

# X-Model Amplifiers

Hand Made in the USA

by



## **VINTAGE VACUUM TUBE AMPS**

520 University Dr.  
Waldorf, MD 20602  
Phone 240-222-3830  
[www.vvtamps.com](http://www.vvtamps.com)

X-22 Overdrive Head  
X-40 Overdrive Head

# Welcome To The Family

Congratulations and thank you for choosing your X-Model amplifier. At VVT we know you are constantly searching for new sounds and new ways to improve your existing sound. We understand the constantly evolving nature of artistic creativity and the search for perfect tone to complement your ever-widening musical vision. Providing the tools to help you to create your own sonic signature is our primary mission. At 16.5 lb and 19 lb respectively the X-22 and X-40 are amazing tools to use for gigs and in the studio.

As with all VVT amplifiers, the X-Model Overdrives beautifully accentuate the inherent qualities of any instrument. They breathe and dynamically respond to your playing technique exactly the way a great amplifier should. The VVT Overdrive and models are all tube designs: no clipping diodes or transistors are used in any part of the signal path. The preamp section has a broad dynamic range which accounts for its extra touch sensitivity, tonal shaping characteristics, and excellent guitar volume control response. In addition, overdrive voicing can easily be dialed up using the unique DRIVE/LEVEL structure and can be tweaked to perfection for any guitar/pickup combination. The presence control adds dimension of an in your face sparkle to a smoother jazzy tone. From there, the boost switch lifts the mid frequencies in the 1K Hz range. Just a little tweaking on your guitar volume and tone controls will yield a surprising amount of control. All VVT Overdrive amps are designed for big round tone and dynamic response at low to medium guitar volumes and provide a rapid but smooth transition into saturation - turning rich and thick at full guitar volume. The combination of preamp voicing and power amp response will enhance the unique character of any guitar and pick-up combination. And, with these amps, you can have your cake and eat it to: Preamp Distortion and Output Tube Distortion without blowing out the walls.

The specially designed, precision wound, power and output transformers from Mercury Magnetics produce optimum performance, reliability, and stability delivering excellent power tube response and just the right amount of natural output transformer saturation and compression.

Getting familiar with the X-Model Overdrive is easy, so don't be terribly surprised when you find yourself up and running in no time; although, we highly recommend you spending some quality time with your amp due to its chameleon like qualities. You may find yourself dialing in tones you thought might never be possible or find some tones unique to your playing style. First hand experience and real world application will yield the ultimate satisfaction. Finding your own path of comprehension and self-expression can only be achieved by mastering your instrument in combination with your new amp.

First, we need to stress a few important cautionary notes.

## Important Information:

1. Please read all of the information contained in this document.
2. **HUM** - Some hum or amplified noise is normal. As the volume is increased some amplified noise may be noticeable and will be more apparent in a quiet room. Additionally, tubes have inherent noise as do resistors. However, excessive hum (noise) can be caused by electronic devices such as neon signs, light dimmers, fluorescent lights, aquariums, etc. located near the amp or your guitar. Hum can vary with different outlets, rooms, buildings and guitar pickups.
3. Do not operate this amp without a speaker load
4. We only recommend JJ 6V6 power tubes for the X-22 as they can handle the higher voltages is this amp. Other brands or NOS 6V6s are not recommended.
5. Output tube current is controlled with fixed bias. If you change the output tubes, the bias must be checked and adjusted for the new tubes by a qualified technician. Failure to follow this advice could result in premature tube failure or catastrophic transformer failure.

# CAUTION!

## RISK OF ELECTRIC SHOCK

**WARNING:** This guitar amplifier contains lethal HIGH VOLTAGE. To avoid risk of injury or death from electric shock, do not open the enclosure or remove the chassis from the cabinet. Refer all service work to qualified personnel.

**WARNING:** This amplifier contains Vacuum Tubes. Vacuum tubes are heated to produce electrical currents and they get HOT. Touching this surface could result in bodily injury. To reduce the risk of injury from a hot component, allow the surface to cool before touching. DO NOT touch or attempt to remove vacuum tubes until they have had time to cool.

### **IMPORTANT! FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:**

**WATER AND MOISTURE:** This amplifier should not be used near water (near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

**POWER SOURCES:** The amplifier should only be connected to a 120VAC household power source.

**GROUNDING OR POLARIZATION:** Precautions should be taken so that the grounding or polarization is not defeated. Do not remove the ground from the power cord.

**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 amplifier.

**SERVICING:** You should not attempt to service this amp beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

**FUSING:** Your amplifier is equipped with a marked fuse receptacle, replace only with the same type fuse.

# *It All Starts Here*

The input level of this amplifier determines how much drive and sustain your guitar will produce. Tonal balance, which we refer to as VOICING, determines how your amp will respond to your playing style and how it will sound with a particular guitar. Like all amplifiers, the X-Model amps have tone and gain controls. But, unlike any other amplifiers, these amps give you total control over VOICING and GAIN. This VOLUME/DRIVE/LEVEL/ MASTER VOLUME configuration is the key to dialing in great overdriven tone and volume for your specific requirements.

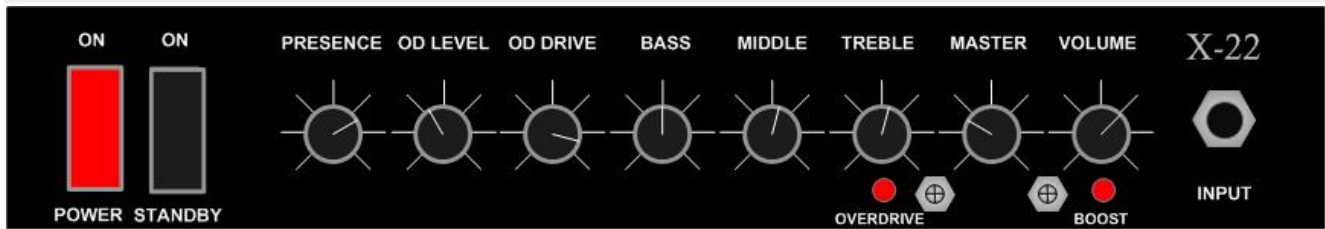
The VOLUME control increases preamp gain as you rotate the knob clockwise. As the gain increases, the tonal balance is shifted from treble and upper mid frequency emphasis which produce up front sparkling tone, to a lower mid and bass emphasis, which produces a thick meaty tone. The VOLUME CONTROL AFFECTS BOTH CLEAN AND OVERDRIVE CHANNELS. In order to achieve a smooth, saturated, overdrive tone the VOLUME control needs to be set at least the 12 o'clock position.

The DRIVE Control increases the gain in overdrive. As you rotate the knob clockwise you will notice an increase in drive as well as a certain amount of compression, though the sonic qualities will shift as well; as the gain increases the tone will become brighter with more bite.

The LEVEL Control setting determines the overall balance between the clean and overdrive channels. The tonal effects while increasing the LEVEL provide a meatier fuller tone. This is where balancing both Gain and Level controls is key to achieving the desired tone while at the same time keeping the amps volume at just the right level with the MASTER VOLUME.

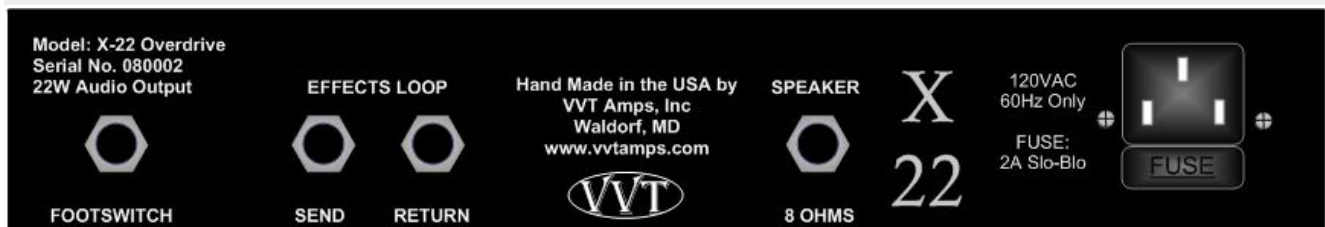
Different combinations of Volume, Drive, Level, and Master Volume settings, will have a dramatic effect on the response of the amplifier and the personality of your instrument. It is easy to get familiar with the action of these controls and you'll be amazed with your ability to make any guitar sound mellow, fat, soulful, or aggressive.

# X-Model Controls



## FRONT PANEL, RIGHT TO LEFT:

1. **INPUT - GUITAR INPUT.** Plug in your guitar or stomp box here.
2. **BOOST Switch** – Turns the Mid Frequency boost on or off for the clean and overdrive channel.
3. **OVERDRIVE Switch** – Turns the Overdrive Channel on or off.  
Note: This Overdrive Switch provides the same functions as the footswitch. If this switch is in the ON (UP) position the footswitch WILL NOT WORK. Likewise, if the footswitch for this function is ON the front panel switches WILL NOT WORK..
4. **VOLUME** – Sets the amount of drive for the clean and overdrive channels. This first gain control also serves as a tone shaping control, counter-clockwise for crisp and articulate, clockwise for thick and saturated.
5. **MASTER VOLUME** - Power amp output control – Loudness
6. **EQUALIZATION SECTION** – Passive / Interactive tone controls.
  - a. **TREBLE** – High frequency equalization.
  - b. **MIDDLE** – Mid frequency equalization.
  - c. **BASS** – Low frequency equalization.
7. **OD DRIVE** – Sets the amount of drive for the OD channel only
8. **OD LEVEL** – Sets the output level of the OD channel only
9. **PRESENCE** – High frequency variable feedback in power amp section.
10. **STANDBY Switch** - Turns ON/OFF DC voltage to the amp.
11. **POWER Switch** – Turns AC power ON or OFF. Lights when the POWER Switch is ON



## REAR PANEL, RIGHT TO LEFT:

1. **AC MAINS INPUT** – 120VAC 60Hz Power Inlet. Use only the factory supplied AC cord set or a UL approved equivalent type.
2. **AC Power FUSE** – 2 Amp Slo-Blo Fuse – Only replace with same type and rating.
3. **EFFECTS LOOP** – Send/Return
4. **SPEAKER Jacks** – 8 Ohm Output. Total speaker load impedance should not exceed 8 Ohms or minimum rating of 4 Ohms. Two 8 Ohm cabs = 8 Ohms, two 16 Ohm cabs = 8 Ohms. Use a speaker cable to connect to your speaker cabinet. **DO NOT** use a guitar/audio cable; they cannot handle the current necessary to drive your speakers and may damage the amplifier.
5. **FOOTSWITCH Jack** – Tip/Ring/Shield jack. Plug the supplied footswitch in here.

## FOOTSWITCH:

1. **OD Switch** – Turns the OD Channel ON or OFF  
Note: The front panel Overdrive Switch must be in the OFF (DOWN) position to activate the FOOTSWITCH. The LED on the FOOTSWITCH will light whenever the Overdrive functions is active.
2. **BOOST Switch** – Turns the alternative mid frequency boost ON or OFF.

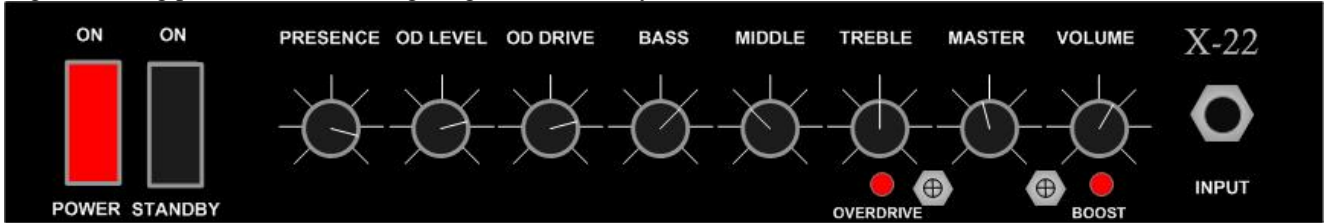
Note: The front panel BOOST Switch must be in the OFF (DOWN) position to activate the FOOTSWITCH. The LED on the FOOTSWITCH will light whenever the BOOST functions is active

# X-Model Overdrive Tone

## A FEW SETTINGS TO START WITH

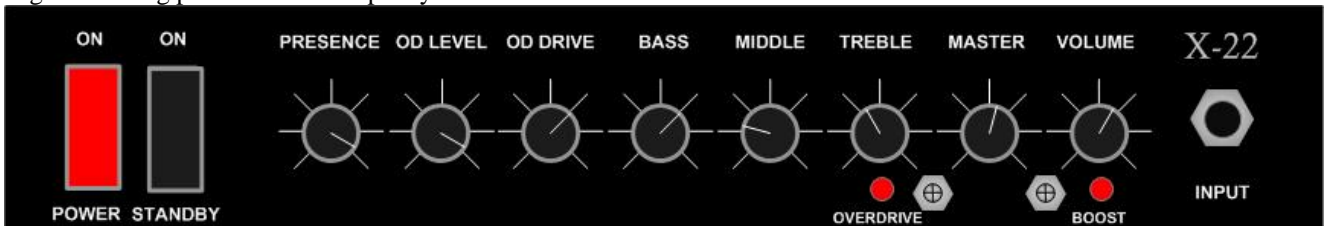
### CLASSIC ROCK MODE

A good starting point for those looking for great 70's/80s style Rock



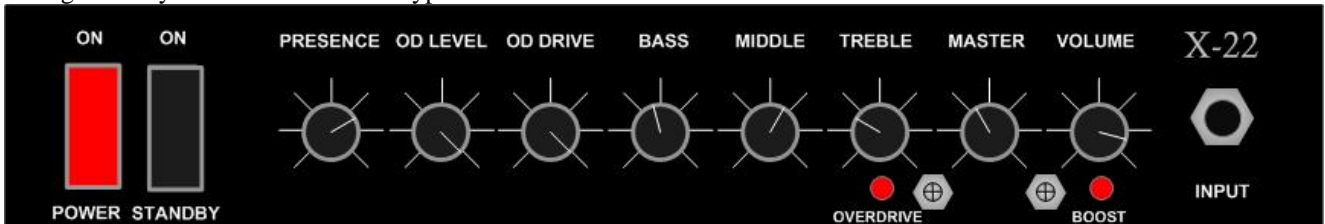
### JAZZ FUSION

A good starting point for a clean spanky tone to a thick fat Overdrive tone



### HEAVY METAL

Enter Heavy Metal Land. Go from AC/DC type tones on the clean channel to an over the top feedback on demand tone. Also great for your Eddie Van Halen type tones.



### Earthquake Sample Setting diagrams & notes

(Make copies & use!)

#### Clean Channel

NOTES:

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#### OD Channel

NOTES:

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## Tube Function and Location Chart

Tube locations are indicated in the diagram below. All tubes are factory selected for superior performance, consistent tone quality, and reliability. While substituting other brands may not cause damage to the amplifier this may affect amplifier performance in unpredictable ways. For best performance, replace only with factory recommended tubes. Substituting other tube types is not recommended.

**Warning!** This amp operates with fixed bias.

If the output tubes are changed, the bias **MUST** be set to operate with the new tubes. Failure to properly set bias WILL affect tone, may ruin your new tubes, or DAMAGE your amplifier. If you do not know how to adjust output tube bias please take your amp to a qualified tube amp technician. We recommend setting the bias between 50% and 70% of maximum plate dissipation by monitoring cathode current. Failures caused by improper output tube bias are not covered by your warranty

Factory recommended tubes are listed under each location. Numbering sequence is left to right **looking at back of amp** starting with V1 to the far left side.

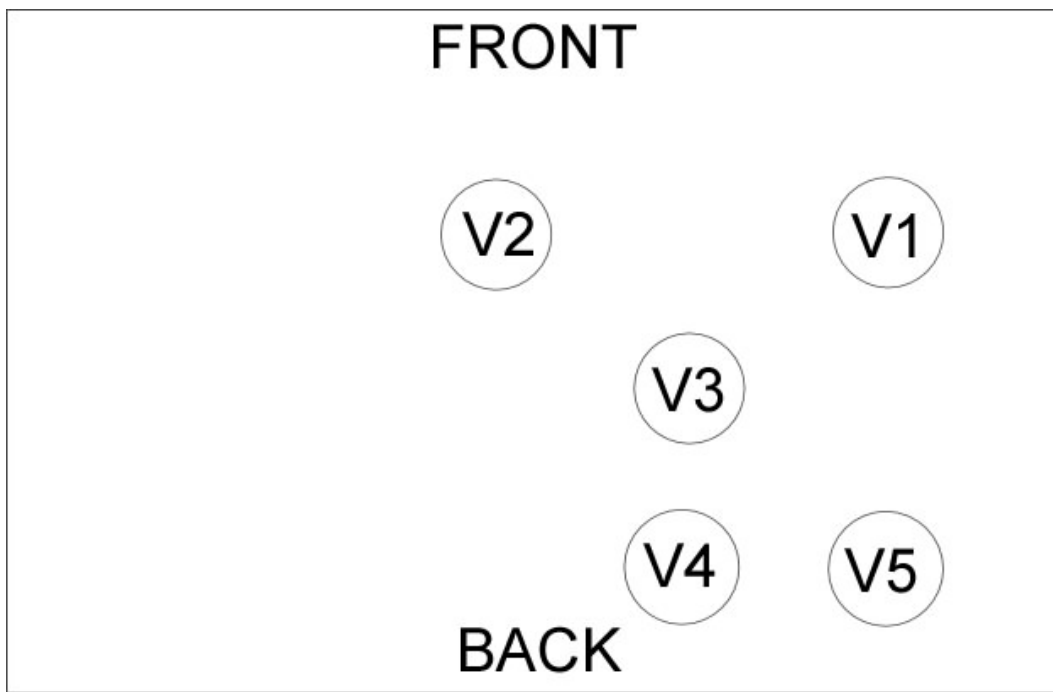
V1 (shielded tube) - JJ ECC83S (12AX7), Clean Channel

V2 (shielded tube) - JJ ECC83S (12AX7), OD Channel

V3 (shielded tube) - JJ ECC83S (12AX7), Phase Inverter

V4-V5 – TAD (Tube Amp Doctor) 6L6WGC-STR (X-40 Model) or JJ 6V6S (X-22 Model)

Failures caused by improper output tube bias are not covered by your warranty.



# X-22 and X40

## LIMITED WARRANTY

This amp is guaranteed against failure. Vacuum tubes are guaranteed for 60 DAYS from the date of purchase. If a tube fails within the 60 day period, VVT Amps will replace the tube at no charge. All other electronic components are guaranteed for TWO YEARS. The cabinet is guaranteed against structural defects for ONE YEAR. VVT Amps will service your amplifier and supply all parts at no charge providing the unit is under warranty. Any shipping costs associated with repairs are your responsibility. VVT Amps DOES NOT PAY FOR PARTS OR SERVICE OTHER THAN OUR OWN. A COPY OF THE ORIGINAL SALES RECEIPT IS REQUIRED TO VERIFY YOUR WARRANTY. VVT Amps assumes no responsibility for external speakers or other equipment damaged by this guitar amplifier. This warranty does not cover, and no liability is assumed, for damage due to: natural disasters, accidents, abuse, loss of parts, lack of reasonable care, incorrect use, or failure to follow supplied instructions. Accidental damage to the amplifier, cabinet, or vinyl covering is not covered. This WARRANTY does not apply to VVT amplifiers that have been tampered with, damaged by shipping carriers, reverse engineered, or modified. This warranty is void if the amplifier is used with power attenuator type devices (Power Soaks, Air Brakes, Hot Plates etc.). VVT Amps, Inc. reserves the right to suspend or terminate the Warranty at our sole discretion, should damage from any of the above limitations and or exclusions be detected upon examination. This warranty is in lieu of all other warranties, expressed or implied. No representative or person is authorized to represent or assume for VVT Amps any liability in connection with the sale or servicing of VVT Amps products. VVT Amps SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. If service is required you may contact VVT Amps at 240-222-3830 or vvtamps@vvtamps.com. We will respond as soon as possible and make arrangements to repair your amplifier. If your unit is out of warranty, VVT Amps will repair your amplifier but you will be charged the current RATE for parts and labor.

**Keep the information on this page for your records.**

**MODEL**

\_\_\_\_\_  
**SERIAL NUMBER**

\_\_\_\_\_  
**OPTIONS INCLUDED**

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**PURCHASE DATE**

Vintage Vacuum Tube Amps  
520 University Dr.  
Waldorf MD 20602  
(240) 222-3830  
[www.vvtamps.com](http://www.vvtamps.com)

**Specifications:**

Model Name	X-22 Overdrive Model
Product Number	202221091
Model Number	07211954-0001
Series	X-Model
Type	All Tube Amp
Audio Output	22 Watts into 8 ohms
Output Impedance	8 ohms
Speakers	N/A
Channels	Two Channels – Normal/Overdrive – One Input
Features	100% Handmade Guitar Amplifier Mercury Magnetics Transformers Voidless Plywood Cabinet, Steel Reinforced Duty Handle,
Controls	Front Panel: Right to Left Input Jack, OD Switch, Mid Boost Switch, Volume, Master Volume, Treble, Middle, Bass, Drive, Level, Presence Standby Switch, Power Switch with indicator  Back Panel: Right to Left AC Power Inlet Fuse Speaker Jack Effects Loop Jacks Footswitch Jack
Covering	Black Textured Vinyl
Weight	16.5 lbs.
Dimensions	Height: 8” Width: 14” Depth: 8”
Tube Complement	2 JJ 6V6S Output Tubes 3 X JJ ECC83S/12AX7 Preamp Tubes
Accessories	Footswitch – Included with amp P/N - XOD0001
Options	N/A
Introduced	10/2008
Notice	Product Prices, Features And Specifications Are Subject To Change Without Notice

Model Name	X-40 Overdrive Model
Product Number	404441091
Model Number	07211955-0001
Series	X-Model
Type	All Tube Amp
Audio Output	40 Watts into 8 ohms
Output Impedance	8 ohms
Speakers	N/A
Channels	Two Channels – Normal/Overdrive – One Input
Features	100% Handmade Guitar Amplifier Mercury Magnetics Transformers Voidless Plywood Cabinet, Steel Reinforced Duty Handle,
Controls	Front Panel: Right to Left Input Jack, OD Switch, Mid Boost Switch, Volume, Master Volume, Treble, Middle, Bass, Drive, Level, Presence Standby Switch, Power Switch with indicator  Back Panel: Right to Left AC Power Inlet Fuse Speaker Jack Effects Loop Jacks Footswitch Jack
Covering	Black Textured Vinyl
Weight	TBD.
Dimensions	Height: 8” Width: 14” Depth: 8”
Tube Complement	2 TAD 6L6WGC-STR Output Tubes 3 X JJ ECC83S/12AX7 Preamp Tubes
Accessories	Footswitch – Included with amp P/N - XOD0001
Options	N/A
Introduced	10/2008
Notice	Product Prices, Features And Specifications Are Subject To Change Without Notice