## VALVE REACTOR: THE INSIDE STORY

In the Valve Reactor power amplifier, a 12AX7 dual-triode tube (12AX7s are typically used as preamp tubes) is connected directly to an output transformer. Because of the relatively low Wattage this 100% tube power amp produces, our amp designers had to develop a way to raise the output level to one which could actually drive speakers to stage volume levels while maintaining the integrity of the tube-amp sound and feel. We accomplished this by creating a circuit of proprietary design dubbed the VOX VariAmp Power Circuit. The output transformer is connected to this new VariAmp Power Circuit which uses Constant Current design and Reactive Feedback technology. The VariAmp Power Circuit cannot be overdriven, is totally transparent and can be configured to be 1, 15, 30 or 60 Watts.

The VariAmp Power Circuit does not color or change the signal in any way and the resulting output tone is pure. It also ensures that the output signal maintains the high dynamic range associated with traditional tube amps — something most solid-state amplifiers simply cannot deliver, and one of the primary reasons why tube guitar amps normally sound and feel so much louder and more alive than solid-state amps boasting the same output power rating.

The Reactive Feedback technology used in the VariAmp Circuit "reads" the impedance curve of the speaker and then reports this reactive information back to the secondary side of the output transformer. This information is fed back to the primary side of the output transformer and therefore changes the loading on the tubes, another important part of the vital role an all-tube power amp plays in the creation of traditional tube tone.



### TYPICAL TUBE GUITAR AMPLIFIER



### VOX VALVE REACTOR
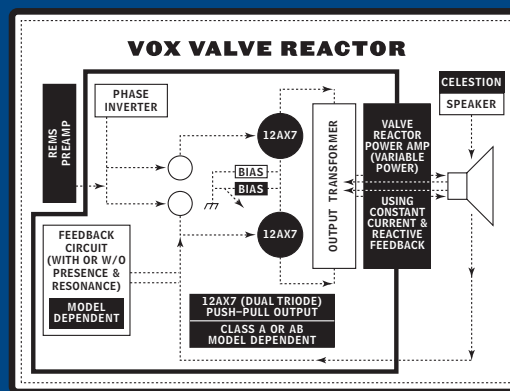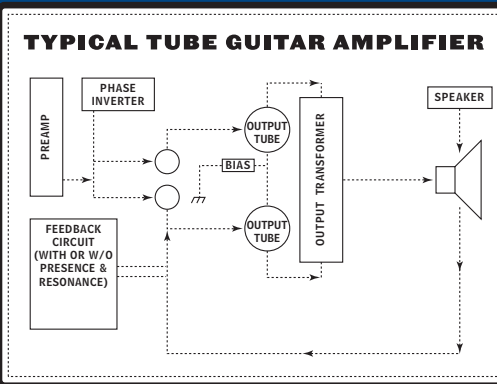
- **AMP MODELS:** 16 types
- **EFFECTS:** 21 types (Drive: 10 types, Modulation: 5 types, Delay: 3 types, Reverb: 3 types)
- **PROGRAMS:** 32 (8 Bank x 4 Channel)
- **IN/OUTPUTS:** 2 x Guitar Input (High, Low), Loop Return (AD60VT = Mono, AD120VT=L & R), 1 x Headphone, Line Out (AD60VT=Mono, AD120VT=L & R), External Speaker Out (AD60VT=Mono, AD120VT=L & R), 1 x Foot Controller
- **SPEAKER:** 1x12" Custom-voiced Celestion (AD60VT), 2 x 12" Custom-voiced Celestion (AD120VT)
- **POWER:** 60W RMS@8ohm (AD60VT), 2 x 60W RMS@8ohm (AD120VT)
- **TUNER:** Auto Chromatic Tuner [Measurement range: 27.5 Hz-2,093 Hz (A0-C7), Calib. A=438-445 Hz]
- **DIMENSIONS:** 530(W) x 267(D) x 559(H) mm /20.87" (W) x 10.51" (D) x 22" (H) (AD60VT), 699(W) x 267(D) x 559(H) mm / 27.52" (W) x 10.51" (D) x22" (H) (AD120VT)
- **WEIGHT:** 19.6kg / 43.21lbs (AD60VT), 26.2kg / 57.76 lbs (AD120VT)

### AD60VT/AD120VT OPTIONS
### VC-4 VOX FOOT CONTROLLER

- **CONNECTORS:** Vox bus jack, Volume jack
- **DIMENSIONS:** 417.0(W) x 158.4(D) x 63.3(H) mm / 16.42(W)" x 6.24(D)" x 2.49(H)"
- **WEIGHT:** 1.8 KG / 4.82 LBS.
- **ACCESSORIES:** 10 Base-T cable (straight type)
- **OPTIONS:** V850 Volume Pedal

Specifications subject to change without notice

## EVERYTHING ELSE IS JUST MAKE-BELIEVE

VOX Valvetronix

# INTRODUCING VOX VALVETRONIX:™
## WHAT A DIGITAL MODELING AMPLIFIER SHOULD BE.

### DIGITAL MODELING AMPS THAT DELIVER

When we set out to create Valvetronix, the goal was clear—design a digital modeling amp that sounded and *felt* great. A versatile amp that could superbly re-create every detail, every nuance of a collection of the world's most sought after guitar amplifiers. An amp that actually lives up to the promise that digital modeling amplifiers appear to offer, but have never achieved—until now.

### THE BEST OF ALL WORLDS

We realized that reaching this goal wouldn't be easy. That it would require top-notch digital technology plus a tube power amp capable of modeling the power amp sections of a ton of classic and modern tube amplifiers. In over four tone-filled decades, VOX amplifiers have achieved classic, even cult, status. They're the amps of choice for countless pros. But we knew it would take more than our own guitar amplification expertise. We also needed the skill and experience of a high-tech music equipment innovator. From this need, the collaboration between VOX and Korg's ToneWorks division was born.

Korg is the undisputed leader in the technology-laden world of digital music products and the force behind ToneWorks, the first company to master and patent "digital distortion with oversampling." This breakthrough actually made high-quality digital recreations of guitar effects and amplifiers (that sounded and felt like the real thing) a reality. Together, Vox and Toneworks have created Valvetronix—the ultimate, hybrid digital modeling amplifier that sounds, feels and operates like a guitar amp, with no compromises or excuses.

### THE FRONT END, WHERE IT ALL STARTS

The preamp sections of the Valvetronix combos rely on Korg's proprietary REMS™ technology. REMS (Resonant structure and Electronic circuit Modeling System) accurately reproduces the complex circuitry in each of the modeled amplifier's signal paths and re-creates the tonality originally created in those amps. It even replicates their unique tone-stack networks so the Valvetronix' tone controls interact exactly as they do in the amplifiers being modeled! Play a new AD60VT or AD120VT and you'll hear and feel the difference immediately.

### VALVE REACTOR™ TECHNOLOGY, THE BIG DIFFERENCE

The power amp section—as well as the relationship and interaction between the output tubes, output transformer and speakers—are a critical part of any great tube amp. Every classic amplifier's power amp has its own unique set of characteristics, and to accurately model a great sounding guitar amp, we had to precisely model its power stage, too. Because we were intent on modeling not one, but 16 different, amazing amplifiers, we had to have a power amp that could actually change itself to model each and every one of those amplifiers.

How did we accomplish this? By inventing a new type of modeling, tube, power amplifier. Our patented Valve Reactor power amp consists of a tube power amp with an output transformer electronically coupled to a solid-state power circuit in such a way that the relationship between the output tubes, output transformer and speakers is unaltered. (See the sidebar on the last page for more detailed information.)

This ingenious design delivers a number of benefits. All of the great sounding amps we've modeled are tube amps. VOX's Valve Reactor technology enables the new AD60VT and AD120VT to produce the high dynamic range associated with these traditional tube amps—something a solid-state amp simply couldn't do. That dynamic range is one of the reasons why tube amps sound and feel so much louder than solid-state amps rated at the same output power. Also, the AD60VT and AD120VT are better able to capture the sound and feel of the amps they're modeling because their output power can be configured to be exactly the same as those amps. For instance, a 50 Watt AC15 may be an interesting curiosity, but the original was 15 Watts!

We didn't stop there. This new technology actually has the ability to switch automatically between Class "A" and Class "AB" depending on the amplifier it's modeling! In addition, it can select whether or not a model will have a negative feedback loop, as well as how much and what kind of feedback there will be. This adds immensely to the overall accuracy of the model's sound and feel because you just can't accurately model a Class "A" amp that doesn't have a feedback loop—like an AC30, for example—with class "AB" circuitry and all kinds of feedback. This is something the competition just doesn't seem to grasp.

### VERY COOL EFFECTS BUILT-IN

The effects in the AD60VT and AD120VT aren't an afterthought. Each one is a carefully crafted model of one of a variety of sought after classic and popular effects. These 10 essential pedals include Compressor, Acoustic Simulation, VOX Wah, Auto Wah, U-Vibe, Octave Divider, Treble Boost, Tube Overdrive, Fat Overdrive and Fuzz. As pedals, they appear before the preamp models so they can drive the preamp in the same way they would in a traditional setup.

The new Valvetronix combos also feature Modulation, Delay and Reverb effects sections, all of which can be used simultaneously. Just like in a pro guitar amp/rack, these effects sit between the preamp and power amp sections. The Modulation Section includes models of popular Chorus, Flanger, Phaser, Tremolo and Rotary effects. The Delay Section delivers Delay, Tape Echo and Multi-Head delay. A Tap button is provided for setting the delay time. The Reverb Section has three types, Spring, Plate and Room. Each section can be controlled independently from the top panel, or, in the case of Modulation, from the optional VC-4 Foot Controller.

### FOLLOWING THE SIGNAL PATH

When laying out the Top and Rear panels of the Valvetronix combos, we laid out the signal paths in the same way a guitarist typically puts his or her setup together.

> GUITAR ➜ ONE OF 10 STOMP BOXES ➜ ONE OF 16 PREAMP MODELS ➜ ONE OF FIVE MODULATION EFFECTS ➜ ONE OF THREE DELAY EFFECTS ➜ ONE OF THREE REVERB EFFECTS ➜ EFFECTS LOOP ➜ ANALOG MASTER VOLUME ➜ POWER AMP MODEL ➜ CELESTION GUITAR SPEAKER(S)

Signal path is a critical factor in the design of a modeling amp and another reason why the new AD60VT and AD120VT are capable of accurately modeling the sound, tone and feel of so many desirable amplifiers and effects.

It is also another example of the painstaking attention to detail that went into the design of these new amps. We believe we have achieved our goal, that these new Valvetronix combos model the sound, tone and feel of 16 of the world's most lusted-after guitar amps (plus a closet full of awesome effects) like nothing else can. Get your hands on an AD60VT or AD120VT. We think you'll agree that everything else is just make-believe.

**AD120VT**

**AD60VT**



**OPTIONAL VC-4 FOOT CONTROLLER**