERIAL NUMBER.
- 20** FUSE HOLDER/VOLTAGE SELECTOR. Before connecting the unit to the mains, ensure that the voltage setting matches your local voltage.  
  
A blown fuse should only be replaced by a fuse of the same type and rating. On some units, the fuse holder can be switched to one of two positions, i.e. 230 V and 120 V. Please note that when operating the unit outside Europe at 120 V, a higher fuse rating is required (see Chapter "9. SPECIFICATIONS").
- 21** The mains connection is on an IEC receptacle. A suitable power cord is included with the unit.
- 22** Use the POWER switch to operate the V-AMPIRE. The POWER switch should always be in the OFF position (out) when connecting the unit to the mains.

**⚠** The POWER switch does not fully disconnect the unit from the mains. To disconnect the unit from the mains, pull out the mains connector. When installing the product, ensure that the mains connector has not been damaged. Unplug the power cord completely when the unit is not used for long period of time.

## 3. APPLICATION EXAMPLE

Fig. 3.1 shows an example of how to use the V-AMPIRE LX110. When you connect headphones (thereby muting the speaker) and a CD player or drum computer, you get an ideal setup for practising at home.

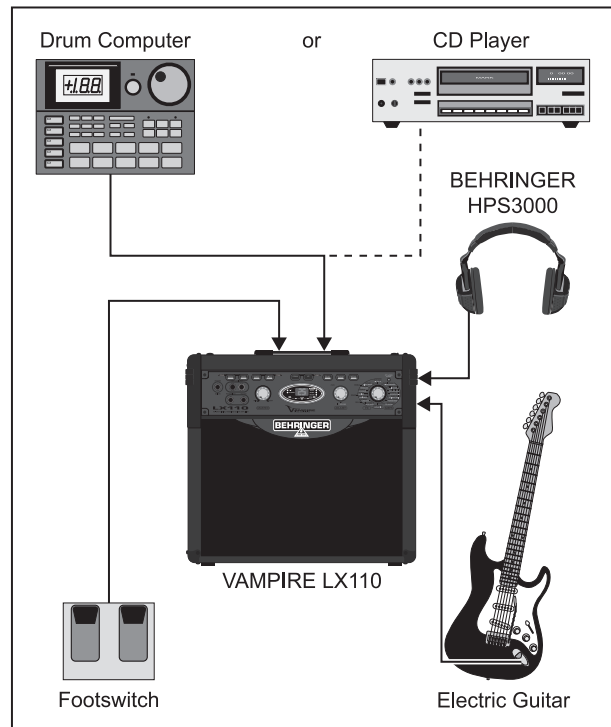


Fig. 3.1: Practice setup

## 4. PRESETS

Your V-AMPIRE features 100 rewritable presets (00 – 99). After power-up the last preset used is automatically recalled. Each preset consists of a maximum of 6 “ingredients”:

- ▲ one amp simulation,
- ▲ pre-amp effects (noise gate, compressor, wah-wah),
- ▲ tunable treble and bass EQs,
- ▲ one modulation effect (e.g. phaser, chorus, etc.),
- ▲ one delay effect, and
- ▲ one reverb effect.


### 4.1 Editing presets

Editing presets on the V-AMPIRE is quick and easy, simply follow the instructions below:

- ▲ First, determine the global gain by pressing the DELAY and MODUL buttons simultaneously. Then use the ADJUST control to set the gain. If required, use the UP and DOWN buttons to activate an additional filter preset for optimizing the basic sound. Press DELAY and MODUL again to quit this menu.
- ▲ Select a preset with the UP and DOWN buttons.
- ▲ Then, select an amp model with the FX/AMP control. The EDIT LED on the display lights up to indicate that you are editing the preset.



- ▲ Modify the basic sound with the treble and bass filter functions. Press the respective function button and adjust the setting with the ADJUST control (see Chapter “2.1 Front Panel”).
- ▲ Select the pre-amp effect you wish to use by activating the corresponding buttons (compressor, noise gate) and edit the effect with the ADJUST control (see Chapter “6.1.3 Special Effects”).
- ▲ Add a delay, reverb and/or modulation effect to your sound by pressing the appropriate buttons and selecting the effects with the FX/AMPS control. Use the ADJUST control to edit various effect parameters (see Chapter “6. EFFECTS PROCESSOR”).
- ▲ When you are satisfied with the settings, store the preset by pressing COMPR and N-GATE (STORE) for more than 2 seconds. The EDIT LED goes out and the edited preset is active. If you want to select a different memory location for your preset, press COMPR and N-GATE briefly, so that the two buttons start to flash. Now use the UP and DOWN buttons to select a different memory location. Then press COMPR and N-GATE for more than 2 seconds to finalize the store process.

 **If you select another preset while editing and without saving the currently selected preset, all changes that have been made so far will be discarded.**

## 4.2 Restoring the factory presets

You can restore the factory presets of your V-AMPIRE at any time.

- ▲ When switching on the unit, hold down the DELAY and MODUL buttons for more than 2 seconds. This will restore **all factory presets** (“CL” flashes on the display).

## 5. AMP/SPEAKER SIMULATION

The very heart of your V-AMPIRE is its amp/speaker simulation. The V-AMPIRE makes it a breeze for you to select one of the legendary guitar amps, be it for Brit pop, blues, heavy metal or whatever. In addition, you can tailor the sound of the respective amp to suit your ideas. On top of all that, you can even choose digital effect and reverb types for your virtual amp. Read Chapter “6. EFFECTS PROCESSOR” for more details.

When your V-AMPIRE is switched on, it automatically activates the last preset selected. The LED ring around the FX/AMPS control shows what amp has been selected. The corresponding LED lights up. Simply turn the control to select another amp.

To give you a better overview of the wide range of amp simulations on the V-AMPIRE, we have compiled the following descriptions of the different types of amps.

**CLASSIC CLEAN:** Back in the '80s, the Roland JC-120 was the preferred sound of Buzzy Feiten (guitarist with the Dave Weckl Band). The unique quality of this transistor amp's sound is the way its brilliance cuts through any mix. It is ideal for the New Wave sound of the '80s that is making a come-back today. By the way, the JC-120 was also popular among Fender Rhodes pianists.

**V-AMP CRUNCH:** This amp is ideal for modern blues or jazz. Its sound is not too subtle, but not in-your-face either—it's crunchy, that's all.

**BRITISH PLEXI:** This amp model, created by leaning closely to a '59 Marshall Plexi 100-Watt amp, is particularly well-suited for creating clean sounds. The amp was used by Jimi Hendrix, Eric Clapton and Jeff Beck.

**BRIT CLASS A:** This simulation is modeled on the Vox AC 30. This amp was originally designed in the '60s when guitarists wanted amps with enhanced brilliance, a feature that Vox successfully implemented by means of “revolutionary” bass and treble controls. Brian May and U2's The Edge are probably the best-known users of this sound.

**BRIT HI GAIN:** Compare this model with a Marshall JCM 800. Although the original was renowned mainly for its distorted sounds, this amp also sounds very good with low gain settings. It's good at reproducing Steve Ray Vaughan's and Michael Landau's sounds. In distortion mode it sounds like Gary Moore in his early days, but it's also good for heavy metal.

**SAVAGE BEAST:** Engl is well-known for amps that really cut through. The Savage 120 in particular has built up a large following among guitarists. For some time now Ritchie Blackmore has been a major endorser of this German company, and Randy Hanson, the best Hendrix since Jimi, also swears by this amp. The unique feature of the Savage is its extreme power and is therefore highly popular with heavy metal guitarists. Silent Force/Sinner guitarist Alex Beyrodt has been an enthusiastic Engl user for years. An amp for making yourself heard!

**NUMETAL GAIN:** This model is based on a 1994 Mesa Boogie Dual Rectifier Trem-O-Verb featuring a modern, high-gain sound that also comes over well in a band context.

**MODERN GAIN:** Here, the tone control is post-gain, allowing the extremely distorted sound to cut through the mix. The MODERN HI GAIN sound is ideal for playing grunge, but is also used by guitarists such as Steve Vai and Joe Satriani. Among others, Steve Lukather, Nuno Bettencourt and Steve Vai have all popularized the Soldano sound. If you're playing a Gibson Les Paul, MODERN HI GAIN sounds best when you turn down the volume control on the guitar a little.

**BLACK TWIN:** This simulation was modeled on a Fender Blackface Twin from 1965. In the '60s this amp was used by jazz, country and even rock guitarists. What was unique about it was that it was exceptionally loud and was therefore mainly used for live performances. The secret of the Blackface Twin was that although you could play it extremely loud, the distortion remained relatively low.

**ULTIMATE GAIN:** From clean to brutal hi-gain, this “brute” covers the entire range. The ULTIMATE V-AMP is basically a souped-up rectifier amp.

**TWEED COMBO:** This was Jeff Beck's favorite when he recorded the albums *Blow by Blow* and *Wired*. This amp was not actually designed for heavy distortion, but owing to its low power, it is ideal for uncompromising overdrive sound.

**TWEED BASS:** This virtual amp is modeled on the Fender 4 x 10 Combo. Originally designed as a bass amp, it soon became a standard amp of blues legends such as Steve Ray Vaughan or Billy Gibbons due to its characteristic distortion. As you would expect, it packs a solid punch in the bass range, but is still flexible enough in the mid and treble ranges.

**SCREAMER:** Having been around since the beginning of the '80s, the Ibanez Tube Screamer TS808 has pretty much achieved cult status. It has the reputation of being the ultimate classical overdrive/treble booster floor pedal, and is associated with mighty lead sounds, even though it offers rather modest distortion. Its secret is that it “knows” better than other floor pedals how to squeeze the very last bit out of the amp to which it is connected.

**EL RATON:** The Rat from ProCo was also a distortion pedal similar to the tube screamer, and it also came around about the same time, but its basic sound and applications couldn't be more different. As the name suggests, the *Rat* is all about aggressive distortion from the pedal itself, and the TS808 is more about unobtrusive overdrive in the amp further down the chain. With the rat simulation, you have the metal sound of the early '80s totally covered.

# V-AMPIRE LX110


**AMP BYPASS:** In this setting, no amp simulation is selected. This makes it possible, for example, to play through an external guitar preamp and only use the effects.

**ACOUSTIC:** A guitar with steel strings miked with a dynamic microphone is simulated here. While piezo pickups have the tendency to make the sound rather hard, using a mic makes the sound much more evened-out. Of course, the feedback typical for miking acoustic instruments is no longer an issue.

Engl, Fender, Gibson, Ibanez, Marshall, Mesa Boogie, Roland, Soldano, Vox ProCo, Tube Screamer, The Rat as well as the names of musicians and bands are registered trademarks of their respective owners and are in no way associated with BEHRINGER. The brand names appearing here are mentioned solely to describe the character of sounds and effects created in the V-AMPIRE.

## 6. EFFECTS PROCESSOR

A special feature of your V-AMPIRE is its built-in multi-effects processor module offering 16 different groups of first-class effects, such as chorus, flanger, delay, auto wah as well as various combinations of effects. You can select one effect out of each of the three effects blocks (modulation, delay and reverb).

 **To synchronize speed-based effects with the tempo of the music, tap the ADJUST (TAP) button at least twice to the beat of the music.**

### 6.1 Effect descriptions

The following section contains short descriptions of the effects that you can use.

#### 6.1.1 Delay algorithms

The delay effects can be modified by changing the following 3 parameters:

- ▲ by turning the ADJUST control (**effect mix**),
- ▲ by pressing and turning the ADJUST control (**feedback**), and
- ▲ by pressing or tapping the ADJUST control to the beat of the music (**interval between echoes/delay time**).

**STEREO DELAY:** This effect delays the input signal. Different tempo settings let you create a wide array of delay effects. Be experimental—try going from short to very long delays.

**LONG ECHO:** What's so special about this delay effect is that the repetition interval of the echoes is 50% longer than the time interval measured between two taps on the ADJUST (TAP) control. This way, you can create a frequently used echo effect easily: if you tap and play in quarter-notes, the echoes are positioned three eighths away. This effect can be best demonstrated by U2's guitarist *The Edge*.

**SLAP ECHO:** As the name suggests, a delay with a very short repetition interval. The V-AMPIRE takes a half of the time interval measured between the taps on ADJUST (TAP) while the echo velocity doubles.

**PING PONG:** A delay effect that changes position in the stereo image.

#### 6.1.2 Modulation effects

When editing the modulation effects you can modify up to 4 parameters:

1. by turning the ADJUST control (depending on the effect, this controls the **effect intensity** or the **effect mix**),
2. by pressing and turning the ADJUST control (**second parameter**, see description of effects),
3. by pressing the UP and DOWN buttons to select various effect models (1 – 4), and
4. by tapping the ADJUST control to the beat of the music (**modulation speed**).

**PHASER:** The principle behind a phaser is that a second, phase-shifted signal is added to the audio signal. This makes the sound richer and, above all, livelier. This effect has been popular for decades because it can be used to produce slightly modulating or strongly alienating effects, regardless of what instrument you are using. Two of the classic versions of this effect that we simulate are the 4-level MXR Phase 90 (1) and the 12-level Boss PH2 (4). Additionally, the V-AMPIRE offers 2 additional exceptional versions of an 8-level (2) and a 10-level (3) phaser.

The second parameter controls the resonance, the third controls the phaser model (1 - 4).

**PITCH BEND:** The DigiTech Whammy pedal and the PS-5 Super Shifter from Boss are extremely well-liked effects which produce an effect signal that is out of tune with the input signal. Models 1 - 4 offer the best pitch bend effects.

Use ADJUST to determine "mix".

The PS-5 Super Shifter (1) generates a fixed interval of several half-tones based on the source tone. When the T-Arm Simulation (2) is used, this interval will be active only if the expression pedal is fully pressed. The time that elapses before the interval is reached can be determined by pressing the ADJUST (TAP) control repeatedly.


With the Whammy effect (3), detuning depends on the position of the pedal (pedal up = original tone pitch, pedal down = the interval entered under (2)).

In contrast to the pitch shifter, the detune effect (4) creates a modest out-of-tune interval that is only a fraction of a half-tone. It sounds roughly like a permanently activated chorus.

The second parameter controls to what extent your tone detunes:

- for models 1 to 3 (-12/-7/-5/-3/+3/+4/+5/+7/+12 half-tones),
- for model 4 (-20 to +20% of a half-tone).

The third parameter lets you select between different effects modules: pitch shift (1), T-Arm (2), Whammy (3) and detune (4).

 **Since pitch bend effects 2 and 3 require the expression pedal, other expression pedal functions, such as Wah Wah, are automatically deactivated. In this case, the pedal assign effect LED lights up.**

**TREMOLO:** Simulates the classic Fender DeLuxe tremolo as well as the Vox AC15 and Gate tremolo. Ever since Trip Hop gained on importance, this volume modulation effect is totally in.

The second parameter controls the dependence of modulation tempo on volume: loud input signal = quicker modulation, lower input signal = slower modulation.

The third parameter lets you chose from different tremolo types: Fender (1), Vox (2), Gate (3) and Panning (4).

**ROTARY:** This is the quintessential simulation of the classic organ effect normally produced by speakers rotating at slow or fast speed in an extremely heavy speaker cabinet. This effect uses the physical principle of the Doppler effect to modulate the sound.

The second and the third parameters control the sounds modulation.

**FLANGER:** This effect is self-explanatory. Originally the flanger effect was produced by running two synchronized tape recorders at the same time. The same signals (e.g. a guitar solo) were recorded on both machines. By putting a finger on the left reel of one of the machines, the reel and, consequently, the playback slowed down. The resulting delay produced phase shifts of the signals. Outstanding examples of this effect genre are the Ultra Flanger on the BF-3 (1) and the classic BF-2 (2) from Boss as well as the Flanger from MXR (3) and A/DA (4).

The second parameter controls the resonance (effect feedback to the input), and the third parameter selects the flanger model (1 – 4).

**CHORUS:** This effect adds a slightly modulated off-key element to the original signal, thus creating a pleasant floating effect through variations in pitch. One of the most popular studio chorus effects was the Tri Stereo Chorus, with its 12 (!) voices that are modulated against each other. The V-AMPIRE offers you this effect in two versions (1, 2), in addition to the 2 classic effects Boss Chorus Ensemble CE-1 (3) and the Roland Dimension D (4).

The second parameter controls the modulation depth while the UP and DOWN buttons are used to select the chorus model (1 – 4). The modulation speed is set by pressing ADJUST (TAP). High depth and speed values result in a clearly audible detuning of the signal (off-key sound).

**AUTO WAH:** The American funk in the '70s proved that auto wah had many possible applications. Instead of regulating the filter frequency with your foot, our effect regulates automatically depending on the signal level. In doing so, our effect is similar to the EHX MuTron III in the up position.

The ADJUST control determines the sensitivity.

The second parameter determines how quickly the filter is shifted; the third parameter selects the effects block (1 - 4).


**P-FUNK'N:** This is our attempt at replicating the legendary MuTron III, and we succeeded! The most famous user of this effect is probably Bootsy Collins. The MuTron III had an up/down switch. Our particular effect resembles the MuTron in the down position.

The ADJUST control determines the sensitivity.

The second parameter determines how quickly the filter is shifted, while the third parameter determines the effects block (1 – 4).

### 6.1.3 Special effects

**WAH WAH:** The legendary Wah Wah effect owes its fame mainly to Jimi Hendrix. To describe this effect would certainly be more difficult than to simply suggest to listen to Hendrix using it on "Voodoo Chile".

 **Wah Wah is not available when auto wah, P-Funk'n or pitch bend are being used.**

**COMPRESSOR:** Our simulation is based on the well-known MXR Dyna Comp. A compressor limits the dynamic range of a signal by reducing the signal level as soon as a pre-determined threshold is exceeded. A compressor lets you achieve noticeable and creative sound effects. The extent at which the compressor kicks in is controlled with ADJUST, allowing you to achieve apparent sustain. When ADJUST is turned all the way to the left, the compressor function is deactivated.

The second parameter (attack) controls the amount of time that the compressor needs to react, once the threshold has been exceeded. If you set up a short attack time, the compressor will react very fast.

**NOISE GATE:** Noise gates are used to remove or reduce noise or other interference. Guitar signals in particular are very sensitive to interference. Not only do guitarists often use high-gain settings but guitar pickups can amplify unwanted interference. This can be painfully obvious during breaks in the music. And how does a noise gate work? It simply mutes the signal during breaks, eliminating any interference at the same time.

The ADJUST control determines when the noise gate starts processing. This control allows you to suppress background noise more or less pronouncedly. When ADJUST is turned all the way to the left, the noise gate function is deactivated.

The second parameter (release) determines the time that the noise gate remains open after it had fallen below the threshold. Setting up a short release time means that the noise gate suppresses the signal very soon after it detects noise.

## 6.2 Reverb

The reverb is still one of the most important effects used in a mix or at a live event. BEHRINGER offers you four different reverb programs, so that you can always find the reverb that best fits the music style:

Ambience: a short room simulation without reverb tail.

Cathedral: a long, rich reverb, like in a cathedral.



Spring: the typical sound of a classic spring reverb.

Reverb: a universal, warm reverb simulating a concert hall.

ADJUST controls the reverb intensity, while the second parameter determines decay.

## 6.3 Pedal function

Press the TREBLE and BASS buttons simultaneously to assign a specific function to the expression pedal (the display shows "PA"). At the same time, one of the right-hand LEDs on the display starts to flash (speed, effect, volume, wah). If Pedal Assign is active, simply edit the parameter of your choice to automatically assign it to the expression pedal (the corresponding Assign LED lights up). Press TREBLE and BASS again to confirm your selection:

- ▲ **SPEED:** the pedal controls the SPEED parameter of a delay or modulation effect (e.g. delay time).
- ▲ **EFFECT:** the pedal controls the first effect parameter (depending on the effect used, this is the **effect mix** or **effect depth**).
- ▲ **VOLUME:** the pedal controls the preset volume.
- ▲ **WAH:** the pedal controls the wah effect. You can also just move the expression pedal to select the wah function.
-  **When the pedal function is activated, one parameter is always assigned to the pedal.**
-  **Auto Wah and/or Pitch Bend are disabled as long as the Wah-Wah effect is assigned to the expression pedal.**

Press TREBLE and BASS a third time to confirm your selection and quit the PEDAL menu.

### 6.3.1 FCV100 pedal calibration

Please follow the steps below to optimally adapt the pedal control range of the FCV100:

- ▲ Hold down the BASS and TREBLE buttons for more than 2 seconds while switching on the unit to enter pedal calibration mode.
- ▲ Press the pedal fully down. The display shows "PL" (Pedal Low).
- ▲ Then, move the pedal fully up. The display shows "PU" (Pedal Up). The calibration is now complete.
- ▲ To quit the pedal calibration mode, press the BASS and TREBLE buttons simultaneously.

A/DA, Boss, DyTronics, Electro Harmonix (EHX), MXR, Digitech, Vox as well the names of musicians and bands are registered trademarks of their respective owners and are in no way associated with BEHRINGER. The brand names appearing here are mentioned solely to describe the character of sounds and effects created in the V-AMPIRE.

## 7. TUNER

The built-in tuner can be switched on and off by pressing the UP and DOWN buttons simultaneously. This switches the V-AMPIRE to bypass mode.

### 7.1 Tuning your guitar

The chromatic tuner automatically recognizes the frequencies of all the standard guitar notes. For the A string, this means a frequency of 110 Hz. When you plug your guitar into the V-AMPIRE and play an open string, the tuner will recognize and display the note. Since the tuner uses an auto-chromatic scale, it can also recognize semitones which are indicated with the flat symbol “b” in the display.

However, it may happen, for example, that a note is displayed as “A” but is actually slightly out of tune. This is shown by at least one of the four LEDs at the bottom of the display lighting up. In certain cases even two of the LEDs may light up indicating that the pitch of the note played lies between the pitches represented by the two LEDs. When the circular tuner LED in the middle lights up, then the note played is in tune.

### 7.2 Setting reference pitch “A”

To give you maximum freedom when tuning your guitar, you can change the preset reference pitch “A”. For clarity’s sake, let’s look at this in more detail.

The so-called concert pitch “A” has been raised steadily over time. For example, the tuning forks used by Bach, Händel or Mozart resonated at 415, 420 or 421 Hz (oscillations per second). Today’s orchestras tune to “A” at 444 Hz, and the Berlin Philharmonic Orchestra lead the field with their own concert pitch “A” at 447 Hz.

The reference “A” on your V-AMPIRE has been factory-programmed at 440 Hz. If you are going to play with a big orchestra that tune their instruments to a reference pitch of 444 Hz, you will need a function that allows you to change your reference pitch:

- ▲ Switch on the tuner by pressing the UP and DOWN buttons simultaneously, then press and hold the ADJUST control to enter the calibration mode: The display shows “40”, i.e. 440 Hz.
- ▲ Press and turn the ADJUST control to increment/decrement the reference tone “A” by 15 Hz each. The display always shows the last two digits of the basic tone, given that the first digit is always “4” (“44” = 444 Hz, etc.).
- ▲ Release the ADJUST control to quit the calibration mode. Any changes made are stored automatically. The remaining strings of your guitar are now tuned on the basis of the adjusted reference tone.

### 7.3 Tuner Bypass volume

In tuner mode, the ADJUST control adjusts the volume of the guitar signal while tuning up. Turning the control fully left mutes the signal.

## 8. INSTALLATION

The inputs of the BEHRINGER V-AMPIRE are on 1/4" TS connectors. The headphones output is on a 1/4" TRS connector. The CD/TAPE INPUT connectors are on unbalanced RCA jacks.

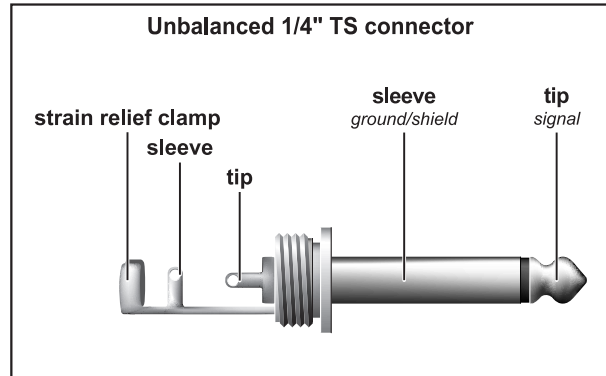


Fig. 8.1: 1/4" TS connector

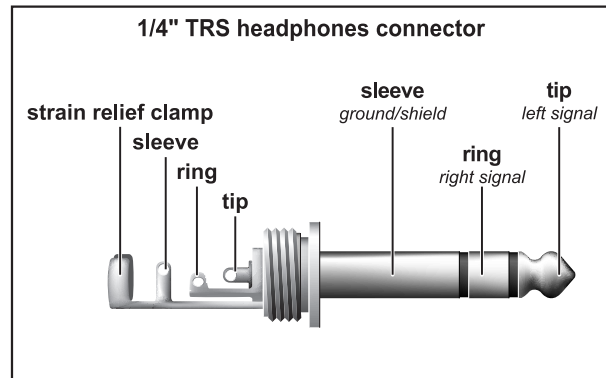


Fig. 8.2: Headphones connector

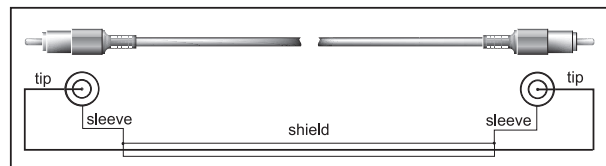


Fig. 8.3: RCA cable

## 9. SPECIFICATIONS

### INSTRUMENT INPUT

Type	1/4" TS connector, unbalanced
Input impedance	approx. 1 M $\Omega$
Max. input level	+5 dBu

### LINE/HEADPHONE OUTPUT

Type	1/4" TRS stereo connector, unbalanced
Output impedance	approx. 50 $\Omega$
Max. output level	+18 dBu @ 10 k $\Omega$ / +21 dBm @ 100 $\Omega$

### AUX IN STEREO

Type	1/4" TRS stereo connector
Input impedance	4.7 k $\Omega$

### DIGITAL SIGNAL PROCESSING

Converter	24-bit Delta-Sigma, 64/128-times oversampling
Dynamics A/D	100 dB @ preamp bypass
Dynamics D/A	95 dB
Sample rate	31.250 kHz
DSP	100 Mips
Delay time	max. 1960 ms stereo

### DISPLAY

Type	2-digit, 7-segment LED display
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### AMPLIFIER

Peak power	45 W / 4 $\Omega$
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### INTERNAL SPEAKER

Type	10" BUGERA Dual-Cone Full-Range, 10K50A4
Impedance	4 $\Omega$
Load capacity	50 W (IEC)

### POWER SUPPLY

Mains voltage	U.S./Canada	120 V~, 60 Hz
	China/Korea	220 V~, 50/60 Hz
	Europe/U.K./	
	Australia	230 V~, 50 Hz
	Japan	100 V~, 50/60 Hz
	General	
	export model	120/230 V~, 50 - 60 Hz
Power consumption	66 W max.	
Fuse	100 - 120 V~: <b>T 2.5 A H</b> 250 V	
	200 - 240 V~: <b>T 1.25 A H</b> 250 V	
Mains connection	Standard ICE receptacle	

### DIMENSIONS/WEIGHT

Dimensions (H x W x D)	395 mm (15 1/2") x 355 mm (14") x 215 mm (8 1/2")
Weight	ca. 8.2 kg (18 lbs.)

BEHRINGER constantly strives to maintain the highest quality standards. Modifications may be made, if necessary, without prior notice. The specifications and appearance of the equipment may therefore differ from those listed or illustrated.

## 10. APPENDIX

Operating element	Function	FX/AMP	ADJUST	ADJUST (Push + Hold)	ADJUST (Tap)	UP/DOWN
TREBLE	High EQ	-	boost/cut	Filter frequency	-	-
BASS	Bass EQ	-	boost/cut	Filter frequency	-	-
COMPR	Compressor	-	Sensitivity	Attack/Release	-	-
N-GATE	Noise Gate	-	Sensitivity	Attack/Release	-	-
MASTER	Output volume	-	-	-	-	-
UP/DOWN	Selects a preset	-	-	-	-	Preset selection
DELAY	Calls up delay menu	Selects a delay effect	Mix	Feedback	Delay Time	-
REVERB	Calls up reverb menu	Select a reverb effect	Mix	Decay Time	-	-
MODUL	Calls up modulation menu	Selects a modulation effect	Mix or Depth (depending on effect)	2nd parameter (depending on effect)	Speed	Selection of various effect models
FX/AMP	Selects effects and amp models	-	-	-	-	-
<b>Key combinations</b>						
UP + DOWN	Activates the tuner	-	Tuner input volume	Tuner calibration (425 - 455 Hz)	-	-
TREBLE + BASS	Activates the pedal function	-	-	-	-	-
COMPR + N-GATE	Stores the preset	-	-	-	-	Selects a memory location
DELAY + MODUL	Global input gain	-	Controls the input gain	-	-	Selects a filter preset
<b>Power-up functions</b>						
TREBLE + BASS	Selects pedal calibration menu during power-up	The display shows "PU" or "PL"				
DELAY + MODUL	Restores the factory presets during power-up	The display shows "CL"				

Table 10.1: Overview of functions

## 11. WARRANTY

### § 1 OTHER WARRANTY RIGHTS AND NATIONAL LAW

1. This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.
2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

### § 2 ONLINE REGISTRATION

Please do remember to register your new BEHRINGER equipment right after your purchase by visiting [www.behringer.com](http://www.behringer.com) (alternatively [www.behringer.de](http://www.behringer.de)) and kindly read the terms and conditions of our warranty carefully.

Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently.

Thank you for your cooperation!

### § 3 WARRANTY

1. BEHRINGER (BEHRINGER International GmbH including all BEHRINGER subsidiaries listed on the enclosed page, except BEHRINGER Japan) warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year\* from the original date of purchase, in accordance with the warranty regulations described below. If the product shows any defects within the specified warranty period that are not excluded from this warranty as described under § 5, BEHRINGER shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case that other parts are used which constitute an improvement, BEHRINGER may, at its discretion, charge the customer for the additional cost of these parts.
2. If the warranty claim proves to be justified, the product will be returned to the user freight prepaid.
3. Warranty claims other than those indicated above are expressly excluded.

### § 4 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) during normal business hours **BEFORE** returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number.
2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER.
3. Shipments without freight prepaid will not be accepted.

### § 5 WARRANTY REGULATIONS

1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealer's invoice. Any product deemed eligible for repair or replacement under the terms of this warranty will be repaired or replaced.
2. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which

the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. The warranty does not cover any such modification/adaptation, irrespective of whether it was carried out properly or not. Under the terms of this warranty, BEHRINGER shall not be held responsible for any cost resulting from such a modification/adaptation.

3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, crossfaders, potentiometers, keys/buttons, tubes, guitar strings, illuminants and similar parts.

4. Damages/defects caused by the following conditions are not covered by this warranty:

- ▲ improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals.
- ▲ connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
- ▲ damages/defects caused by force majeure or any other condition that is beyond the control of BEHRINGER.

5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty.

6. If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer.

7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

### § 6 WARRANTY TRANSFERABILITY

This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of BEHRINGER.

### § 7 CLAIM FOR DAMAGES

Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.

\* Customers in the European Union please contact BEHRINGER Germany Support for further details.

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Tel. +49 2154 9206 0, Fax +49 2154 9206 4903

# V-AMPIRE LX110

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## FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION

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Responsible party name: BEHRINGER USA, Inc.  
Address: 18912 North Creek Parkway, Suite 200 Bothell, WA 98011, USA  
Phone/Fax No.: Phone: +1 425 672 0816,  
Fax: +1 425 673 7647

hereby declares that the product

### **V-AMPIRE LX110**

complies with the FCC rules as mentioned in the following paragraph:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

#### **Important information:**

Changes or modifications to the equipment not expressly approved by BEHRINGER USA can void the user's authority to use the equipment.