



OPERATION MANUAL

Spectraverb

Thank you for purchasing an Andrews Amplifier. The Spectraverb name signifies a full spectrum of tones and reverberation. The Spectraverb amps feature extremely sweet reverb and work very well with a variety of pedals. As with all Andrews amps, these models are built to the highest standards of craftsmanship and are finely tuned for the ultimate tone. This manual will help you to get the most from your new amp. Please feel free to contact us with any questions at andrewsamps.com

FEATURES;

- **BEAUTIFUL CLASSIC TUBE TONE WITH LUSH SPRING REVERB** - Featuring tube driven spring reverb with an innovative reverb drive limiter control.
- **HAND-WIRED CONSTRUCTION** – Also sometimes called “point-to-point” wiring, the Spectraverb amps utilize a very high quality turret board made of super-tough G10 composite. This glass-epoxy laminate is specified for its extremely high strength and high dimensional stability over temperature. The extra-thick board material will never warp or melt, and there are no copper traces to peel away from the board over time. All wiring and soldering is done by hand and quality-checked to ensure many years of trouble free operation.
- **OPTIONAL BUFFERED SERIAL EFFECTS LOOP** – See the rear panel explanation for more information.
- **AMERICAN-MADE TRANSFORMERS** – We utilize only the best transformers to meet our specifications. They are chosen for superior tone and are rated to withstand extreme heat for high reliability. Output impedance is switchable to 4, 8 or 16 ohms and 2 speaker jacks are provided.
- **CUSTOM DESIGNED CHASSIS** – Our durable welded steel chassis is designed specifically for our amp models so that every part can be mounted in the optimal location for lowest noise and highest stability.
- **CUSTOM DESIGNED CABINET** – Our cabinets are specially designed for maximum durability and superior tone. We use high-grade woods for our cabinets. The cabinet components are precision cut using high-tech equipment and are hand assembled with care. Dovetail or finger joints are used at the edges for maximum strength.
- **EXTERNAL BIAS TEST POINTS** – The Spectraverb amps are equipped with external bias test points and an externally accessible adjustment control. This makes output tube replacement fast and economical. In fact, with a low cost multi-meter you can adjust bias yourself. This can be a real advantage in case of a tube failure during a performance or recording session. See the section about the rear panel for more information.

Warnings and Precautions

During operation, vacuum tubes can reach temperatures over 400 degrees F. Do not touch hot tubes. Insure plenty of ventilation behind the amp. Keep the amp away from children as well as curtains and other flammable objects.

Do not expose your amplifier to rain. Never set any cups, glasses, bottles or cans of liquid on your amplifier.

Do not use any solvents to clean your amplifier.

Never operate your amplifier without a proper speaker load or damage may occur. See the section about the rear panel features for more information.

Make sure the amplifier is always properly grounded. Never remove or defeat the ground pin from your power cord. Always unplug the amplifier before changing tubes or fuses.

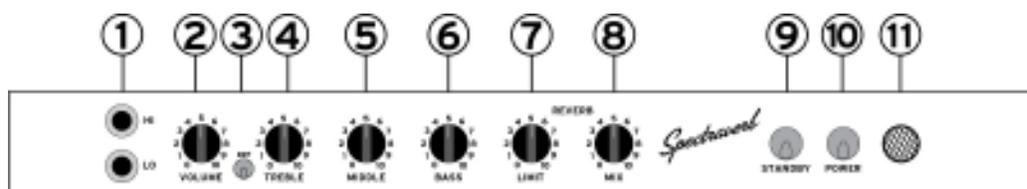
Use only correctly rated fuses. See the rear panel and this manual for proper fuse ratings.

This amplifier can create high sound pressure levels. Please use proper hearing protection and/or maintain an adequate distance from the amplifier to avoid hearing damage.

Tube amps contain lethal voltages (even when unplugged). There are no fuses or other user serviceable parts inside. Please refer servicing to qualified service personnel.

Never insert any tool or other object into ventilation holes, tube sockets or other openings unless instructed to do so in this manual. Otherwise, you may come in contact with dangerous high voltages inside the chassis.

Front Panel



- 1. INPUT JACKS** – For maximum versatility, we have provided two input jacks (labeled HI and LO). The HI jack provides a bit more drive and sensitivity. The LO jack provides a slight (6dB) attenuation and is useful when a cleaner and slightly darker tone is desired, especially with high output pickups.
- 2. VOLUME CONTROL** – Use this control to adjust the volume and gain of the amp. Try using the other input jack to widen the range of the Volume control
- 3. BRIGHT (BRT) SWITCH** – This switch is used to slightly increase the balance of brightness (treble) when playing at lower volume settings. The “up” position will produce a bit more sparkle and treble articulation.
- 4. TREBLE CONTROL** - This control varies the amount of treble.
- 5. MID CONTROL** – The Midrange control adjusts the midrange level. Keep the setting low for vintage American tones. Turn it up for a warmer tone or to add more midrange grind at higher gain settings.
- 6. BASS CONTROL** – This control varies the amount of bass. In general, it is suggested to increase the bass setting as volume is decreased to compensate for the way the human ear hears bass at different volume levels and to allow for tighter high-volume usage. Bass is generally turned down at high volume settings to keep the low end “tight”. If playing at extremely high volume settings, the best tone can be achieved but turning the Bass almost all the way down.
- 7. REVERB LIMITER CONTROL** – An Andrews Exclusive! When the LIMIT control is turned fully clockwise, the reverb functions as it would on classic amps with spring reverb. This will provide maximum drive to the spring unit resulting in a very thick, long lasting reverberation. As you play louder or drive the amp harder with an external pedal, the reverb sound will increase. When playing cleaner or at lower volume, the reverb level will be reduced because the reverb tank is not driven as hard. When you adjust the reverb level get the perfect reverb setting for clean tones, you may find the reverb too strong when you turn up for a solo. This can be annoying when playing dynamically. This is why we have added our exclusive Limiter control. When the reverb LIMIT is turned fully counterclockwise, the reverb is limited so that there will be very little increase in reverb when your volume is increased. The range of settings in between “0” and “10” allow for varying degrees of limiting. Use in conjunction with the reverb MIX control (see

below). The Limit control allows you to set your level for clean tones and keep the same level for higher volume settings such as solos.

8. REVERB MIX CONTROL – For adjusting the mix of reverb signal compared to the dry signal. Use in conjunction with the reverb (Limit) control (see above). On many amps, this control is labeled simply “reverb”. Turning the control clockwise increases the volume of the reverb signal as it mixes with the dry signal.

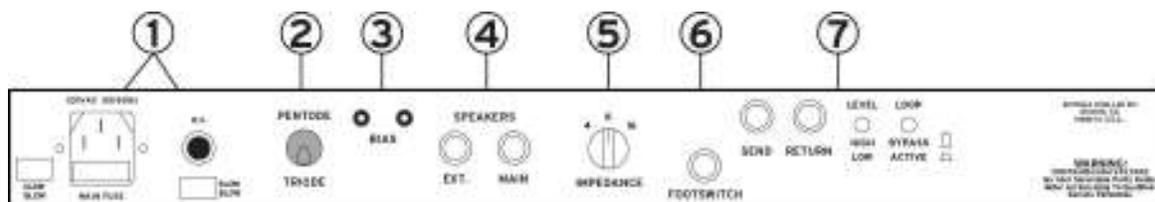
9. STANDBY SWITCH – This switch turns on the high voltage for the tubes. If your amp is equipped with an optional solid state rectifier, observe the instructions below *. If equipped with the standard tube rectifier, it is not necessary to start the amp in the standby mode. However, it is a good idea to place the amp in standby when taking a break to extend the life of the tubes and to allow the amp to cool.

***If equipped with a solid state rectifier:** When turning on the amp, make sure the STANDBY switch is in the off (down) position. Turn on the POWER (up position) switch first. The pilot light will light up. Wait at least one minute to allow time for the tubes to warm up completely before turning on the STANDBY switch. After the tubes are warmed up, turn on the STANDBY switch (UP position) to operate the amp.

10. POWER SWITCH – This switch turns on the main power to the amplifier. Always turn off the POWER switch when not using the amp for a couple of hours or more.

11. PILOT LIGHT – This light indicates when the main power is turned on. For bulb replacement, simply unscrew the red lens, grab the bulb with your fingers, push in while turning counterclockwise and release. Replace with a standard #47 bulb. The lens thread fits many standard lamp lenses and “jewels” allowing you to customize the color if you desire.

Rear Panel



- 1. FUSES** – Always use correctly rated fuses or severe damage to the amp may occur. Refer to the rear panel for fuse ratings. Always unplug the amp before replacing any fuses. When installing a new HV fuse, first insert it into the cap of the fuse holder, then while holding only the cap, insert the fuse into the holder, push in and turn clockwise to lock the cap and fuse in place. The main AC fuse is located in the AC cord jack. Use a small screwdriver to remove the fuse holder.
- 2. OPTIONAL TRIODE/PENTODE SWITCH** – In the PENTODE position, the amp will operate normally with full output power. In the TRIODE mode, the output power will be reduced roughly by half. This will allow the volume controls be set higher for a more “cranked up” tone while slightly reducing the actual volume of the amp. Always be sure to stop playing before switching. Operating this switch while playing could cause damage to the amp or tubes.
- 3. BIAS TEST POINTS AND ADJUSTMENT CONTROL** – These are provided to simplify measurement and adjustment of the idle current of the output tubes. Bias adjustment is necessary whenever the output tubes are replaced. See page 10 for bias adjustment instructions and precautions. The adjustment control is located on the underside of the chassis near the test points.
- 4. SPEAKER JACKS** – Always use the jack labeled MAIN first. If an additional cabinet is to be used, meaning that two cabinets will be connected at the same time, connect the second cabinet to the jack labeled EXT. Make sure any speakers you connect can handle more than the output power of the amp. Always set the impedance selector switch to match the correct speaker load. See chart below. *NEVER OPERATE THE AMPLIFIER WITHOUT A SPEAKER CONNECTED OR DAMAGE MAY OCCUR AND THE WARRANTY WILL BE VOID.*

Speaker “Break-In” – New speaker cones may be tight and stiff. This results in a brighter tone with less bass and may even be considered “harsh” at times. By the time your speaker has been played hard for 20 to 30 hours or more, its true character and tone will become apparent. Until your speaker is fully broken-in, you may find that you can achieve better tone by reducing the TREBLE control slightly.

5. IMPEDANCE SELECTOR – Always set this switch to the proper speaker load according to the chart below. Note: The Spectraverb 1X12 combos incorporate built-in **8 ohm** speaker loads so leave it set to **8** when not connecting another cabinet.

Setting	For One Cabinet	For Two cabinets
4	One 4 ohm cabinet	Two 8 ohm cabinets
8	One 8 ohm cabinet	Two 16 ohm cabinets
16	One 16 ohm cabinet	

6. OPTIONAL FOOTSWITCH JACK – Insert the plug from the footswitch cable here. The footswitch will allow the reverb circuit to be turned off remotely. A specially modified volume pedal can be used in this jack to adjust the reverb mix.

7. OPTIONAL BUFFERED SERIAL EFFECTS LOOP – Use the loop for connecting effect units such as reverb, delay, tremolo and chorus to avoid the noise and distortion that sometimes occurs when connecting the certain effects in the input jack if using high gain settings on the amp. Effect loops are generally not recommended for overdrive and distortion effects.

- a) Send** – Connect the input of your effects chain here.
- b) Return** – Connect the output of your effect chain here.
- c) Level** – Adjusts the level of the loop signal. For best results, first try the LOW level setting. The LOW will work best for most applications. The HIGH setting may produce slightly less background hiss but is only usable for “line level” effects and may cause distortion or volume reduction under certain conditions, especially when the clean channel volume or overdrive channel gain is set very high. *See notes below.*
- d) Bypass** – To completely bypass the loop circuit and maintain a 100% tube signal path, set this switch to the “out” position.

Notes on the effects loop – Some 9 volt “stomp box” type effects are not designed to be used in effect loops and can not handle the levels present in the loop without distortion. If your effect distorts even when the loop is switched to the LOW level setting, your effect unit may not be compatible. Try upgrading to an effect that can handle higher levels or one that runs on a higher supply voltage. You may also encounter higher levels of hum if using effects in front of the amp and effects in the effects loop if they share the same power supply. This is cause by the ground loop that is created between the signal ground connections and the power supply ground connections. It is recommended to use separate supplies for each group of pedals or a high end supply with isolated DC outputs for each group of pedals.

FOR TECHNICAL TYPES

We have provided this information for those who have a technical interest, proper equipment and a DIY attitude. **CAUTION! GUITAR AMPLIFIERS CONTAIN LETHAL VOLTAGES.** If you have any doubt about your ability to safely perform this procedure, refer the job to a qualified technician!

Bias Adjustment Procedure:

Precautions:

- *Lethal voltages are present inside the chassis and at the tube pins. Do not open the chassis or insert any objects into any openings other than where directed by these instructions. The entire procedure can be accomplished without opening the amp.*
- *Vacuum tubes get very hot. Always allow the tubes to cool completely before touching them.*
- *When replacing output tubes, use only the very highest quality tubes or the amplifier may be damaged. For more details, see the section below regarding tube replacement.*

Bias Adjustment

- 1) Unplug the amplifier and allow the tubes to cool. The output tubes are the two matching tall tubes.
- 2) Spread open the retaining clips that hold the output tubes in place and remove the tubes. Install a new matched pair of the same type of output tubes that came installed in your amp. ie: 6V6 or 6L6 (5881 can be used in place of 6L6 tubes).
- 3) Utilizing a digital multi-meter, set the switch for DC Volts or millivolts measurement and select a range that will show 0-100 millivolts. Insert the black meter lead into the black test point terminal and insert the red meter lead into the red test point terminal.
- 4) Insert a small flat blade screwdriver into the adjustment control hole and gently turn the control to its mid position. The adjustment control is located on the underside of the chassis near the bias test points.
- 5) Plug in the AC cord and turn on the amplifier's main power switch. After waiting at least one minute, turn on the standby switch. The meter should display a few millivolts (mV).
- 6) While taking care not to touch any hot tubes, insert the screwdriver into the adjustment control slot and very slowly turn the adjustment until the meter reads 65mV to 90mV for 6L6GC tubes or 50mV to 70mV for 5881 tubes. The test point shows the combined reading for both output tubes.
- 7) It's a good idea to re-check the bias periodically (every 500 hours of use) as the idle current can drift over time as the tubes age.

NOTES: Adjusting bias to the higher end of the scale will provide a warmer more driven sound but will shorten the life of the output tubes and increase the chances of a tube failure. Adjusting to the lower end of the scale will increase tube life while providing a "colder" less driven sound. Try different settings and listen for differences and make your choice. Factory settings are in the middle range.

TUBE REPLACEMENT

Precautions:

Always unplug the amplifier and allow the tubes to cool completely before touching them.

It is absolutely necessary to adjust the bias when replacing the output tubes.

When to replace tubes:

Preamp tubes such as 12AX7 and 12AT7 will generally last for many thousands of hours but occasionally problems can develop before they “wear out”. If you hear crackling, popping, humming, ringing, or other strange noises, try replacing your preamp tubes one at a time. This may resolve the problem. Preamp tubes can be replaced at any time without any adjustment.

Output tubes usually have a shorter life. They will often start to sound bad long before they fail. If you notice that your amp is gradually losing volume, headroom or “punch”, or if you notice that low notes are sounding a little “flabby”, it might be time for a new matched set of high quality output tubes. This could happen after a several months or it might take several years depending on how much and how hard the amp is played. Don’t forget about biasing the output tubes when replacing them.

Similar symptoms can be caused by a worn out speaker so be sure to try the amp on another cabinet to be sure.

Sometimes an output tube will fail before it “wears out”. A tube failure will usually result in a blown fuse. If you find a blown fuse in your amp, the most likely cause is a bad output tube or rectifier tube. If your amp is blowing fuses, try a new rectifier tube or a matched set of output tubes and adjust the bias. **Always use the correct fuse rating.**

LIMITED WARRANTY – Valid in USA and Canada only

Andrews Amp Lab Inc. warrants this product to be free of defects in materials and workmanship for a period of five (5) years from the original date of purchase **to the original purchaser**. For subsequent owners, the length of warranty shall be for a period of 1 year *from the original date of purchase*. During the warranty period, in the unlikely event that a defect occurs, Andrews Amp Lab will at its discretion, repair or replace the product at no charge to you for parts or labor. You must provide a copy of the original purchase receipt in order to receive warranty service.

What is covered:

- All components other than vacuum tubes and footswitches are covered for the periods listed above.
- Vacuum tubes and footswitches are covered for a period of 90 days from the original date of purchase.

What is not covered:

- Any damage due to abuse, accident, improper AC power, lightening, AC power surge, flood, moisture, rain, solvents and other liquids, fire, smoke, improper connections, improper bias adjustment, improper service, defective tubes not installed Andrews Amp Lab or it's authorized agent or normal wear and tear
- Any amp with altered, defaced or removed serial numbers
- Any product that has been altered or modified in any way not authorized in writing by Andrews Amp Lab Inc.
- Andrews Amp Lab Inc. shall not be liable for any consequential and/or incidental damages.

How to obtain warranty service: Contact Andrews Amp Lab to arrange for service by calling 770-671-0485 or e-mailing amps@andrewsamplab.com or check the web at andrewsamplab.com or andrewsamps.com for the latest contact information. After confirming warranty status, send or bring your amp to the location specified. If shipping, you are responsible for the cost of getting the amp to us and we will pay the return shipping costs.