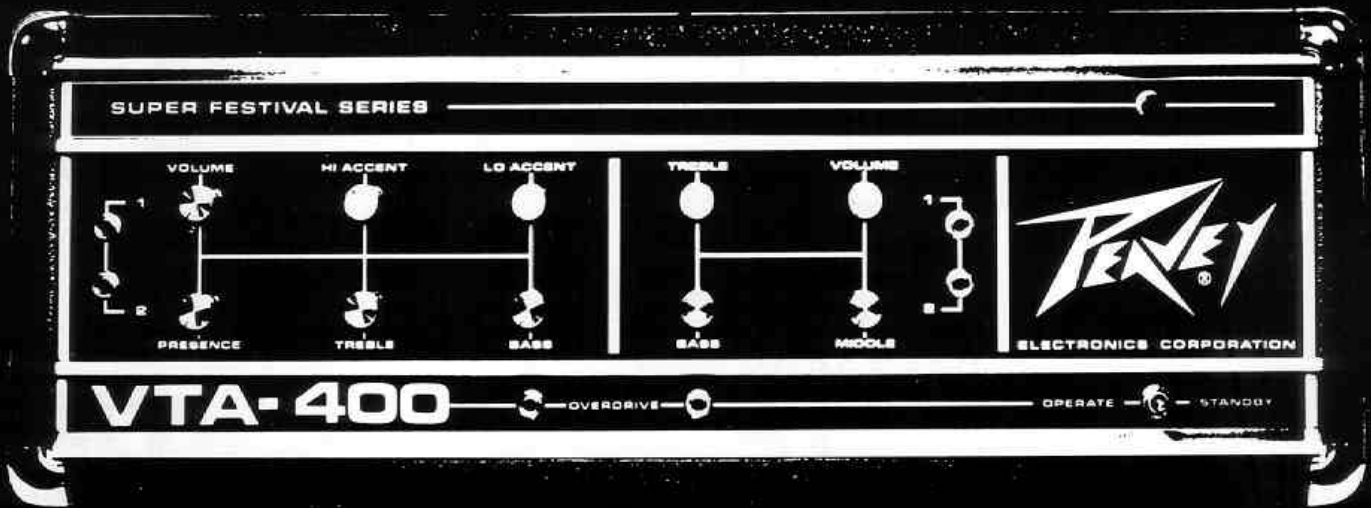
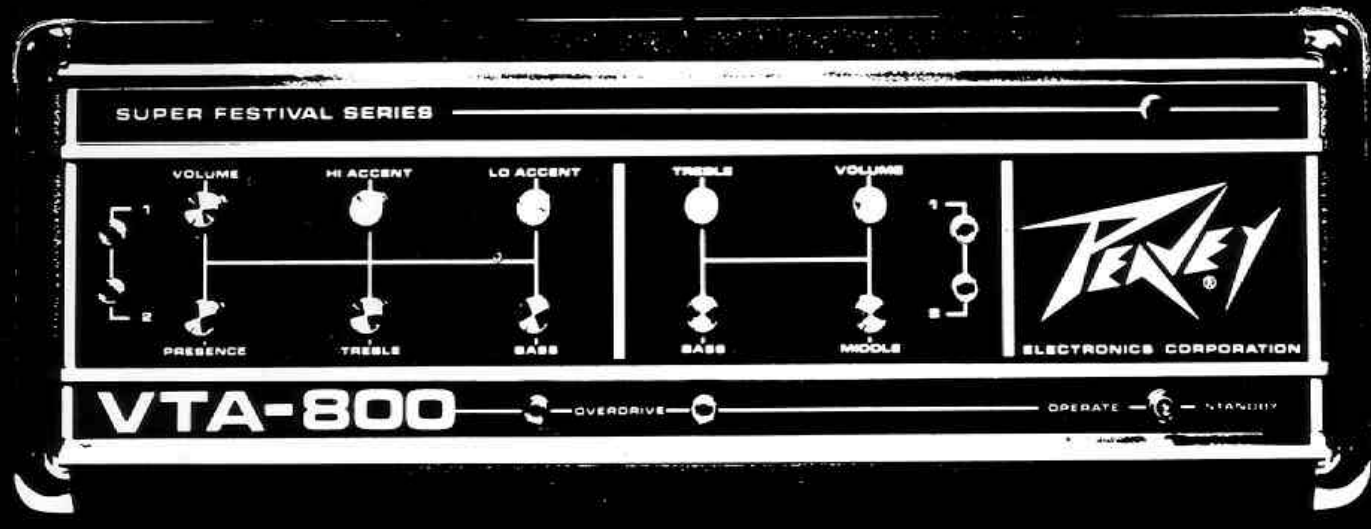




# OWNER'S MANUAL



# VTA 400-800



Your VTA is one of the most powerful vacuum tube audio amplifiers on today's market. Many new and innovative circuit designs are utilized to give you outstanding performance and reliability.

The VTA and all other high power tube type amplifiers must be used in the proper manner to avoid damage to tubes and other internal components. Below are several instructions that **MUST** be followed when operating high powered tube type equipment.

A. **NEVER OPERATE THE AMPLIFIER WITHOUT A SPEAKER LOAD!!** The VTA is equipped with a shorting system on the output jack to help protect against accidentally turning on the amp without a load. If the speaker patch cord is plugged into the amp but not connected to the speakers, the amp is **NOT** loaded and could cause problems if the amp is turned on and operated in this manner. The natural inductance of the output transformer can store energy that normally is transferred to the speaker and is capable of developing tremendous voltages. These voltages can cause serious internal arcing between the elements of the output tubes and their related circuitry. This is the **MOST** important consideration in the safe operation of your tube amp.

B. The Industrial Grade 6550 output tubes are the most rugged audio power tubes on the market and will provide long service in the output circuit. Each tube has a keying pin moulded into the base to aid in indexing the pins into their proper positions. When installing or removing the tubes it is possible to break off these index pins by bending the tube too much in its socket. Use extreme caution when handling the 6550 tubes. **UNDER NO CIRCUMSTANCES SHOULD TUBES WITH BROKEN OR MISSING INDEX PINS BE INSERTED IN THE VTA'S SOCKETS.** If a tube is inserted in the improper manner (wrong indexing) the output stage will instantly be damaged when the unit is turned on. Use of tubes with broken or missing index pins voids the warranty.

Your VTA preamplifiers are very modern in design and are of two different types to allow different sounds to be obtained from each channel. Hum and buzz are kept to a minimum by using direct current (DC) to operate the preamp heaters. This method of heater power is used in most professional audio equipment using tubes. One circuit of the preamp uses the classic "passive" type tone controls which tend to produce a flatter sound than the newer feedback type as used in the second channel. Because the passive tone networks tend to be less effective than the feedback type, we have provided more of these type controls to allow better control of the frequency spectrum. The right channel uses feedback type tone controls and is able to generate tremendous tonal variation with fewer knobs. To allow for all tastes, we have included **BOTH** types of tone circuits in your VTA.

1. The input jacks of your VTA are arranged in a unique switching circuit that allows added flexibility in matching various input levels. Input "1" is the high gain input and should be used normally when plugging in your instrument. Input "2" is the low gain input and is to be used if the output from your instrument is overloading the high gain jack. When patching in the overdrive feature it is generally

advisable to use the low gain jack of the preamp being overdriven. Due to the action of the switching circuit both jacks become automatically gain balanced when two instruments are plugged into jacks one and two of either channel.

2. The volume controls are used to vary the **GAIN** of the preamp. The setting of the volume control does not indicate output power, but rather is simply an indication of the sensitivity of the input preamp. It is possible to drive the amplifier to full power with very low volume settings if the output from the instrument is extremely high. The volume controls of your VTA are of the log (audio taper) type and most of the gain is obtained past the vertical (12:00 O'Clock) position, as in all professional sound gear.

3. The treble controls determine the amount of high frequency boost or cut in each channel. The control on the left channel is augmented by the high accent control. The feedback control on the right channel has tremendous boost and cut capability with only a single knob.

4. The bass controls determine the amount of low frequency boost or cut in each channel. The bass control on the left channel is augmented by the low accent control. The feedback type bass control on the right channel is capable of extremely broad tonal variations with a single knob.

5. The low accent augments the bass control and allows selective boosting of the lower mid-range frequencies.

6. The high accent augments the treble control and allows selective boosting of the upper mid-range frequencies.

7. The presence control allows precise variation of the extreme top end (treble) and tends to bring out the upper harmonics generated by any instrument.

8. The middle control enables the musician to precisely tailor the mid-range response for complete tonal balance. The middle control on the VTA represents much design effort and this is reflected by the wide range of control of the middle frequencies.

9. The VTA incorporates a unique feature, **OVERDRIVE**, which allows either channel to drive the other to produce a fantastic range of distortion and sustain never before obtainable with any amplifier. On the lower panel, the two overdrive output jacks are located under their respective channels. The overdrive jacks incorporate a switching system to cut their respective channels away from the power amp when a plug is inserted, and then feed the output of the preamp out the patch cord for insertion into the **INPUT** (1 or 2) of the **OTHER** channel. Either channel is capable of driving the other and different effects can be obtained by the combined tone and volume controls.

The overdrive feature is utilized in the following manner:

A. Plug instrument into either one of the channels.

B. Use a well shielded standard patch cord to patch the overdrive jack into the input jack of the other channel. Care should be taken to avoid getting the patch cord too near the speakers as it is possible to create electrical feedback by improper lead placement and/or poorly shielded patch cords.

C. Either of the channels can be used for the instrument with the overdrive patch cord going to the other channel. **DO NOT PATCH THE OVERDRIVE JACKS TOGETHER AS THIS WILL CUT OUT BOTH CHANNELS.**

D. When the two preamps are connected in the overdrive mode **BOTH** volume controls and **ALL** tone controls are now operative and can be used to produce the fantastic variety of sounds the overdrive feature permits. Generally the instrument channel should be set up for a good sound and the volume and tone controls of the overdriven channel operated in conjunction to provide the desired tonality, sustain, and distortion. Experimentation will illustrate the unlimited versatility of this system. If the overdriven channel is too sensitive when the high gain "1" is used, the low gain "2" input should be used. Distortion is available at tremendous volume levels as well as at extremely low levels. Because of the combined controls this system of overdrive is far superior to the less versatile master volume control system of controlled distortion.

The extremely high power and high gain (especially in the overdrive mode) of the VTA series amplifiers make certain precautions necessary to prevent acoustic and/or electrical feedback. The musician should exercise care not to position his instrument too close to the speaker cabinets if feedback is to be prevented. Under certain conditions poorly shielded

patch cords from the instrument and the overdrive jacks can cause feedback if the cord gets too close to the speaker cabinets. The same precautions apply to all high powered amplifiers with extremely high gain.

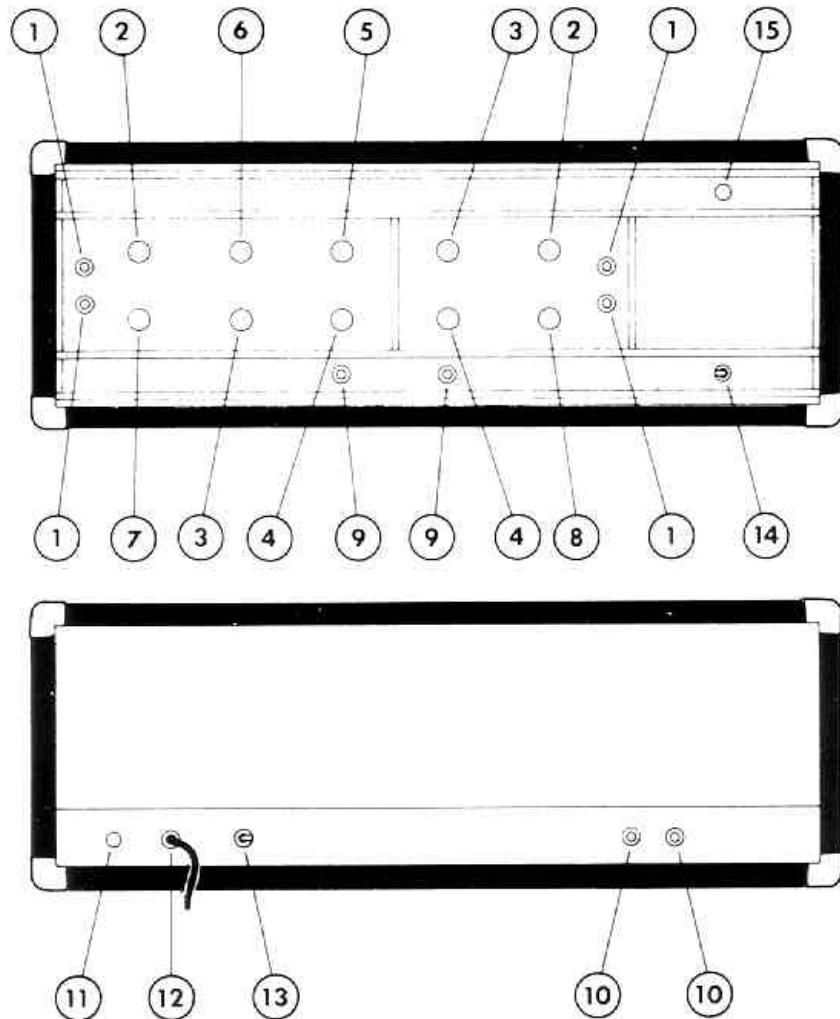
10. There are two speaker jacks on the 400 series and four on the 800 series. The output impedance is approximately two ohms per pair of jacks. Each pair of these jacks is labeled "1" and "2". The number "1" jack should **ALWAYS** be plugged in first to the speakers since this is the shorting jack and number "2" will not operate is used first. This is a common feature on tube type amps and is used to help protect the amp. Driving the amp unloaded can seriously damage internal components.

11. The fuse is located within the fuse holder and should be replaced with an identical value fuse in case of failure.

12. A three wire line cord has been used to prevent electrical shock. **DO NOT REMOVE THE GROUND PIN FROM THE PLUG.**

13. The power switch is of the three position type with the center being the off position. One of the **ON** positions will give less noise and this is the position that should be used.

14. The standby switch is used for placing the unit in the operational mode by connecting the intermediate supply voltage into the circuit.



**PEAVEY ELECTRONICS TECHNICAL SPECIFICATIONS**  
**MODEL: VTA-400/800**

**I. POWER AMPLIFIER SECTION: TUBE MODULE**

- A. Output Power @ 1 KHZ @ 117 VAC Line:**
1. Rated Power: 200 W RMS @ Rated Load: 2 OHMS
  2. Power vs. Distortion:

<b>LOAD IMPEDANCE</b>	8	4	2	1	OHMS
<b>OUTPUT @ 5% THD</b>	120	175	200	120	W

- B. Peak Output @ Rated Load: 14 AMPS & 28 VOLTS, 400 WATTS
- C. Music Power Output @ Rated Load: 250 WATTS RMS @ 5% THD
- D. Frequency Response: 3 DB Down @ 40 HZ & 20 KHZ
- E. Sensitivity @ Rated Power & Load: 1.0 V
- F. Input Impedance: 2.2 MEG OHMS

**II. PRE-AMPLIFIER SECTION:**

- A. Input Characteristics: (Tone Controls Flat, Volume @ 12:00)
  1. Sensitivity: 8 mV @ 1 KHZ
  2. Input Impedance: 1 MEG OHM
  3. Noise: 50 DB (Open Ckt.), 56 DB (50 K OHMS), 62 DB (Short Ckt.)\*
- B. Distortion @ 1 KHZ @ Rated Output: Less Than 0.5% THD
- C. Frequency Response: 3 DB Down @ 30 HZ & 30 KHZ
- D. Tone Controls: ± 20 DB @ 50 HZ & 5 KHZ
- E. Middle Control: 20 DB Cut
- F. Controlled Distortion: Operational by means of external patch cord

\*Signal-to-noise ratio in DB below rated output

Specifications and schematics published in this manual are subject to change without notice



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