INTRODUCTION
Congratulations on your purchase of the X1 tube preamp pedal. The X1 is designed to give you real tube tone with the ability to integrate into nearly any system. The X1 works as an add-in pedal to your current setup, or it can be the center of your whole guitar rig for live or recording. If you already have a favorite guitar amp, the X1 preamp can work as a pedal in front of your amp with true hardwire bypass. It can feed a power amp or a guitar amp return to power guitar speaker cabinets. If you don’t have an amp at all, it can drive a regular guitar cabinet directly with 1 Watt of power. The Cab Voiced/Phones jack uses Carvin Amplifiers third generation Cabinet Voicing circuit to give you the frequency response of a 2x12” or 4x12” guitar speaker cabinet so you can just plug in headphones or connect to a recording or PA system without having to mic a speaker.

DESIGNED FOR MAKING CONNECTIONS
The design criteria for the X1 was to deliver the sounds of the classic Carvin X-100B amplifier in a compact package with added connectivity. The result is a full tube preamp in a pedal format, able to fit in a carry-on or backpack. The X1 incorporates tube technology with simple, yet flexible modern features to interface with many types of gear.

12AX7 TUBE STAGES
Tone generation and overdrive comes from 12AX7 tubes, utilizing tube gain stages running at the same operating conditions as they do in a full size X100B tube amp.

GROUND CONTROL
The X1 has 4 top mounted footswitches for Channel, Gain, Graphic EQ and Bypass. Switch from Rhythm to Lead with the CHANNEL switch, then hit the GAIN footswitch to kick up the tube overdrive when you need it. Kick in the Graphic EQ for a second set of tone on demand. Use the BYPLOOP footswitch to hard bypass the whole pedal, or to just turn off the Effects Loop. The Graphic EQ’s back lighting shows different colors for channel selection and EQ on so you always know what setting you’re on.

EXTENSIVE TONE CONTROL
The wide range BASS, MID, TREBLE, and PRESENCE tone controls are the same circuits as used in the X-100B amplifier. The Rhythm channel’s BRIGHT switch adds sparkling clear highs to clean tones. The powerful 5-band Graphic EQ can be set to activate for either or both channels, and footswitched off/on.

WHAT, NO SPEAKERS?
The Phones jack uses Carvin Amp’s 3G (third generation) analog Cabinet Voicing circuit to emulate the response of a 2x12” or 4x12” guitar speaker cabinet. Connect headphones for “silent” practice, or feed to any combination of effects, recording inputs or live gear to capture real tube tones without miking speakers.

WHAT, NO AMP?
A 1 watt amp is built in, capable of driving any standard guitar cabinet. 1 Watt is louder than you might think! Of course it’s not enough for every situation, but it’s great when you don’t want to carry an amp or when you just want to practice.

WARRANTY
This CARVIN AUDIO product is guaranteed in normal use to be free from electrical and mechanical defects for a period of 1 year from date of purchase. Retain proof of purchase. This warranty is in lieu of any and all other guarantees or warranties, expressed or implied. There shall be no recovery for any consequential or incidental damages.
**X1 SPECIFICATIONS:**

- Preamp Tubes: Two 12AX7 (four stages)
- Controls: MASTER, BASS, MID, TREBLE, PRESENCE, GRAPHIC EQ
- Lead channel: VOLUME, DRIVE, GAIN switch
- Rhythm channel: VOLUME, BRIGHT switch
- Graphic EQ: 5-Band, channel tracking, foot switchable, backlight color indications
- Audio connections: Input, Output, Loop Send, Loop Return, Cab Voiced Out/Phones, Speaker
- Input Impedance: >500K Ohms
- Effects loop: Fully buffered, footswitchable, pre-Master/Amp/Voiced Out. SEND level +4dBu
- Cab Voiced/Phones: 3G (3rd generation) active analog circuit, 2x12” and 4x12” settings.
- TS (mono) or TRS dual-mono (for stereo headphones) low impedance capable

**EXAMPLE SETUPS**

The X1 works as an add-in pedal to your current setup, or it can be the center of your whole guitar rig for live or recording. Feed a guitar amp input, or just use your amp’s power section. Drive a guitar cabinet from the built-in 1 Watt amp. Carvin Amp’s analog Cabinet Voicing out emulates a guitar cabinet response for headphones, recording or live gear.
QUICK START GUIDE

If you are like most players, you probably want to plug in and get playing right away. You can read the rest of the manual later to learn the finer details. To get started you will need your X1 preamp with it’s AC adapter, an instrument, a standard guitar cord, and something to listen with: an amp, headphones, or guitar speaker. Turn the MASTER control to “0”. Turn the Volume, Drive, and tone controls to their center position. Plug in your instrument at the rear INPUT jack. If you are using an amp with guitar speakers, plug in to the rear OUTPUT jack. If you are listening with amplified full-range speakers or headphones, plug into the side PHONES/CAB VOICED OUT jack. A guitar speaker can be plugged into the SPEAKER jack. Plug in the AC adapter to the rear POWER jack, then plug it into the proper AC voltage. Allow 30 seconds for the tubes to warm up. Set the left ON/BYPASS footswitch to light the red ‘ON’ LED near the MASTER. The right footswitch selects RHYTHM or LEAD channels. The middle-right footswitch adds GAIN for the LEAD channel. Turn up the MASTER slightly and adjust each channel VOLUME. Adjust the DRIVE and tone controls and you’re ready to go.

X1 CONNECTIONS AND CONTROLS

1. EQ LIGHTING - COLOR CHANGE
The LED lighting seen through the Graphic EQ’s vertical slots changes color to indicate the Channel and Graphic EQ selections. RED indicates the LEAD channel is selected. BLUE indicates the RHYTHM channel is selected. When the Graphic EQ is ON the LED lighting inside the slots will add YELLOW in the center area. ORANGE-YELLOW or BLUE-GREEN.

2. FOOTSWITCHES
The LEFT footswitch is for full BYPASS or effects LOOP switching (see #11 for the BYP-LOOP selector switch). The MIDDLE LEFT footswitch is for Graphic EQ switching (see #10). The MIDDLE RIGHT footswitch is for GAIN mode on the LEAD channel. The RIGHT footswitch chooses between the LEAD or RHYTHM channel. The LEDs inside the Graphic EQ indicate which channel is active.

3. MASTER
Set the MASTER control for overall volume for the OUTPUT, SPEAKER, and PHONES/CAB VOICED OUT jacks.

4. BASS, MID, TREBLE & PRESENCE (tone controls - both channels)
You can start at 5 on the dial for each of the tone controls. Set these controls according to the sound you are looking for. Even though you may have found “your sound”, you may want to change the settings for different guitars or playing conditions. It’s normal to decrease the BASS at higher playing levels, or adjust the TREBLE or PRESENCE depending on the music. Turning up PRESENCE allows you to stand out in the mix or sound more aggressive. Turning PRESENCE down produces a smoother, thicker sound.

5. RHYTHM level control
This control sets the RHYTHM channel volume. The Rhythm channel gives you clean, crisp sounds with high headroom. Special mud-cutting circuits allow clear and vibrant guitar tones to come through. If unwanted distortion is heard when using high output pickups, lower this control and raise the MASTER control.

6. BRIGHT SWITCH (Rhythm channel)
The BRIGHT switch increases only the highest guitar harmonics in the upper frequency range. This is ideal for brightening up dual coil pickups.

7. LEAD level control
Set the volume of the LEAD channel with this control. The MASTER control also affects output.
X1 CONNECTIONS AND CONTROLS CONT.

8. DRIVE CONTROL (Lead channel)
The DRIVE control affects tube harmonics and saturation of the LEAD channel. The GAIN function (see #10) increases the effect of the DRIVE. For textured harmonics with mild tube overdrive, turn the DRIVE control below “4”. For increased harmonics and sustain, turn up the DRIVE past “6”. For full blown distortion, turn on the GAIN footswitch and set the DRIVE control between “7” and “10”. If feedback occurs at high gain, move the guitar pickups away from any speakers or reduce the DRIVE.

9. GAIN LED (Lead channel)
The red LED near the DRIVE control indicates GAIN mode is ON for the LEAD channel, selected with the GAIN footswitch (middle-right). The GAIN switch changes the gain structure of the LEAD channel: With GAIN OFF, the DRIVE control has the range to go from a warm clean sound, to a bluesy breakup, to a dynamic crunch overdrive. GAIN ON increases the amount of drive available, allowing thick distortion harmonics while still retaining 12AX7A tube dynamics. Hi-gain sounds are available without the need for additional pedals that can limit dynamics.

10. GRAPHIC EQ and RHY & LEAD switches with LEDs
The Graphic Equalizer is a powerful way to shape your sound. Each fader can be set for up to 12dB of boost (slide up) or cut (slide down) for each of the 5 frequency ranges labeled above. To enable the Graphic EQ for the LEAD or RHYTHM channel, use the small “GEQ” switches to the right of the faders. ON is indicated by the small blue LED (RHY channel) or small red LED (LEAD channel). The Graphic EQ can be set ON or OFF independently for LEAD or RHYTHM channels and switched from the (middle-left) “GEQ” footswitch. The LED lighting in the fader slots will add YELLOW in the center area when the Graphic EQ is ON.

11. BYP-LOOP SWITCH and LEDs
The small grey “BYP-LOOP” switch changes the BYPASS function of the LEFT footswitch. With the small switch OUT, pressing the LEFT footswitch engages full BYPASS mode. Signal is passed from the Input jack directly to the outputs unaffected by any of the controls. In BYPASS the CAB VOICED OUT/PHONES jack will retain guitar speaker emulation. In BYPASS mode the signal directly from the INPUT jack will be amplified at the SPEAKER jack, unaffected by any of the X1’s controls. The X1 will not be harmed by playing without a speaker.

12. INPUT
A standard 1/4” INPUT jack feeds the channels, or bypasses directly to the outputs if BYPASS mode is engaged. For best results, use a professional quality guitar cord shorter than 25 feet. Typical cable capacitance is about 25pF per foot. The longer the cord, the greater the capacitance, which will reduce the overall treble response from your guitar pickups.

13. POWER JACK
The POWER jack requires an AC adapter, which is included with the X1 preamp. Other power sources can be used, but must have a regulated 12VDC output, 1A (1000mA) or more and center pin positive (+) polarity.

14. SPEAKER JACK
The SPEAKER jack can drive typical guitar speakers directly. Multiple speakers can be connected as long as the total impedance is not below 4 Ohms. For instance, connecting two 8 ohms speakers in parallel equals a 4 Ohm impedance. In BYPASS mode the signal from the INPUT jack will be amplified at the SPEAKER jack, unaffected by any of the X1’s controls. The X1 will not be harmed by playing without a speaker.

15. LOOP SEND & RETURN JACKS and FOOTSWITCH
Use the SEND jack to connect to an effect’s Input. Use the RETURN jack to connect to an effect’s Output. To use the LEFT footswitch to bypass the effects LOOP, set the small “BYP-LOOP” switch to IN for LOOP bypass mode. The green “LOOP” LED is ON when the LOOP is active and OFF if the LOOP is bypassed. Effects will be heard at the OUTPUT, SPEAKER and CAB VOICED jacks unless full BYPASS or LOOP BYPASS is engaged (see #12). Effects like compressor, envelope filter or wah pedals usually sound best when used between the guitar and INPUT jack. Effects can also be used on the OUTPUT or CAB VOICED OUT jacks.

16. OUTPUT
The rear panel OUTPUT jack is for connecting to guitar amps or power amps which will drive guitar speakers. The OUTPUT jack can be connected to the front input of a guitar amp and added or removed from the signal path using the full BYPASS mode of the LEFT footswitch similar to using a distortion pedal. The OUTPUT jack can connect to a power amp input or to a guitar amp’s ‘Effects Return’ or “Power Amp In” to drive guitar speakers. Effects can be connected between the OUTPUT and the amp or used in the LOOP.
SIDE PANEL
17. CAB VOICED OUT/PHONES JACK and 2x12/4x12 SWITCH
The side panel CAB VOICED OUT/PHONES jack uses Carvin Amplifier's third generation active cabinet voicing circuit to emulate the response of a guitar speaker cabinet. This allows you to perform or record tracks without using guitar speakers. Select a 2x12” or 4x12" cabinet response with the top panel 2x12-4x12 switch. The CAB VOICED OUT/PHONES jack will drive recording gear, mixer inputs, effects or power amps and will drive stereo headphones directly. Lower the MASTER before plugging in. In BYPASS mode the cabinet voicing remains active and gets signal directly from the INPUT jack, unaffected by any controls.

HELP SECTION
A) As with any vacuum tubes in a metal chassis, the X1 chassis will become warm. If the unit is functioning properly and sounding right this is typically not a concern.

B) FEEDBACK FROM THE LEAD CHANNEL
The X1 may feedback when the VOLUME, DRIVE, TREBLE and PRESENCE are turned all the way up. Like other high-gain tube amps, this is normal. To help control feedback and noise, reduce the DRIVE or VOLUME, or move the guitar to the side or away from the speakers. Sometimes replacing V1 or V2 (12AX7A tubes) can help reduce feedback.

C) TUBE REPLACEMENT GUIDE
It is not uncommon for tubes to malfunction during shipping or after a long period of time. The tubes may need replacing if the sound becomes muddy, dull or drops out.

1) Disconnect the AC adapter from the X1.
2) Do not apply power to the unit with the cover removed!
3) Remove the chrome nut on the left side for “Phones/Cab Voiced Out”.
4) Remove the 4 screws on each side, and the 6 bottom screws.
5) Carefully remove the old tubes with circular motion.
6) If you can see cracks in the glass or feel the tube coming apart as you move it, there may be broken glass. Use a thick towel or thick gloves to remove the tube.
7) Check the replacement tubes for damage to the glass and carefully straighten any bent pins if needed.
8) Carefully insert the new tubes.
9) Place the bottom cover back on the unit and screw in all screws.
10) Install the chrome nut and washer on the side jack.

IMPORTANT! FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:
WATER AND MOISTURE: Appliance should not be used near water (near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc).
Power supplies should be taken so that objects do not fail and liquids are not spilled into the enclosure through openings.
POWER SOURCES: The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the unit. Grounding or polarization: Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.
POWER CORD PROTECTION: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
SERVICING: The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
FUSING: If your unit is equipped with a fuse receptacle, replace only with the same type fuse. Refer to replacement text on the unit for correct fuse type.

MAINTAINING YOUR EQUIPMENT:
The outer surface of your unit can be wiped with a dry or slightly damp cloth in order to remove dust and bring back the new look. Avoid spilling liquids or allowing any other foreign matter inside the unit. As with all pro gear, avoid prolonged use in caustic environments (salt air). When used in such an environment, be sure the equipment is adequately protected.

SERVICE:
In the USA, visit our website: www.carvinaudio.com. Outside the USA: contact your dealer.