

AxSys 212 User Manual



The serial number can be found on the back of the amp, near the power switch. Please note it in the space provided below for future reference.

SERIAL NUMBER _____

CAUTION: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

AxSys 212 User's Manual, Version 1.2
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WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning symbol within a triangle means "electrical caution!" They include information about operating voltage and potential risks of electrical shock.



The exclamation point within a triangle means "caution!" Please read the information next to all caution signs.

Important Safety Instructions

Before using this AxSys 212, be sure to carefully read the applicable items of these operating instructions and the safety suggestions.



- 1 Obey all warnings on the amp and in the *User Manual*.
- 2 Do not place near heat sources, such as radiators, heat registers, or appliances which produce heat.



- 3 Guard against objects or liquids entering the enclosure.
- 4 Connect only to AC power outlets rated 100-120V or 200-240V 47-63Hz (depending on the voltage range of the unit; refer to back panel). Current ratings should be a minimum of 5A for the 120V range and 2.5A for the 240V range.



- 5 Do not step on power cords. Do not place items on top of power cords so that they are pinched or leaned on. Pay particular attention to the cord at the plug end and the point where it connects to the amp.
- 6 Unplug the amp when not in use for extended periods of time.
- 7 Do not perform service operations beyond those described in the *User Manual*. In the following circumstances, repairs should be performed only by qualified service personnel:
 - liquid is spilled into the unit
 - an object falls into the unit
 - the unit does not operate normally or changes in performance in a significant way
 - the fuse is blown
 - the unit is dropped or the enclosure is damaged



- 8 Prolonged listening at high volume levels may cause irreparable hearing loss and/or damage. Always practice "safe listening".

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Introduction

WELCOME TO THE AXSYS 212 DIGITAL GUITAR SYSTEM!

The AxSys 212 is the first of its kind – a new generation of guitar amp. In the past, searching for the right “tone” meant trying out dozens of amps – each having its own unique, signature sound. If you wanted more than one sound, you needed more than one amp to cover all the bases.

Now, many of the classic guitar amp sounds are yours at the touch of a button. Thanks to new technologies and “physical modeling”, the AxSys 212 can imitate almost any guitar amp on the market today (and plenty of vintage amps that are no longer made). AxSys’ unique TubeTone™ design emulates the internal circuitry of various guitar amps, giving you the tone you’re looking for – without having to buy (or cart around) all those other amps, or deal with “moody” tubes. Physical modeling also is used to emulate sounds like spring reverb, and even an acoustic guitar.

And what about all those rack-mount effects and pedal boxes on the floor? AxSys provides a full complement of state-of-the-art 24-bit simultaneous stereo digital effects including: noise gate, hum canceller, compressor, wah, distortion box, multiple EQs, chorus, flange, delay, reverb, cabinet simulation, and a lot more – it’s all in there! There’s even a digital tuner.

The AxSys 212 is programmable, with 128 presets and 128 user sounds, that can be selected by MIDI foot pedals, sequencers and computers. Top it off with twin custom 12" Eminence speakers and 100 Watts of stereo power, and you have one very powerful system in a portable package.

You’re probably anxious to get started and make some music, right? First, let’s tell you about how this manual is organized and how best to use it...

About this Manual

This manual will help you get the most out of your AxSys 212 Digital Guitar System. We suggest you read through the manual once completely. Then use the Table of Contents and Index for specific topics or features.



If, like the rest of us, you have no patience and require instant gratification, jump right over to chapter 1 right now.

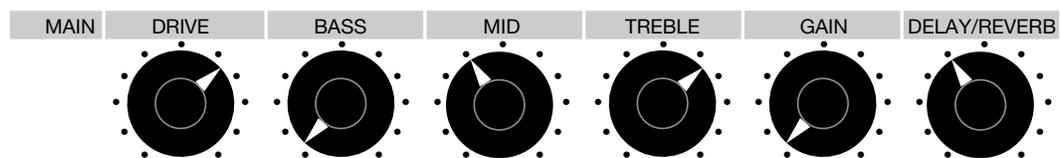
The manual has been divided into the following sections:

- Chapter 1, Quick Start, will get you up and running quickly.
- Chapter 2, The Guided Tour, will walk you through the basics of sound selection and tone shaping.
- Chapter 3, Description of Features, explains the features of the AxSys, and how to achieve the sound you’re searching for.
- The Appendices cover specifications, troubleshooting and maintenance tips, MIDI implementation, and use of external speakers.

CHAPTER 1: QUICK START

To quickly get going with the AxSys 212, follow these steps:

- 1 Turn the GUITAR, AUX and MASTER knobs all the way down to zero.
- 2 Plug the power cord into the rear **POWER** connector and AC power.
- 3 Connect your guitar to the AxSys' GUITAR INPUT jack.
- 4 Turn on the AxSys by pressing the **POWER** button on the rear panel.
- 5 Adjust the volume levels using the following procedure:
 - a) Select your guitar's loudest pickup and set its volume to max.
 - b) Play your guitar as loud as possible.
 - c) Slowly turn the GUITAR knob clockwise until the CLIP LED lights.
 - d) Turn the knob back slightly so the CLIP LED flashes occasionally.
 - e) Turn the MASTER knob up to a comfortable listening level.
- 6 Audition the AxSys' Preset Sounds using the following procedure:
 - a) Press the **USER/PRESET** button to select the Preset Bank (P).
If the left-most character in the display reads U or E, press it again.
 - b) Use **SOUND BANK** / **SOUND BANK** to select a Bank from 01 to 32.
 - c) Press **SOUND A**, **SOUND B**, **SOUND C**, or **SOUND D** to select a Sound from the current Sound Bank.
- 7 To tweak a Sound, turn one of the six Control Knobs located in the middle of the front panel. These Controls are labeled as follows:



IMPORTANT!!! The Control Knobs may not appear to function properly at first. This is because you must "capture" a Control's setting before it will change.

When you turn a Control Knob, its current setting appears in the display. However, this setting will not change until the Control Knob is turned to match the stored setting. Once the Control's setting is captured, the Control Knob will work as you would expect to adjust the Control's value.

- 8 For now, don't worry about the groups of parameters shown on the front panel. Don't even look at 'em! We'll discuss these further in chapter 3. Just start playing!

CHAPTER 2: THE GUIDED TOUR

Overview

This chapter is meant to provide a detailed guide in the setup and use of the AxSys 212 Digital Guitar System.



Important Things To Know

There are two very important things you will learn about in this chapter:

- **Setting input levels.** This is something uncommon with analog guitar amplifiers. However, achieving the best possible tone relies heavily on input level settings. See page 9 for more information.
- **Control Knobs.** These are used to tweak your sound. Because the AxSys 212 is programmable, it's common to recall a Sound which has its Drive, Bass, Mid, etc., set differently than where the Control Knobs are positioned. Instead of turning a knob and having it immediately alter a setting, the Control Knob must first "capture" the Control's stored setting before it will change the setting. This may be surprising at first, but there is a very good reason for it. See page 13 for more information.

Unpacking

Along with this User Guide and your AxSys 212, you should find a registration card, a warranty information sheet, a Preset Sounds chart, and a power cable.

Registration Card



Please take time to fill this out and return it right now. This ensures that you will be notified of all software and hardware upgrades and new products as they become available.

Power Hookup

The AxSys works with the voltage of the country it is shipped to, and comes with a line cord suitable for the destination to which the amp is shipped.

With the AxSys off, plug the power cord into the AxSys' rear panel **POWER** socket and into a source of AC power. It's good practice to not turn on the AxSys until all other cables are connected.



Line 6 cannot be responsible for problems caused by using the AxSys or any associated equipment with improper AC wiring.

Connections

Plugging in Your Guitar

Connect your guitar to the AxSys' GUITAR INPUT jack.

Auxiliary Input

The AUX INPUT jack is designed for a second audio source, like a microphone, drum machine, tape player, or acoustic guitar, separate from the main Guitar input.

Footpedals

The rear panel of the AxSys provides two separate foot pedal jacks labeled **PEDAL 1 (VOLUME)** and **PEDAL 2 (WAH)**. These accept a Roland model EV-5 (or equivalent type) volume control pedal.

You can also connect a standard volume pedal's output to either the **PEDAL 1 (VOLUME)** or **PEDAL 2 (WAH)** jacks. However, the scaling may not be accurate; i.e. you'll notice that the effect happens too quickly. To compensate for this, try soldering in a 10k ohm resistor between the tip and the sleeve at either end of the 1/4" cable you are using to connect the pedal. This should offset the difference in the pedal's pot resistance and even out its control.

If you have only one pedal, connect it to the **PEDAL 1 (VOLUME)** jack. It can then be used to control volume or Wah (see page 17).

Pedal Board

The optional AxSys Pedal Board connects to the **PEDAL (REMOTE)** multipin connector (the one that kinda looks like a telephone jack... but it's not), and provides foot control functions including: Volume and Wah pedals, Effects On/Off switches and Sound select buttons and displays.

Internal Speakers

The two built-in custom Eminence speakers each have a cable attached which are already connected to the **LEFT SPEAKER** and **RIGHT SPEAKER** rear panel jacks. For information about using external speakers, refer to Appendix V in the back of this manual.

Headphones

Connect headphones to the **HEADPHONE/STEREO LINE OUT** jack on the rear panel. Whenever headphones are connected to the AxSys, the internal speakers will continue to work, so you can unplug them if you want. This will not harm the amplifier.

Stereo Line Out

If you want to connect the AxSys' output to another amp, or into a mixing board, connect a stereo TRS (tip-ring-sleeve) cable to the **HEADPHONE / STEREO LINE OUT** jack on the rear panel. This jack provides a stereo line level output. If you want to use the **STEREO LINE OUT** without the internal speakers playing as well, disconnect the speakers.



*When you connect a cable to the **HEADPHONE/STEREO LINE OUT** jack, the AxSys automatically enables its Speaker Emulator which simulates the frequency response of the speakers and the cabinet. However, if you leave the AxSys' internal speakers connected while using the **HEADPHONE/ STEREO LINE OUT** jack, the speakers will sound noticeably darker.*

TIP

If you want to turn off the automatic Speaker Emulator when you use the **HEADPHONE/STEREO LINE OUT** jack, hold down the Row Select button labeled GRAPHIC EQ and TREMOLO/CAB while turning on the amp (we chose that button because it corresponds to the Cabinet parameters, which makes it easier to remember). The display will temporarily flash **HPn** and **OFF** to indicate that the Headphone Speaker Emulator has been temporarily disabled. To enable it again, turn the amp on again without holding any buttons.

Powering Up

Once all connections are made, turn down the MASTER volume and power up the AxSys 212 with the **POWER** switch located on the AxSys rear panel over the power cord.

The display should look something like this:



This means that Preset Sound Bank 01 is selected.

After power-up, the AxSys will recall the Sound that was selected before it was last turned off. The display will indicate the current:

- Mode: P reset, U ser or E dited
- Sound Bank: 0 1 through 32

...and one of the four SOUND LEDs (▼) will be lit to indicate the current:

- Sound: A, B, C or D

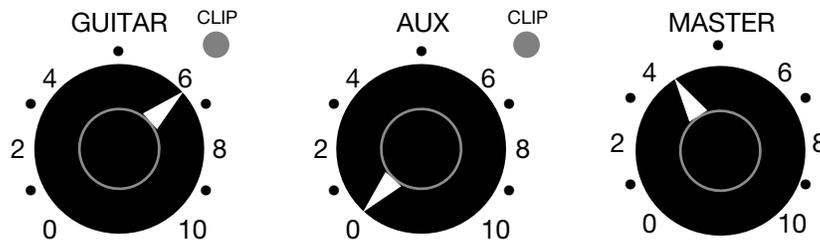
Example: If, when power was last turned off, the selected mode was Preset and the selected Sound was 28B, the LED display would now read $P28$, and the LED pointer above the SOUND B button would be lit.

If the selected Sound was edited, the display will indicate this by showing an E to the left of the Sound Bank number, instead of a P or U , like this:

$E28$

Adjusting Volume Levels

In order to get the best tone, it is really important that you set the input level as loud as you can before clipping.



To set the volume levels:

- 1 Turn the GUITAR, AUX and MASTER knobs on the left side of the front panel down to zero.
- 2 On your electric guitar, select the loudest pickup.
If your guitar has a humbucking pickup, use it. Otherwise, try the pickup closest to the neck.
- 3 Turn your guitar's volume and tone controls to max.
- 4 Play your guitar as loud as possible.
- 5 Slowly turn the GUITAR input knob clockwise.
Continue playing loudly while adjusting this knob until the CLIP LED lights up.
- 6 Turn the GUITAR input knob counterclockwise slightly.
This will set the input level to a point where clipping will only occur occasionally when playing your guitar hard.
- 7 Repeat steps 2 and 3 for the AUX input if you're going to use it.
Example: If using a microphone, sing loudly into the microphone and adjust the AUX knob until the CLIP LED flashes occasionally.
- 8 Adjust the MASTER knob to a comfortable listening level.

Tuning Up

Before you start checking out the incredible sounds of the AxSys 212, you may want to tune up your guitar with the on-board tuner.

To use the Digital Tuner:

- Press the **TUNER** TAP TEMPO button; its LED will light.
The six LEDs located above the six Control Knobs in the middle section of the front panel will switch to tuner mode, first displaying the tuning reference (usually 440), and then the displaying - - - .
- Play a single string on your guitar and let it sustain.
The display will indicate the note you are playing¹ and the LEDs located above the six Control Knobs will indicate whether you are flat or sharp.

Sharp:	○	○	○	○	○	*
	○	○	○	○	*	○
	○	○	○	*	○	○
In tune:	○	○	*	*	○	○
	○	○	*	○	○	○
Flat:	○	*	○	○	○	○
	*	○	○	○	○	○

- Optional: To monitor the guitar while tuning, turn the GAIN Control Knob to adjust the guitar's signal level from 0 to 99.
While in Tune mode, all effects will be bypassed and you'll only hear your guitar's signal passed through unaltered. Note: This does not affect the tuner.
- Also optional: Turn the MID Control Knob to adjust the reference.
The tuning reference range is 435 to 445Hz. When the MID Control Knob is set to the 12 o'clock position, the tuning reference will be A=440Hz.



The **TUNER** TAP TEMPO button will not select Tuner mode if the Delay parameters are being edited. When the Delay Edit Row is selected, this button provides a "Tap Tempo" function, so that the MAIN DELAY TIME parameter can be set by tapping it at the desired tempo. For more information, see page 31 in chapter 3.

TIP

When you use the Tuner, the Aux Input will still work. So if you use the Aux Input with a microphone, you can talk to your audience while you're tuning up ("don't forget to tip your server...").

¹Accidentals (sharps and flats) are always displayed as flats. Example: If you play the note D#, it will be displayed as E^b (Eb).

Auditioning Sounds

A Sound is a stored setup that instantly recalls a defined tone. The AxSys 212 includes 64 Sound Banks, divided into two sets of 32 (Preset and User). Each Bank has four Sounds, which adds up to 256 killer tones to choose from!!

The first 32 Sound Banks are called “Preset”. These are programmed at the factory and can’t be erased. The second set of 32 Sound Banks are called “User”. These are completely modifiable, movable and erasable. Of course, you can modify a Preset Sound and store it in the User Bank.

To Audition Sounds:

- 1 Press the **USER/PRESET** button to select either the Preset or User Bank.
Each time the button is pressed, the left-most character in the display toggles between U (User) and P (Preset).
- 2 Use the **SOUND BANK** / **SOUND BANK** buttons to select a Sound Bank.
The right-side of the display will display the selected Bank number between 01 and 32. Holding down either button will cause the display to scroll through the Banks quickly. None of the LED pointers ▼ will be lit to indicate that a new Sound has not yet been recalled.
- 3 Press either **SOUND A**, **SOUND B**, **SOUND C**, or **SOUND D** to select a Sound from the current Sound Bank.
An LED pointer ▼ will light up above the Sound button that was pressed.



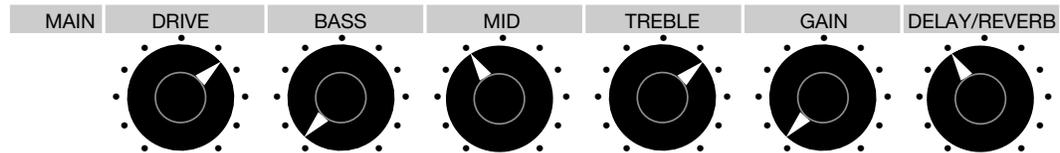
Whenever you change Sound Banks, the sound you’re using won’t change until you press one of the Sound A-D buttons.

Because each Bank holds four Sounds (A, B, C and D), it’s easy to group Sounds that go together. Example: Sounds that are used in the same song. Sound A could be used for a song’s Intro section, Sound B for the Verse (a little softer, fewer highs and less distortion and reverb), Sound C for the Chorus and Sound D for the Solo (much louder, maximum distortion and delay).

Of course, you can change and then store any User Sound. If you want to keep both the original and edited versions of the Sound, you might want to store the edited version to a different User location. This will replace the previous User Sound in that location, so you may want to first designate which User Sounds are “expendable” before choosing a location. The Compare mode can be used for this as well (see page 16). If you like a Preset Sound but wish to store it in a modified form, you can store it in a User Sound.

Main Controls

The six Control Knobs (in the middle of the front panel) allow you to tweak any Sound by giving you instant access to the most needed controls. These knobs are used to adjust all parameters depending on the Edit Row you select. The Edit Row is indicated by an LED pointer ►. The MAIN Row is automatically selected whenever a new Sound is called up.



Since the settings for these Controls can change drastically from one Sound to another, the positions of the Control knobs won't always reflect the true setting. Instead, the LEDs located next to each Control knob will get brighter to show the new setting of each knob.

Main Controls	Range	Definition
DRIVE	0 to 99	Controls the volume of the signal going into the Preamp; use high levels to create distortion.
BASS MID TREBLE	-50 to 50 (-12.5dB to +12.5dB)	Control the level of low, middle and high frequencies, respectively, of the signal before it is routed to the digital effects (delay, reverb, etc.).
GAIN	0 to 99	This is the Guitar channel's output volume.
DELAY/REVERB	0 to 99	This is a master effects level control for both the Stereo Delay and Stereo Reverb effects.



The DRIVE control is disabled when the Acoustic Sim Preamp type is selected (you don't really want to distort your acoustic anyway, do you?). See page 28 for more information about the Acoustic Simulator Preamp type.

To Edit a Main Control:

- 1 Press the MAIN Row Select button.
The MAIN Row LED indicator should be lit.
- 2 Turn the knob you want to adjust either direction until it "captures" the current setting.
Notice the LED located next to the knob will change in brightness to reflect the parameter's setting.

When turning any Control Knob, the parameter being modified shows in the LED display. Your new setting will remain for a few seconds after you've stopped turning the Control Knob. After which, the display will

revert back to the currently selected Sound Bank number; notice an \bar{E} will appear (instead of a \bar{P} or \bar{U}) to indicate that the Sound has been “edited”.



IMPORTANT: Since each Control knob is used for lots of parameters, turning one will not have an instant affect until it “passes through” the current setting of the parameter being edited.

Example: Let’s say the DRIVE Control Knob is positioned all the way to the right, and then you select a Sound which has its Drive set to 12 o’clock (50%). Turning the DRIVE Control Knob counterclockwise won’t have an immediate affect (its LED’s brightness will not change and the display will read $\bar{5}$). You wouldn’t want the Drive parameter to suddenly “jump” to the knob’s position as soon as you touched it. However, if you continue to turn the Control Knob counterclockwise so that it passes through the 12 o’clock position, you will then be able to adjust the parameter directly.

Once a Sound has been edited, remember:

- An “edited” Sound differs from its original, “stored” version (what a concept!).
- If a new Sound is selected before storing the edited Sound, the edited Sound will be lost (what a bummer!).

Once you’ve made adjustments that you’re happy with, you will want to store the Sound to save these changes and make them permanent. See page 16 for information about storing an edited Sound.

The AxSys Signal Path

On the right side of the front Panel there’s an illustration of the AxSys’ internal signal path. This will help you learn the order the signal passes through each of the internal digital components. The path is:

Guitar Input ➡ Noise Gate ➡ Compressor ➡ Volume Pedal* (Pre) ➡ Distortion Box ➡ Wah ➡ Preamp EQ ➡ Preamp ➡ Volume Pedal* (Post) ➡ Auto Volume ➡ Graphic EQ ➡ Bass/Middle/Treble ➡ Stereo Tremolo ➡ Stereo Delay ➡ Stereo Chorus ➡ Stereo Reverb ➡ Cabinet Simulator ➡ Speakers

* Note: The Volume Pedal may be placed either before (Pre) or after (Post) the Preamp section.

The Effects Tables

Directly beneath the signal path diagram are a series of effect tables. These tables indicate what various parameters mean. *Example:* When you know you want to use the Stereo Delay, the DELAY TYPE table tells you to set the DELAY TYPE parameter to $\bar{2}$.

Quick Editing Primer

Aside from the six Main Controls (see page 12), many other parameters are available to you that provide for greater control over your tone. If you want more detail, check out chapter 3. For now, we'll give you a quick way to navigate through the Edit Rows to get to various parameters.

The parameters that make up a Sound are found in the “parameter matrix” located above the six Control Knobs:

AUX/MIDI	AUX INPUT MIX	AUX INPUT BASS	AUX INPUT TREBLE	AUX INPUT REVERB	MIDI CHANNEL	TRANSMIT SOUNDS
NOISE GATE	NOISE GATE ON/OFF	NOISE GATE THRESHOLD	NOISE GATE DECAY	HUM CANCELLER	GATE/HUM PER SOUND	AUX PER SOUND
COMP/PEDALS	COMPRESSION LEVEL	VOLUME PEDAL ON/OFF	DISTORTION BOX	WAH TYPE	WAH DEPTH	AUTO-VOLUME ATTACK
PREAMP	PREAMP TYPE	PREAMP BASS	PREAMP MIDDLE	PREAMP TREBLE	BRIGHT SWITCH	PREAMP OUTPUT LEVEL
GRAPHIC EQ	80Hz	240Hz	750Hz	2200Hz	6600Hz	PRESENCE
TREMOLO/CAB	TREMOLO TYPE	TREMOLO SPEED	TREMOLO DEPTH	TREMOLO SHAPE	CABINET TYPE	CABINET STEREO SPREAD
DELAY	DELAY TYPE	MAIN DELAY TYPE	DELAY TIME OFFSET	DELAY FEEDBACK	DYNAMIC DELAY	DELAY LEVEL
CHORUS	CHORUS TYPE	CHORUS SPEED	CHORUS DEPTH	CHORUS FEEDBACK	CHORUS SHAPE	CHORUS LEVEL
REVERB	REVERB TYPE	PREDELAY	REVERB DECAY	REVERB TONE	REVERB DIFFUSION	REVERB LEVEL
FX ON/OFF	DISTORTION BOX ON/OFF	DRIVE ON/OFF	EQ ON/OFF	TREM/CHORUS ON/OFF	DELAY ON/OFF	REVERB ON/OFF
MAIN	DRIVE	BASS	MID	TREBLE	GAIN	DELAY/REVERB

The parameter matrix is divided into 11 Edit Rows. The name of each Edit Row may be found running down the left side of the parameter matrix (these include: AUX/MIDI, NOISE GATE, COMP/PEDALS, PREAMP, GRAPHIC EQ, TREMOLO/CAB, DELAY, CHORUS, REVERB, FX ON/OFF and MAIN).

TIP

Think of each Edit Row as a different effect in your rack.

What a Control Knob will do when you turn it depends on the Edit Row you've selected. Five Row Select buttons (located along the left side of the parameter matrix) let you select any of the Rows. There are two Edit Rows associated with each Row Select button.

The first time a Row Select button is pressed, the upper Edit Row associated with that button will be selected. If the Row Select button is pressed again, the lower Edit Row associated with that button is selected. Each time the same Row Select button is pressed, you'll toggle between its two Edit Rows.

The currently selected Edit Row is indicated by an LED pointer ►. Each Edit Row provides six different Controls which are usually, but not always, associated with a common function or effect. *Example:* In the GRAPHIC EQ Row, the Control knobs let you adjust the various frequency bands of the Graphic Equalizer module.

To Edit a Parameter:

- 1 Locate the Parameter in the chart located above the six Control Knobs.
- 2 Select that Parameter's Edit Row by pressing one of the five Row Select buttons. If the incorrect Edit Row was selected, press the same Row Select button a second time.
The LED pointer for that Row will light to indicate it has been selected.
- 3 Turn the associated Control Knob for that parameter.
The LED above the knob will change in brightness to reflect its setting.

Viewing Each Parameter's Setting

You've learned that you can view a parameter's setting in the display by simply changing it (i.e. turn a Control Knob and its value instantly appears in the display). You can also view the LEDs located next to each Control Knob to get a rough idea of each's setting for the selected Edit Row – a brightly lit LED indicates a high or maximum setting, while a dim LED indicates a low setting.

Sometimes you may want to view a parameter's exact setting without having to change its setting. Fortunately, you can view all six Control Knobs' settings for a single Edit Row, without having to change their settings, by holding down the adjacent Row Select button.

To View each Parameter's Setting within an Edit Row:

- 1 Press and hold one of the six Row Select buttons.
While holding the button, the display will cycle through each parameter in the selected Edit Row and will show the current setting of each in succession. Only one of the LED indicators located next to each of the six Control Knobs will be lit to indicate which is the currently displayed parameter.
- 2 While holding a Row Select button, you can turn any Control Knob to view its related parameter's setting without changing it.

Comparing an Edited Sound to the Original

If a Sound has been edited (the display reads \bar{E}), it may be compared to the original version. In other words, without losing the edited version of a Sound, you can go into Compare mode and listen to the Sound's original, stored version, then exit Compare mode to listen to the edited version.

To toggle between Edited and Compare modes:

- 1 Press the **COMPARE** button.

Each time the button is pressed, the left-most character in the display toggles between \bar{E} (Edited) and \bar{C} (Compare).



If a Sound hasn't been edited, Compare mode won't do anything, of course.

While in Compare mode, you can move around the parameter matrix (i.e. press the Row Select buttons and turn the Control Knobs) to examine the original stored settings, but you won't be able to edit them.

TIP

You can use Compare mode to select other Sounds in the User Bank in order to find a suitable location for the Sound you've been editing. When you change Sounds (A-D) and/or Banks (01-32) while in Compare mode, you'll be able to hear the Sound stored in that location without losing the changes you've made to the Sound you were editing. Once you find a suitable location (i.e., a lame patch) to store the edited Sound into, just press STORE SOUND twice (see below) and the edited Sound will be stored into the displayed location.

Storing Edited Sounds

Once you've made changes to a Sound, you need to store the Sound into one of the User Banks if you want to keep the changes. The User Banks hold up to 128 Sounds (01-32, A-D). When you try to store an edited Preset Sound, the same numbered User Sound location is automatically selected. In other words, if you edited Sound B of the Preset Bank 12 and tried to store it, Sound B of User Bank 12 will automatically be the stored location. If you want to store your Sound to a different location, select a different Sound (A-D) and/or different User Sound Bank (01-32) before storing.

To Store an Edited Sound into the same Sound location:

- 1 Press **STORE SOUND** twice.

No, this isn't the button you press to get that sound you heard in the music store! The display will briefly read $\bar{S}\bar{C}\bar{D}$, to show the Sound has been stored!

To Store an Edited Sound into a different Sound location:

- 1 Press **STORE SOUND**, and the display will begin to flash:



The Sound Bank and Sound will be identical to the last Sound selected.

- 2 Use the **SOUND BANK** / **SOUND BANK** buttons to select any User Sound Bank from 01 to 32.
- 3 Press either **SOUND A**, **SOUND B**, **SOUND C**, or **SOUND D** to select a Sound location.
- 4 Press **STORE SOUND** again to complete the operation.

The display will briefly read 5E d...to indicate the Sound has been stored.



If you decide you don't want to store the edited Sound after all, press any Edit Row Select button to cancel out of the Store operation before storing.

Foot Pedals

There are three footpedal connectors on the back panel of the AxSys 212, labeled **PEDAL (REMOTE)**, **PEDAL 1 (VOLUME)** and **PEDAL 2 (WAH)**. **PEDAL (REMOTE)** is designed for use with the optional AxSys pedal board. **PEDAL 1** is for volume pedal, and **PEDAL 2** is for Wah-Wah.



If the VOLUME PEDAL ON/OFF parameter is set to OFF, PEDAL 1 pedal won't function; likewise, if the WAH PEDAL TYPE parameter is not set to 1 or 5, PEDAL 2 won't function.

If you've got only one pedal, make sure to plug it into the **PEDAL 1** jack. Normally this jack is for volume (when the VOLUME PEDAL ON/OFF parameter is turned on); but if the WAH PEDAL TYPE parameter is set to 1 or 5, the pedal will automatically switch to Wah-Wah. This means if you only have one pedal, you don't have to switch jacks when you want to go from a volume pedal to a Wah pedal. Cool, huh?

The WAH PEDAL TYPE parameter picks the type of Wah. When set to 1, the Wah pedal is used to control the Wah effect. However, the WAH PEDAL TYPE parameter can also be set to 5 (Mod Assign), which lets you control other parameters, one at a time, from the **PEDAL 2 (WAH)** jack. For

example, you could use the Wah pedal to control the level of reverb or the delay speed. See page 25 for more info.

Both the Volume pedal and Wah pedal effects may be controlled via MIDI using controllers 7 (for Volume) and 3 (for Wah). Likewise, the pedals connected to the **PEDAL 1 (VOLUME)** and **PEDAL 2 (WAH)** jacks will transmit the same MIDI controller messages when used.



*If no pedals are connected to either **PEDAL 1 (VOLUME)** or **PEDAL 2 (WAH)** jacks and the WAH TYPE parameter (see page 24) is set to either 1 or 5, the Wah will be turned off automatically. This means you can have a Sound that uses Wah only when a pedal is connected, and otherwise won't have the Wah stuck wide-open. Incidentally, since you can control the Wah via MIDI (using controller 3), the Wah effect will automatically turn on if controller 3 messages are received by the AxSys.*

Using the Aux Input

The AUX INPUT has its own EQ (Bass and Treble), Mix and Reverb controls. These can be found in the top-most Edit Row (AUX/MIDI).

The Aux Input parameters are stored with each Sound, letting you remember different settings and have them recalled with each Sound. Or, you can have the Aux Input parameters always stay the same when a Sound is selected. You can choose between these two modes by using the AUX PER SOUND parameter. This is a global parameter; i.e. it is not stored with each Sound (see page 37).

Display	Description
Sound	The Aux Input parameters will change when a new Sound is selected to the stored settings for that Sound.
ALL	The Aux Input parameters will not change when a new Sound is selected. In other words, the Aux Input parameter's current settings will be used for all Sounds.

CHAPTER 3: DESCRIPTION OF FEATURES

What is TubeTone™?

TubeTone is the groundbreaking tube emulation technology at the heart of the AxSys 212. By intricately modeling the subtle characteristics of vintage tube guitar amplifier circuitry, TubeTone gives you complete control over a wide range of classic guitar amp tones integrated into a single combo amp (just look at the list on page 27). We spent a lot of time in the studio and the lab dissecting amps. We broke down the signal path to its most essential elements in order to create the building blocks we would need to develop complete physical models of each of these amps.

Specifically, the AxSys models three types of guitar amp tubes: the 12AX7, the EL34 and 6L6. The 12AX7 is probably the most famous, since its the preamp tube responsible for the distortion called “overdrive”. The AxSys accurately replicates the 12AX7’s response to overloaded signals to create a signature distortion that is unmistakable. The EL34 and 6L6 are power amp tubes found in most British and American amps, respectively. They are responsible for the distortion brought about by high “Gain” levels.

To provide for this, dual digital signal processors are at the heart of the AxSys 212, each more powerful than most rack mount effects devices. This dual DSP power provides 24-bit processing and can perform 48 million instructions per second (mips). In comparison, many signal processors on the market can only perform between 1 and 6 mips. The AxSys is the first amp to dedicate this much signal processing to creating perfect guitar tone, making it unlike any other guitar processor that has come before it.

What is a Sound?

A “Sound” is a combination of all of the settings of the AxSys 212: a combination of a particular preamp type, EQ, and other various effects which can be stored and later recalled.

For example, let’s say you select a Sound that has a nice tone, but you want to make a few changes. You boost the Treble, and add more Drive. By storing the Sound, the new version is kept. The next time you select this Sound, it’ll be exactly as you saved it.

Memory

The AxSys has enough memory to store 128 User Sounds, along with the 128 Preset Sounds that come preprogrammed from the factory. Almost all parameters found within the AxSys are remembered when a Sound is stored into memory. The few parameters which are not stored with a

Sound are called “Global” parameters. These parameters control how the AxSys will function regardless of which Sound is currently selected.

The AxSys’ memory is retained by an internal backup battery when power is turned off. This battery should last approximately 5 years under normal conditions. After some time, it may become necessary to replace this battery in order to retain the Sounds in the User Bank. Contact your local Line 6 Authorized Repair Center for service.

When using any product that incorporates computer-type memory, it is always a good idea to make a back-up of its memory’s contents just in case the unexpected happens. Since the Preset Sounds are stored in permanent memory, they will always be there. But since the User Bank is stored in RAM, there is always the possibility of accidentally storing a Sound in the wrong location (thus losing the Sound that was formerly there). Making a backup of the User Bank can be done by transmitting the information via MIDI. Your sounds can be stored to a MIDI storage device, such as a computer running a librarian or sequencer software program.

It is also a good idea to write down the settings of your important Sounds using the blank Sound Chart located towards the back of this manual. Be sure to make copies of the chart first and not use the original (unless you only plan on having one really good Sound that’s worth writing down).

Sound Buffer

When you select a Sound, it is copied from the AxSys’ memory into the Sound Buffer. This allows you to make changes to the Sound without permanently changing the original Sound that was selected. Once any change is made, an \bar{E} will appear in the display to show that the Sound has been “Edited”. Now the Sound in the Sound Buffer is different from the original Sound. Because the Sound Buffer is separate from the memory used to store Sounds, we can use the Compare feature to switch back and forth between the original (unedited) Sound and the new (edited) version.

After making changes, you must store the altered Sound in the Sound Buffer into one of the 128 User Sound memory locations before selecting another Sound from memory. This is because when you select a new Sound, it’s put into the Sound Buffer. If you made changes and hadn’t saved the modified Sound before selecting a new one, those changes would be forgotten.

If you make changes to a Sound and want those changes to become permanent, you must store the edited Sound. If the original Sound is from the User Bank, you can either store this Sound back into the same location (thus updating and replacing the original Sound with the new edited version) or you can store it somewhere else (thus keeping both the original

version and the new edited version). If the original Sound resides in the Preset Bank, you must store it somewhere in the User Bank (which means you will be replacing an existing Sound with this edited Sound). It is a good idea to go through all the Sounds in the user Bank and write down which Sound memory locations you feel you can sacrifice for your own edited Sounds.

If you edit a Sound and turn off the amp the AxSys retains its memory. This means that if you edit a Sound and turn off the AxSys before storing it, it will still be there when you turn it back on again.

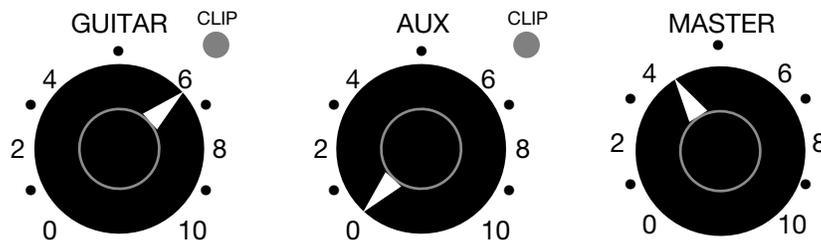
Parameters

A parameter is the most basic element of a Sound. There are many parameters that make up a Sound. The six most common are the Main controls: Drive, Bass, Mid, Treble, Gain and Delay / Reverb.

Above the Control Knobs you will see a matrix listing the other 56 parameters that make up a Sound. These can be accessed by pressing any of the Row Select buttons, found on the left side of the parameter matrix, and changed using the six Control Knobs.

Several of the effects (such as Distortion Box, Delay, Tremolo/Chorus, etc.) can be turned on and off from the bottom most Edit Row of the Parameter Matrix (See FX On/Off on page 35). You can still edit an effect's parameters while that effect is turned off, but the display will flash the word `OFF` twice after you change a parameter to let you know it's off.

Input Controls



Three input controls are located in the lower left section of the front panel. They are not programmable, which means their settings are not stored in each Sound. In other words, you can “set it and forget it”.

Guitar Input Level

This level should be set properly to avoid clipping, while providing the best signal-to-noise ratio. Clipping occurs when the input signal becomes too loud (or “hot”) and overdrives the input. When clipping occurs, the

CLIP LED next to the GUITAR knob will light. When the Guitar Input level is set correctly, the Guitar CLIP LED will light only occasionally.

The best way to set the Guitar Input level to the right setting is to turn up the GUITAR knob while playing your guitar loudly. Once you have raised the GUITAR level enough so that the Guitar CLIP LED lights steadily, turn down the GUITAR knob until the Guitar CLIP LED lights only occasionally.

Aux Input Level

This controls the input level of the Aux Input. Follow the same instructions in the previous paragraph to set the Aux Input level.

Master Output Level

The MASTER knob controls the final output level of both the Guitar Input and Aux Input. This control comes after the GAIN control and the VOLUME pedal, and controls the volume of all Sounds without affecting their tone.

Input Effects

Noise Gate & Hum Canceller

These two effects are designed to reduce noise and hum from noisy guitar pickups and AC lines.

The Noise Gate provides a gate, which controls whether a signal passes through or not. When you are not playing, the gate is closed, so no noise is heard. When you play, the gate opens to let your signal through.

The Hum Canceller is a special kind of gate: when the input signal is below the Threshold, it cancels out hum¹ from the AC line.

Parameter	Range	Description
Noise Gate On/Off	On, Off	When on, the Noise Gate operates according to the current settings (see below). When off, the noise gate will allow the guitar signal to continuously pass through it.
Noise Gate Threshold	00-99	Sets the Threshold level by which the Noise Gate operates. When the Guitar input signal exceeds this setting, the Noise Gate will open and allow its signal to pass through. When the Guitar input signal falls below the Threshold setting, the Noise Gate will begin to close at a rate determined by the NOISE GATE DECAY parameter (see below).
Noise Gate Decay	00-99	Determines how fast the Noise Gate will close once the signal level falls below the Noise Gate Threshold.
Hum Canceller	Off, 01 to 99	Sets the Threshold level for the Hum Canceller. When the signal is below the set threshold level, it cancels out frequencies which are associated with hum.

¹The AxSys automatically checks for an AC frequency of 60Hz or 50Hz and adjusts the Hum Canceller accordingly.



The Noise Gate and Hum Canceller settings can be stored with each Sound. However, sometimes you may want to use the same settings for all Sounds. To do this, set the GATE/HUM PER SOUND parameter to **ALL** (see page 38).



The Noise Gate parameters are disabled when the Acoustic Sim Preamp type is selected (see page 28). If you attempt to modify them, the display will temporarily read ---.

Compressor

The compressor “squeezes” your sound, so that the softest and loudest levels are closer together. This creates a more consistent output volume. The COMPRESSION LEVEL parameter determines the compression ratio. It can be set to Off or 1 through 5. The various ratios include:

Display	Ratio	Display	Ratio	Display	Ratio
OFF	1:1	2	2:1	4	6:1
1	1.4:1	3	3:1	5	Infinity:1

Volume

When the VOLUME PEDAL ON/OFF control is turned on, you can control volume by connecting a volume-type pedal to the PEDAL 1 jack on the rear panel (or via MIDI using controller 7). You can set this parameter to control volume either before it goes into the Preamp (**PRE**) or as it comes out of the Preamp (**POST**, which stands for “post”). For more info on using pedals, see page 17.

Distortion Box

This provides various types of distortion, such as those commonly found in pedal boxes. These offer different characteristics than overdriving the preamp. The DISTORTION BOX parameter lets you choose from the following types:

Display	Tone	Physical model of...
1-X	Bright	Tube Screamer
2-X	Medium	
3-X	Dark	
4-X	Bright	Rat
5-X	Medium	
6-X	Dark	
7-X	Bright	Big Muff Pi
8-X	Medium	
9-X	Dark	

X can be set from 0 to 9, where 0 is the minimum amount of distortion and 9 is the maximum amount.



If the **DISTORTION BOX ON/OFF** parameter is turned off, the Distortion Box effect will not be heard (see page 35). If you adjust the **DISTORTION BOX** parameter, the display will flash **FF** twice to indicate it is turned off.



The **DISTORTION BOX** parameter is disabled when the Acoustic Sim Preamp type is selected (see page 28). If you attempt to modify it, the display will temporarily read **---**.

Wah

The Wah effect creates a unique tone by sweeping the frequency of a resonant filter.

Parameter	Range	Description
Wah Type	Off, 1-4, 5-X (0-23)	Selects the type of Wah effect (see table below).
Wah Depth	00-99	Controls the amount of Wah (see below).

The **WAH PEDAL TYPE** parameter lets you choose from 5 settings:

Display	Wah Type	Description
1	Wah Pedal	Use an expression pedal connected to the PEDAL 2 jack to control the wah effect.
2	Auto-Wah	Creates an automatic wah by opening the filter in response to the volume of the input.
3	Rando-Wah	Creates an automatic wah by randomly changing the filter every time a new note is played.
4	Sample/Hold	Creates automatic wah effect by stepping the filter through various non-contiguous settings.
5-X	Mod Assign	Routes PEDAL 2 to a selected parameter; lets you use your Wah pedal to control something other than the wah effect.



If no pedals are connected to either **PEDAL 1 (VOLUME)** or **PEDAL 2 (WAH)** jacks and the **WAH TYPE** parameter is set to either 1 or 5, the Wah will be turned off automatically. Also, since you can control the Wah via MIDI (using controller 3), the Wah effect will automatically turn on if controller 3 messages are received by the AxSys.

The **WAH DEPTH** parameter determines how prominent the Wah effect is. When using the Sample/Hold Wah type 4, it controls the speed. When using the Mod Assign Wah type 5, it controls the depth of the pedal's control over the parameter being modulated. For more information on using pedals, see page 17.

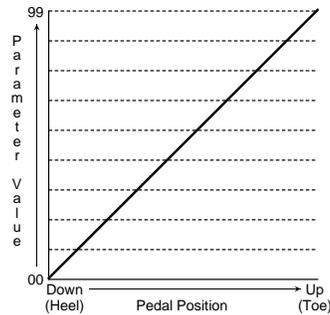
The following parameters are available for modulating:

Display	Parameter	Display	Parameter	Display	Parameter
5-0	Preamp Bass	5-8	Presence	5-16	Reverb Decay
5-1	Preamp Middle	5-9	Tremolo Speed	5-17	Reverb Level
5-2	Preamp Treble	5-10	Tremolo Depth	5-18	Drive
5-3	EQ 80Hz	5-11	Delay Feedback	5-19	Bass
5-4	EQ 240Hz	5-12	Delay Level	5-20	Mid
5-5	EQ 750Hz	5-13	Chorus Speed	5-21	Treble
5-6	EQ 2200Hz	5-14	Chorus Feedback	5-22	Gain
5-7	EQ 6600Hz	5-15	Chorus Level	5-23	Delay / Reverb

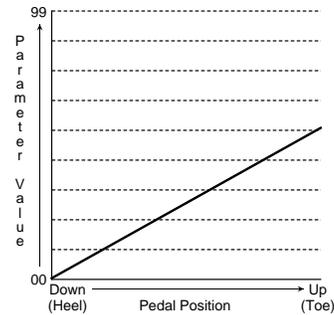
As you scroll through the available parameters, a pair of LEDs (one in the Edit Row column, the other above the Control Knobs) will flash to indicate the selected parameter's location in the parameter matrix.



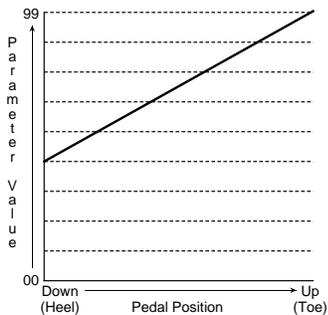
When using Wah type 5 (Mod Assign) it is important that you set the parameter being modulated to its minimum, or 00 setting. This is because **PEDAL 2** will only provide positive modulation. This means the current setting of the modulated parameter is the "baseline" or starting point of modulation (i.e. when the pedal is all the way heel down). The WAH DEPTH will determine what the maximum of the modulated parameter will be when the pedal is all the way forward (toe down).



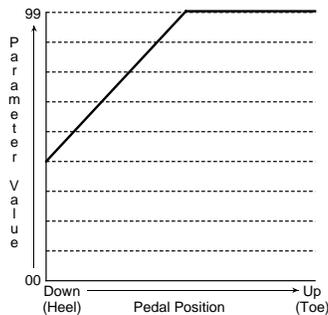
When the modulated parameter's setting is at its minimum or 00 value, and the WAH DEPTH parameter is set to 99, Pedal 2 takes full control over its effect.



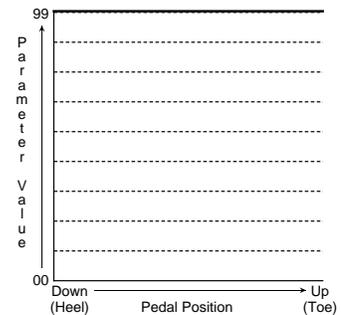
When the modulated parameter's setting is at its minimum or 00 value, and the WAH DEPTH parameter is set to 50, Pedal 2's control over its effect is limited.



When the modulated parameter's setting is at its halfway or 50 value, and the WAH DEPTH parameter is set to 50, Pedal 2's range goes from 50 to 99.



When the modulated parameter's setting is at its halfway or 50 value, and the WAH DEPTH parameter is set to 99, Pedal 2's range goes from 50 to 99. However, it reaches 99 when the Pedal is at its mid-way point; this means the Pedal has no effect from mid-way to toe-down.



When the modulated parameter's setting is at its maximum or 99 value, Pedal 2 will have no control over its effect, regardless of the WAH DEPTH parameter's setting.

Auto Volume Attack

The Auto Volume effect automatically “ramps up” the signal level. It simulates the “bowed” playing technique in which the volume is turned down at the beginning of each note so that the attack portion of the signal is not heard, and then the volume is gradually raised.

Parameter	Range	Description
Auto-Volume	Off, 01-99	Adjusts the rate of the ramping of volume.

Preamp Controls

TubeTone technology is what makes the AxSys so versatile, and allows it to accurately recreate the classic tone of a variety of guitar amps.

Parameter	Range	Description
Preamp Type	(see page 27)	Selects the type of amp tone.
Drive	00-99	Controls the volume of the signal going into the Preamp; use higher levels to create distortion.
Preamp Bass	00-99	Adjusts the tone for the low frequency range of the Guitar signal before it goes into the Preamp.
Preamp Middle	00-99	Adjusts the tone for the middle frequency range of the Guitar signal before it goes into the Preamp.
Preamp Treble	00-99	Adjusts the tone for the high frequency range of the Guitar signal before it goes into the Preamp.
Bright Switch	On, Off	When on, a sharper and brighter sound is produced.
Presence	00-99	Provides a boost of the high-mid frequencies.
Output Level	00-99	Controls the volume of the Preamp’s output. This sets the amount of signal passed to the rack effects section.

Drive

This controls the level going into the Preamp. Typically this control allows you to overdrive the tubes in a typical guitar amp. The AxSys simulates this phenomenon with astounding accuracy for each of its Preamp Types.



If the DRIVE ON/OFF parameter is turned off, the Drive effect will not be heard (see page 35). If you adjust the DRIVE knob, the display will flash OFF twice to indicate it is turned off.



The DRIVE control is disabled when the Acoustic Sim Preamp type is selected. If you attempt to modify it, the display will temporarily read ---.

Preamp EQ

Equalization, or EQ, provides the ability to control timbre, or coloration, of an audio signal. Before the Guitar’s signal goes into the Preamp section, it passes through the Preamp EQ. Three parameters are available, including: PREAMP BASS, PREAMP MIDDLE and PREAMP TREBLE.



The PREAMP BASS, PREAMP MIDDLE and PREAMP TREBLE controls are disabled when the Acoustic Sim Preamp type is selected. If you attempt to modify these parameters, the display will temporarily read ---.

Preamp Type

The PREAMP TYPE lets you choose from the following preamp tones:

Display	Preamp Type	Physical model of...
1-0	Clean	AxSys Clean
1-1		JC120 Normal
1-2		JC120 Bright
1-3		JC120 Jazz Tone
2-0	Tweed	Fender Bassman Clean
2-1		Fender Bassman Crunch
2-2		Fender Bassman Overdrive
2-3		Fender Twin Reverb Clean
2-4		Fender Twin Reverb Crunch
2-5		Fender Twin Reverb Overdrive
2-6		Matchless Chieftain Clean
2-7		Matchless Chieftain Crunch
2-8	Matchless Chieftain Overdrive	
3-0	British	Marshall JTM45 (ca. 1965) Clean
3-1		Marshall JTM45 (ca. 1965) Crunch
3-2		Marshall 100-watt "Plexi" Crunch
3-3		Marshall JCM800 Brilliant Ch. Clean
3-4		Marshall JCM800 Brilliant Ch. Crunch
3-5		Marshall JCM800 Brilliant Ch. Overdrive
3-6		Marshall JCM800 w/ Master Vol. Crunch
3-7		Marshall JCM800 w/ Master Vol. Overdrive
3-8		Vox AC 30 non-Top Boost (ca. 1960) Clean
3-9		Vox AC 30 non-Top Boost (ca. 1960) Crunch
3-10		Vox AC 30 non-Top Boost (ca. 1960) Overdrive
3-11		Vox AC 30 with Top Boost (ca. 1964) Clean
3-12	Vox AC 30 with Top Boost (ca. 1964) Crunch	
4-0	Hybrid	AxSys Vintage
4-1		Soldano Super Lead Overdrive Crunch
4-2		Soldano Super Lead Overdrive Overdrive
4-3		Soldano Super Lead Overdrive Lead
4-4		Boogie Dual Rectifier Clean/Blues
4-5		Boogie Dual Rectifier Crunch
4-6		Boogie Dual Rectifier Modern High Gain
4-7	Arbiter Fuzz Face	
5-0	Acoustic Sim	Acoustic #1
5-1		Acoustic #2

Acoustic Simulator

The AxSys provides two different Acoustic Simulator Preamp types. These simulate the sound of an acoustic guitar with a pickup or a piezo transducer in the saddle.

TIP For the best simulation, always select the pickup closest to the guitar's neck. Single coil pickups tend to sound better because of their bright tone; and a bright, stringy sound is the signature of an acoustic guitar. If you are using a humbucking pickup, try using a coil splitter to disable some of the coils and brighten the sound up.

When either of the Acoustic Sim Preamp types are selected, the following parameters will be disabled:

Noise Gate On/Off	Noise Gate Threshold	Noise Gate Decay
Preamp Bass	Preamp Middle	Preamp Treble
Bright Switch	Preamp Output Level	Distortion Box
Distortion Box On/Off	Rando-Wah	Sample/Hold Wah
Drive	Drive On/Off	

Bright Switch

The BRIGHT SWITCH parameter is your basic brightness booster.



The BRIGHT SWITCH control is disabled when the Acoustic Sim Preamp type is selected. If you attempt to modify it, the display will temporarily read ---.

Presence

The PRESENCE parameter provides a boost of the high-mid frequencies, and raises the signal level a bit. It can be adjusted between 00 and 99.

Rack Effects

5-Band Graphic EQ

A graphic EQ is a set of bandpass filters used for general tonal shaping, as in many home stereos. The 5 bands in the Graphic EQ of the AxSys 212 are about an octave and a fifth apart at 80Hz, 240Hz, 750Hz, 2200Hz and 6600Hz. Each of these may be set between -19 and +19 dB, providing a cut or boost, of their respective frequency range.

Parameter	Range	Description
80Hz	-19 to 19	Cuts or boosts the frequency range centered at 80Hz.
240Hz	-19 to 19	Cuts or boosts the frequency range centered at 240Hz.
750Hz	-19 to 19	Cuts or boosts the frequency range centered at 750Hz.
2200Hz	-19 to 19	Cuts or boosts the frequency range centered at 2200Hz.
6600Hz	-19 to 19	Cuts or boosts the frequency range centered at 6600Hz.



If the EQ ON/OFF parameter is turned off, the Graphic EQ will not have any effect on the Sound (see page 35). If you adjust any of the Graphic EQ parameters, the display will flash OFF twice to indicate it is turned off.

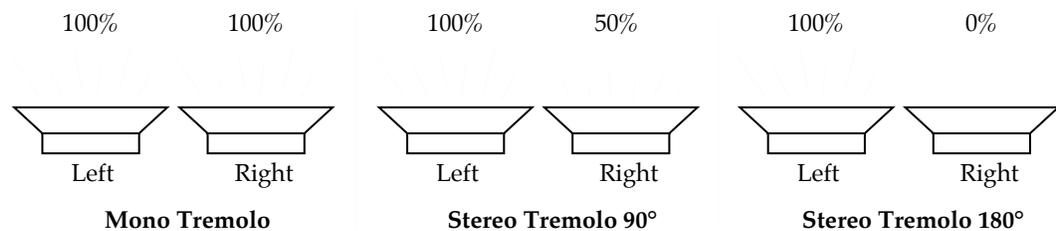
Tremolo

Mono Tremolo² fluctuates loudness, and Stereo Tremolo alternates loudness in opposite channels. On slow speeds with a soft shape, stereo tremolo provides continuous panning. At low to moderate depths and moderate speeds, it's like the sound of classic electric piano tremolo.

Parameter	Range	Description
Tremolo Type	Off, 1 to 3	Selects the type of Tremolo effect (see below).
Tremolo Speed	00 to 99	Controls the rate at which the sound changes amplitude.
Tremolo Depth	00 to 99	Controls how strong the tremolo will be.
Tremolo Shape	00 to 99	Selects either soft (gradual) or hard (drastic) transitions.

The TREMOLO TYPE lets you choose from the following Tremolo types:

Display	Tremolo Type	Description
OFF	No Tremolo	Tremolo is disabled.
1	Mono Tremolo	Provides the classic Tremolo useful in recreating the sound of older guitar amps.
2	Stereo Tremolo at 90°	This two channel Tremolo has the left and right channels close together; i.e. when one is on, the other is 1/2 on, and when one is off, the other is 1/2 off.
3	Stereo Tremolo at 180°	This two channel Tremolo has the left and right channels perfectly out of phase; i.e. when one is on the other is off.



If the TREM/CHORUS ON/OFF parameter is turned off, the Tremolo effect will not be heard (see page 35). If you adjust any of the Tremolo parameters, the display will flash OFF twice to indicate it is turned off.



The Tremolo parameters are disabled when the Rotary type of Chorus is selected. If you attempt to modify the Tremolo parameters, the display will temporarily read ---.

²Some guitar amps mistakenly call this “vibrato”, but this is incorrect. Vibrato is actually the fluctuation of pitch, whereas tremolo is a fluctuation of volume.

Delay

Delay provides repetition, or echo, of a signal. By adding feedback, the delayed signal can repeat many times, with each successive repetition softer than its predecessor.

Parameter	Range	Description
Delay Type	1 to 4	Selects the type of Delay (see below).
Main Delay Time	00 to 99	Controls the speed of the delay (see chart on next page).
Delay Time Offset	00 to 99	Offsets the left & right channels (see page 31).
Delay Feedback	00 to 99	Controls the number of repetitions.
Dynamic Delay	00 to 99	Threshold above which Delay is muted.
Delay Level	00 to 99	Controls the output level of the Delay effect.

The DELAY TYPE parameter lets you choose from the following Delay types:

Display	Delay Type	Description	Max. Delay
1	Mono Delay	Provides a single delay of signal.	1250 mS
2	Stereo Delay	Provides two discrete delays; one to the left channel, the other to the right channel.	625 mS
3	Ping Pong Delay	This two channel delay has the output of each channel flowing into the other, going back and forth like a game of ping-pong.	625 mS
4-0 to 4-9	Multi Tap Delay	Provides 5 delays at once, with 10 configurations (see below).	n/a



If the DELAY ON/OFF parameter is turned off, the Delay effect will not be heard (see page 35). If you adjust any of the Delay parameters, the display will flash OFF twice to indicate it is turned off.

TIP

The Stereo Delay and Ping Pong Delay types will sound even wider when the CABINET SPREAD parameter is turned on. See page 35 for more information.

Multi Tap Delay

This is like having five delays at once, each having a different delay time, volume and panning. There are 10 Multi Tap configurations (4-0 through 4-9), each with its own rhythm. The MAIN DELAY TIME parameter lets you control the relative “spread”, or tempo, of all taps at once while keeping the same rhythm. When set to low numbers, the taps are closer together; at higher values, the taps become spaced further apart. The DELAY FEEDBACK parameter controls all taps at once, making it easy to adjust the total number of “echoes”.

Main Delay Time

0 is the shortest delay time and 99 is the longest. This range is exponential, which means that the lower numbers take small steps, and the bigger

numbers take bigger steps. The following table shows the equivalent to each setting of the delay time in milliseconds when using the Mono Delay:

Display	mS	Display	mS	Display	mS	Display	mS
0	0017.0	25	0236.8	50	0517.7	75	0889.9
1	0021.9	26	0254.1	51	0528.5	76	0906.0
2	0026.8	27	0271.5	52	0539.3	77	0922.2
3	0031.7	28	0288.8	53	0550.1	78	0938.4
4	0036.6	29	0306.2	54	0560.9	79	0954.6
5	0041.5	30	0323.6	55	0571.7	80	0970.8
6	0046.4	31	0334.4	56	0582.5	81	0986.9
7	0051.3	32	0345.2	57	0593.2	82	1003.1
8	0056.2	33	0355.9	58	0604.0	83	1019.3
9	0061.1	34	0366.7	59	0614.8	84	1035.5
10	0066.0	35	0377.5	60	0625.6	85	1051.7
11	0074.4	36	0388.3	61	0636.4	86	1067.8
12	0082.8	37	0399.1	62	0647.2	87	1084.0
13	0091.2	38	0409.9	63	0663.3	88	1100.2
14	0099.6	39	0420.6	64	0679.5	89	1116.4
15	0108.0	40	0431.4	65	0695.7	90	1132.6
16	0116.4	41	0442.2	66	0711.9	91	1146.5
17	0124.8	42	0453.0	67	0728.1	92	1160.4
18	0133.2	43	0463.8	68	0744.2	93	1174.4
19	0141.6	44	0474.6	69	0760.4	94	1188.4
20	0150.0	45	0485.4	70	0776.6	95	1202.3
21	0167.3	46	0496.2	71	0792.8	96	1216.3
22	0184.7	47	0507.0	72	0809.0	97	1230.2
23	0202.1	48	0517.7	73	0825.1	98	1244.2
24	0219.4	49	0528.5	74	0841.3	99	1258.1

Note: When using the Stereo Delay, all delay times are halved. Example: If the MAIN DELAY TIME parameter is set to 62 while using the Stereo Delay, the delay time would actually be 0323.6 mS.

Tap Tempo

An alternative way to adjust the MAIN DELAY TIME parameter is by repeatedly pressing the TAP TEMPO button (which also happens to be the TUNER button). The AxSys will gauge the time between each press and immediately set the MAIN DELAY TIME parameter to the equivalent value, and show this value in the display.



The TUNER button will only function as a TAP TEMPO button while you are editing the Delay parameters (i.e., the Delay Edit Row is selected). Otherwise, pressing this button will select Tuner mode.

Delay Time Offset

The DELAY TIME OFFSET parameter (00 - 99) provides a different function depending on the selected Delay Type:

Delay Type	DELAY TIME OFFSET Function
Mono Delay	Offsets the panning of the input signal from the delayed signal between the left and right channels. When set to 0, both signals are centered between the left and right channels, creating a mono image; when set to 99, the direct signal is routed to the right channel, while the delayed signal goes to the left channel.
Stereo Delay	Offsets the right channel's delay signal from the left channel. This is done by first setting the MAIN DELAY TIME, for example, to 400 mS, and then using Delay Offset to offset the right channel relative to left. When set to 00, the right side is equal to the left side; when set to 50, the right side is 50% less than the left side.
Ping Pong Delay	Controls the "rhythm" spacing of the two delay signals. When set to 50, the rhythm is equal between the right and the left side; when set to 25, the rhythm sounds as if you were playing on beats 1 and 4 (in 4/4 time, of course).
Multi Tap Delay	Disabled.

Dynamic Delay

The DYNAMIC DELAY parameter adjusts the loudness of the delay based on how loud you are playing. It is a threshold setting, similar to the threshold setting of a noise gate. When set to a high value, the delay is softer while you play, which helps avoid that unwanted "muddy" sound. When you stop playing, it gets louder.

Chorus

Parameter	Range	Description
Chorus Type	1 to 4	Selects the type of Chorus (see below).
Chorus Speed	00 to 99	Controls the speed of the Chorus effect.
Chorus Depth	00 to 99	Controls the depth of the Chorus effect.
Chorus Feedback	00 to 99	Controls the amount of the Chorus' output being feedback into its input.
Chorus Shape	1 to 4	Selects either a Sine wave or Square wave shape.
Chorus Level	00 to 99	Controls the output level of the Chorus effect.

The CHORUS TYPE lets you choose from the following Chorus types:

Display	Type	Description	Display	Type	Description
1	Chorus	(see page 41)	3	Phase	(see page 42)
2	Flange	(see page 42)	4	Rotary	(see page 42)



If the TREM/CHORUS ON/OFF parameter is turned off, the Chorus effect will not be heard (see page 35). If you adjust any of the Chorus parameters, the display will flash OFF twice to indicate it is turned off.

Chorus. The Chorus effect produces a pitch detuned version of you guitar, and combines it with the guitar signal. The amount of detuning is controlled by the CHORUS DEPTH, and the speed of detuning is controlled by the CHORUS SPEED. The CHORUS FEEDBACK can emphasize the effect by

causing the detuned signal to be re-detuned. CHORUS SHAPE selects between a sine wave, for smooth sweeping pitch, or a square wave, for a more abrupt shift in pitch.

In the case of a Stereo Chorus, the left channel is detuned sharp, the right is detuned flat, and vice versa. This causes the effect to become more pronounced and dramatic.

Flange. Flanging³ produces a “jet airplane”-like sound. A delayed signal is mixed with the original sound to produce the “swishing” or “tunneling” sound. Stereo Flange sweeps one channel up while the other sweeps down.



When using the Flange type with the Square waveform shape, the Square shape will actually provide a Triangle waveform shape.

TIP

The Stereo Chorus and Stereo Flange types will sound even wider when the CABINET SPREAD parameter is turned on (see page 35).

Phase. Another popular effect is the Phase Shifter or Phasor. The Phasor shifts the phase of different frequencies in different amounts, resulting in a comb filter effect when combined with the dry signal.



Because the Phase type of Chorus is mono only, the CHORUS SHAPE parameter can only be set to 1 (Mono Sine) or 3 (Mono Square) when the Phase type is selected. Also, the Square shape will actually provide a more useful sounding Triangle waveform shape.

Rotary. This effect was extremely popular during the 1960's and was achieved by mechanically rotating the speakers to produce complex timbral changes. The Leslie speaker system is best known for its rotary speaker architecture. It is most often used with Hammond-type organs, but is occasionally used for guitar amplification as well.

TIP

When changing between Sounds that use a slow to fast Rotary Speed, the Rotary effect will produce authentic ramping between the two speeds, just like the real thing.



The CHORUS SHAPE parameter is disabled when the Rotary type is selected. If you attempt to modify this parameter, the display will temporarily read ---.

³First used in the 1960s, flanging was achieved by the use of two tape recorders that would record and play back the same program in synchronization. By slowing down one tape machine, and then letting it catch up with the other, different phase cancellations would occur at different frequencies. Since the slowing down of the tape machines was done by hand pressure against the flanges of the tape supply reels, the term “Flanging” came into being.

Reverb

Parameter	Range	Description
Reverb Type	1 to 5	Selects the type of Reverb (see below).
Predelay	00 to 99	Controls the delay of the first instance of reverberation, so that the dry signal stands out from the Reverb effect.
Reverb Decay	00 to 99	Controls how long it takes for the Reverb to die away.
Reverb Tone	00 to 99	Controls the Reverb's tone.
Reverb Diffusion	00 to 99	Determines the "thickness" of the reverb (see below).
Reverb Level	00 to 99	Controls the output level of the Reverb effect.

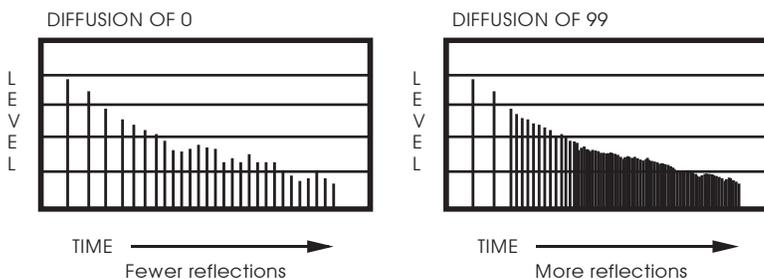
Reverb is made up of a large number of distinct echoes, called reflections. In a natural acoustic space, each reflection's amplitude and brightness decays over time. This decay is influenced by the room size, the location of the sound source in the room, the hardness of the walls, and other factors.

The REVERB TYPE parameter lets you choose from these Reverb types:

Display	Reverb Type	Description
1	Spring ⁴	Produces a ringing, resonant sound, which is a requirement for vintage guitar applications.
2	Dark Room	Recreates the ambiance of a small room with many reflective surfaces, but with a dark tone.
3	Bright Room	Similar to Dark Room, but with more high frequencies.
4	Dark Hall	Recreates the ambiance of a large auditorium or concert hall that has a lot of space to fill, but with a dark tone.
5	Bright Hall	Similar to Dark Hall, but with more high frequencies.

Diffusion

Diffusion determines the "thickness" of the reverb sound by adding more reflections to the reverb's decay. At low settings, you can hear the individual echoes that make up the overall reverb sound. At higher settings, the echoes increase and blend, washing out the reverb's decay.



If the REVERB ON/OFF parameter is turned off, the Reverb effect will not be heard (see page 35). If you adjust any of the Reverb parameters, the display will flash OFF twice to indicate it is turned off.

⁴Sorry. Because this is a physically modeled spring reverb, you can't get the "thunder crash" effect when you bump into the amp.

Cabinet Type

This effect simulates various types of speaker enclosures. You may choose among the following enclosure simulators:

# in Display	Modeled after...
0FF	AxSys 2 x 12"
1-0	2 x 10" Music Man cabinet
1-1	2 x 10" Blues cabinet
1-2	2 x 10" (Comb filter effect)
2-0	2 x 12" Fender Twin Reverb
2-1	2 x 12" JC-120
2-2	2 x 12" Matchless with Celestion Vintage 30's
3-0	4 x 10" Fender Bassman
3-1	4 x 10" Peavey Classic 50
3-2	4 x 10" Custom
4-0	4 x 12" Marshall slant cabinet with Celestion "greenbacks"
4-1	4 x 12" Marshall slant cabinet with Celestion Vintage 30's
4-2	4 x 12" Custom

Cabinet Spread

This effect is useful for "widening" a flat sound to produce more depth and color. When turned on, it creates the illusion that sound is emanating in stereo from a pair of speakers placed somewhere around the listener. By doing so, the sound appears spatially distributed, and takes on a lively new ambiance.

TIP Cabinet Spread is especially effective when using a stereo effect, such as the Stereo Chorus, Stereo Flange, Stereo Delay, Ping Pong Delay and Reverb.

FX On/Off

These parameters provide a convenient method of turning on and off a particular effect without having to alter its settings.

Parameter	Range	Description
Distortion Box On/Off	On, Off	Turns the Distortion Box effect on or off.
Drive On/Off	On, Off	Turns the Preamp's Drive control on or off. When turned on, the DRIVE control's current setting is used. When off, it is the equivalent of turning the DRIVE control all the way down to 00.
EQ On/Off	On, Off	Turns the Graphic EQ on or off.
Trem/Chorus On/Off	On, Off	Turns the Tremolo and Chorus effects on or off.
Delay On/Off	On, Off	Turns the Delay effect on or off.
Reverb On/Off	On, Off	Turns the Reverb effect on or off.



If an effect doesn't seem to be working, be sure to check if the effect is turned on in the FX ON/OFF Edit Row. If you adjust any parameter of an effect that is turned off, the display will flash **OFF** twice to indicate it is turned off.

TIP

Since all of these parameters are the "on/off" type, it's easy to see at a glance what all 6 settings are (i.e. which effects are on or off), since each Control Knob's LED will either be on or off.

TIP

All of the parameters found on the FX ON/OFF Edit Row, are available on the optional AxSys Remote Pedal Board for easy access.



The DISTORTION BOX ON/OFF and DRIVE ON/OFF controls are disabled when the Acoustic Sim Preamp type is selected. If you attempt to modify them, the display will temporarily read ---.

Aux Controls

The Aux Input can be used for a second signal, such as a microphone, drum machine or acoustic guitar.

Parameter	Range	Description
Aux Input Mix	00 to 99	Controls the mix of the Aux Input signal relative to the Guitar Input signal.
Aux Input Bass	-50 to +50	Provides a boost or cut of low frequencies to the Aux Input signal.
Aux Input Treble	-50 to +50	Provides a boost or cut of high frequencies to the Aux Input signal.
Aux Input Reverb	00 to 99	Controls the amount of Aux Input signal going to the Reverb effect.

Aux Input Mix

This controls the mix of the Aux Input signal relative to the Guitar Input signal. It can be set between 0 and 99. When set to 0, the Aux Input signal is not heard at all. When set to 99, the Aux Input signal is mixed with the Guitar Input signal at maximum volume.

Aux Input Bass

This is a low frequency cut or boost control for the Aux Input signal. It can be set between -50 and 50. Negative values decrease the bass, while positive values increase them; a setting of 0 leaves the bass response flat.

Aux Input Treble

This is a high frequency cut or boost control for the Aux Input signal. It can be set between -50 and 50. Negative values decrease the treble, while positive values increase them; a setting of 0 leaves the treble response flat.

Aux Input Reverb

This controls the amount of reverb that is added to the Aux Input signal. When set to 0, no reverb is added and the Aux Input signal is “dry”. When set to 99, the reverb is added at its maximum level and the Aux Input signal is “wet”.

Global Controls

The following four controls are found on the far right end of the first top two Edit Rows. As their name “Global” implies, these four parameters are set once for all Sounds; i.e. their settings are static and do not change from one Sound to another.

Parameter	Range	Description
MIDI Channel	01 to 16	Selects the basic MIDI channel.
Transmit Sounds	01A to 32D, Edit, All	Lets you transmit one or all User Sounds via the MIDI OUT connector.
Gate/Hum Per Sound	Snd, All	Determines whether the Noise Gate and Hum Canceller parameters will change when a new Sound is selected.
Aux Per Sound	Snd, All	Determines whether the Aux Input parameters will change when a new Sound is selected.

MIDI Channel

The MIDI CHANNEL parameter determines which of the 16 available MIDI channels is used to send and receive program changes and controller messages (controller 7 for Volume, controller 3 for Wah). It can be set between 1 and 16.

Transmit Sounds

The TRANSMIT SOUNDS parameter lets you transmit either a single User Sound or all User Sounds in memory via the MIDI OUT connector. This information can be sent to a MIDI storage device, such as a computer running a sequencer or editor/librarian software, or to another AxSys 212.

Display	Transmitted via MIDI
01A to 32D	Any single Sound in the User Bank (01-32, A-D)
Edit	The current Sound being edited
ALL	All 128 Sounds in the User Bank

Use the TRANSMIT SOUNDS parameter to select what you want to transmit. You can choose any User Sound from 01A to 32D, or Edit (the current Sound in the edit buffer) or ALL (all Sounds in the User Bank). Once you’ve made your selection, press the STORE button to execute the transmission; the display will temporarily read EDIT.

Gate/Hum Per Sound

This function determines whether the Noise Gate and Hum Canceller parameters will change when a new Sound is selected. These parameters include: NOISE GATE ON/OFF, NOISE GATE THRESHOLD, NOISE GATE DECAY, and HUM CANCELLER. If you want to use the same settings for these parameters, regardless of which Sound you use, set this parameter to *ALL*. If, however, you have stored different settings for these parameters within certain Sounds and would like those settings to be recalled whenever those Sounds are selected, set this parameter to *Sound*.

Display	Description
<i>Sound</i>	The Noise Gate and Hum Canceller parameters will change when a new Sound is selected to the stored settings for that Sound.
<i>ALL</i>	The Noise Gate and Hum Canceller parameters will not change when a new Sound is selected. In other words, the Noise Gate and Hum Canceller parameters' current settings will be used for all Sounds.

Aux Per Sound

This function determines whether or not the Aux input parameters will change when a new Sound is selected. These parameters include: AUX INPUT MIX, AUX INPUT BASS, AUX INPUT TREBLE, and AUX INPUT REVERB. If you would like to use the same settings for these parameters, regardless of which Sound you use, set this parameter to *ALL*. If, however, you have stored different settings for these parameters within certain Sounds and would like those settings to be recalled whenever those Sounds are selected, set this parameter to *Sound*.

Display	Description
<i>Sound</i>	The Aux Input parameters will change when a new Sound is selected to the stored settings for that Sound.
<i>ALL</i>	The Aux Input parameters will not change when a new Sound is selected. In other words, the Aux Input parameter's current settings will be used for all Sounds.

APPENDICES

Appendix I: Troubleshooting

If you are experience problems while operating the AxSys 212, please use the following table to locate possible causes and solutions before contacting Line 6 customer service for assistance.

Symptom	Cause	Solution
The display does not light when the POWER switch is turned on.	No power.	Check that the power cable is plugged in properly.
No sound.	Speakers are not connected to amp.	Connect the speaker cables to the rear panel LEFT SPEAKER and RIGHT SPEAKER jacks
	Bad cable.	Check your guitar cables; replace if necessary.
	Volume is turned down.	Raise the MASTER knob.
Control Knobs won't change parameter settings.	Compare mode is turned on (⌘ appears in display)	Press COMPARE to exit Compare mode.

Appendix II: Maintenance & Service

Cleaning

Disconnect the AC cord, then use a damp cloth to clean the amp's metal and plastic surfaces. For heavy dirt, use a non-abrasive household cleaner such as Formula 409 or Fantastik. **DO NOT SPRAY THE CLEANER DIRECTLY ONTO THE FRONT OF THE UNIT AS IT MAY DAMAGE THE LUBRICANTS USED IN THE SWITCHES AND CONTROLS!** Spray onto a cloth, then use the cloth to clean the unit.

Maintenance

Here are some tips for preventive maintenance.

- Periodically check the AC cord for signs of fraying or damage.
- Place a dust cover over the AxSys 212 when it is not in use.

Refer All Servicing to Line 6

We believe that the AxSys 212 is one of the most reliable amps that can be made using current technology, and should provide years of trouble-free use. However, should problems occur, **DO NOT** attempt to service the amp yourself. The full AC line voltage, as well as high voltage/high current DC voltages, are present at several points within the chassis. Service on this product should be performed only by qualified technicians. **THERE ARE NO USER-SERVICEABLE PARTS INSIDE.**

Obtaining Repair Service

Before contacting Line 6, check over all your connections, and make sure you've read the manual.

Customers in the USA:

If the problem persists, call Line 6 at (310) 390-5956 and request the Product Support department. Talk the problem over with one of our technicians; if necessary, you will be given a Return Authorization (RA) number and instructions on how to return the unit. All units must be shipped prepaid and COD shipments will not be accepted.

For prompt service, indicate the RA number on the shipping label. If you do not have the original packing, ship the amp in a sturdy carton, with shock-absorbing materials such as styrofoam pellets (the kind without CFCs, please) or "bubble-pack" surrounding the unit. Shipping damage caused by inadequate packing is not covered by the Line 6 warranty.

Tape a note to the top of the unit describing the problem, include your name and a phone number where Line 6 can contact you if necessary, as well as instructions on where you want the product returned. Line 6 will pay for standard one-way shipping back to you on any repair covered under the terms of this warranty. Next day service is available for a surcharge.

Field repairs are not normally authorized during the warranty period, and repair attempts by unqualified personnel may invalidate the warranty.

Service address for customers in the USA:

Line 6 Product Support
11260 Playa Court
Culver City, CA 90230

Customers outside the USA:

Contact your local Line 6 dealer for warranty assistance. The Line 6 Limited Warranty applies only to products sold to users in the USA and Canada. Customers outside of the USA and Canada are not covered by this Limited Warranty and may or may not be covered by an independent distributor warranty in the country of sale. Do not return products to the factory unless you have been given specific instructions to do so.

Appendix III: Tube Replacement Schedule

Yeah, right!! You gotta be kidding!!!

Appendix IV: About Audio Cables

The connection between your electric guitar and the AxSys are your music's lifeline, so use only high quality cables. These should be low-capacitance shielded cables with a stranded (not solid) internal conductor and a low-resistance shield. Although quality cables cost more, they do make a difference. Observe the following precautions:

- Do not place audio cable on or near AC power cords.
- Avoid running audio cable near sources of electromagnetic interference such as transformers, monitors, computers, etc.
- Do not place cable where it can be stepped on. Stepping on a cable may not cause immediate damage, but it can compress the insulation between the center conductor and shield (degrading performance) or reduce the cable's reliability.
- Avoid twisting the cable or having it make sharp, right angle turns.
- Never unplug a cable by pulling on the wire itself. Always unplug by firmly grasping the body of the plug, pulling directly outward.
- Although Line 6 does not endorse any specific product, chemicals such as Tweak and Cramolin, when applied to electrical connectors, are claimed to improve the electrical contact.

Appendix V: Using External Speaker Cabinets

As an alternative to the AxSys' built in pair of 12" speakers, you may connect external speakers to the rear panel **LEFT SPEAKER** and **RIGHT SPEAKER** jacks. These jacks are designed for use with 8 ohm speakers only.

Appendix VI: Specifications

Guitar Input Effects:	Noise Gate; Hum Canceller; Compressor; Wah; Auto-Wah; Rando-Wah; Sample/ Hold Wah; Volume Pedal; Distortion Box Type
Preamp:	Bright Switch; 3-Band Pre EQ; Drive; Preamp Type Select (Clean, Tweed, British, Hybrid, Acoustic Simulator); Preamp Model Select; 5-Band Graphic EQ; Bass/Middle/Treble Tone Controls; Presence
Effects Processor:	Auto-Volume; Mono/Stereo Chorus; Mono/Stereo Flange; Phasor; Stereo Rotary Speaker; Mono/Stereo Tremolo; Mono/Stereo Ping-Pong and Multi-Tap Delay; Dynamic Delay, Tap Tempo Delay; Room, Hall and physically modeled Spring Reverb; Stereo Spread; Amp Gain; Cabinet Simulator; Built-in Guitar Tuner.
Aux Input:	Aux Level; Bass EQ; Treble EQ; Reverb Amount
Converters:	Dual 20-bit Linear 64 times oversampling A/D Dual 20-bit Linear 8 times oversampling D/A
DSP:	Dual DSP architecture with True 24-Bit Stereo Processing at 48 MIPS (millions of instructions per second)
Connections:	Guitar input; Aux input; Wah pedal input; Volume pedal input; Input for optional remote pedal; Stereo line out/headphone; Left and Right speaker outputs; MIDI In/Out
Memory:	128 Presets, 128 User Sounds in battery-backed RAM
Power Amplifiers:	100 Watts – Stereo, 50 Watts RMS per channel
Speakers:	Dual custom designed 12" Eminence Speakers
Dimensions:	21-1/2" H x 28-1/2" W x 11" D (546mm H x 724mm W x 279mm D) Weight: 56 lbs. (25.4 Kg)

Appendix VII: MIDI Implementation Chart

Function		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 — 16 * * * * *	1 — 16 * * * * *	
Mode	Default Messages Altered	X X * * * * *	X X	
Note Number	True Voice	X * * * * *	X X	
Velocity	Note On Note Off	X X	X X	
After Touch	Key's Ch's	X X	X X	
Pitch Bender		X	X	
Control Change		O	O	Wah=3, Volume=7 Bank Select=0
Prog Change	True #	0 — 127 * * * * *	0 — 127 0 — 127	
System Exclusive		O	O	
System Common	Song Pos Song Sel Tune	X X X	X X X	
System Realtime	Clock Commands	X X	X X	
Aux Messages	Local On/Off All Notes Off Active Sense Reset GM On	X X X X X	X X X X X	
Notes				
O : Yes X : No				

Appendix VIII: MIDI Program Change Chart

The following chart can be used to identify the exact Sound that will be recalled for any of the 128 different MIDI program change numbers that can be received by the AxSys 212.

The Sound that is recalled will be from either the Preset Bank or the User Bank, depending on which is selected at the time.

Note: If sending MIDI program change commands from a device or software program which begins with the number 0 instead of 1, subtract 1 from the number in the MIDI PROGRAM CHANGE column to locate the correct AxSys Sound that will be recalled.

MIDI Program Change	AxSys Sound						
1	01A	33	09A	65	17A	97	25A
2	01B	34	09B	66	17B	98	25B
3	01C	35	09C	67	17C	99	25C
4	01D	36	09D	68	17D	100	25D
5	02A	37	10A	69	18A	101	26A
6	02B	38	10B	70	18B	102	26B
7	02C	39	10C	71	18C	103	26C
8	02D	40	10D	72	18D	104	26D
9	03A	41	11A	73	19A	105	27A
10	03B	42	11B	74	19B	106	27B
11	03C	43	11C	75	19C	107	27C
12	03D	44	11D	76	19D	108	27D
13	04A	45	12A	77	20A	109	28A
14	04B	46	12B	78	20B	110	28B
15	04C	47	12C	79	20C	111	28C
16	04D	48	12D	80	20D	112	28D
17	05A	49	13A	81	21A	113	29A
18	05B	50	13B	82	21B	114	29B
19	05C	51	13C	83	21C	115	29C
20	05D	52	13D	84	21D	116	29D
21	06A	53	14A	85	22A	117	30A
22	06B	54	14B	86	22B	118	30B
23	06C	55	14C	87	22C	119	30C
24	06D	56	14D	88	22D	120	30D
25	07A	57	15A	89	23A	121	31A
26	07B	58	15B	90	23B	122	31B
27	07C	59	15C	91	23C	123	31C
28	07D	60	15D	92	23D	124	31D
29	08A	61	16A	93	24A	125	32A
30	08B	62	16B	94	24B	126	32B
31	08C	63	16C	95	24C	127	32C
32	08D	67	16D	96	24D	128	32D

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LINE 6 LIMITED WARRANTY INFORMATION

It's important to LINE 6 that we take care of our customers. Sending in your warranty allows us to register key information so that we may handle problems faster and inform you of advance information, upgrades, and applications. Thank you in advance for filling out your warranty card and sending it to us. Good luck in your music!

LINE 6, a division of Fast Forward Designs, Inc., warrants this product when purchased at an Authorized LINE 6 Dealer in the United States of America, to be free of defects in materials and workmanship for a period of one year from the date of original purchase only upon completion and return of the LINE 6 Warranty Registration form within 30 days from date of purchase.

During the warranty period LINE 6 shall, at its option, either repair or replace any product that proves to be defective upon inspection by LINE 6.

LINE 6 reserves the right to update any unit returned for repair, and reserves the right to change or improve the design of the product at any time without notice.

This warranty is extended to the original retail purchaser and to anyone who may subsequently purchase this product within the applicable warranty period. Final determination of warranty coverage lies solely with LINE 6.

This is your sole warranty. LINE 6 does not authorize any third party, including any dealer or sales representative, to assume any liability on behalf of LINE 6 or to make any warranty for LINE 6.

LINE 6 may, at its option, require proof of the original date of purchase in the form of a dated copy of the original authorized dealer's invoice or sales receipt.

Service and repairs of LINE 6 products are to be performed only at the factory (see below) unless otherwise authorized in advance by the LINE 6 Service Department. Unauthorized service, repair or modification will void this warranty.

To obtain factory service:

Contact LINE 6 at (310) 390-5956, 9AM to 5:30 PM Monday through Friday (Pacific Time) and request the Product Support department. If necessary, you will be given a return authorization (RA) number .
Products returned without an RA number will be refused.

Pack the product in its original shipping carton and attach a description of the problem along with your name and a phone number where LINE 6 can contact you if necessary. Ship the product insured and freight prepaid to:

LINE 6 Product Support
11260 Playa Court
Culver City, CA 90230

DISCLAIMER AND LIMITATION OF WARRANTY

THE FORGOING WARRANTY IS THE ONLY WARRANTY GIVEN BY LINE 6 AND IS IN LIEU OF ALL OTHER WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE, ARE HEREBY EXCLUDED. UPON EXPIRATION OF THE APPLICABLE EXPRESSED WARRANTY PERIOD (1 YEAR), LINE 6 SHALL HAVE NO FURTHER WARRANTY OBLIGATION OF ANY KIND, EXPRESSED OR IMPLIED. LINE 6 SHALL IN NO EVENT BE OBLIGATED FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES THAT MAY RESULT FROM ANY DEFECT OR WARRANTY CLAIM, EXPRESSED OR IMPLIED. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitation on how long implied warranties last, so some of the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty only applies to products sold and used in the United States of America.

LINE 6 shall not be liable for damages or loss resulting from the negligent or intentional acts of the shipper or his contract affiliates. You should contact the shipper for proper claims procedures in the event of damage or loss resulting from shipment.

AXSYS 212 Sound Sheet Sound Name: _____

AUX/MIDI	AUX INPUT MIX	AUX INPUT BASS	AUX INPUT TREBLE	AUX INPUT REVERB	MIDI CHANNEL	TRANSMIT SOUNDS
					(NOT SAVED)	(NOT SAVED)
NOISE GATE	NOISE GATE ON/OFF	NOISE GATE THRESHOLD	NOISE GATE DECAY	HUM CANCELLER	GATE/HUM PER SOUND	AUX PER SOUND
					(NOT SAVED)	(NOT SAVED)
COMP/PEDALS	COMPRESSION LEVEL	VOLUME PEDAL ON/OFF	DISTORTION BOX	WAH TYPE	WAH DEPTH	AUTO-VOLUME ATTACK
PREAMP	PREAMP TYPE	PREAMP BASS	PREAMP MIDDLE	PREAMP TREBLE	BRIGHT SWITCH	PREAMP OUTPUT LEVEL
GRAPHIC EQ	80Hz	240Hz	750Hz	2200Hz	6600Hz	PRESENCE
TREMOLO/CAB	TREMOLO TYPE	TREMOLO SPEED	TREMOLO DEPTH	TREMOLO SHAPE	CABINET TYPE	CABINET STEREO SPREAD
DELAY	DELAY TYPE	MAIN DELAY TYPE	DELAY TIME OFFSET	DELAY FEEDBACK	DYNAMIC DELAY	DELAY LEVEL
CHORUS	CHORUS TYPE	CHORUS SPEED	CHORUS DEPTH	CHORUS FEEDBACK	CHORUS SHAPE	CHORUS LEVEL
REVERB	REVERB TYPE	PREDELAY	REVERB DECAY	REVERB TONE	REVERB DIFFUSION	REVERB LEVEL
FX ON/OFF	DISTORTION BOX ON/OFF	DRIVE ON/OFF	EQ ON/OFF	TREM/CHORUS ON/OFF	DELAY ON/OFF	REVERB ON/OFF
MAIN	DRIVE	BASS	MID	TREBLE	GAIN	DELAY/REVERB

Sound Notes: _____