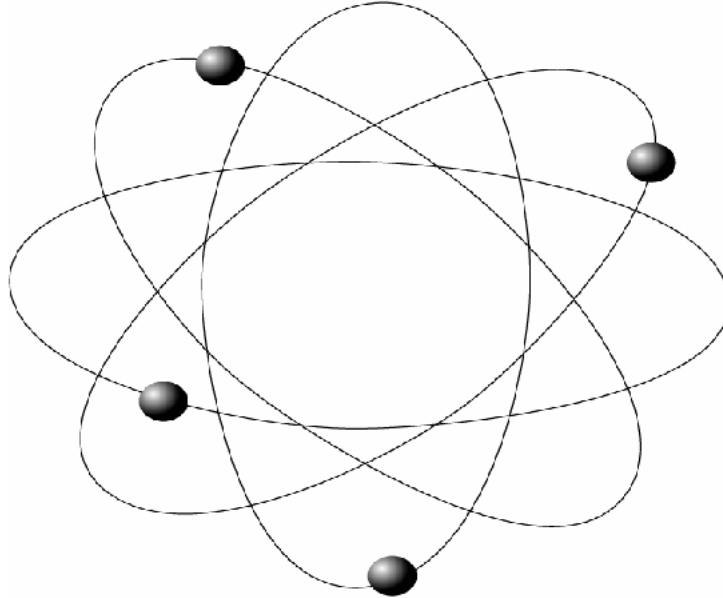


# SUPER



# SPACE TONE 30



## Swart Amplifier Co

Wilmington, North Carolina

[swartamps.com](http://swartamps.com)

910.620.2512 · [info@swartamps.com](mailto:info@swartamps.com)

**IMPORTANT:** After unpacking your amp, inspect it to make sure there was no damage in shipping. If you see anything amiss, please contact your dealer immediately. It's important to make sure that all tubes are properly seated in their sockets. Remember to keep all original packing materials. Before use, please familiarize yourself with this manual. Do not power your Super 30 up without having your speaker cabinet **CONNECTED** with matching impedance. **DO NOT USE GUITAR LEADS** – Only cable designed for running speakers/cabs should be used.

**Swart Amplifier Co**

# Super Space Tone 30 Head

Welcome to the Swart Amplifier Co Family ~ It's all about the TONE by Michael Swart

Thank you for purchasing the Swart *Super Space Tone 30*, all-tube amplifier. You just purchased one of my favorite amplifiers, and a logical succession in the *Space Tone* series. The Super ST-30 carries on the Swart sonic signature as another altar to TONE with all the sonic complexity, depth, harmonic richness, dimensionality, and quality evident within the Swart *Space Tone* Amplifier line, just with more power (BIG SOUND), housed in an aluminum chassis within a custom pine cabinet covered in dyed lacquered tweed.

This amplifier puts out @ 30-35 *tube watts* using a matched quad of 6V6GT outputs, perhaps the *King of Tone* in the valve family. The Cathode-Biased circuit (no need to manually bias) is AB Push-Pull, biased high in Class A with a robust Power Supply, and like all Swart amps, utilizes tube rectification for tonal superiority (*Although cheap to implement, SS rectification tends to leach the natural harmonics, bringing harshness to the sound*). It's actually the first amplifier from me that features a *Master Volume* via an implementation that lacks the usual sonic compromise when run pre driver tubes. This Master Vol brings additional flexibility to the Super 30, especially when partnered with my next tweak: I've included a "HI/LO" gain switch that allows clean output to "11" if desired via the "LO" option. The HI setting brings a larger than life, tonally rich, Swart tube breakup that I feel is in a class of its own. Yeah, it's Papa talking but I can't help it with this one, even if it's the third born.

I personally have not heard anything in this power range that sounds this soulful, dimensional, and tonally complex. I think I've hit upon some serious magic via this circuit, aided by attention paid to proper part selection and build/layout detail. As with every good tube amplifier, there is serious homage paid to the great all-tube circuits of the 50s and 60s, but with some twists that make this amplifier unique. The circuit is beautiful in its simplicity and electrically honest. The internal wiring/layout is mirrored after the legendary LEAK HI-FI amplifiers with point-to-point, hand-wired circuitry using "Loom" layout.

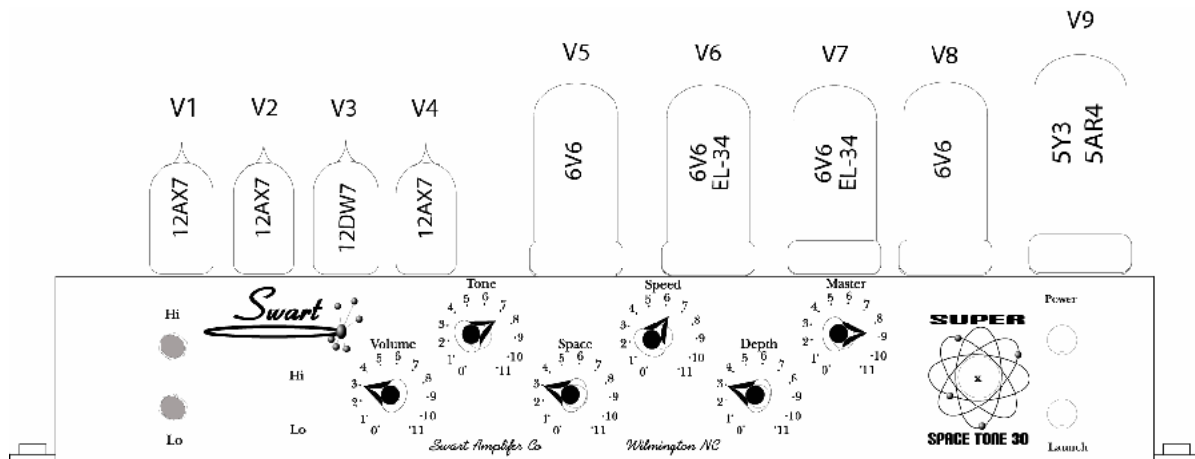
Ultimately, none of this matters if the amplifier doesn't convey your emotion and expression as a musician. This is what I concentrate on with every Swart Amplifier circuit and what I feel comes through via the Super Space Tone 30. Please take the time to read this manual and familiarize yourself with the Super 30's design and operation. I hope you enjoy this amplifier as much as I do, taking pride in knowing you have a 100% hand-crafted amplifier, from input to output, in the tradition of Swart Amplifier Co.

Drop me a line or email to let me know how you like your new amp! I look forward to hearing from you.

Michael Swart  
Owner-Designer  
Swart Amplifier Co.

**WARNING:** No user serviceable parts inside. Refer servicing to qualified personnel only

# Super Space Tone 30 Tube Layout and ID



- V1** - 12AX7 First Stage Preamp Tube
- V2** - 12AX7 Second Stage Preamp Tube / Tone Circuit
- V3** - 12DW7 Reverb Driver / Reverb Return
- V4** - 12AX7 Tremolo / Driver
- V5** - 6V6 Power Tube
- V6** - 6V6 Power Tube \*\*EL-34 (1)
- V7** - 6V6 Power Tube \*\*EL-34 (2)
- V8** - 6V6 Power Tube
- V9** - 5AR4/5Y3 Rectifier Tube (Use 5AR4/GZ34 for more headroom and less sag)

Your Super 30 comes supplied with a matched quad of Electro-Harmonix 6V6GT, three JJ 12AX7, one JJ 12DW7, and a JJ GZ-34S for rectification. I have tried most of the latest tubes from manufacturers and can say these represent our choices in current production for the Super 30. Of course, there is always the draw of the tone/sonics you can obtain from NOS alternatives (I admit, *the ST-6V6se can be transformed*). Indeed, some of the best of the breed can really bring satisfying results. Unfortunately, there are a number of circumspect tubes floating around on eBay and the net. It's also hard to achieve proper matching of the power tubes and many NOS can be extremely microphonic. For this reason, we fully endorse the use of the supplied brands.

**\*\* If subbing EL-34, use only TWO in V6 & V7 (two center power tube sockets) for your Power Output tubes. V5 & V8 remain empty. Do not run four EL-34. Running two EL-34 brings a bit of added top-end extension along with a bit more drive/relative volume. You do lose a bit of the 6V6 quad vintage soul, but the amp takes on a slightly more modern British flair. We've tried JJ EL-34 with good results.**

# Super Space Tone 30 Control Layout



**Power On Procedure** – Make sure speaker cabinet and reverb jacks are all plugged in BEFORE the amplifier is powered on. With the “launch” standby switch down, flip the power switch up for ON. The **Jewel Light** will *glow blue* on power-up. Wait about 60 seconds before engaging the Launch switch (up). This allows for proper tube warm-up time before hitting them with B+, greatly increasing tube life. If the SST-30 is temporarily not in use, you can turn off the Launch switch to preserve tubes.

**Hi/Lo Inputs** – Lower output guitars with a need for more gain might prefer the HI input. Guitars with “hot” pickups might prefer the LO input. Experimentation is encouraged here with guitar preference.

**Hi/Lo Gain Switch** – Lo setting allows clean output to “11” if desired. The HI setting brings a larger than life, tonally rich, Swart tube distortion. Adjust Master and volume as needed for needed balance.

**Volume** – Adjusts the loudness of the amplifier with gain control at the Preamp Tubes.

**Tone** – Simple Tone Circuit treble cut – Preserves tonal integrity over more complex implementations.

**Space** – Controls amount of “tube” Reverb sound from off to swamp, surf, lush, swimmingly Good.

**Speed/Depth (Tremolo)** – Depth controls intensity of the tube tremolo from off to deep. The Speed controls the rate of the tremolo/vibrato pulse. On occasion, if at full, you may hear some pulse even if the amp is idle; this is normal.

**Master** – The Super 30 Master volume is *Post* Driver tubes so it adjusts the gain of your output/power tubes. The volume adjusts your preamp/driver gain. This Master implementation allows for less sonic compromise & brings additional natural tube compression. We urge experimentation for desired results. **IMPORTANT: For most use, leave at “11” to get FULL POWER from output tubes.**

**Launch** – This is the “standby” switch. Set amp to Standby (Launch baton *down*) to allow the tubes to warm up after the amp is initially turned on (see *Power* below). After about 1 minute of warm up, you can switch Standby *up*, and the amp is ready to be played. Using the “Launch” standby switch will significantly prolong tube life.

**Power** – This is the switch that brings the current via the mains into the amplifier. It is activated in the “up” position. You will not get B+ voltage and full operation unless your “Launch” is also in the “up” position. The **Jewel Light** will glow blue when the power switch is engaged and the Mains fuse is intact.

# Super Space Tone 30 Rear Layout



**Mains IEC & Fuse** – To the far left, you have the Mains IEC plug with extra fuse (**3 Amps**). Gently pry the bottom cover off to reveal the fuse container. This can be accomplished with a small flathead screwdriver, carefully prying open to reveal the fuse holder/container.

**HT Fuse** – The HT fuse is an excellent precaution; in the rare event that a tube does fail, the amplifier is protected by a **500ma fuse**. This is a simple push and twist release holder, counter clockwise to remove, clockwise to re-insert. If this fuse does blow, it's best to consult qualified tech for assistance.

**Speaker Outputs 1&2** – These are the two speaker cabinet outputs. At least ONE speaker needs to be plugged in before operating your Super 30. Care must be taken in assessing the impedance if running two cabinets via both outputs. IF using one cab, plug into the Speakers 1 jack.

**Impedance Selector (4-8-16 ohms)** – The Super 30 can be run 4, 8, or 16ohm loads using the selector switch on the rear of the amplifier. If just running one Speaker Cabinet, always plug into the Speaker 1 jack. Set the impedance on the head to match the speaker cabinet. The stock Swart Super ST Cabinet provides an 8ohm load. **Running amplifier with two speaker cabinets:** If you are running two 8 ohm cabinets plugged into Speaker 1 and Speaker 2 jacks, set the impedance connector to 4 ohms. For your own application, please refer to the excellent **Impedance Chart** on page 12 of this manual.

**Foot Switch** – Jack for Swart Amps supplied dual foot switch ~ Controls both Reverb & Tremolo.

**Reverb Tank (O for Output/ I is Input)** – The Super Space Tone 30 has excellent tube reverb quality. The dedicated Reverb Tank is actually located behind the back panel on the top of the enclosure over the Preamp Tube side. The send and receive lines plug into the top of the chassis behind preamp tubes. The tank is housed in a leatherette fabric holder that opens from the right side if looking from the rear of the amplifier. Note: The input chassis RCA is the jack to the right if looking from rear. The cables are labeled as indicated within the parenthesis above. See detailed instructions with photo on Reverb Tank removal/examination later in the manual.

# Super ST-30 Tube Rolling & Replacement

## *O Tube Rollin' Fiend*

by kh ~ Swart Amps Online

Access to the full compliment of Super Space Tone 30 tubes *CAN* be achieved via the front oval cutout although it's easier if you have hands and wrists akin to a Russian Ballerina or Heroin addict (or an unsuspecting wife nearby).

Actually, I will begrudgingly admit to being able to change all the tubes myself from the front oval. After contorting hand to "*The Claw*" and removing V5 & V6, one can then bring the right hand and wrist in to reach the preamp tubes. While the power tubes and rectifier are relatively easy, the preamp tubes are more problematic, but can be done even if not a certified member of the *Starving Musicians Club*.

Ham fisted sorts will need to move to *Plan 2*, seen at right, this via the rear opening sans back panel, a simple procedure involving the removal of only four Philips Head screws (long ones though). Thankfully, there is very little head scratching involved with the Super 30.

Due to the length of the screws, one might be encouraged to "*grab the drill*" with ye olde Philips bit, smiling a mile wide at your cleverness. I watched Dr. Swart do this very thing late one night, this with his own personal Super 30. It was not a pretty sight.

Here we have lovely Audrey, Swart Spokes model and semi-willing participant, easily accomplishing the entire process, from removing the rear panel to extracting the preamp and power tubes, all with little fuss (well, she did give me a bit of hell).

- continued on next page

*Note: The amplifier chassis is actually bolted to the enclosure base with four stainless screws with integral inserts to alleviate stripping. However, the only recommended user removable portion of the head is the back panel, held by the four screws. Do not remove the chassis as there is potentially lethal voltage within.*



Step 1: Unplug from wall or IEC Jack



Step 2: Bribe wife/girlfriend/groupie to begin unscrewing the four 1.5" rear panel screws. Watch at safe distance offering instructions every few seconds



Step 3: Tell poor sap to make sure to grasp the panel as above, carefully pulling out from top first.

Once the panel is carefully removed, access to the line of tubes is relatively easy, only involving minimal Houdini-esque contortion. Interestingly, shaping your hand into a virtual “pick grip” does a good job in preparation for this duty.

See Audrey again at right, tube extraction accomplished even with blinding flash going off midway through move. True, it’s doubtful she’ll ever do this again, but it’s not because it was all that difficult.

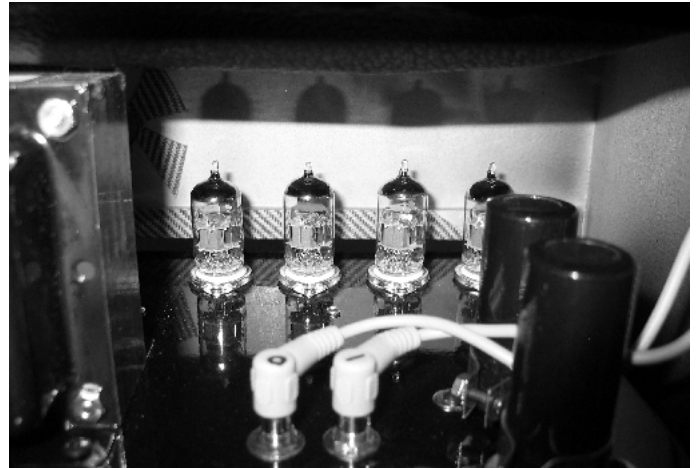
**IMPORTANT REMINDER:**

this goes for ALL tube components, whether guitar or audio related - Always, *gently* extract the tubes by grabbing them at the base, carefully easing them out with only subtle movements back and forth, while pulling straight up. If careful, you will never hear that sickening snap of thy tube pin or center key guide, a sound that surely brings the deepest of groans with horror sigh, closely followed by the *head in hands*. Older sockets need less movement to and fro, but new, tight sockets will sometimes grip with force. On the Super 30, you’ll notice the guide keys for V5 thru V9 ALL face at 2 o’clock if looking from the rear (8 if replacing from front). This is a big help when aligning the pins for replacement. The preamp tubes have the pin “C” opening facing 3 o’clock from the rear, 9 from the front. *Never FORCE a tube into the socket.* - kh

Notice the mild look of disgust when eyeing that 6V6GT, this only because I had just said, “OK, better put it back in.”

But many will be wondering if bypassing the rear panel removal is at all possible. Swart seems to prefer the panel option, but with my characteristic laziness. I’m looking to the *path of least resistance* solution..

- continued on next page



*Panel Removed – Close Up view of Preamp tubes, Output Trans, and Reverb tank output/input*



*Step 4: Witness Audrey carefully moving to the tubes from right to left for extraction.*



*Step 5: Now, Stare at tube.*



Here we have Audrey again, going for the oval cutout output tube removal with utmost concentration. Sadly, *I'm starting to get slightly jealous spying the way she's looking at that tube.* What this says, I'm not sure...

If you can overt your eyes, Audrey talked me into attempting the feat below, from start to finish, my own sorry arm as subject, and a sorry arm is it (I don't think I've lifted a weight since 11<sup>th</sup> grade Gym class). Well, I managed to remove all nine tubes, including the very last 12AX7 driver. I then put them all back, this after Audrey expressed some doubts, especially since I had already downed four glasses of mediocre wine, this to celebrate a wonderful Friday evening of changing tubes in thy Swart Amplifier... *Indeed.*



Step 6: *I'm now jealous of an output tube...*



*All aside, I love playing through these amplifiers; it's a labor of love for all. Ever since the first day I tried the prototype 6V6se, I've been hooked.*

*Have fun playing your new Swart Amplifier. After all, that's what it's all about. Me, I'm thinking about becoming a hand model – kh*





# Super ST-30 Jewel Lamp Rolling

Believe it or not, this is an issue that actually brings some Swart owner head scratching. Seems some of the initial Swart Amplifier Jewel Light bulbs were prone to early burnout; either that, or people were playing their amps at all waking hours, unable to put the damn guitar down. We prefer the second theory. But for all those that wonder, here is the step-by-step low down on how to change the proverbial *Swart Amp Bulb*... *Note: This applies to ALL Swart Amplifiers*



1 Turn the knurled base counter clockwise to remove.



2 Push bulb in, rotate left to release bayonets.



3 bulb releases – draw out.



4 See socket with openings for bayonets.



5 Align bayonets, push in, turn right to lock.



6 Bulb should be centered and held in- screw on cover

# Super ST-30 Tube Reverb & Tank

One of the hallmarks of the Swart Amplifier Space Tone series of amps is the excellent reverb. Unlike many other amplifiers, the Swart reverb is “*Tube-Driven*,” which provides a more holographic, spacious, and realistic rendering. The Reverb Tank is located in the inside top right of the head enclosure, above the preamp tubes in a leatherette pouch that opens from the right. Access to the tank is via the rear after removal of the panel’s four screws. See in detail below.



**1** Unplug IEC and remove the 4 Phillips Head Screws



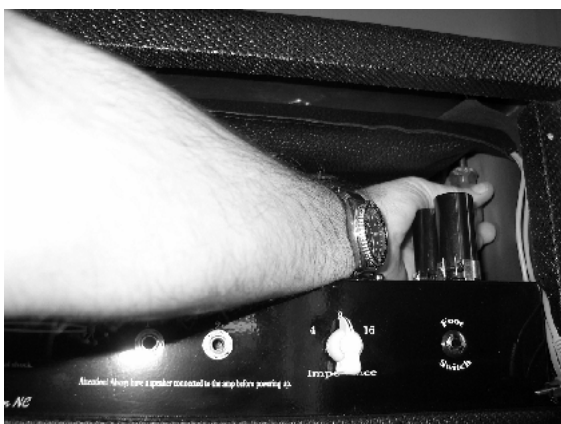
**2** Remove panel as seen above, pulling out top first.



**3** See Reverb Tank at top right within pouch



**4** Remove Tank leads from chassis RCA's (output/input)

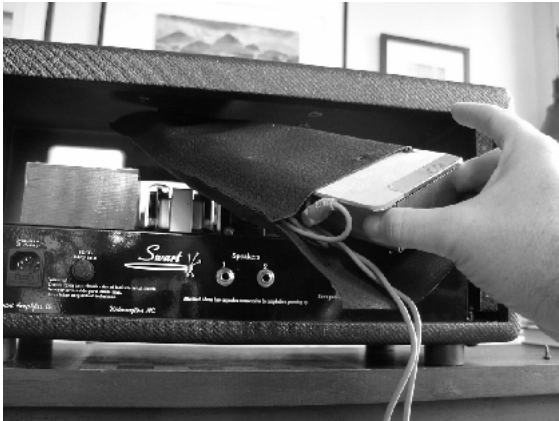


**5** Use stub Philips driver to remove single screw holding pouch at right

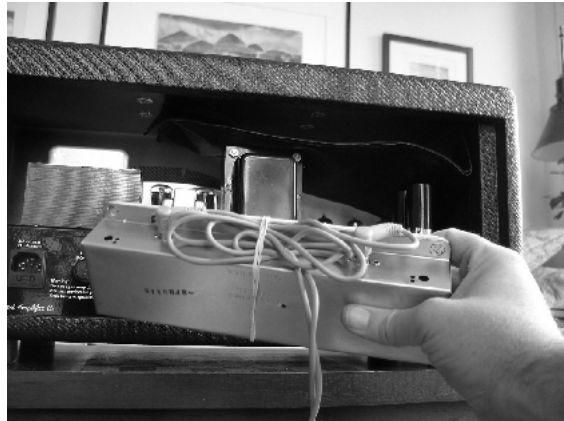


**6** Carefully swivel tank and pouch out, maneuvering over the Output transformer

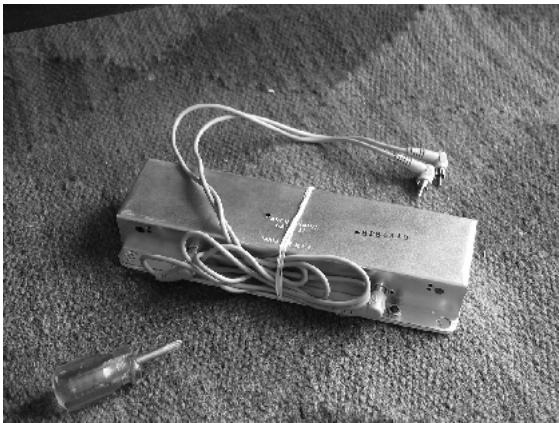
# Super ST-30 Tube Reverb & Tank *continued*



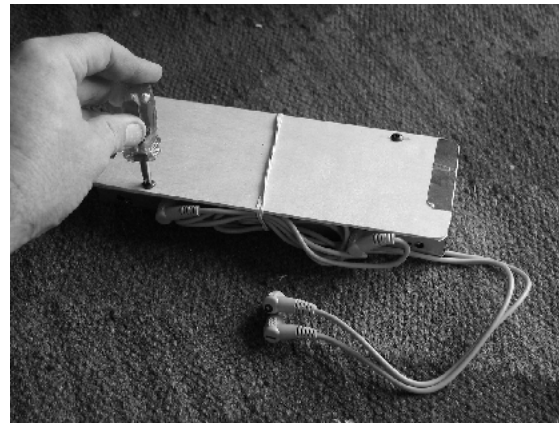
**7** Slowly remove Tank from pouch – Notice orientation



**8** Tank removed from pouch with cables



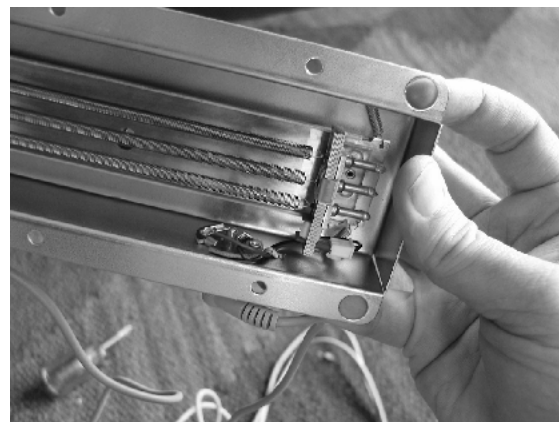
**9** See tank with output/inputs and banded lines  
Access contents via other “wood covered” side



**10** Remove band and wood cover (2 bolts/lock nuts)  
to access reverb springs/wiring



**11** See exposed tank springs along with wiring to jacks



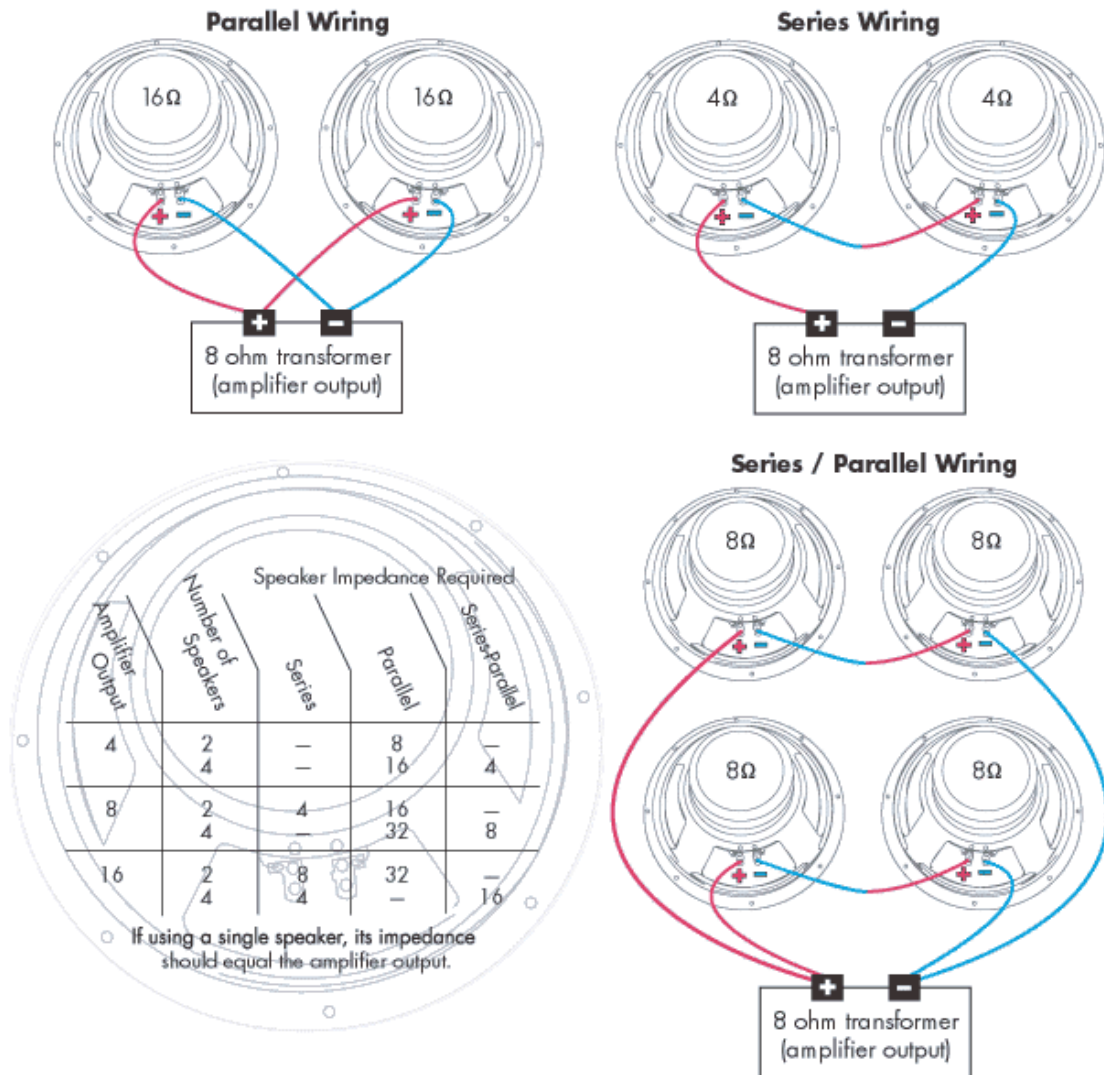
**12** Close-up. The most common problem in reverb tanks  
is wiring problems from shipping mishaps

Putting the reverb tank back is slightly more patience testing. First, reattach the wood cover and band holding excess cable. Now, on a soft towel or carpet, place several books down, and place head “upside down” resting on top, with books supporting left side, this to keep handle off ground. Now reverse your steps above, placing tank in pouch, metal side up, in same relative orientation. Find the three holes at pouch end, threading screw through each, before rotating tank/pouch back in. Pull the pouch a bit and try to line up screw with previous hole. This is actually the most difficult part of the whole procedure. Once found, slowly tighten screw. Return amp upright, *making sure tank pouch is not touching Output Transformer*. Reconnect Reverb cables: *Output to left RCA | Input to right RCA*

# Impedance Chart/Diagram

*with thanks to long time speaker builder Jensen at [www.jensenvintage.com](http://www.jensenvintage.com)*

The diagrams below illustrate the multiple ways one can achieve a standard 8 ohms for your amplifier output tap, this via multiple speakers wired in Parallel, Series, or both. The Swart Super Space Tone 30 Head offers the option to switch between 4/8/16 ohms at the output tap, giving one a myriad of speaker/cab wiring options. Please reference the chart for your application.





# Super Space Tone 30 Additional Info

## Idiot's "Man, what's up with my amp" Initial Troubleshooter Checklist

- Is the power cord properly plugged into an electrical outlet?
- Is there power at the outlet?
- Is the volume control on the instrument turned up?
- Is the Cabinet plugged in?
- If so, then eliminate all effects and try different guitar cords.
- While at it, eliminate the guitar as a culprit (pots, grounds, jacks, shorts)
- Check to see if Mains and HT fuses are intact\*
- If, after checking all the above, the system is still not operating properly, consult your authorized dealer or Swart Amplifier Co.

*\* If fuse is blown, never replace with any other fuse than specified. In addition, blown fuses can often indicate a more serious problem. If replacement fuse blows, please consult an authorized technician. HT fuse blown often indicates tube short or other valve related issue.*



## Swart Amplifier Co

2031 Wrightsville Ave. Wilmington, North Carolina  
910.620.2512 • [info@swartamps.com](mailto:info@swartamps.com)  
[www.swartamps.com](http://www.swartamps.com)