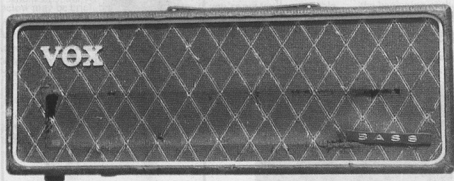


VOX Ac100



Backline

By Mitch Colby



Two months ago, I explained various details relating to different versions of Vox AC50s manufactured by JMI (Jennings Musical Industries LTD) during the 1960s.

This month I'll endeavor to talk about the similar but much rarer AC100.

Necessity is the mother of invention. The AC100 got developed because bands in the 1960s needed to have an amplifier powerful enough to hear on stage through the screaming fans. The most notable band to use the AC100 was the Beatles although you can be sure that many more "British Invasion" groups used it.

AC100 "Version 1" used a similar preamp to the AC50 but with only one channel. The power amp started out as a higher-powered version of the AC30 in that it was a cathode biased in a push-pull configuration. Unlike the AC30 which uses EL84 output tubes, the AC100 uses more powerful EL34s. I don't know of any other cathode biased EL34 amp ever designed for guitar amps. The benefits are an interesting combination of attributes. The AC100 has a very dynamic feel with some compression and a harmonically rich tone. The drawbacks are that you can only get about 80 watts out of four EL34s, and that's stretching it. These amps are notorious for failure because of the high current demands on the output tubes. However, I can assure you that a working "Version 1" AC100 is a beautiful thing to behold.

In "Version 2" the engineers at JMI decided that it would be more prudent to switch the design to grid (fixed) bias. This allowed them to increase the power to 100 watts and increase reliability. Even with the design change, "Version 2" is also a great sounding amp.

A notable feature of the AC100 is the "Small box" design. Unlike Marshall "small boxes" which have a shorter width, Vox "small box" amps are shorter. Early AC50s were in the same small box whereas the later AC50s had a taller box. The earliest AC100s had thinner wood on the front and back. Although physically appealing, it was more difficult to manufacture and was eliminated in later units.

AC100s had an XLR output for the speaker and an unusual connector for the AC mains cord. The connector was relatively flimsy and most amps that were actually used in band situations had modifications such as the addition of hard-wired AC cords.

The power and output transformers both have interesting designs. The power transformer has a 360-volt B+ winding without a center tap which was rectified through a bridge. There were two 6.3-volt windings, one for the power tubes and the other for the preamp tubes and pilot lamp. As in most early Vox amps, the transformers add rigidity to the chassis by being mounted to both a

horizontal and vertical chassis. The earliest AC100 had an "L" bracket added to the top of the power and output transformers that affixed them to the horizontal chassis. In later AC100s, and most other Vox amps, the transformers had an end bell with "feet" that attached directly to the horizontal chassis.

The tubes are:

ECC82 (12AU7) preamp gain stage
ECC83 (12AX7) gain stage and cathode follower tone driver
ECC82 (12AU7) driver/phase inverter
4xEL34 power amp

As with other 1960s British amps, the primary AC voltage tap labeled 115 (or 105/115 in Marshall's case) are unusable without proper

precautions. They typically need 110 volts for the amp to operate properly and we have an average of 120 in the USA. Either use a Variac on 110 volts or get a 120 to 240 volt step up transformer and set the amp to 240 volts. If you don't, you risk blowing up filter caps and other parts of the amp.

AC100s have only one channel, unlike other JMI Vox amps above 5 watts. I guess the thinking was that if a band needed an amp with 100 watts, they weren't going to share it with their friends. There are no features to speak of, other than a great sound, and the controls were a sparse Volume, Treble and Bass.

AS100's are very rare and collectable especially "Version 1" with original transformers. ■

