Operations Guide

CRATE

DXJ112

Welcome. Please, Read This:

We at Crate extend our sincere "welcome" into a whole new world: a world where the legendary performance of a musician-made Crate amplifier combines with the wonders of digital amp modeling and effects. We bring you the only amplifier you'll ever need: the Crate DXJ112. The heart and soul of sixteen different amplifiers have been captured through the miracles of digital software engineering and placed into the DX amplifier. Not only does the amp *sound* like the originals, it *performs* like the originals, with the same tones and character of all your favorites — from vintage British grit to today's heavy metal — with a wide variety in between.

Along with digital amp modeling comes sixteen digital effects, all designed to rock your world from here to Sunday. And, you can tweak each effect to your heart's content!

Got your own favorite effects? Not to worry — the DX amps have stereo line in and line out jacks for use as a stereo effects loop, or for connecting to an external stereo power amp. It's like having your cake and eating it, too — with extra icing!

The DX amplifier is programmable and can be controlled in a number of ways, including through the front panel keypad, with the optional Crate Foot Controller, or via MIDI.

> Within the pages of this Operating Guide you will find all sorts of pertinent, useful and sometimes technical information which we at Crate felt you ought to have. Please indulge us a bit and take the time to actually read through this Guide at some point. Until then, for those of you who just can't wait to plug in and go, we offer you:
>
> ## Quick Start: Plug In and Go!
> ### (page 1)
>
> There you'll find just enough information to get you started. If you run into any situation that isn't covered in the Quick Start section, you might have to — guitar gods forbid — read this guide first.

We at Crate thank you for choosing the DXJ112 Digital Guitar Amplifier!

i

Important Safeguards and Precautions:

All Crate products are designed for continuous safe operation, as long as common sense is used and steps are taken to help avoid certain problems. Abiding by the following rules can help prevent damage to your amplifier, yourself and others.

- The amplifier is equipped with a three-pronged AC power cord. To reduce the risk of electrical shock, *NEVER* remove or otherwise attempt to defeat the ground pin of the power cord.
- Connect the amplifier *ONLY* to a properly grounded AC outlet of the proper voltage for your amp.
- Avoid sudden temperature extremes, rain and moisture. Also, avoid sudden and intense impact. (If the unit has been subjected to any of the preceding abuses, have it looked at by an authorized service center.)
- *NEVER* set the amplifier on a support that might give out under its weight.
- Always keep the total speaker impedance at or above the rated load.
- Unplug the amplifier before cleaning it. *NEVER* spray liquid cleaners onto the amplifier. Wipe it with a slightly dampened, lint-free cloth to remove dirt and film.
- Do not use the amplifier if it has sustained damage to the chassis, controls, or power cord. Refer the unit to an authorized service center for inspection.
- Amplifiers capable of producing high volume levels are also capable of inflicting permanent hearing loss or damage, if the exposure to such levels is prolonged. Such damage is progressive and irreversible! Consider using quality hearing protection devices.

Declaration Of Conformity

#37, Effective 01-01-2001

Manufacturer's Name: SLM Electronics
Production Facility: 11880 Borman Drive, St. Louis, MO 63146, USA
Production Facility: 700 Hwy 202 W, Yellville, AR 72687, USA
Shipping Facility: 1400 Ferguson Ave., St. Louis, MO 63133, USA
Office Facility: 1400 Ferguson Ave., St. Louis, MO 63133, USA

Product Type: Audio Amplifier

Complies with Standards:
LVD: 92/31/EEC, 93/68/EEC, & 73/23/EWG
Safety: EN60065
EMC: EN55013, EN55020, EN55022, EN61000-3-2, & EN61000-3-3

Supplementary information provided by your local Sales & Services Office or:
SLM Electronics - R & D Engineering
1901 Congressional Drive, St Louis, MO 63146, USA
Tel.: 314-569-0141, Fax: 314-569-0175

CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE. TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

PRECAUCION RIESGO DE CORRIENTAZO NO ABRA

PRECAUCION: PARA REDUCIR EL RIESGO DE INCENDIOS O DESCARGAS ELECTRICAS, NO PERMITA QUE ESTE APARATO QUEDE EXPUESTO A LA LLUVIA O LA HUMEDAD. PARA DISMINUIR EL RIESGO DE CORRIENTAZO, NO ABRA LA CUBIERTA. NO HAY PIEZAS ADENTRO QUE EL USARIO PUEDO REPARAR DEJE TODO MANTENIMIENTO A LOS TECNICOS CALIFICADOS.

ATTENTION RISQUE D'ELECTROCUTION NE PAS OUVRIR

ATTENTION: PROTÉGEZ CET APPAREIL DE LA PLUIE ET DE L'HUMIDITÉ AFIN D'ÉVITER TOUT RISQUE D'INCENDIE OU D'ÉLECTROCUTION. POUR REDUIRE D'ELECTROCUTION NE PAS ENLEVER LE COUVERCLE. AUCUNE PIECE INTERNE N'EST REPRABLE PAR L'UTILISATEUR. POUR TOUTE REPARATION, S'ADRESSER A UN TECHNICIEN QUALIFIE.

IMPORTANT SAFETY INSTRUCTIONS

- READ, FOLLOW, HEED, AND KEEP ALL INSTRUCTIONS AND WARNINGS.
- DO NOT OPERATE NEAR ANY HEAT SOURCE AND DO NOT BLOCK ANY VENTILATION OPENINGS ON THIS APPARATUS. FOR PROPER OPERATION, THIS UNIT REQUIRES 3" (75CM) OF WELL VENTILATED SPACE AROUND HEATSINKS AND OTHER AIR FLOW PROVISIONS IN THE CABINET.
- DO NOT USE THIS APPARATUS NEAR SPLASHING, FALLING, SPRAYING, OR STANDING LIQUIDS.
- CLEAN ONLY WITH LINT-FREE DAMP CLOTH AND DO NOT USE CLEANING AGENTS.
- ONLY CONNECT POWER CORD TO A POLARIZED, SAFETY GROUNDED OUTLET WIRED TO CURRENT ELECTRICAL CODES AND COMPATIBLE WITH VOLTAGE, POWER, AND FREQUENCY REQUIREMENTS STATED ON THE REAR PANEL OF THE APPARATUS.
- PROTECT THE POWER CORD FROM DAMAGE DUE TO BEING WALKED ON, PINCHED, OR STRAINED.
- UNPLUG THE APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.
- ONLY USE ATTACHMENTS, ACCESSORIES, STANDS, OR BRACKETS SPECIFIED BY THE MANUFACTURER FOR SAFE OPERATION AND TO AVOID INJURY.
- THIS APPARATUS DOES NOT OPERATE NORMALLY AND REQUIRES SERVICE WITH ANY PHYSICAL DAMAGE FROM IMPACT OR ANY EXPOSURE TO MOISTURE.
- SERVICE MUST BE PERFORMED BY QUALIFIED PERSONNEL.
- OUR AMPLIFIERS ARE CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS. CONTINUED EXPOSURE TO HIGH SOUND PRESSURE LEVELS CAN CAUSE PERMANENT HEARING IMPAIRMENT OR LOSS. USER CAUTION IS ADVISED AND EAR PROTECTION IS RECOMMENDED IF UNIT IS OPERATED AT HIGH VOLUME.

EXPLANATION OF GRAPHICAL SYMBOLS:
EXPLICACION DE SIMBOLOS GRAFICOS:
EXPLICATION DES SYMBÔLES GRAPHIQUES:

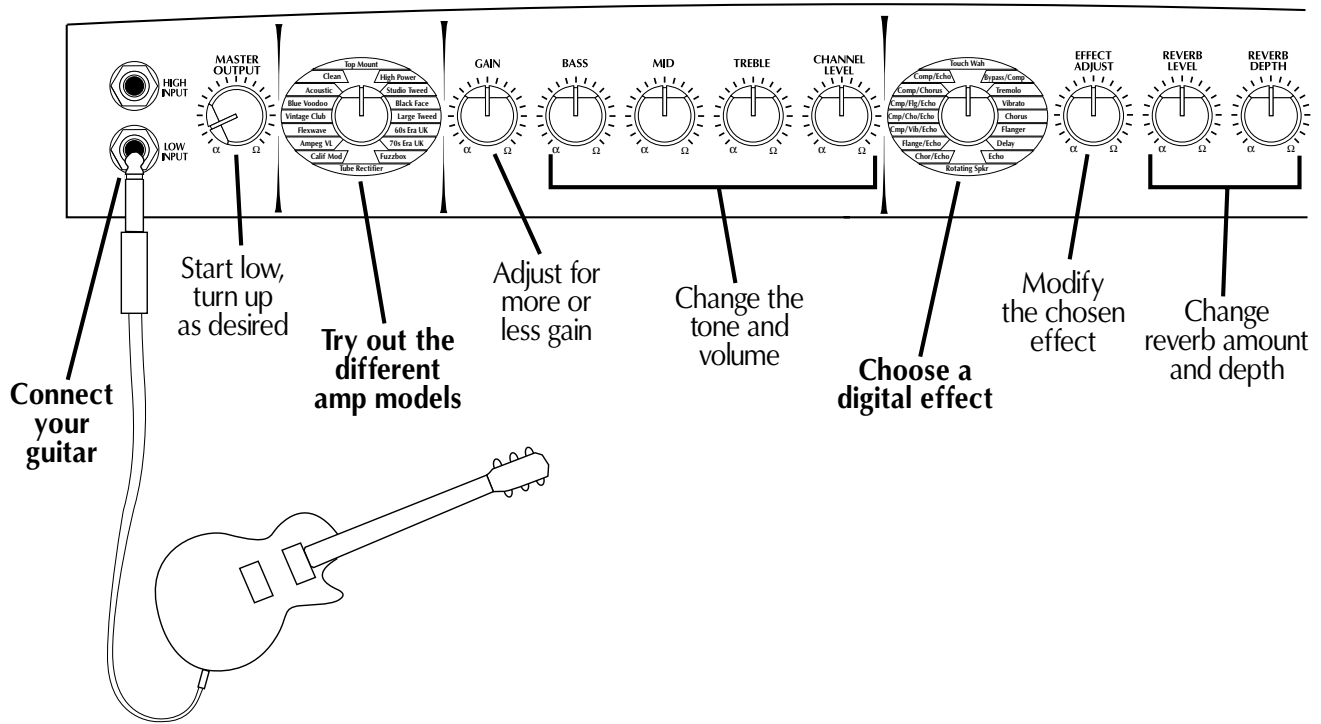= "DANGEROUS VOLTAGE"
"VOLTAJE PELIGROSO"
"DANGER HAUTE TENSION"

= "IT IS NECESSARY FOR THE USER TO REFER TO THE INSTRUCTION MANUAL"
"ES NECESARIO QUE EL USUARIO SE REFIERA AL MANUAL DE INSTRUCCIONES."
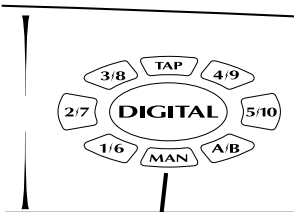"REFERREZ-VOUS AU MANUAL D'UTILISATION"

DXJ112 Digital Guitar Amplifier   CRATE

QUICK START

CONNECTIONS

AMP MODELS

EFFECTS

THE KEYPAD

FAVORITES

Contents

iii

CRATE — DXJ112 Digital Guitar Amplifier

Quick Start: Plug In and Go!

Making Sound:

HIGH INPUT

LOW INPUT

MASTER OUTPUT

Top Mount
Clean
Acoustic
Blue Voodoo
Vintage Club
Flexwave
Ampeg VL
Calif Mod
Tube Rectifier
High Power
Studio Tweed
Black Face
Large Tweed
60s Era UK
70s Era UK
Fuzzbox

GAIN

BASS

MID

TREBLE

CHANNEL LEVEL

Touch Wah
Comp/Echo
Comp/Chorus
Cmp/Flg/Echo
Cmp/Cho/Echo
Cmp/Vib/Echo
Flange/Echo
Chor/Echo
Bypass/Comp
Tremolo
Vibrato
Chorus
Flanger
Delay
Echo
Rotating Spkr

EFFECT ADJUST

REVERB LEVEL

REVERB DEPTH

Start low,
turn up
as desired

**Try out the
different
amp models**

Adjust for
more or
less gain

Change the
tone and
volume

**Choose a
digital effect**

Modify
the chosen
effect

Change
reverb amount
and depth

**Connect
your
guitar**

1

Try out the
factory presets
(bank A,1 – 5;
bank B, 6 – 10)

Making Sound:

• You may want to start out with the Master
  control turned down low, since this amp
  can get LOUD.

• Connect your guitar, plug in the amp and
  turn it on. (The power cord and power
  switch are on the back of the amplifier.)

• Select the manual mode by pressing the
  MAN button on the keypad.

• Adjust the Gain control to get the amount
  of gain you want.

• Try out the amp models by turning the
  Amp Selector knob.

• Use the Bass, Mid, Treble and Channel
  Level controls to change the tone and vol-
  ume. The EQ settings will vary depending
  on the amp model you choose.

• Choose a digital effect by turning the
  Effects Selector knob.

• Modify the chosen effect by turning the
  Effect Adjust control.

• Adjust the reverb by turning the Reverb
  Level and Depth controls.

• Try out the factory presets by pressing the
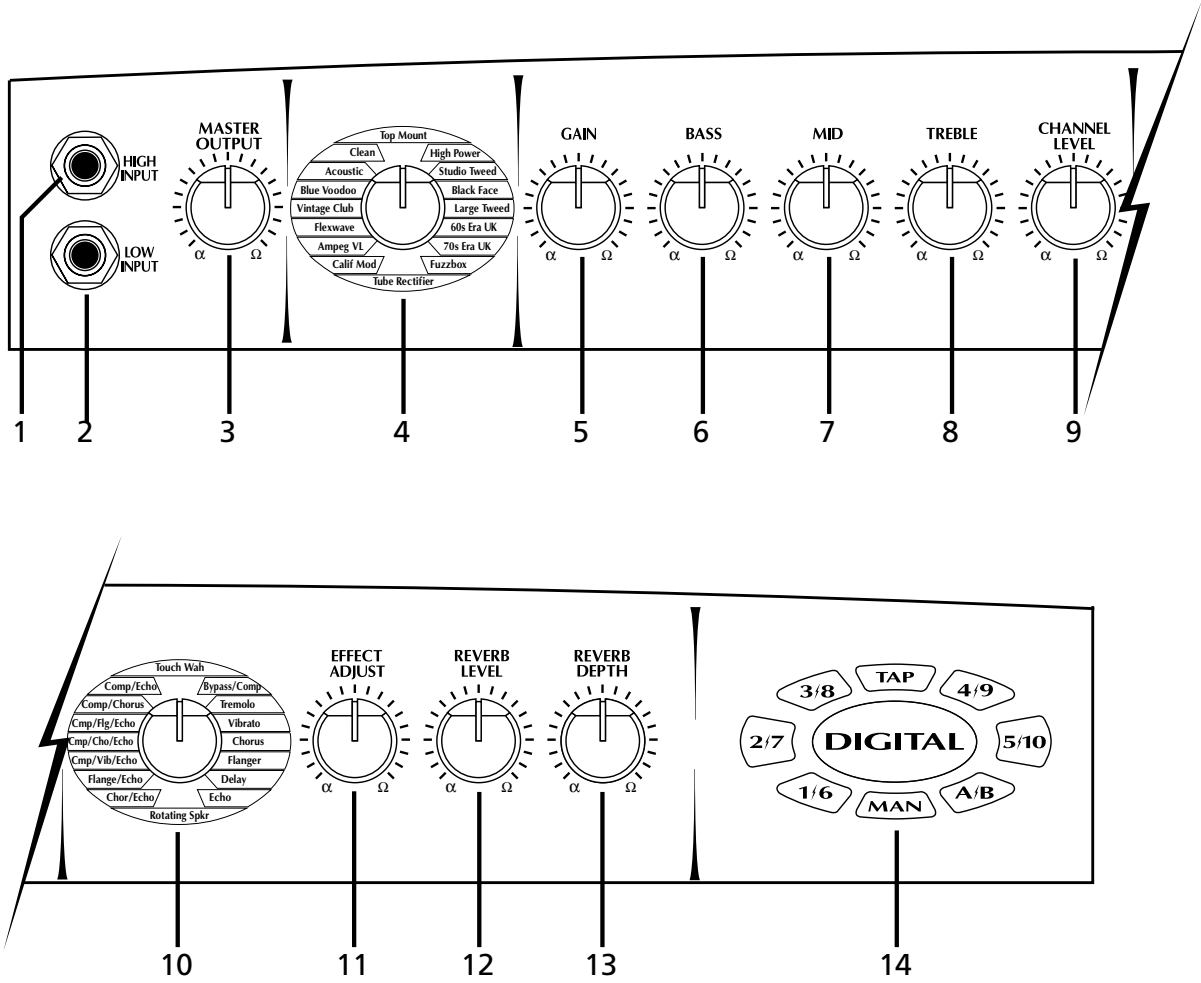 numbered buttons and the A/B button on
  the Keypad.

> *When the amp is first turned on, the A/B button on the
> keypad is not illuminated, and the numbered buttons will
> recall presets 1-5 (bank A). When you press the A/B
> button it illuminates, and the numbered buttons will recall
> presets 6-10 (bank B).*

2

QUICK START

Quick Start: Plug In and Go!

A Look at the Front Panel Controls:

MASTER OUTPUT — α Ω

Top Mount
- Clean
- Acoustic
- Blue Voodoo
- Vintage Club
- Flexwave
- Ampeg VL
- Calif Mod
- High Power
- Studio Tweed
- Black Face
- Large Tweed
- 60s Era UK
- 70s Era UK
- Fuzzbox

Tube Rectifier

HIGH INPUT

LOW INPUT

GAIN — α Ω

BASS — α Ω

MID — α Ω

TREBLE — α Ω

CHANNEL LEVEL — α Ω

1 2 3 4 5 6 7 8 9

Touch Wah
- Comp/Echo
- Comp/Chorus
- Cmp/Flg/Echo
- Cmp/Cho/Echo
- Cmp/Vib/Echo
- Flange/Echo
- Chor/Echo
- Bypass/Comp
- Tremolo
- Vibrato
- Chorus
- Flanger
- Delay
- Echo

Rotating Spkr

EFFECT ADJUST — α Ω

REVERB LEVEL — α Ω

REVERB DEPTH — α Ω

DIGITAL
- 3/8
- TAP
- 4/9
- 2/7
- 5/10
- 1/6
- MAN
- A/B

10 11 12 13 14

3

The Front Panel :

Refer to Section / Page:

1, 2. **High & Low In:** Use High In for standard pickups, Low In for "hot" pickups and/or on-board active electronics.

"The Input Jacks" — page 7,8

3. **Master:** Sets the overall output level. The Master volume is the only non-programmable setting on the amplifier.

4. **Amp Model Selector:** Chooses the desired amp model.

"Descriptions of the Models" — page 11,12

5. **Gain:** Adjusts the input gain.

"Equalization and Channel Level" — page 13,14

6, 7, 8. **Bass, Mid, Treble:** Adjusts the signal tone.

"Equalization and Channel Level" — page 13,14

9. **Channel Level:** Sets the output level of the current preset.

"Equalization and Channel Level" — page 13

10. **Effects Selector:** Chooses the effect applied to the signal.

"Descriptions of the Effects" — page 15,16

11. **Effects Adjust:** Changes one or more parameter of the current effect.

"Effects Selection and Adjustment" — page 17,18

12. **Reverb Level:** Sets the amount of reverberation applied to the signal.

"Description of the Effects" — page 15,16

13. **Reverb Depth:** Changes the depth and high-frequency damping of reverberation, from a very small room (fully counter-clockwise) to a very large hall (fully clockwise).

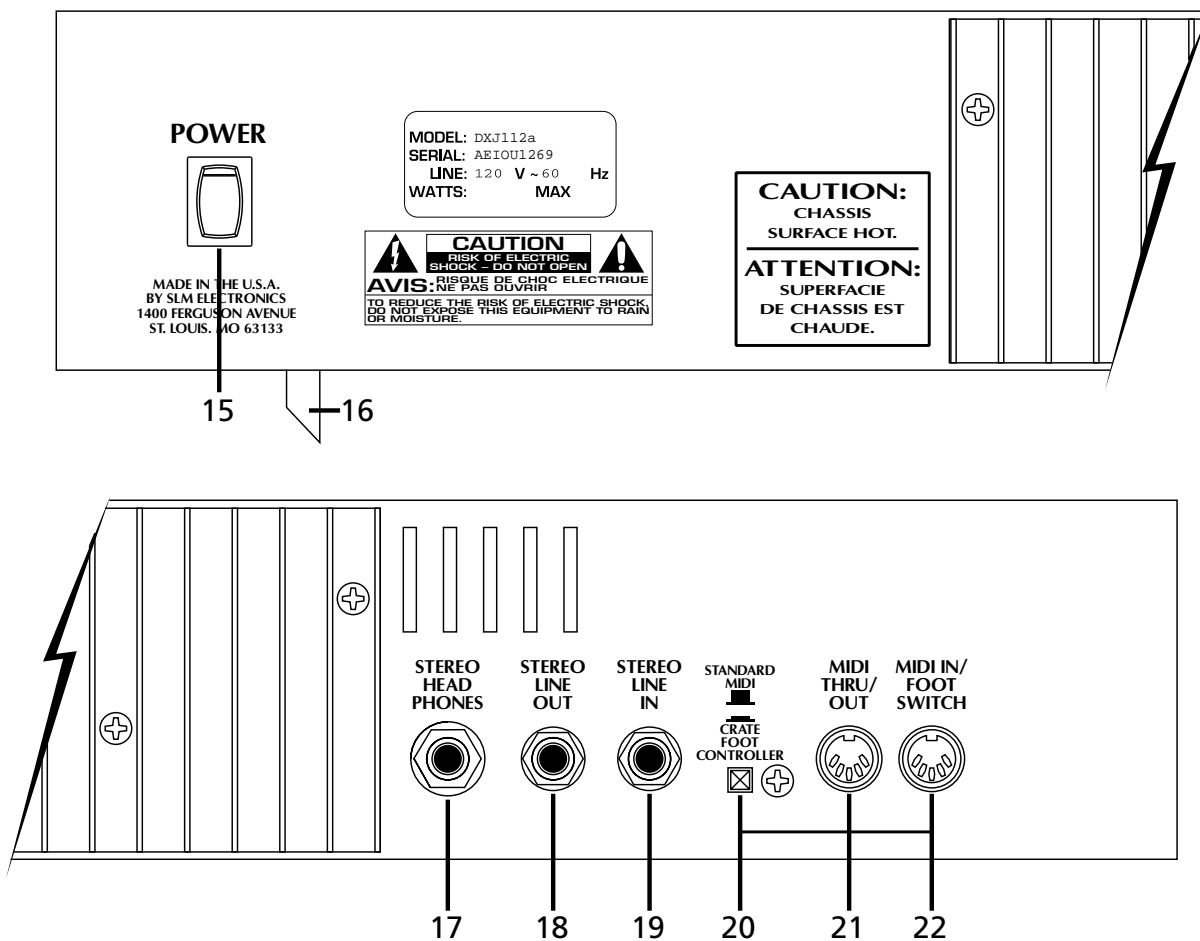**14**. **Keypad:** Recalls and saves presets, using the numbered buttons and the A/B button.

"The Keypad" — page 19,20

(These are the barest of the bare-bones descriptions — enough to get you started. Please check out the sections and pages noted for more information — this goes for the rear panel, too.)

4

Quick Start: Plug In and Go!

A Look at the Rear Panel:

POWER

MODEL: DXJ112a
SERIAL: AEIOU1269
LINE: 120 V ~ 60 Hz
WATTS: MAX

⚠ **CAUTION** ⚠
RISK OF ELECTRIC
SHOCK – DO NOT OPEN
AVIS: RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR
TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT EXPOSE THIS EQUIPMENT TO RAIN
OR MOISTURE.

CAUTION:
CHASSIS
SURFACE HOT.

ATTENTION:
SUPERFACIE
DE CHASSIS EST
CHAUDE.

MADE IN THE U.S.A.
BY SLM ELECTRONICS
1400 FERGUSON AVENUE
ST. LOUIS, MO 63133

15 — 16

STEREO HEAD PHONES
STEREO LINE OUT
STEREO LINE IN
STANDARD MIDI
CRATE FOOT CONTROLLER
MIDI THRU/ OUT
MIDI IN/ FOOT SWITCH

17   18   19   20   21   22

5

The Rear Panel :

Refer to Section / Page:

15. **Power Switch:** Depress the top of this switch to turn the amplifier on. (Allow a few seconds for the amp to respond.)

16. **AC Line Cord:** Plug the male end of this cord into a properly grounded AC outlet of the correct voltage. **DO NOT DEFEAT THE GROUND PIN OF THE AC PLUG!**

17. **Stereo Headphones:** For those private moments, plug a pair of stereo headphones into this jack. The internal speaker is muted when headphones are used. (Can also be used for recording.)

"Stereo Headphones Jack" — page 9,10

18. Stereo Line Out: Connect this output to a stereo amplifier or effects unit.

"The Stereo Line In and Line Out Jacks" — page 7,8

19. Stereo Line In: Connect the output of an external effects unit here.

"The Stereo Line In and Line Out Jacks" — page 7,8

20. **Standard MIDI/Crate Footswitch Controller:** This switch lets you choose how you control your DXJ112 — via MIDI or with the optional Crate Foot Controller.

"Using the Crate Foot Controller" — page 9,10

21. **MIDI Thru/Out:** Connect to another MIDI device you wish to control with the foot controller.

"The MIDI Thru/Out Jack" — page 9,10

22. **MIDI In/Foot Switch:** This jack either accepts a standard MIDI input or lets you use the Crate Foot Controller.

"Using a MIDI Footswitch" — page 9,10

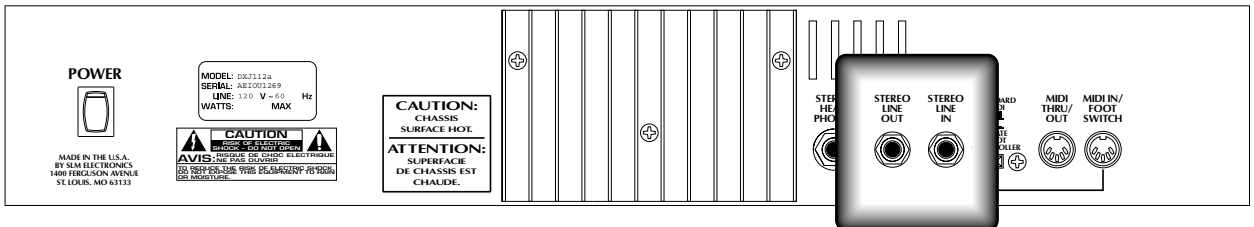**(That's all we're gonna give you for now! To learn a whole lot more, read the rest of this guide!)**

6

Making the Right Connections

The Input Jacks:

CONNECTIONS

HIGH INPUT

LOW INPUT

MASTER OUTPUT

Top Mount
Clean   High Power
Acoustic   Studio Tweed
Blue Voodoo   Black Face
Vintage Club   Large Tweed
Flexwave   60s Era UK
Ampeg VL   70s Era UK
Calif Mod   Fuzzbox
Tube Rectifier

GAIN   BASS   MID   TREBLE   CHANNEL LEVEL

Touch Wah
Comp/Echo   Organ/Comp.
Comp/Chorus   Tremolo
Cmp/Flg/Echo   Vibrato
Cmp/Cho/Echo   Chorus
Cmp/Vib/Echo   Flanger
Flange/Echo   Delay
Chor/Echo   Echo
Rotating Spkr

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

3/8   TAP   4/9
2/7   DIGITAL   5/10
1/6   MAN   A/B

The Stereo Line In and Line Out Jacks:

POWER

MODEL: DXJ112a
SERIAL: AEIOU1269
LINE: 120 V ~ 60   Hz
WATTS: MAX

MADE IN THE U.S.A.
BY SLM ELECTRONICS
1400 FERGUSON AVENUE
ST. LOUIS, MO 63133

CAUTION
RISK OF ELECTRIC
SHOCK - DO NOT OPEN
AVIS: RISGUE DE CHOC ELECTRIGUE
NE PAS OUVRIR
TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT EXPOSE THIS EQUIPMENT TO RAIN
OR MOISTURE.

CAUTION:
CHASSIS
SURFACE HOT.
ATTENTION:
SUPERFACIE
DE CHASSIS EST
CHAUDE.

STEREO
HEAD
PHONES

STEREO
LINE
OUT

STEREO
LINE
IN

KEYBOARD
MIDI
CONTROLLER

MIDI
THRU/
OUT

MIDI IN/
FOOT
SWITCH

7

The Input Jacks:

The DXJ112 has two input jacks — High In (straight) and Low In (padded) — to accommodate a wide range of pickups and playing styles. The jack you use depends on your type of pickup(s) and the sounds you're after.

For example, most players will plug their guitars into the High In jack. These players include those with "normal output" pickups and some players with "hot" pickups who are looking for some added distortion.

Some players will choose the Low In jack. These players are mostly those with "hot"/active pickups who want a cleaner sound, with more headroom for the Gain control.

When nothing is plugged into either input jack, the DXJ112 mutes its internal speaker.

The Stereo Line Out/In Jacks:

The DXJ112 has a Stereo Line In and Line Out jack (rear panel), for use as a stereo effects loop, or to send a preamplified signal to an external stereo power amp.

To use an effects loop, connect the Line Out jack to the input of the effects device, then connect the output of the device to the Line In jack.

To send a preamplified signal, connect a stereo signal cable from the Line Out jack to the input of the stereo power amplifier.

The jacks are wired as follows: TIP = left channel, RING = right channel, SLEEVE = ground.

The Line Out jack signal is post master, post eq, and post effects.

•If you want to connect a DXJ112 to another guitar amplifier for stereo sound, you'll need to make a custom patch cable like the one shown to the right. Use this cable to connect your DXJ112 Line Out jack to the Line In jack of the second guitar amp AND the DXJ112 Line In jack.

from DXJ112 Line Out jack

to DXJ112 Line In jack

RING TIP   RING TIP

SLEEVE   SLEEVE

SLEEVE

TIP

to second guitar amp's Line In jack

	TIP	RING	SLEEVE
❶	2T, 2R	3T	2S,3S
❷	1T, 2R	2T	1S,3S
❸	1R	(N/A)	1S,2S

8
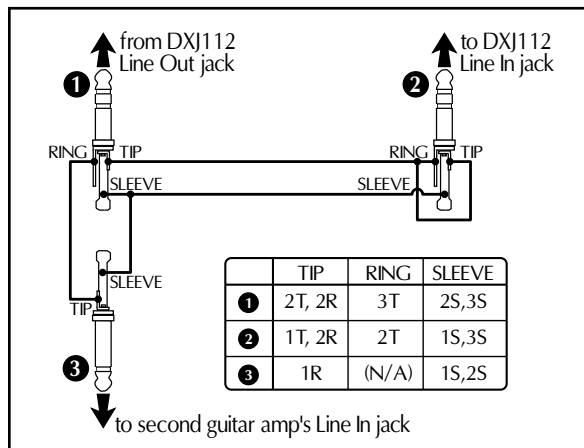
Making the Right Connections

Using a MIDI Footswitch:
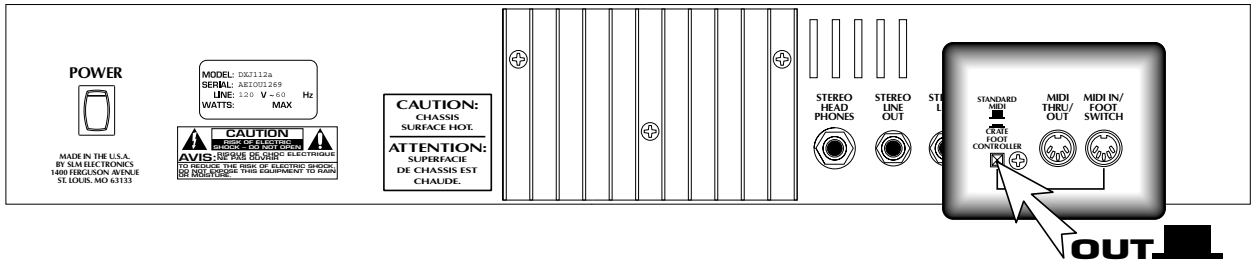
Using the Crate Foot Controller:
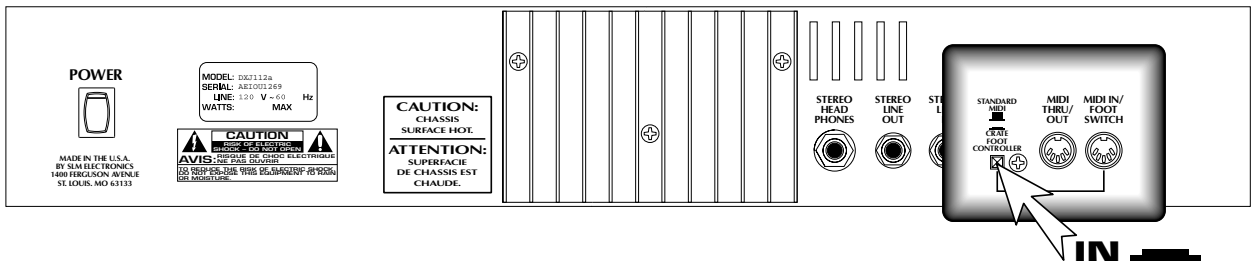
The MIDI Thru/Out Jack:

The Stereo Headphones Jack:

9
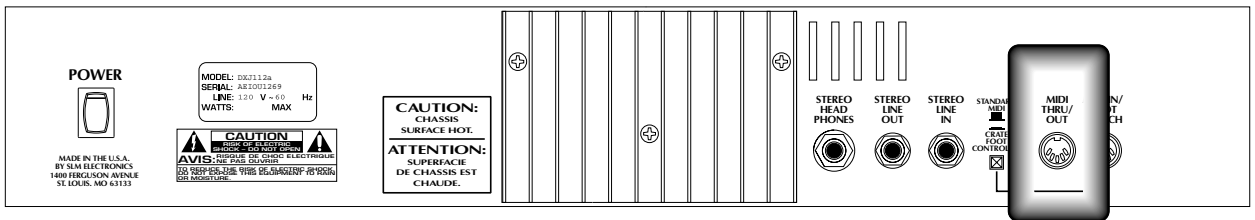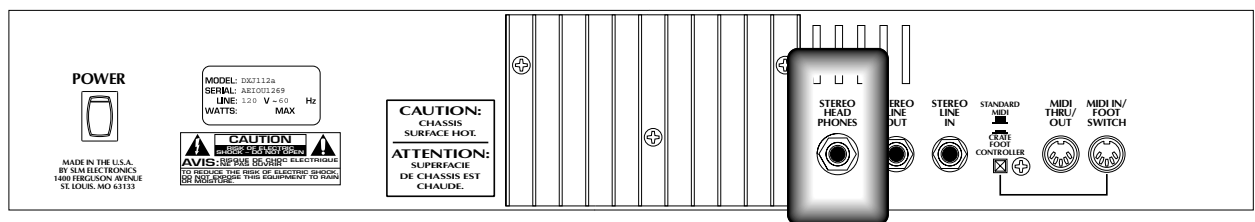
Using a MIDI Footswitch:

You can store and recall a total of 128 presets when using a MIDI footswitch. These presets are accessed by MIDI program numbers 0 through 127. (Also, see the MIDI Implementation Chart, Appendix B, page 27.)

> **!** **WARNING: The MIDI In/Crate Foot Controller button must be in the OUT position for MIDI operation. (The IN position applies power to the Crate Foot Controller which could cause damage to a different type of MIDI footswitch.)**

Using the Crate Foot Controller:

The optional Crate Foot Controller (model DXFC) lets you store and recall a total of 128 presets and allows foot control of the tap tempo function. The controller gets its power straight from the amplifier, so no external power source or batteries are needed!

Plug the connecting cable into the MIDI In/Foot Switch jack and set the MIDI In/Crate Foot Controller button to the IN (foot controller) position. This applies the power needed for the Crate Foot Controller.

(See the Foot Controller's User's Guide for more complete information — when you get one!)

The MIDI Thru/Out Jack:

The MIDI Out/Thru jack lets you control other MIDI devices with the Foot Controller. Connect this jack to the MIDI In jack of the device you wish to control.

The MIDI Thru works with either a standard MIDI input (footswitch) or with the Crate Foot Controller plugged into the MIDI In jack, since the Crate Foot Controller sends standard MIDI messages.

The Stereo Headphones Jack:

Plug a pair of stereo headphones into this jack, for private listening. The internal speaker is disconnected when headphones are used. The headphones signal is speaker compensated for a realistic sound even without a guitar speaker cabinet. Since this amp can play LOUD, be careful when using headphones — prolonged exposure to those high dB levels can wreak havoc on your eardrums! (*See warnings and OSHA regulations about noise exposure levels on page ii.*)

♪ The Headphones Jack can also be used as a stereo direct out for recording.

10

The Amp Models

Description of the Models:
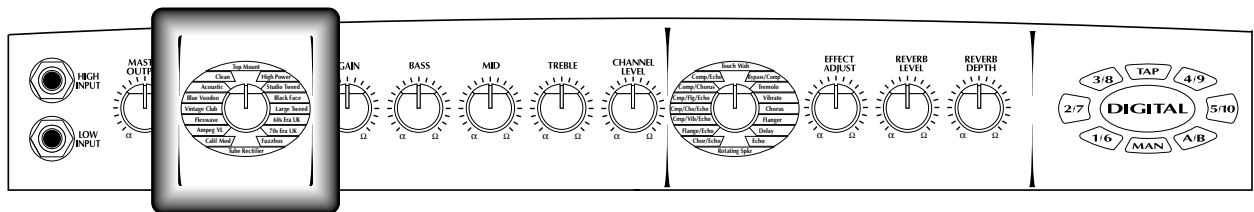
The DXJ112 is actually 16 different amplifiers in one! The software inside the DXJ112 convinces the signal that it's going through the electronic components of the selected amplifier, giving it all of the characteristics of that amp! (More or less — it's really a lot more technical than that, but you get the picture. For a slightly more technical description, see Appendix A on page 25.)

Use the amp model selector knob to choose which amp model you want. The chart on the following page lists the name we gave the amp model, the "make and model" of the amp we emulated, and a brief description of the original amp.

Top Mount
Clean | High Power
Acoustic | Studio Tweed
Blue Voodoo | Black Face
Vintage Club | Large Tweed
Flexwave | 60s Era UK
Ampeg VL | 70s Era UK
Calif Mod | Fuzzbox
Tube Rectifier
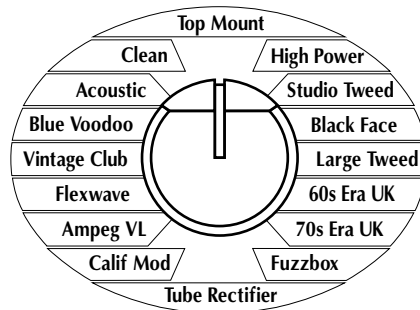
DXJ112 Digital Guitar Amplifier   CRATE

Model Name	Modeled After the...	Brief Description
Top Mount	Vox AC 30	Bright with a great clean sound at low gain, distorts smoothly at high gain settings — an early 60's amp with lots of 2nd and 3rd order harmonics, favored by the Beatles for the rhythm and lead tracks in their early days
High Power	Hi Watt DR	An early 60's "upmarket" alternative to the popular Marshall amp — louder and cleaner than most
Studio Tweed	Fender Deluxe 5E3	The sound from which Rock 'n' Roll was born — Fender's early 50's claim to fame
Black Face	Fender Deluxe Reverb AA763	*The* classic tube amp — one of the first amps with reverb, a mid-60's staple to the rock and roll diet (considered by some to be one of the best amps ever made)
Large Tweed	Fender Bassman 5F6-A	Originally designed for bass, favored by guitarists for its big sound — a late 50's classic
60s Era UK	Marshall 1959	The renowned "brown sound" — a softer, smoother Marshall than the more modern creations
70s Era UK	Marshall JCM 800	The sound of ROCK! — loud and powerful with a definitive edge
Fuzzbox	Dallas-Arbiter Fuzz Face	Jimi would be proud — the classic stomp box distortion of his day
Tube Rectifier	Mesa-Boogie Dual Rectifier	Barre chord Heaven — the beginning of the modern high-gain amp era
Calif Mod	Mesa-Boogie Mark IIC+	Tons of overdrive and sustain; the sound of Santana! — the hot-rodded powerhouse Simul-Class amplifier
Ampeg VL	Ampeg VL-501	A hot-rodded Marshall-style amp — powerful, lots of distortion and multiple gain stages
Flexwave	Crate GX-140C	The massively overdriven, solid state Crate sound preferred by Metal-Heads everywhere — a solid-state competitor for most classic tube amps due to Crate's proprietary FlexWave circuitry
Vintage Club	Crate VC-60	A unique combination of both modern high-gain and classic tube amps — bringing back the "vintage" sound of the early days of rock
Blue Voodoo	Crate BV-60	Awesome modern high-gain tone — smooth, clean, and powerful
Acoustic	Boss AC-1 Acoustic Simulator	Makes your electric guitar sound like an acoustic
Clean	Crate GX-140C	Clean Jazz sound — just enough of a an edge to get your message across

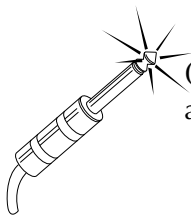AMP MODELS

The Amp Models

### Equalization and Channel Level:
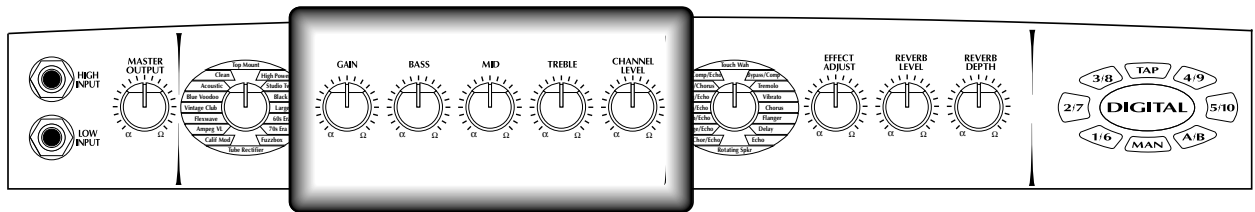
AMP MODELS

Each DXJ112 amp model has its own specifications and placement in the signal chain for its Gain, Bass, Mid, and Treble. (In other words, the controls affect the signal the same in the amp model as they do on the original amplifier.)

Use the Preset Parameter controls (Gain, Bass, Mid, Treble, Channel Level) to change the gain, tone, and volume of the selected amp model. The chart on the following page lists the model name and the specifications/placement for the Gain and EQ controls.

(TIP:) When using the Acoustic or Clean amp models, set the Channel Level to maximum and use the Gain control for your volume level.

GAIN
(Use as volume control)

CHANNEL LEVEL

13
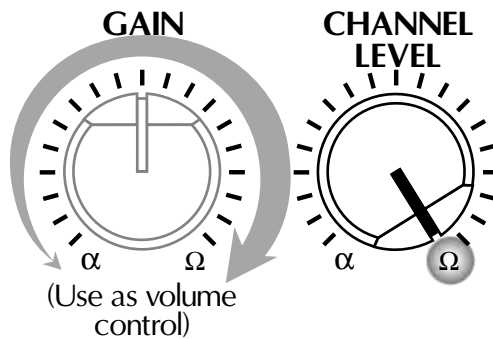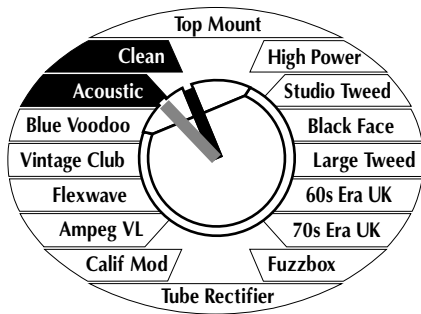
Name	Amplifier Modeled	Simplified Representation of EQ Position in Signal Chain
Top Mount	Vox AC 30	GAIN → EQ → GAIN
High Power	Hi Watt DR	GAIN → EQ → GAIN
Studio Tweed	Fender Deluxe 5E3	EQ (TREBLE) → GAIN → EQ (MID/BASS)
Black Face	Fender Deluxe Reverb AA763	EQ → GAIN → GAIN
Large Tweed	Fender Bassman 5F6-A	GAIN → EQ → GAIN
60s Era UK	Marshall 1959	GAIN → EQ → GAIN
70s ERA UK	Marshall JCM 800	GAIN → GAIN → EQ
Fuzzbox	Dallas-Arbiter Fuzz Face	GAIN → EQ
Tube Rectifier	Mesa-Boogie Dual Rectifier	GAIN → GAIN → EQ
Calif Mod	Mesa-Boogie Mark IIC+	EQ → GAIN → GAIN
Ampeg VL	Ampeg VL-501	GAIN → GAIN → EQ
Flexwave	Crate GX-140C	GAIN → EQ
Vintage Club	Crate VC-60	GAIN → GAIN → EQ
Blue Voodoo	Crate BV-60	GAIN → GAIN → EQ
Acoustic	Boss AC-1 Acoustic Simulator	EQ → GAIN
Clean	Crate GX-140C	EQ → GAIN

AMP MODELS

14

The Digital Effects

Description of the Effects:
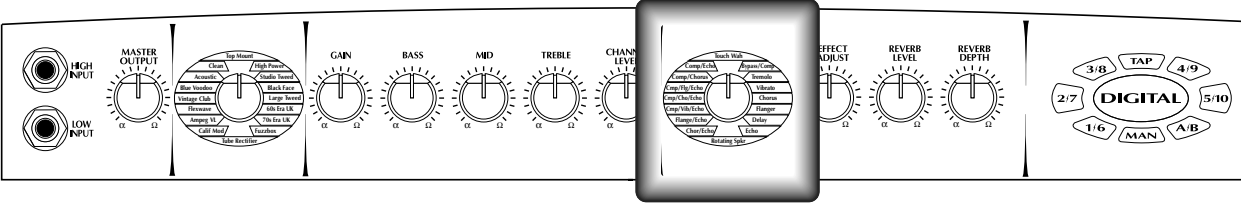
The DXJ112 has 16 built-in digital effects, each with one or more adjustable parameters. The chart on the following page lists the name of the effect and gives a brief description.

EFFECTS
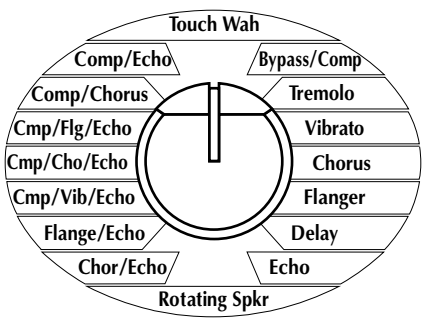
NOTE: The DXJ112 has built-in noise reduction to ensure a more quiet operation. This circuit is always active when the amp is on.

15

| Effect	Stereo?	Description
Touch Wah		Functions as an Auto-Wah (Touch Wah) or normal wah-wah when used with an expression pedal and the optional Crate Foot Controller
Bypass/Comp		Bypasses the digital effects (see page 19), also limits the dynamic range of the signal – increases the apparent sustain of the signal (applied pre-amplifier model)
Tremolo		Modulates the amplitude of the signal
Vibrato		Modulates the pitch of the signal
Chorus	Yes	Thickens the original signal with slowly pitch-modulated and delayed versions of the original signal
Flanger		Adds a slowly time-varying version of the original signal
Delay		Adds a delayed version of the signal
Echo		Adds a delayed signal with regeneration
Rotating Speaker	Yes	Reproduces the classic sound of a Leslie rotating speaker
Chorus/Echo	Yes	A combination of chorus and echo
Flange/Echo		A combination of flange and echo
Compressor/Vibrato/Echo		A combination of compressor (pre-amplifier model) and vibrato and echo (post-amplifier model)
Compressor/Chorus/Echo	Yes	A combination of compressor (pre-amplifier model) and chorus and echo (post-amplifier model)
Compressor/Flange/Echo		A combination of compressor (pre-amplifier model) and flange and echo (post-amplifier model)
Compressor/Chorus	Yes	A combination of compressor (pre-amplifier model) and chorus (post-amplifier model)
Compressor/Echo		A combination of compressor (pre-amplifier model) and echo (post-amplifier model)
Reverb Level and Depth (separate from the Effects Selector knob)	Yes	Reproduces the sound of a reverberant room

EFFECTS

> **Yet another important legal blurb!**
> Leslie is a registered trademark of Hammond Suzuki USA, Inc.

16

The Digital Effects

Effects Selection and Adjustment:
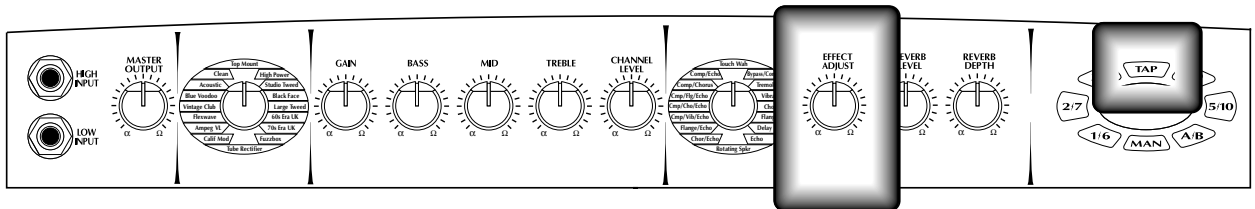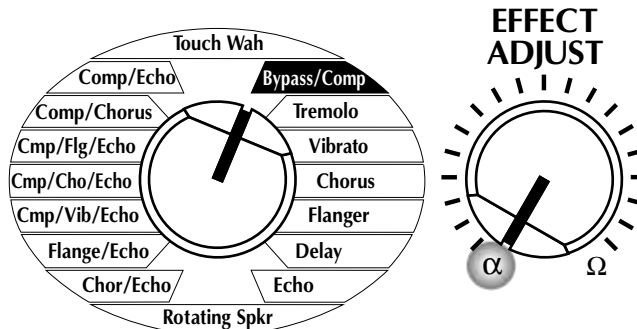
EFFECTS

Each of the digital effects has one or more parameters you can change by using the Effects Adjust control. All of the effects (except the compressor and the Touch Wah) can also be changed by using the Tap function – either through the Keypad, or with the Crate Foot Controller. The chart on the following page lists the effects along with the parameter(s) affected by the Effects Adjust knob and the Tap button.

♪ NOTE: On multi-effects, modulation speed and echo time are set simultaneously by the Tap button.

Bypassing the Effects:

To bypass the digital effects, turn the Effect Adjust control fully counter-clockwise and select the Bypass/Comp effect. (Notice the chart on page 18: There is no compression with the Effect Adjust knob full counter-clockwise, therefore no effects are applied to the signal – thus, "effects bypass.")

Effect	Effect Adjust knob controls:	Tap button controls:	See Note(s)
Touch Wah	Sensitivity (Auto-Wah only)	——	
Bypass/Comp	Ratio (See Below*)	——	
Tremolo	Depth of Amplitude Modulation	Speed: 2 cycles/tap	
Vibrato	Depth of Pitch Modulation	Speed: 2 cycles/tap	
Chorus	Level of Chorused Signal	Speed: 1 cycles/tap	
Flanger	Max. Time Delay: 0–5ms	Speed: 1/4 cycle/tap	1
Delay	Level of Delayed Signal	Time: .033–1.12 sec	2
Echo	Regeneration	Time: .033–1.12 sec	2
Rotating Speaker	Depth of Amplitude/Pitch Mod'n	Speed: 2 cycles/tap	
Chorus/Echo	Chorus Level, Echo Regeneration	Chorus Speed: 1 cycle/tap, Echo Time: .033-1.12 sec	2
Flange/Echo	Echo Regeneration	Flange Speed: 1/4 cycle/tap, Echo Time: .033-1.12 sec	1,2
Compressor/Vibrato/Echo	Vibrato Depth, Echo Regeneration	Vibrato Speed: 2 cycles/tap, Echo Time: .033-1.12 sec	2,3
Compressor/Chorus/Echo	Chorus Level, Echo Regeneration	Chorus Speed: 1 cycle/tap, Echo Time: .033-1.12 sec	2,3
Compressor/Flange/Echo	Echo Regeneration	Flange Speed: 1/4 cycle/tap, Echo Time: .033-1.12 sec	1,2,3
Compressor/Chorus	Chorus Level	Chorus Speed: 1 cycle/tap	2,3
Compressor/Echo	Echo Regeneration	Echo Time: .033-1.12 sec	2,3

Note 1: Mix fixed at 50%
Note 2: Tap periods exceeding 1.12 seconds are automatically adjusted to an allowable echo/delay time that fits the current tempo
Note 3: Compression ratio fixed at 10:1

EFFECTS

* The table to the right shows how the Effect Adjust control changes the compression ratio when the Compressor ONLY ("Bypass/Comp") is selected.

approx rotation of Effect Adjust control (%)	compression ratio
0	1:1 (no compression)
30	2:1
40	3:1
50	4:1
60	6:1
70	10:1
80	20:1
90	100:1
100	∞:1
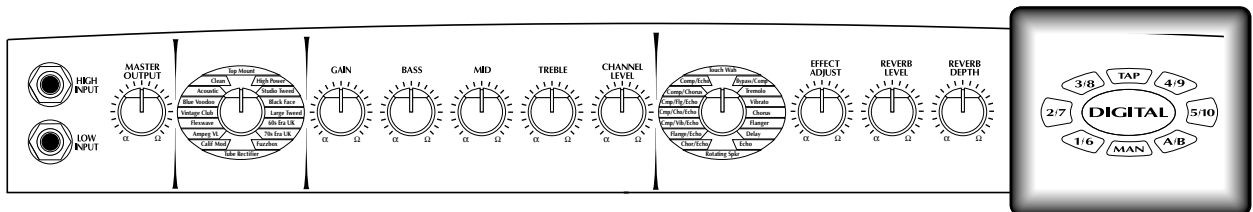
The Keypad

The DXJ112's Keypad is used to recall and save presets as described below.

Recalling the Presets:

There are ten presets accessible from the keypad, in two banks of five per bank: with the A/B button off (not lit), the numbered buttons to recall presets 1—5 (bank A); with the A/B button lit, the buttons recall presets 6—10 (bank B). Each preset stores its own set of parameters (amp selection, tones, level, effect, etc.). Once a preset is selected, turning a knob will change that knob's setting only — the other settings will electronically remain at their virtual positions until you change them.

"What's a virtual position?" (Good Question!) It's the setting that the amp remembers for each knob when a preset is stored. Example: Let's say the Gain control was at 10:00 when preset 1 was saved, then changed to the 3:00 position. The actual setting for the knob is 3:00. Recall preset 1 and even though the knob is physically pointing to 3:00, the amp acts as if the knob were set to the 10:00 position — because that's the virtual position for that knob in preset 1. (Got it?)

Saving New Presets:

Once you get a sound setting you want to keep, assigning it to a preset button is easy: press and hold the desired button (1—5, bank A; 6—10, bank B) until the keypad flashes (about 3 seconds). The settings are now stored at that preset location.

(NOTE: The charts on pages 23 and 24 give you a place to record the settings for your presets. Presets 1—10 are accessible through the keypad, presets 11—128 are accessible by use of the optional Crate Footswitch Controller)

THE KEYPAD

19

The Tap Button:

The Tap button lets you match the delay time and modulation speeds of the effects (except for the compressor, which has no delay or modulation) to the tempo of the piece you're playing. Just tap your finger in time to the beat, on the Tap button of course, and the selected effect will change accordingly. The Tap button flashes in time with its tempo.

(NOTE: The chart on page 18 lists specifically what the Tap button controls for each effect setting.)

The Manual ("MAN") Button:

When you call up a preset, the preset remembers how the controls were set when the preset was stored (their virtual positions), and basically ignores their current settings. Pressing the Manual button makes the amp pay attention to the actual positions of the controls and applies their settings to the sound.

Another function of the Manual button:

• **Restoring Factory Default Presets:** To restore the presets to their original factory settings, press and hold the Manual button and button #5 until the keypad flashes (about 3 seconds). Then turn the amp off, wait five seconds, and turn it back on. The presets are now restored to the original factory settings.

> **! WARNING! Restoring the factory presets wipes out any and all changes you've made and any new presets you've stored, so use it carefully.**

Other things you should know about the illuminated buttons:

• As soon as you change any of the controls (except for the Master volume), the preset button starts flashing. That's its way of saying "Hey! You've changed me!" A tap on the flashing button returns the preset to its original parameters – and makes the button stop flashing. Of course, you can save the changes, as described under "Saving New Presets" on the facing page.

• When you change banks, the preset button will go out as soon as you press the A/B button, but no other changes are made until another numbered button is pressed. In other words, although there is a *visual* change, the amp won't store the preset or switch to a different one (depending on how long you press the numbered button) until you want it to.

THE KEYPAD

20

FACTORY PRESETS 1–5 - BANK A (A/B BUTTON NOT LIT)

These two pages show the first ten factory presets for your DXJ112 amplifier. Use the numbered buttons and the A/B button on the keypad to access them. (The following pages provide you with charts for your favorite presets.)

Preset # 1   *We call it:* "Unplugged"   TAP = N/A beats/minute

AMP MODEL:		EFFECT:	
Clean	Top Mount	Comp/Echo	Touch Wah
Acuostic ■	High Power	Comp/Chorus ■	Bypass/Comp
Blue Voodoo	Studio Tweed	Cmp/Flg/Echo	Tremolo
Vintage Club	Black Face	Cmp/Cho/Echo	Vibrato
Flexwave	Large Tweed	Cmp/Vib/Echo	Chorus
Ampeg VL	60s Era UK	Flange/Echo	Flanger
Calif Mod	70s Era UK	Chor/Echo	Delay
Tube Rectifier	Fuzzbox	Rotating Spkr	Echo

GAIN BASS MID TREBLE CHANNEL LEVEL EFFECT ADJUST REVERB LEVEL REVERB DEPTH

Preset # 2   *We call it:* "60's Rock"   TAP = 102 beats/minute

AMP MODEL:		EFFECT:	
Clean	Top Mount	Comp/Echo	Touch Wah
Acoustic	High Power	Comp/Chorus	Bypass/Comp
Blue Voodoo	Studio Tweed	Cmp/Flg/Echo	Tremolo
Vintage Club	Black Face ■	Cmp/Cho/Echo	Vibrato
Flexwave	Large Tweed	Cmp/Vib/Echo	Chorus
Ampeg VL	60s Era UK	Flange/Echo	Flanger
Calif Mod	70s Era UK	Chor/Echo	Delay
Tube Rectifier	Fuzzbox	Rotating Spkr ■	Echo

GAIN BASS MID TREBLE CHANNEL LEVEL EFFECT ADJUST REVERB LEVEL REVERB DEPTH

Preset # 3   *We call it:* "Live at Leeds"   TAP = 114 beats/minute

AMP MODEL:		EFFECT:	
Clean	Top Mount	Comp/Echo	Touch Wah
Acoustic	High Power	Comp/Chorus	Bypass/Comp
Blue Voodoo	Studio Tweed	Cmp/Flg/Echo	Tremolo
Vintage Club	Black Face	Cmp/Cho/Echo	Vibrato
Flexwave	Large Tweed	Cmp/Vib/Echo	Chorus
Ampeg VL ■	60s Era UK ■	Flange/Echo	Flanger
Calif Mod	70s Era UK	Chor/Echo	Delay
Tube Rectifier	Fuzzbox	Rotating Spkr ■	Echo

GAIN BASS MID TREBLE CHANNEL LEVEL EFFECT ADJUST REVERB LEVEL REVERB DEPTH

Preset # 4   *We call it:* "Voodoo Child"   TAP = N/A beats/minute

AMP MODEL:		EFFECT:	
Clean	Top Mount	Comp/Echo	Touch Wah ■
Acoustic	High Power	Comp/Chorus	Bypass/Comp
Blue Voodoo ■	Studio Tweed	Cmp/Flg/Echo	Tremolo
Vintage Club	Black Face	Cmp/Cho/Echo	Vibrato
Flexwave	Large Tweed	Cmp/Vib/Echo	Chorus
Ampeg VL	60s Era UK	Flange/Echo	Flanger
Calif Mod	70s Era UK	Chor/Echo	Delay
Tube Rectifier	Fuzzbox	Rotating Spkr	Echo

GAIN BASS MID TREBLE CHANNEL LEVEL EFFECT ADJUST REVERB LEVEL REVERB DEPTH

Preset # 5   *We call it:* "Arena Rock"   TAP = 62 beats/minute

AMP MODEL:		EFFECT:	
Clean	Top Mount	Comp/Echo	Touch Wah
Acoustic	High Power	Comp/Chorus	Bypass/Comp
Blue Voodoo	Studio Tweed	Cmp/Flg/Echo	Tremolo
Vintage Club	Black Face	Cmp/Cho/Echo	Vibrato
Flexwave	Large Tweed	Cmp/Vib/Echo ■	Chorus
Ampeg VL	60s Era UK	Flange/Echo	Flanger
Calif Mod	70s Era UK	Chor/Echo	Delay
Tube Rectifier ■	Fuzzbox	Rotating Spkr	Echo

GAIN BASS MID TREBLE CHANNEL LEVEL EFFECT ADJUST REVERB LEVEL REVERB DEPTH

FAVORITES

21

FACTORY PRESETS 6—10 - BANK B (A/B BUTTON LIT)

Preset # 6   *We call it:* "Jazzy Chorus"   TAP = 61 beats/minute

AMP MODEL:										
Clean ■	Top Mount						Comp/Echo		Touch Wah	
Acoustic	High Power	GAIN	BASS	MID	TREBLE	EFFECT: CHANNEL LEVEL	Comp/Chorus ■		Bypass/Comp	
Blue Voodoo	Studio Tweed						Cmp/Flg/Echo		Tremolo	EFFECT ADJUST
Vintage Club	Black Face						Cmp/Cho/Echo		Vibrato	REVERB LEVEL
Flexwave	Large Tweed						Cmp/Vib/Echo		Chorus	REVERB DEPTH
Ampeg VL	60s Era UK						Flange/Echo		Flanger	
Calif Mod	70s Era UK						Chor/Echo		Delay	
Tube Rectifier	Fuzzbox						Rotating Spkr		Echo	

Preset # 7   *We call it:* "British Invasion"   TAP = 162 beats/minute

AMP MODEL:										
Clean	Top Mount ■						Comp/Echo		Touch Wah	
Acoustic	High Power	GAIN	BASS	MID	TREBLE	EFFECT: CHANNEL LEVEL	Comp/Chorus		Bypass/Comp	
Blue Voodoo	Studio Tweed						Cmp/Flg/Echo		Tremolo	EFFECT ADJUST
Vintage Club	Black Face						Cmp/Cho/Echo ■		Vibrato	REVERB LEVEL
Flexwave	Large Tweed						Cmp/Vib/Echo		Chorus	REVERB DEPTH
Ampeg VL	60s Era UK						Flange/Echo		Flanger	
Calif Mod	70s Era UK						Chor/Echo		Delay	
Tube Rectifier	Fuzzbox						Rotating Spkr		Echo	

Preset # 8   *We call it:* "Smoky Bar Blues"   TAP = 275 beats/minute

AMP MODEL:										
Clean	Top Mount						Comp/Echo		Touch Wah	
Acoustic	High Power	GAIN	BASS	MID	TREBLE	EFFECT: CHANNEL LEVEL	Comp/Chorus		Bypass/Comp	
Blue Voodoo	Studio Tweed						Cmp/Flg/Echo		Tremolo	EFFECT ADJUST
Vintage Club	Black Face ■						Cmp/Cho/Echo		Vibrato	REVERB LEVEL
Flexwave	Large Tweed						Cmp/Vib/Echo		Chorus	REVERB DEPTH
Ampeg VL	60s Era UK						Flange/Echo		Flanger	
Calif Mod	70s Era UK						Chor/Echo		Delay	
Tube Rectifier	Fuzzbox						Rotating Spkr ■		Echo	

Preset # 9   *We call it:* "Space Rock"   TAP = 44 beats/minute

AMP MODEL:										
Clean	Top Mount						Comp/Echo		Touch Wah	
Acoustic	High Power	GAIN	BASS	MID	TREBLE	EFFECT: CHANNEL LEVEL	Comp/Chorus		Bypass/Comp	
Blue Voodoo	Studio Tweed						Cmp/Flg/Echo		Tremolo	EFFECT ADJUST
Vintage Club	Black Face						Cmp/Cho/Echo		Vibrato	REVERB LEVEL
Flexwave	Large Tweed						Cmp/Vib/Echo		Chorus	REVERB DEPTH
Ampeg VL	60s Era UK						Flange/Echo ■		Flanger	
Calif Mod	70s Era UK						Chor/Echo		Delay	
Tube Rectifier	Fuzzbox ■						Rotating Spkr		Echo	

Preset # 10   *We call it:* "Full Metal Jacket" (Crank it!!)   TAP = N/A beats/minute

AMP MODEL:										
Clean	Top Mount						Comp/Echo		Touch Wah	
Acoustic	High Power	GAIN	BASS	MID	TREBLE	EFFECT: CHANNEL LEVEL	Comp/Chorus		Bypass/Comp ■	
Blue Voodoo	Studio Tweed						Cmp/Flg/Echo		Tremolo	EFFECT ADJUST
Vintage Club	Black Face						Cmp/Cho/Echo		Vibrato	REVERB LEVEL
Flexwave ■	Large Tweed						Cmp/Vib/Echo		Chorus	REVERB DEPTH
Ampeg VL	60s Era UK						Flange/Echo		Flanger	
Calif Mod	70s Era UK						Chor/Echo		Delay	
Tube Rectifier	Fuzzbox						Rotating Spkr		Echo	

FAVORITES

22

USER PRESETS

Playing Favorites: These blank charts are provided for you to record the knob settings of your favorite presets. We suggest making photocopies of these charts before you fill them in so you can have places to record as many presets as you desire.

Preset # _____   *I think I'll call it:* _____   Set TAP for _____ beats/minute

AMP MODEL: (CHECK ONE)

Clean		Top Mount
Acoustic		High Power
Blue Voodoo		Studio Tweed
Vintage Club		Black Face
Flexwave		Large Tweed
Ampeg VL		60s Era UK
Calif Mod		70s Era UK
Tube Rectifier		Fuzzbox

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

GAIN   BASS   MID   TREBLE   CHANNEL LEVEL

EFFECT: (CHECK ONE)

Comp/Echo		Touch Wah
Comp/Chorus		Bypass/Comp
Cmp/Flg/Echo		Tremolo
Cmp/Cho/Echo		Vibrato
Cmp/Vib/Echo		Chorus
Flange/Echo		Flanger
Chor/Echo		Delay
Rotating Spkr		Echo

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

Preset # _____   *I think I'll call it:* _____   Set TAP for _____ beats/minute

AMP MODEL: (CHECK ONE)

Clean		Top Mount
Acoustic		High Power
Blue Voodoo		Studio Tweed
Vintage Club		Black Face
Flexwave		Large Tweed
Ampeg VL		60s Era UK
Calif Mod		70s Era UK
Tube Rectifier		Fuzzbox

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

GAIN   BASS   MID   TREBLE   CHANNEL LEVEL

EFFECT: (CHECK ONE)

Comp/Echo		Touch Wah
Comp/Chorus		Bypass/Comp
Cmp/Flg/Echo		Tremolo
Cmp/Cho/Echo		Vibrato
Cmp/Vib/Echo		Chorus
Flange/Echo		Flanger
Chor/Echo		Delay
Rotating Spkr		Echo

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

Preset # _____   *I think I'll call it:* _____   Set TAP for _____ beats/minute

AMP MODEL: (CHECK ONE)

Clean		Top Mount
Acoustic		High Power
Blue Voodoo		Studio Tweed
Vintage Club		Black Face
Flexwave		Large Tweed
Ampeg VL		60s Era UK
Calif Mod		70s Era UK
Tube Rectifier		Fuzzbox

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

GAIN   BASS   MID   TREBLE   CHANNEL LEVEL

EFFECT: (CHECK ONE)

Comp/Echo		Touch Wah
Comp/Chorus		Bypass/Comp
Cmp/Flg/Echo		Tremolo
Cmp/Cho/Echo		Vibrato
Cmp/Vib/Echo		Chorus
Flange/Echo		Flanger
Chor/Echo		Delay
Rotating Spkr		Echo

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

Preset # _____   *I think I'll call it:* _____   Set TAP for _____ beats/minute

AMP MODEL: (CHECK ONE)

Clean		Top Mount
Acoustic		High Power
Blue Voodoo		Studio Tweed
Vintage Club		Black Face
Flexwave		Large Tweed
Ampeg VL		60s Era UK
Calif Mod		70s Era UK
Tube Rectifier		Fuzzbox

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

GAIN   BASS   MID   TREBLE   CHANNEL LEVEL

EFFECT: (CHECK ONE)

Comp/Echo		Touch Wah
Comp/Chorus		Bypass/Comp
Cmp/Flg/Echo		Tremolo
Cmp/Cho/Echo		Vibrato
Cmp/Vib/Echo		Chorus
Flange/Echo		Flanger
Chor/Echo		Delay
Rotating Spkr		Echo

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

FAVORITES

Preset # _____   *I think I'll call it:* _____   Set TAP for _____ beats/minute

AMP MODEL: (CHECK ONE)

Clean		Top Mount
Acoustic		High Power
Blue Voodoo		Studio Tweed
Vintage Club		Black Face
Flexwave		Large Tweed
Ampeg VL		60s Era UK
Calif Mod		70s Era UK
Tube Rectifier		Fuzzbox

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

GAIN   BASS   MID   TREBLE   CHANNEL LEVEL

EFFECT: (CHECK ONE)

Comp/Echo		Touch Wah
Comp/Chorus		Bypass/Comp
Cmp/Flg/Echo		Tremolo
Cmp/Cho/Echo		Vibrato
Cmp/Vib/Echo		Chorus
Flange/Echo		Flanger
Chor/Echo		Delay
Rotating Spkr		Echo

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

23

DXJ112 Digital Guitar Amplifier

CRATE

Preset # _____ *I think I'll call it:* _____ **Set TAP for** _____ **beats/minute**

AMP MODEL: (CHECK ONE)			EFFECT: (CHECK ONE)	
Clean	Top Mount	GAIN BASS MID TREBLE CHANNEL LEVEL	Comp/Echo	Touch Wah
Acoustic	High Power		Comp/Chorus	Bypass/Comp
Blue Voodoo	Studio Tweed		Cmp/Flg/Echo	Tremolo
Vintage Club	Black Face		Cmp/Cho/Echo	Vibrato
Flexwave	Large Tweed		Cmp/Vib/Echo	Chorus
Ampeg VL	60s Era UK		Flange/Echo	Flanger
Calif Mod	70s Era UK		Chor/Echo	Delay
Tube Rectifier	Fuzzbox		Rotating Spkr	Echo

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

Preset # _____ *I think I'll call it:* _____ **Set TAP for** _____ **beats/minute**

AMP MODEL: (CHECK ONE)			EFFECT: (CHECK ONE)	
Clean	Top Mount	GAIN BASS MID TREBLE CHANNEL LEVEL	Comp/Echo	Touch Wah
Acoustic	High Power		Comp/Chorus	Bypass/Comp
Blue Voodoo	Studio Tweed		Cmp/Flg/Echo	Tremolo
Vintage Club	Black Face		Cmp/Cho/Echo	Vibrato
Flexwave	Large Tweed		Cmp/Vib/Echo	Chorus
Ampeg VL	60s Era UK		Flange/Echo	Flanger
Calif Mod	70s Era UK		Chor/Echo	Delay
Tube Rectifier	Fuzzbox		Rotating Spkr	Echo

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

Preset # _____ *I think I'll call it:* _____ **Set TAP for** _____ **beats/minute**

AMP MODEL: (CHECK ONE)			EFFECT: (CHECK ONE)	
Clean	Top Mount	GAIN BASS MID TREBLE CHANNEL LEVEL	Comp/Echo	Touch Wah
Acoustic	High Power		Comp/Chorus	Bypass/Comp
Blue Voodoo	Studio Tweed		Cmp/Flg/Echo	Tremolo
Vintage Club	Black Face		Cmp/Cho/Echo	Vibrato
Flexwave	Large Tweed		Cmp/Vib/Echo	Chorus
Ampeg VL	60s Era UK		Flange/Echo	Flanger
Calif Mod	70s Era UK		Chor/Echo	Delay
Tube Rectifier	Fuzzbox		Rotating Spkr	Echo

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

Preset # _____ *I think I'll call it:* _____ **Set TAP for** _____ **beats/minute**

AMP MODEL: (CHECK ONE)			EFFECT: (CHECK ONE)	
Clean	Top Mount	GAIN BASS MID TREBLE CHANNEL LEVEL	Comp/Echo	Touch Wah
Acoustic	High Power		Comp/Chorus	Bypass/Comp
Blue Voodoo	Studio Tweed		Cmp/Flg/Echo	Tremolo
Vintage Club	Black Face		Cmp/Cho/Echo	Vibrato
Flexwave	Large Tweed		Flange/Echo	Chorus
Ampeg VL	60s Era UK		Chor/Echo	Flanger
Calif Mod	70s Era UK		Rotating Spkr	Delay
Tube Rectifier	Fuzzbox			Echo

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

Preset # _____ *I think I'll call it:* _____ **Set TAP for** _____ **beats/minute**

AMP MODEL: (CHECK ONE)			EFFECT: (CHECK ONE)	
Clean	Top Mount	GAIN BASS MID TREBLE CHANNEL LEVEL	Comp/Echo	Touch Wah
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Tube Rectifier	Fuzzbox		Rotating Spkr	Echo

(Keypad looks like:) 3/8 TAP 4/9 2/7 DIGITAL 5/10 1/6 MAN A/B

EFFECT ADJUST   REVERB LEVEL   REVERB DEPTH

FAVORITES

24

Appendix A

Designer's Note: Amplifier Modeling:

Building an amplifier model is really not much different than building an actual amplifier. With an actual amplifier you start with components like tubes, transformers, resistors, capacitors, and a speaker, and put them together to create an amplifier. With a virtual amplifier you start with virtual components and put them together to create an amplifier model.

It all starts with what many consider to be the "magic" in the sound of many vintage amplifiers: the vacuum tube. We created a tube model flexible enough to emulate different types of vacuum tubes, from preamp tubes such as the 12AX7 to power amp tubes like the 6L6 and the EL84.

Next, we constructed models to duplicate the filtering and equalization that takes place between the gain stages of an amplifier. These equalization models are adaptable to precisely emulate the frequency characteristics of a specific amplifier's controls. We even created models for the output transformer and power supply sag characteristics.

After extensive research, we discovered that there's really no magic in the tube itself. Much of the tube amplifier sound is a result of not just the tube, but the way the tube interacts with the other components in the amplifier. We created our tube models to interact with the other components in our virtual amplifiers, just like the real thing.

After we developed our component models, we put them together to create our virtual amplifiers. We sound tested our amplifier models extensively to ensure that they remained true to the sound and feel of the original amplifier. Although we may have taken the magic out of the tube, we wanted to keep the magic of the tube *sound*.

The diagrams on the following page show the signal chain of the DXJ112 amplifier.

Block Diagrams:

• The analog signal path, from the input jack to the speaker(s).
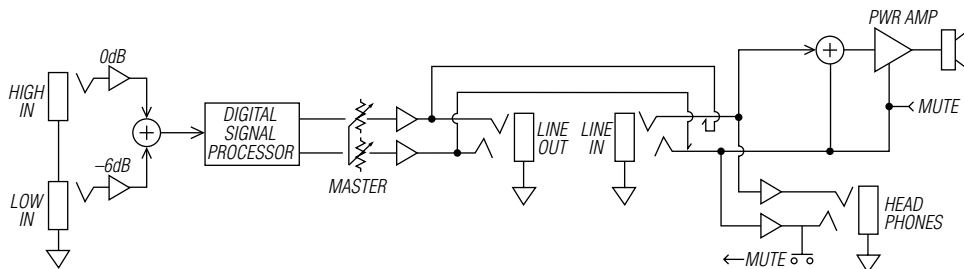
• The digital signal path, which is the path the signal takes inside the digital signal processor.
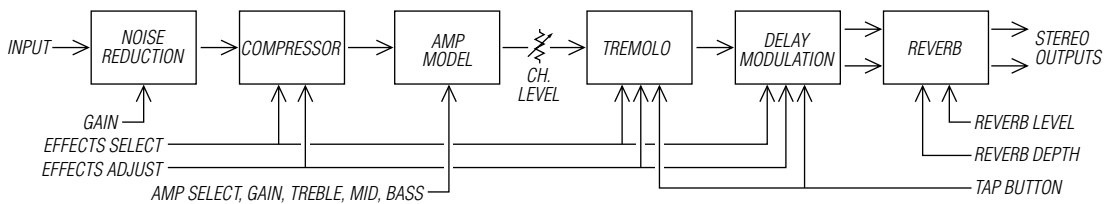
• A typical Amplifier Model. This simplified block diagram shows the digital signal path through the many virtual components of the Studio Tweed Amplifier Model. Note that the Fender Deluxe did not have a Mid or Bass control, so we added these controls post-gain.

Appendix B
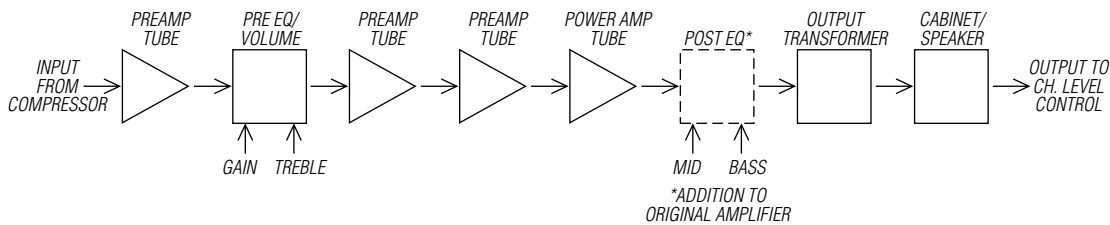
MIDI Implementation Chart:

[Crate Digital Guitar Amplifier]   **Date: 11/24/99**
MODEL DXJ112   **Version: 1.1**

Function		Transmitted	Recognized	Remarks
Basic	Default	X	OMNI	
Channel	Changed	X	X	
Mode	Default	X	Mode 1	
	Messages	X	X	
	Altered	X	X	
Note		X	X	
Number	True Voice	X	X	
Velocity	Note ON	X	X	
	Note OFF	X	X	
After	Key's	X	X	
Touch	Ch's	X	X	
Pitch Bender	Default	X	X	
Control		X	X	
Change		X	X	
Prog		X	O	0 – 127
Change	True Number	X	X	
System Exclusive		X	X	
System	Song Pos	X	X	
Common	Song Sel	X	X	
	Tune	X	X	
System	Clock	X	X	
Real Time	Commands	X	X	
Aux	Local ON/OFF	X	X	
Messages	All Notes Off	X	X	
	Active Sense	X	X	
	Reset	X	X	
Notes				

Mode 1: OMNI ON, POLY   **Mode 2: OMNI ON, MONO**   **O: YES**
Mode 3: OMNI OFF, POLY   **Mode 4: OMNI OFF, MONO**   **X: NO**

27

Appendix C

Specifications:

Analog:

Output Power Rating	60 watts RMS
Input Impedance	High gain 80k ohm; Low gain 150k ohm
Line Input Impedance	47k ohm
Line Output Impedance	1k ohm
Headphone Impedance	32 ohm minimum
Internal Speaker	12" Custom Hornsonic, 8 ohms
Power Requirements	120VAC, 60Hz, 200VA
	100/115VAC, 50/60Hz, 200VA
	230VAC, 50/60Hz, 200VA
Size and Weight	18.69"H x 22.25"W x 8.75"D; 33.5 lbs

Digital:

Analog to Digital Conversion	20-bit Delta-Sigma w/64X oversampling
Digital to Analog Conversion	20-bit Delta-Sigma w/128X oversampling
Conversion Rate	46.875 kHz
Digital Signal Processor	24-bit operating at >40 million instructions/second

Final Note:
No oversampling was used in our emulation software, and no animals were harmed during its design and development.

<u>User's Notes:</u>

29

User's Notes:

30

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