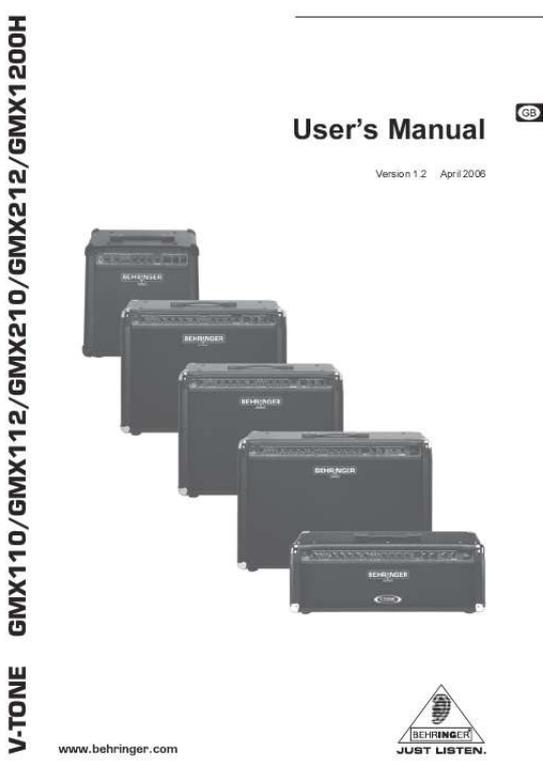




Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for BEHRINGER GMX212. You'll find the answers to all your questions on the BEHRINGER GMX212 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual BEHRINGER GMX212
User guide BEHRINGER GMX212
Operating instructions BEHRINGER GMX212
Instructions for use BEHRINGER GMX212
Instruction manual BEHRINGER GMX212



The image shows the cover of a 'User's Manual' for BEHRINGER GMX212 series amplifiers. The cover is white with black text. At the top, it says 'User's Manual' with a small 'GB' logo. Below that, it says 'Version 1.2 April 2006'. In the center, there is a row of five black BEHRINGER GMX212 series amplifiers of different sizes, arranged in a descending staircase pattern. To the left of the amplifiers, there is vertical text: 'V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H'. At the bottom left, there is the website 'www.behringer.com'. At the bottom right, there is the BEHRINGER logo and the slogan 'JUST LISTEN.'.



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Manual abstract:

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 manufacturers instructions. @@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) Only use attachments/accessories specified by the manufacturer. 12) 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.

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 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.

13) Unplug this apparatus during lightning storms or when unused for long periods of time. 14) 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. 15) 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 unless you are qualified to do so. 2 V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H FOREWORD Dear Customer, welcome to the team of BEHRINGER users, and thank you very much for expressing your confidence in us by purchasing the BEHRINGER V-TONE. 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 develop four outstanding guitar amps that are at the forefront of what is technically possible and that can be used in many different applications. Our guitar amps offer you strong performance, their sound is amazingly clear, and they are easy to use both as direct recording amps as well as stage amps. The task of designing our new V-TONEs 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 enable you to give free rein to your creativity without being hampered by budget constraints. We are often asked how we manage to produce such high quality devices 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 this benefit 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-TONE Series possible. You have all made your own personal contributions, from the developers to the many other employees at this company, and to you, the BEHRINGER user.

My friends, it's been worth the effort! Thank you very much, TABLE OF CONTENTS 1. INTRODUCTION

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..... 18 Uli Behringer + WARNING! We would like to bring your attention to 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. Always try to keep volume at appropriate levels. 3 V-TONE
GMX110/GMX112/GMX210/GMX212/GMX1200H 1. INTRODUCTION Thank you for the trust that you have placed in us by buying your V-TONE. You have
gotten your hands on a latest-generation guitar amp that sets completely new standards when it comes to analog modeling.

Our primary goal during development was to simulate the typical sounds of analog guitar amps, and at the same time give you a powerful sound tool that you
can use flexibly. In doing so, we constantly strove to create a piece of equipment that is intuitive and easy to use. The demands placed on a guitar amp are
nowadays very broad. A guitarist should offer a wide array of sounds, but at the same time be able to quickly adapt to specific requirements of various
applications be it home recording, studio, live performances, etc. That's why it is very important to us to be able to offer you a maximal sound diversity as well
as diverse connection possibilities with our V-TONE.

Fret not: you will quickly master the V-TONE and will be able to quickly learn how to use all of its capabilities easily and intuitively. With its up-to-date
circuitry, its digital signal processor (DSP) and its integrated tuner, the V-TONE features the functionality and dependability of a truly modern guitar amp.
Yet it is userfriendly and problem-free as if it were a classic tube combo.



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We highly recommend taking your time to truly learn all of the V-TONEs functions so you can reach its maximum potential. 1.3 Before you get started 1.3.1 Shipment The V-TONE was carefully packed at the assembly plant to ensure secure transport. If the cardboard box is damaged, please inspect the V-TONE equipment immediately for physical damage. + Damaged equipment should NEVER be sent directly to us.

Please inform the dealer from whom you acquired it immediately as well as the transportation company from which you took delivery. Otherwise, all claims for replacement/repair may be rendered invalid. If the unit needs to be shipped, please always use the original packaging to avoid damage. Never let unsupervised children play with the V-TONE or with its packaging. Please dispose of all packaging materials in an environmentally-friendly fashion. + + +

1.3.2 Initial operation Please make sure that your V-TONE is provided with sufficient ventilation, and never place it on other amplifiers or in the vicinity of a heater to avoid the risk of overheating. 1.1 The concept The BEHRINGER company philosophy guarantees a perfectly thought-out circuitry concept, with

components that were selected without cutting any corners.

The operational amplifiers that BEHRINGER uses in the V-TONE are some of the most noise-free operational amps around, and are characterized by extreme linearity and low distortion. They are complemented by low-tolerance resistors and capacitors, high-value potentiometers and switches as well as additional select components. The robust housing of your V-TONE, with its oversized power supply, gives you the peace of mind that the V-TONE will hold its own even under the most demanding stage conditions. The housing is made of high-grade, environment-friendly MDF wood consisting of multiply impregnated layers.

+ Before plugging your V-TONE into a power socket, please make sure you have selected the correct voltage: The fuse retainer near the power cord connector has three triangular markings.

Two of these triangles point in opposite directions. Your V-TONE is set up for the voltage indicated near these markings, and can be altered by turning the fuse mount by 180 degrees. ATTENTION: This does not apply to export models built for 120 V, for example! + + 1.2 Dynamizer technology and analog modeling When an electric instrument is amplified, that's where you either make it or break it. Unlike the signals that have been mixed and mastered, the signals of electric instruments have extremely high signal peaks, placing the dynamic range of the amps circuitry under immense strain.

How your amp reacts to these signal peaks is one of its most defining characteristics. That's why we've equipped all V-TONE Series amps with our unique Dynamizer preamplifier circuitry. It guarantees a lively sound with a lot of punch, even when the amp is pushed to its limits. Combine that with our V-TONE analog modeling, and not only do you have amazingly authentic tube sounds at your fingertips, you also get the dynamic performance typical of the respective amp type. Crystal-clear guitar tones come through with transparency, warmth and the compression typical of tube amps. Even as distortion increases, the sound remains lively and full of power, without losing any of its assertiveness. All along, you have full control over the volume. Plainly talking, you can take the same sound you are used to at your practice room and replicate it in your bedroom at much more reasonable volume levels, or you can even record yourself while playing. If you use your V-TONE unit with a different voltage, you must achieve the desired volume balance between both channels. The GMX110 features no such control.

However, use to control the volume of the CLEAN channel in respect to the MODELING channel; use MASTER to control the overall volume. The GMX112 and GMX210 feature the LEVEL control only on MODELING CHANNEL 1. It controls the volume of the channel in respect to the second channel. The PRESENCE control gives you an additional way to cut or boost the highs (GMX212 and GMX1200H). The MASTER control regulates the overall volume as well as headphone volume. The POWER switch powers up your V-TONE. The POWER switch should always be in the Off position before you connect the V-TONE to the main power source. Please note: The POWER switch does not fully disconnect the unit from the mains power cord plug or extension cord. To disconnect the unit from the main power source, pull out the main cord plug or appliance coupler. When installing the product, ensure the plug or appliance coupler is readily operable.

Unplug the power cord when the unit is not used for prolonged periods of time. GMX110s POWER switch is located on the rear. 2. CONTROL ELEMENTS AND CONNECTIONS Control elements of your V-TONE guitar amp are described in this section. All controls and connections are explained in detail, and we give you useful tips on how to use them.

An illustration of control elements with corresponding numbering can be found on the separately included supplementary sheet. Because models GMX112, GMX210, GMX212 and GMX1200H each feature two identical MODELING CHANNELS, control through will only be described once in the elements following section. + 2.1 Front panel The connector labeled INPUT is the 1/4" jack input of your V-TONE. Use it to connect your guitar.

Use a commercially available 1/4" jack mono cable (no DIY, ask your specialized dealer) with good mechanical and electrical shielding to avoid unpleasant surprises during rehearsals or concerts. On the GMX110, the CLEAN control modifies the volume of the CLEAN channel in relation to the MODELING CHANNEL. Use the CHANNEL key to alternate between the two modeling channels (except for the GMX110). The channel LED lights up when the channel is activated. On the GMX110, the CHANNEL key switches between CLEAN and MODELING CHANNEL. CLEAN CHANNEL is active when the channel LED is not lit up. With all models you can also switch between channels using the provided footswitch. A long hit (approx. 2 seconds) on the CHANNEL key activates the guitar tuner. The DRIVE control determines the amount of distortion in the respective MODELING CHANNEL.

Using this, you can ideally adjust the V-TONE pre-amp to the output level of your guitar pick-up to achieve the desired amount of distortion (depending on the amp, mode and speaker combination you selected). The CHANNEL LED indicates the currently selected channel. Use the AMP switch to select one of the three guitar amps that orient themselves on classic tube amps. You will surely recognize these classic amp sounds as soon as you hear them. If you select TWEED, expect crystal-clear, transparent sounds with dynamic bass. You get aggressive mids and pressure-rich, inescapable assertiveness and endurance when you select BRITISH. Rounder and more evened-out (yet still sophisticated) sounds can be dialed up if you select CALIF.(ORNIAN); perfect for lead sounds! + + + + 2.



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CONTROL ELEMENTS AND CONNECTIONS 5 V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H 2.2 Rear panel Connect the stereo jack connector of the provided footswitch to the FOOTSWITCH connector.

The footswitch has several functions: it lets you switch between two channels, and it also lets you activate/deactivate an effect. Additionally, the tuner can also be activated using the footswitch. To do that, keep the CHANNEL key pressed for about 2 seconds. MIDI IN. This connector lets you remotely control your V-TONE via MIDI.

You can activate/deactivate effects or switch between channels. You can use effect bypass via program changes and parameter edits as well as edit the presets via controllers (also see sections 6.3 and 7.1). You can connect two external loudspeakers (L/R) to the LOUDSPEAKER connectors (GMX212 and GMX1200H).

The outputs deliver 60 W into 8 W per channel. For optimum performance, please only connect loudspeakers with a minimum impedance of 8 W each (see also section 6.2). When these connectors are used the internal loudspeakers are automatically disconnected. The GMX210 features no external loudspeaker connectors. The loudspeaker connector on the . GMX110 and GMX112 is described under The PHONES connector lets you monitor the signal from your V-TONE with standard headphones. The BEHRINGER HP series is well suited for this, for example. When the PHONES connector is used, the internal loudspeakers and speaker outputs are disconnected. Those signals that are connected to the SLAVE IN connectors are directly routed to the V-TONEs power amp.

This way, you can connect an external guitar preamp or modeling amp (e. g. V-AMP 2 or V-AMP PRO) without using the internal preamp on your V-TONE. The GMX110 and GMX112 feature no SLAVE IN connectors. You can take the stereo signal of your V-TONE at the TAPE outputs (RCA) and record it, for example. The TAPE inputs (RCA) let you feed an additional stereo signal into your V-TONE. You can play along to the beat of a drum computer or play to music from a CD or MD player. You can take the stereo signal of your V-TONE at the LINE outputs to record it or route it to a P.A. system.

This output is independent from the MASTER control and does not render the AUX signal. Additionally, its frequency response is corrected (speaker simulation). The GMX110 and GMX112 feature no LINE outputs. Use the AUX IN control to adjust the volume of the signal that is fed in via the AUX IN connectors (e. g.

drum computer, playback). On the GMX110 and GMX112, this control is called TAPE INPUT. It regulates the volume of the signal fed in at the TAPE IN connectors. The AUX IN lets you feed an additional stereo signal into the amp. This way, you can play to a backing track that supports you on-stage but should not be audible via the LINE outputs connecting the GMX210/GMX212 to the P.

A. system. Additionally, you can use AUX IN together with the INSERT SEND as a parallel insert loop. To do that, connect the INSERT SEND to the input of your effects device; connect the AUX IN (TAPE IN on the GMX110 and GMX112) to the output of your effects unit (the INSERT RETURN connector should not be in use!). This way, the signal flow in your V-TONE is not interrupted. With the AUX IN control, you can determine the extent to which the external effects unit alters the original signal. Keep in mind that the effects unit should be set up to 100% effects signal (100% wet). Your V-TONE features a serial insert loop that can be used to connect external effects (e. g. a wah-wah pedal).

Connect the SEND connector on the V-TONE to the input of your effects unit. The SEND connector is tapped into directly before (i.e. pre) the digital signal processor (DSP) of your V-TONE. Connect the output of your external effects unit to the RETURN connector of your V-TONE. You can use the INSERT SEND as a parallel output without the effects. This is useful, for example, when you want to record a dry guitar signal. As long as the RETURN connector has nothing plugged into it, the signal will not be interrupted internally. Use the SPEAKER OUT connector to connect one additional loudspeaker to your GMX110/GMX112. This loudspeaker should have an impedance of 4 W.

When this connector is used, the internal loudspeaker is automatically muted. Additional information about connecting an external loudspeaker can be found in section 6.2. FUSE RETAINER/VOLTAGE SELECTOR. Please make sure that the voltage indicated by the voltage selector matches the local voltage before you connect the unit to the main power supply.

Always replace blown fuses with fuses of the same type and rating. Some units feature a fuse retainer in which a selection between 230 V and 120 V is possible. Please be aware: When using your unit outside of Europe with 120 V, a fuse with a higher rating is required. Power is supplied via an IEC connector. The matching cable is provided with the unit.

SERIAL NUMBER. + + + + + 6 2. CONTROL ELEMENTS AND CONNECTIONS V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H 3. APPLICATIONS The V-TONE features many different connectors, allowing you to adapt to all kinds of application challenges. We have listed just a few examples to show the flexibility your V-TONE. 3.2 Recording setup with an external effects device 3.1 Practice setup with playback Fig. 3.2: Recording setup Fig.

3.1: Standard setup To use your V-TONE in practice rooms, or to jam at home, connect your V-TONE as illustrated in figure 3.1. Connect a CD player or a drum computer to the TAPE input. You can control the volume of the connected signal by using the TAPE INPUT control (on the GMX210, GMX212 and the GMX1200H, the AUX control adjusts the signal connected to the AUX IN). If you want (or have to!) to practice using headphones, connect your headphones to the PHONES connector on your V-TONE. The loudspeaker is automatically muted. Connect the provided dual footswitch to the footswitch connector on the V-TONE. Use the CHANNEL footswitch to switch between the channels. If is active (see section 4.

1), the effects selected for both channels are loaded. Use the IN/OUT footswitch to activate/ deactivate the effect. Keeping CHANNEL depressed for about 2 seconds activates the internal tuner. If you want to use your V-TONE in home recording or studio situations, we suggest wiring your equipment as illustrated in figure 3.2.

Of course, you can continue using a CD player or a drum computer. However, for clarity's sake we omitted those two in this illustration. Connect the input of your effects unit to the INSERT SEND connector of the V-TONE; connect the output on your effects unit to the INSERT RETURN connector on the V-TONE. If you wish to record the guitar signal together with the stereo effects, connect the LINE outputs to your mixer, audio sequencer or a multi-track recorder. To record the dry guitar signal without the internal effects, it is best to use the INSERT SEND connector on the V-TONE.

You can also use both outputs at the same time to for example record the dry signal without permanently committing to a single effect.



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At the same time, the LINE output (with the effect signal) lets you listen to yourself while recording. Of course, you can insert a Wah pedal or some other stomp box instead of an external 19" effects unit. To achieve a parallel stereo insert, you can connect the effect return to the AUX input, and then use the AUX IN control to determine the extent to which the effect is present. In this case, the effects unit should be set up to 100% effect signal, and the INSERT RETURN connector should have nothing plugged into it. If you want to use another guitar preamp, or a modeling amp (e. g. the V-AMP 2 or the V-AMP PRO), connect it to the SLAVE IN connectors (except for the GMX110 and GMX112). The V-TONE now operates only as a power amp, with its preamp section inactive. 3.

APPLICATIONS 7 V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H 3.3 Live setup with a MIDI foot controller 3.4 Wiring the GMX1200H The GMX1200H head features two LOUDSPEAKER outputs (EXT LEFT and EXT RIGHT) that can be used to connect one or two external loudspeakers. To get the most power from the GMX1200H, both loudspeaker outputs should be used and connected to speakers with minimum 8 Ohms impedance. Loudspeaker outputs are automatically muted as soon as you activate the tuner or connect a set of headphones (see section 5.1). To assure optimal and safe use of your amplifier, please also read section 6.2. When the GMX1200H is used with a single BEHRINGER ULTRASTACK BG412V, the rear panel switch of the BG412V must be in the stereo position and the two outputs should be connected as shown in fig. 3.

4. When using two speaker cabinets to form a classic full-stack please make sure the impedance of each speaker cabinet is between 8 to 16 Ohms (see fig. 3.5). Fig.

3.4: GMX1200H with an ULTRASTACK BG412V in stereo mode Fig. 3.3: Setup with a MIDI foot controller and an external loudspeaker In this illustration, we've omitted the headphones and the additional equipment from figure 3.1; this illustration serves as an expansion of the standard setup.

You can use the MIDI foot controller to control channel and effects changes, volume, Wah and so on. (Additional information about MIDI can be found in section 4.3). The LINE OUT signal with the speaker simulation can be fed into your mixer or your P.A. systems stagebox. External guitar loudspeakers can be connected to the loudspeaker outputs of the GMX212 in order to get more punch and higher volume on the stage. You can do this in two ways: use two separate loudspeakers for stereo applications, or use a single stereo box (e.g. the BEHRINGER ULTRASTACK BG412V).

Instead of loudspeaker outputs, the GMX110 and GMX112 feature single SPEAKER OUT connectors () used for connecting an external loudspeaker. 8 3. APPLICATIONS V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H The multi-effects processor works basically in stereo, whereby only the TAPE and PHONES outputs are influenced in the case of the GMX110/GMX112. Both signals (left and right) are added up for the speaker and the mono power amp of the GMX110/ GMX112. However, you can still use stereo effects for recording purposes by utilizing the TAPE OUT or by playing with a second amp in stereo. The GMX210 and GMX212 can produce the effects in stereo because they have two built-in speakers. Stereo reproduction is also possible with the GMX1200H when the speakers are connected to it in stereo. s Turn the PRESET control to dial up an effect preset. While the preset is loading up, the new program number blinks in the display. The preset you dialed up is active shortly thereafter.

This new preset is shown in the display. Use the FX control to edit the effect. Effect mix is shown in the display. After 3 seconds, the display shows the preset number again. @@To store an edit, keep the IN/OUT key pressed for about 2 seconds.

This overwrites the previous settings. @@@@@Fig. @@@@How MIDI is activated is described in ch. 4.3.

4. @@On the one hand, direct recordings (i.e. @@@@@@@@The Reverb effect 0 uses a medium pre-delay.

@@@05-06 Chamber: You really get the feeling youre dealing with some serious walls. This effect is ideal for creating reverb that doesnt come through as a clear effect, and a dry guitar sound gets some natural feeling instilled into it. 07-08 Stage: Very nice reverb, great for widening and freshening up the sound of a clean-sounding guitar. 4. EFFECTS PROCESSOR 9 V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H 09-10 Concert: Here, you can choose between a small theater (preset 9) and a big concert hall (preset 10). Compared to Studio Reverb, this reverb is livelier and has richer highs.

11-12 Plate: The sound of the classic plates. A true classic, it gives your guitar sound a nice, pleasant note. Reverbs 01 to 12 are all available in two versions. The first one basically uses a short pre-delay (a delay until the reverb tail starts). The second variation always uses a long pre-delay. 13-14 Early Reflections: The resonance of a room is comprised out of the so-called early reflections and a reverb tail. This effect concentrates itself on the simulation of the first 15 early reflections. Since human hearing uses these reflections to size up a room, you can create very subtle density without alienating the signal with long reverb tails. This effect is particularly noticeable when you use headphones. 15-16 Ambience: Ambience can create the vastness of large rooms without letting the sound perish due to a long reverb tail.

This effect is particularly well suited for lending more assertiveness to solo instruments and voices. 48-51 Flanger: Using an LFO, the pitch of the effect signal is somewhat modulated in constant tempo, and is then brought back to the input signal. This effect goes hand in hand with the sound of a distorted guitar. 52-56 Flanger/Reverb: The signal first goes through a flanger with varying intensity, and then it goes through a reverb. 57-61 Flanger/Delay: The signal is first passed through a flanger with varying intensity, and then it goes through a delay effect.

62-63 Tremolo/Reverb: The tremolo effect refers to more or less rapid and intensive variations in the volume. 64-66 Tremolo/Delay: A more or less rapid and intensive variation of the volume that is also coupled to a delay effect. 17-20 Delay/Reverb: First, an ordinary delay is created. Then, the signal goes through a reverb with an editable mix ratio. 21-29 Delay (stereo): Delay refers to the delay in the input signal, with one or more repetitions of the signal (feedback).

With stereo delay, the delay times in the left and the right channel are not the same length (in order to create a stereo effect). The delay time in the left channel amounts to two-thirds of the delay time value in the right channel. 67-68 Rotary Speaker: A simulation of a classic organ effect that is normally achieved with a terribly heavy casing and slowly or quickly rotating speakers. The physical principle of the Doppler effect is used to modulate the signal.

69-70 Rotary Drive: An absolutely in effect thats combined with a delay.



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And, as whip cream on top, this effect gets an LFO-controlled notch filter. The delay mix ratio is adjustable. This effect is excellent for solo sounds due to its high volume. 30-33 Phaser: Technically speaking, a phaser is a modulation effect in which multiple phase shifting takes place. Signal attenuation or amplification of the signal happens through the modulation of the frequency-dependent phase shift via an LFO (Low Frequency Oscillator).

Depending on the preset, the phaser can be used either to lightly modulate or to totally alienate the signal. The sound reminds of a constantly modulating filter. 71-74 Auto Wah: Depending on the attack time, the Auto Wah effect lets the lower frequencies pass through and more or less suppresses the highs. The sensitivity value of the filter can be adjusted via the FX MIX control. If you primarily play low-end sounds, dial up a lower value. The higher the frequency of the sound you create, the higher the FX MIX value should be. 34-37 Chorus: Lets picture a string quartet in which each musician plays the exact same sheet music. However, it is only natural that musicians can never be 100% in tune. This way, signals that are perpetually out of tune are created, and they are furthermore temporally superimposed. To recreate this effect, copies of the original signal are delayed in chorus for 20 - 40 ms, are tuned out slightly and then modulated through the LFO.

This creates a pleasant-sounding floating effect. Well refrain for making any recommendations because this effect is used so often and in so many different ways. Any recommendation about when to use it would undoubtedly leave out too many other possible uses. 38-42 Chorus/Reverb: First, the signal goes through a chorus effect with varying intensity, and then it goes through a reverb. Adjustable parameter: chorus mix.

43-47 Chorus/Delay: The signal first goes through a chorus effect with varying intensity, and then it goes through a delay effect with varying feedback and delay time values. 75-81 Pitch Shifter: This effect modifies the pitch of the input signal. Musical intervals and harmonics are created, and the propagation of a single voice can be adjusted. You can create signals that are majorly out of tune (e.g.

signals shifted upward by several half-tones), such as the strange-sounding voices often used in cartoons. There are several default intervals already built into the presets. 82-85 Pitch Shifter/Reverb: The signal first goes through a pitch shifter with various transpositions in half-tone increments (or smaller). A reverb follows. Adjustable parameter: pitch shifter mix. 86-89 PitchShifter/Delay: The signal first goes through the pitch shifter with various intervals, and then its run through a delay effect. Use FX MIX to adjust the pitch shifter mix parameter. 10 4. EFFECTS PROCESSOR V-TONE

GMX110/GMX112/GMX210/GMX212/GMX1200H You can control different functions of your V-TONE using MIDI. To this end, the V-TONE receives MIDI instructions (so-called messages).

The messages that need to be sent to your V-TONE have to be created either on a MIDI foot controller or on a MIDI sequencer. Basically, these are Program Change Messages and Controller Messages: Program Changes: You can dial up presets using MIDI program changes. Since program changes start at 0 and go up to 127, program change 0 corresponds to preset 0, program change 1 to preset 1, and so on (compare table 7.1 in the appendix). After the switch is done, the preset is directly active, i.e. independent from a possibly set bypass. Effect parameters: Three parameters of the effects processor can be adjusted in real time. This way, you can create your own effects, modify existing effects to your specific needs (e.g.

adapt the delay time to the tact of your song) or remotely control using a MIDI foot controller. Select a controller number for the footswitch on your MIDI foot controller. Use control numbers 12, 13 or 14. Using the footswitch on your MIDI foot controller, you can now modify the values of the three adjustable parameters in real time or directly enter their values. Which three parameters for the respective effect can be edited is shown in the following table: 90-91 Compressor: A signals dynamic characteristics are often limited to assure its integration into the overall mix.

This can be done by using a compressor or a limiter. A limiter confines the signal to the values above or below a previously determined threshold value rather abruptly, whereas the compressor does basically the same, but the threshold area is rather softly delineated, so program intervention is not so suddenly felt. Use the FX MIX control to determine the sensitivity for the compressor. This effect prolongs the sustain of your guitar, or you can also for example make the strumming on a funky-style guitar more audible (chicken scratch). 92-93 Expander: Background noise of all kinds (hissing, hum, etc.

) limit the dynamic range of the desired signal. As long as the main signals level is considerably higher than the noise floor, background noise is inaudible; the main signal basically masks the underlying noise signal. You can use the expander to effectively broaden the dynamic range of a signal. The signal is weakened when the amplitudes are smaller, whereby background noise is lowered. The FX MIX control determines the expanders threshold. 94-99 Guitar Combo: This effect simulates the sound characteristics of a small guitar combo, simulating not only two tube stages, but also the cabinet and the speaker. Use the FX MIX control to adjust the mix of direct and combo signals. 4.3 MIDI control Thanks to its built-in MIDI interface, you can integrate your V-TONE into any MIDI setup. The V-TONE is capable of receiving both program change and MIDI controller information.

So, you can change programs via MIDI using a MIDI foot controller or a computer-based sequencing software, and you can also control individual effect parameters and edit your own effects. Our MIDI foot controller FCB1010 gives you precisely these options, and is a perfect match for all BEHRINGER guitar amps. This is how you activate the MIDI functions: s s Connect the MIDI IN connector of your V-TONE to the MIDI OUT jack of a MIDI foot controller (see fig. 3.3). Keep CHANNEL and IN/OUT keys simultaneously depressed for 2 seconds. Use the PRESET control to select a MIDI channel (1 through 16, ON = Omni mode, OF = off). When the display no longer blinks, the selected MIDI channel is activated. Omni mode means that your V-TONE receives and processes relevant MIDI information on all channels. Of course, you should select the same channel both on your MIDI foot controller and the V-TONE (see your MIDI foot controller users manual).

The left decimal point on the display jitters when MIDI data is received on the V-TONE, giving you visual confirmation about the information currently being received. Once you activate MIDI, FX tracking is no longer active, i.e. there is no assignment between an effect number and a channel. This means that when you switch a channel, the previously set effect is not automatically loaded up.



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As this assignment feature would probably cause confusion when controlling the V-TONE via a MIDI foot controller, it makes sense only when it is controlled from the enclosed footswitch or directly from the V-TONE. To operate your V-TONE without MIDI remote control, please disable the MIDI function (display reads OF). + 4. EFFECTS PROCESSOR 11 V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H p r s s @ REVERB DELAY/ REVERB DELAY PHASER CHORUS CHORUS/ REVERB CHORUS/ DELAY FLANGER FLANGER/ REVERB FLANGER/ DELAY TREMOLO/ REVERB TREMOLO/ DELAY ROTARY SPEAKER ROTARY DRIVE AUTO WAH REVERB AUTO WAH DELAY PITCH SHIFTER PITCH SHIFTER/ REVERB PITCH SHIFTER/ DELAY COMPRESSOR I r r Q 0 - 16 " r r h h Q - Reverb Time Delay Mix Feedback Feedback Depth Reverb Mix Delay Mix ! r r h h Q r r h h Q Mix Reverb Mix Mix Depth Mix Chorus Mix Chorus Mix Depth Depth Tremolo Mix Tremolo Mix Depth Depth Sensitivity Sensitivity Pitch Mix Pitch Mix You determine the input volume of the effect module by using MIDI controller #7. This lets you adjust the volume of your V-TONE to your own requirements.

Since this controller does not control master volume, you should first adjust the maximum volume you need by using the master volume control, and then use MIDI controller #7 to lower the volume. This function is also called volume controller. The operating range of the Wah effect is adjusted using MIDI controller #27. Furthermore, if you're using LFO-controlled modulation effects, you can deactivate LFO and implement modulation via MIDI controller #27. To activate this MIDI controller, you should first set up the LFO velocity either directly on your V-TONE or set the respective MIDI controller to value 0. Of course, you can use a MIDI sequencer or a computer-based MIDI editor for MIDI remote control, particularly in the home recording environment. CC 12 CC 13 17 - 20 Delay Time* 21 - 29 Delay Time* 30 - 33 LFO Speed* 34 - 37 LFO Speed* 38 - 42 Reverb Time 43 - 47 Delay Time* 48 - 51 LFO Speed* Resonance Reverb 52 - 56 Reverb Time Mix 57 - 61 Delay Time* 62, 63 LFO Speed* 64 - 66 LFO Speed* 67, 68 LFO Speed* 69, 70 LFO Speed* 71, 72 73, 74 75 - 81 Reverb Mix Delay Mix Delay Mix Reverb Mix Delay Mix Reverb Mix Delay Mix Depth Depth Reverb Mix Delay Mix Delay Mix/ Rev Mix Rev Mix/ Delay Mix Delay Mix/ Rev Mix CC14 5. TUNER s The integrated tuner is activated by pressing the CHANNEL key for about 2 seconds (directly on the amp or on the footswitch). 5.1 Tuning your guitar The chromatic tuner automatically recognizes the frequencies of guitar notes.

For A string, this means a frequency of 110 Hz. When you connect your guitar to the V-TONE and strum a string, the tuner tries to recognize the tone and shows it in the display. Because the tuner functions chromatically, it can also recognize semitones. These are shown in the display with a b accompanying the value. However, it may be the case that a played note (shown in the display as for example a) slightly deviates from the ideal tone. This will be indicated by lighting up at least one of the red tuner LEDs (HIGH/LOW) near the FX display. The faster the LED blinks, the harsher the deviation of the played tone from the note shown in the display. If the middle LED (green) lights up, the tone you played is completely in tune with the tone indicated in the display. When the tuner is active, the loudspeaker outputs are typically muted. However, sometimes it is preferable not to mute the signal in order to let you have acoustic control of what you are doing while you are tuning your guitar.

For this reason, the V-TONE has an integrated tuner level function. s You can adjust tuner volume from 0 to 99 by using the FX control. At 0 the guitar signal is completely muted. After a successfully implemented adjustment, the display automatically goes back to tuner mode. 82 - 85 Reverb Time 86 - 89 Delay Time* 90, 91 Pitch Mix Sensitivity Threshold Drive Delay Time/ Rev Time Rev Time/ EXPANDER 92, 93 Delay Time GUITAR Delay Time*/ 94 - 99 COMBO Rev Time *) Tap tempo: MIDI Control No.

64) depends on Variation 5.2 Setting up the a reference tone To put complete freedom at your disposal when tuning your instrument, you have the option to change the preset of the reference tone a. Here is a quick intro to the subject. The so-called chamber tone a has been continually revised upwards ever since it was first measured: tuning forks of Bach, Handel or Mozart were at 415, 420 or 421 Hz (vibrations pro second). Nowadays, orchestras set the a with 444 Hz, and the Berlin Philharmonic Orchestra wishes to stay ahead: their chamber tone a lies at a full 447 Hz.

The reference tone a of the V-TONE is programmed at 440 Hz. Lets say, you want to work with a big orchestra that works with the chamber tone a set to 444 Hz. To activate the function that changes the chamber tone, do the following: s Activate the tuner by keeping the CHANNEL key pressed for a few seconds. Table 4.1: MIDI-controllable effect parameters Channel switching: Changing modeling CHANNELS is done via controller #10. If you send value 0 via this controller, then channel 1 is active. Sending value 1 activates channel change to channel 2. Program change instructions can also be used to change channels. Program change #123 activates channels 1 and program change #124 activates channel 2 of your V-TONE. In addition to switching channels, you can also deactivate the effect.

To this end, send value 0 via controller #11. Value 1 activates the effect again. Sending program change #127 activates the tuner. As soon as another program change number is sent, the tuner is automatically deactivated. 12 5. TUNER V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H s By turning the PRESET control, you can adjust the a reference tone up or down in 1 Hz increments for a maximum of 15 Hz. The last two digits of the frequency value are always shown in the display, since the first digit is always a 4. For example, when you start with the 440 Hz basic tone, and then press the right arrow key four times, the display shows 44, which corresponds to a frequency of 444 Hz. 6.2 Speaker connection The GMX110 and GMX112 feature a SPEAKER connector to which you can connect an additional loudspeaker.

This additional loudspeaker should be able to handle at least 30 Watts @ 4 W (GMX110) and 60 Watts @ 4 W (GMX112) respectively. The GMX212 and GMX1200H feature two LOUDSPEAKER outputs (EXT LEFT and EXT RIGHT) for connecting two loudspeakers or a single stereo loudspeaker unit. The output power rating is 60 W per channel. To assure optimal power delivery from the amp, you should use 8-W loudspeakers that can handle at least 60 Watts. This goes for all models: You can also use loudspeakers with higher impedance values, but this lowers proportionally the power delivery as the resistance increases.

Doubling the impedance halves the power value (double the Ohms = half the Watts). After about 3 seconds, the display goes back to tuner mode.



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output level T TU@HTQ@8DAD86UDPIT HD9DDIU@SA68@ Type Converters power amp output Min. load impedance 2 x 60 W / 2 x 8 X 5-pin DIN-socket, MIDI IN 24-bit sigma-delta, 64/128-times oversampling 46.

875 kHz 2-digit numeric LED-display 2 x 12" BUGERATM Vintage Guitar Series 8X 70 W USA/Canada 120 V~, 60 Hz Europe/U.K./Australia 230 V~, 50 Hz - 9DBDU6GQSP8@TTDIB 9DTQG6 `Sampling rate Type Type Model Impedance Power handling GPV9TQ@6F@ST QPX@STVQQG `Mains voltage Japan 100 V~, 50 - 60 Hz China 220 V~, 50 Hz Generelles Exportmodell 120/230 V~, 50 - 60 Hz max. 200 watts max. 200 watts U\$6C 250 V U\$6C 250 V U!\$6C 250 V U!\$6C 250 V Standard IEC receptacle 493 x 712 x 255 mm 19 2/5 x 28 x 10" 53 lbs (24 kg) 280 x 712 x 240 mm 11 x 28 x 9" 34 lbs (15.5 kg) 9DH@ITDPIT6I9X@DBCUC Dimesions (H x W x D) Weight Power consumption Fuses 100 - 120 V~ Fuses 200 - 240 V~ Mains connection BEHRINGER is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or illustrated. 8. SPECIFICATIONS 17 V-TONE GMX110/GMX112/GMX210/GMX212/GMX1200H 9.

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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 dealers invoice. Any product deemed eligible for repair or replacement under the terms of this warranty will be repaired or replaced. 2.

@@@@3. @@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: s improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals. s 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.

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