



VIPER  
COBRA  
SIDEWINDER

OWNER'S MANUAL

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## INTRODUCTION

Congratulations on purchasing a new breed of guitar amplifier from ADA. These models feature the widest range of tonal versatility and instant on-stage control that you've come to expect from ADA. This manual provides complete information on the use and care of your amp, along with some sample settings to get you started in dialing in tones. Please take this time to fill out the enclosed warranty card so that we may provide the best service possible, should your amp ever need it.

## FEATURES

- Two totally independent channels, each with its own VOICING, DRIVE, EQ, VARIABLE BOOST, REVERB MIX, and MASTER VOLUME.
- Green channel features two tube voices: CLEAN and CRUNCH.
- Red channel features four tube voices: VINTAGE, BROWN, GRIND, and LEAD.
- Two low-noise 12AX7A tubes for rich harmonics and overdrive.
- Warm, dense 3-spring reverb with an independent mix control for each channel.
- VARIABLE BOOST function in each channel allows for just the right amount of volume boost to kick in on stage.
- NOISE GATE with adjustable threshold for ultra-quiet operation.
- PRESENCE control to dial in the overall brilliance of the amp.
- Custom four-button "SNAKE CHARMER" footswitch included, for instant one-button switching of channels and boosts.
- Speakers: Celestion G12-T75 driver or ADA CustomDrive 10 and 12 inch drivers.
- Power:           Viper:           70W RMS into 8 ohms  
                      Cobra:           100W RMS into 4 ohms  
                      Sidewinder: 70W RMS into 8 ohms
- Each power amp features current reserves for peak-power well in excess of the RMS wattage, and protection against overvoltage, undervoltage, output short-circuit, instantaneous temperature peaks, and thermal runaway.
- EXTERNAL SPEAKER jack to drive an additional cabinet.
- RECORDING OUT jack with speaker-emulation to go direct to P.A./tape.
- ADA's exclusive VariCAB™ circuitry to emulate various speaker and cabinet configurations (Viper and Cobra only).
- THUMP (low frequency resonance) and HI-CUT controls to further tweak in the sound of your cabinet (Viper and Cobra only).



## ATTENTION

- To prevent electric shock, do not remove chassis from cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.
- To reduce the risk of fire, replace fuse only with the same type fuse.
- Do not plug any footswitch other than the ADA "SNAKE CHARMER" into the footswitch jack.
- See SUGGESTED MAINTENANCE section for tube replacement procedure.
- See CONNECTIONS TO THE AMP section for appropriate external speaker load information.

## CONNECTIONS TO THE AMP

### REFER TO THE CENTER SPREAD FOR JACK LOCATIONS.

- A. **A INPUT** Guitar input jack accepts passive or active pick-up instrument-level signals.
- B. **FOOTSWITCH** Footswitch jack for the ADA four-button "Snake Charmer" footswitch included with the amp. Switches channels and boosts. Do not use any other footswitch, and be sure to use a stereo cord! Plug in first before powering up.
- C. **RECORDING OUT** Line level recording output jack for connecting to the input of a mixer, P. A. or multi-track recorder. The signal features speaker-emulation selected by the front-panel VariCAB. The level is controlled by the MASTER volume of each channel and is live even in STANDBY mode, allowing for silent recording.
- D. **EFFECTS SEND** Preamp section output jack for connecting to a line-level effects unit. The top panel controls, including REVERB, VariCAB, and NOISE GATE, are sent to this output. Slaving an additional power amp for more power on stage is possible since the signal to the internal power amp is not interrupted when a cord is inserted into this jack.
- E. **EFFECTS RETURN** Line level input jack usually used to "return" the output of an effects unit. Plugging into the EFFECTS RETURN jack interrupts the signal from the preamp section, allowing a direct patch to the power amp.
- F. **EXTERNAL SPEAKER** Power amp output jack for using an external cabinet in parallel with the internal speaker(s). Only a cabinet with an impedance equal to or higher than 8-ohms is recommended. A 16-ohm cabinet will not be as loud as an 8-ohm cabinet. Internal speaker(s) cannot be defeated.

## CONTROLS AND FUNCTIONS

- G. **CHANNEL SELECT** Channel and Boost selector switches for instant switching. Corresponds to the 4 buttons on the "Snake Charmer" footswitch. The 4 buttons are:
  1. GREEN CHANNEL
  2. GREEN CHANNEL W/ BOOST
  3. RED CHANNEL
  4. RED CHANNEL W/ BOOST
- H. **VOICING** Selects the tube voice to be used in that channel. Instantly changes the tube preamp circuitry for radically different tones.

CHANNEL	VOICING	SWITCH POSITION	
GREEN	CLEAN	OUT	
	CRUNCH	IN	
RED	VINTAGE	OUT	OUT
	BROWN	IN	OUT
	GRIND	OUT	IN
	LEAD	IN	IN



- I. **DRIVE** Controls the amount of tube preamp gain in the channel. Turn up for more tube compression, overdrive, and harmonics. Turn down for more dynamic range, note definition, and cleaner tone. The DRIVE controls and the MASTER VOLUME controls work in tandem and complement each other. With the DRIVE turned up, the MASTER should be turned down to compensate for the volume increase. When turning up the MASTER to stage volume, lowering the preamp DRIVE often cuts through the mix better and provides a more dynamic feel.
- J. **BASS** Controls the amount of bottom end in the channel. Generally, more bass is needed when playing at lower volumes and less is needed at stage volumes.
- K. **MID** Controls the amount of mid-range in the channel. This control provides more range than standard "vintage" mid controls. For a clean voice, turning the MID down gets a cleaner, more shimmering tone; a must for humbucking pickups. Turning the MID up gets a more honky, round tone. For a distorted voice, turning the MID down gets a sucked-out thrash sound, and turning it up gets a fat, roaring tone. Note that turning up the MID control will affect the bass and treble control ranges, (see note below).
- L. **TREBLE** Controls the amount of highs in the channel. Turn it up for more shimmer and sizzle, turn down for a mellower, rounder tone.  
*NOTE: The two sets of tone controls in the RED and GREEN channels are voiced differently to better complement their respective channels. Also the above tone controls are interactive, like most vintage amps, so that turning one control affects the response and range of the other two. It may take a little more time to tweak in tones, but these controls allow for more diverse tone shaping than simple additive tone controls.*
- M. **MASTER** Controls the overall volume for the channel, the level at the EFFECTS SEND jack, and the speaker(s) volume. Also see DRIVE.
- N. **BOOST** Controls the amount of additional volume that kicks in when the BOOST is engaged in that channel.
- O. **REVERB MIX** Controls the amount of reverb added to the dry signal prior to the EFFECTS Loops.
- P. **NOISE GATE** Sets the threshold at which the noise gate mutes the signal. The noise gate analyses the guitar input signal before the preamp, and mutes the output of the preamp, but before the reverb, eliminating noise when not playing. The noisier the guitar input (single-coil hum, high output pickups, noisy stage lighting, etc.), the higher the Noise Gate must be set. The Noise Gate is not available for GREEN channel when set to the CLEAN voice because it is not needed in this configuration. To turn off the Noise Gate set the control to 0.
- Q. **PRESENCE** Controls the amount of upper mid frequencies for both channels.
- R. **POWER SWITCH** Applies AC power to the amp. When powering up, push this switch on first, then the STANDBY switch. When powering down, push the STANDBY switch off first, then the POWER switch.
- S. **STANDBY SWITCH** Mutes the output while the tubes are warming up. Can also be used for silent recording.

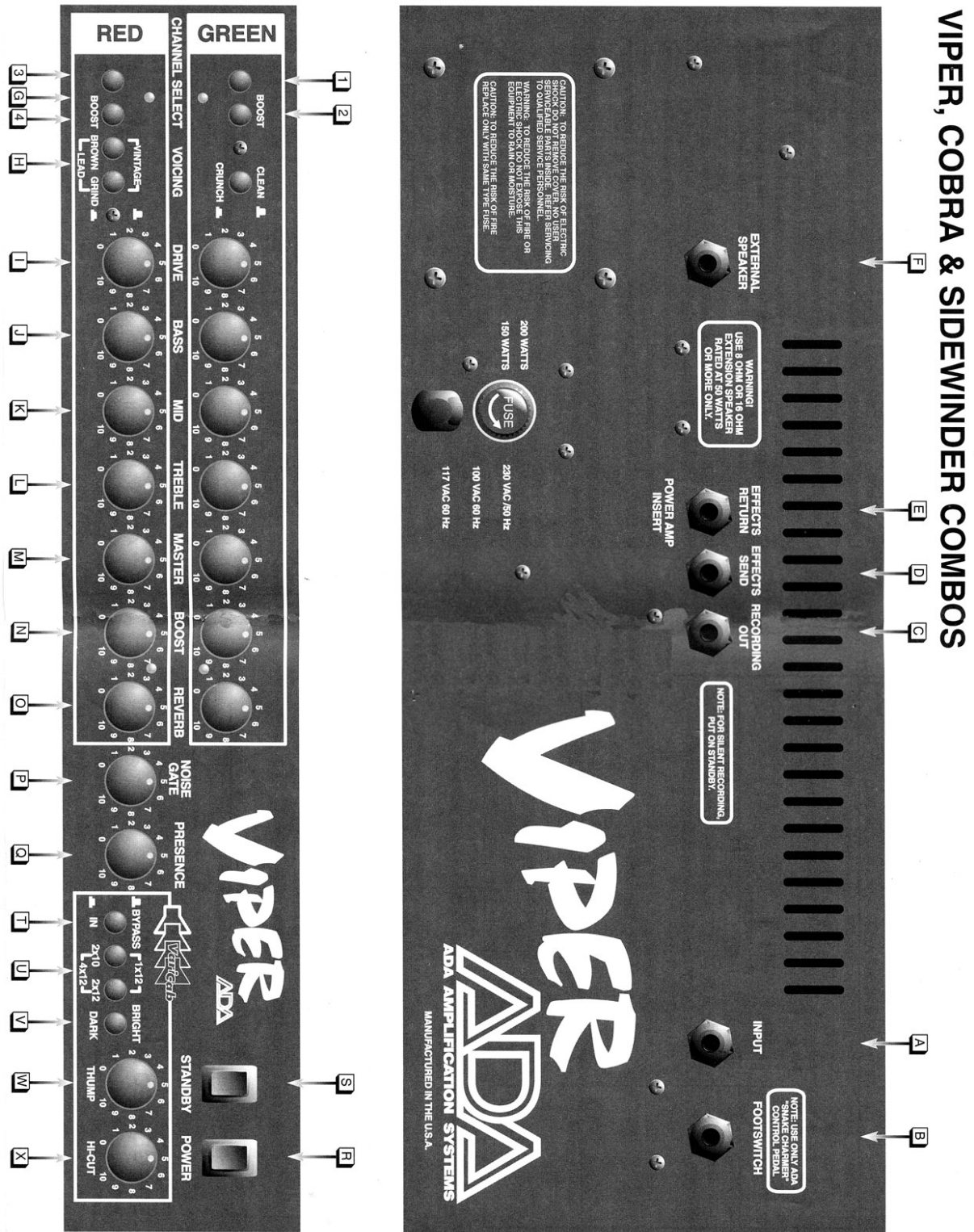
**VariCAB™** (Viper and Cobra models only)

A proprietary ADA feature providing an additional level of versatility to combo amplifiers by allowing a small combo package to emulate the tonal complexity of much larger speaker and cabinet configurations. It is particularly effective for recording direct with the RECORDING OUT jack.

- T. **BYPASS** Bypasses the entire VariCAB circuit when pushed out.
- U. **EMULATION** Selects one of the four speaker cabinet emulation modes.
- V. **DARK/BRIGHT** Selects the tonality of the speaker used in the emulation.
- W. **THUMP** Controls amount of cabinet low frequency resonance. Increasing the Thump emulates a larger cabinet and simulates a close-miking effect.



- X. **HI-CUT** Controls the brightness of the cabinet. Simulates speaker type and aging, as well as mike location and placement angle.



Symptom	Possible Cause
Doesn't power up.	<ul style="list-style-type: none"> <li>• Not plugged into a working AC receptacle.</li> <li>• Fuse is blown in unit.</li> </ul>
No sound.	<ul style="list-style-type: none"> <li>• Faulty guitar cable. Problem in the guitar electronics.</li> <li>• Problem in the effects device in the EFFECTS loop (try unplugging EFFECTS RETURN).</li> <li>• MASTER or DRIVE on 0.</li> <li>• Amp on STANDBY.</li> <li>• Noise Gate Threshold set too high.</li> </ul>
Noise, hum, squeal. Unwanted distortion.	<ul style="list-style-type: none"> <li>• Faulty guitar cable</li> <li>• Effect in the EFFECTS loop being overdriven.</li> <li>• Bad 12AX7A (see above section on SUGGESTED MAINTENANCE).</li> <li>• Microphonic pickups.</li> <li>• Problem in the guitar electronics.</li> <li>• Ground loop (try unplugging effects device from EFFECTS LOOP).</li> </ul>
Crackling sound after playing a long time.	<ul style="list-style-type: none"> <li>• The power amp is getting hot and the thermal limiting circuit is cutting in.</li> <li>• External cabinet is less than 8-ohms, causing amp to overheat.</li> <li>• Amp is not well ventilated, causing it to overheat.</li> </ul>

**SPECIFICATIONS**

Tube Compliment: Two low noise 12AX7A vacuum tubes.  
 Power Amp Sensitivity: 1V RMS Input = Full Output Level.  
 Power Amp Output @ 5% THD: Viper: 70W RMS into 8 ohms  
 Cobra: 120W RMS into 4 ohms  
 Sidewinder: 70W RMS into 8 ohms

Speaker Compliment: Viper: One 12-inch Celestion G12-T75 driver.  
 Cobra: Two 10-inch ADA Custom *British Classic* drivers.  
 Sidewinder: One 12-inch ADA Custom *British Classic* driver.

Dimensions: Height = 20.25" Width = 20.5" Depth = 15.25"  
 Weight: 40 lbs., 44 lbs shipping weight, Viper and Sidewinder.  
 Weight: 42 lbs., 46 lbs shipping weight, Cobra.  
 Power Consumption: 240 Watts.

**SUGGESTED MAINTENANCE**

With the incomparable sound of tubes comes the need for a small amount of simple maintenance. We recommend that the two 12AX7As in the amp be replaced every 2 years, or sooner if they show signs of wearing out. Some signs of degrading tubes are:

- Excess noise (hiss)
- "Ringing", squealing or feedback.
- Microphonic effects - tapping on the amp causes audible thumps through speaker(s).
- Lack of punch and power, weak distortion, or sputtering.

To preserve tube life, allow time for the tubes to cool down a bit before moving the amp, since tube elements are more fragile when hot. Replace tubes only with high-quality, low-noise, low-microphonic 12AX7A tubes. These can be purchased from ADA (Part # 220020).



Because of the high voltages present within the amp, have a qualified service person replace the tubes.

## SERVICE NOTE TO TECHNICIANS

To change the tubes:

1. Unplug the amplifier from AC outlet and allow 2 minutes for caps to discharge.
2. Unscrew the chassis from the cabinet by removing the six side screws.
3. Remove the spring-loaded tube hold-downs from the two 12AX7A's by lifting them up and over the nipple of the tubes and pulling them towards you. Do not disconnect springs from the circuit board.
4. Unplug the tube-shield ground wire (on the tube closest to the input jack only) from the circuit board. Reverb tank may be removed to facilitate tube changing.
5. Remove the two tubes from their sockets.
6. Remove the foam donuts and tube-shield (metal canister) from one of the tubes and discard the old tubes.
7. Slip the tube-shield and foam donut over the new tube and install tube in the socket nearest to the input jack. The second tube only has a foam donut and is installed into the other tube socket.
8. Plug in the tube-shield ground wire connector onto the metal spade connector on the circuit board.
9. Install the tube hold-downs.
10. Screw the chassis back into the cabinet.

