



# '78 SPECIAL

## **Legends Series**

50-Watt or 100-Watt

Fixed-Biased Tube Amplifier

Owner's Manual

[www.sonictoneamps.com](http://www.sonictoneamps.com)

Made in the USA

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# Introduction

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In 1978, a certain guitarist erupted on the scene with a sound that took the world by storm. No one had ever heard guitar playing or guitar tones like what this guitarist was putting down on record. Everyone's minds were collectively blown and album sales, as well as guitar and amp sales, went through the roof. Rock n roll would never be the same as this tone would go on to be one of the most analyzed and scrutinized tones in the world - and for good reason. All of the "mad scientist" experimentation done to arrive at this tone provided a high gain, yet beautifully compressed sound that has great responsiveness and a wide range of control.

And many of those fabled modifications are built right into this amp. From the "fat" switch to the "mean" switch - and many others features - players can adjust the '78 Special to cover different eras of the player's highly sought-after tone.

I'd like to personally thank you for purchasing the SonicTone Legends Series '78 Special tube amplifier. I know how important every player's tone is to them and that consideration goes into every amp. Carefully designed and hand-built here in the U.S., the '78 Special encapsulates a revered tone that is permanently etched in the pages of rock n roll history. It's a tone from a player that will always be remembered, always be with us, and always be celebrated.

Good luck and enjoy the amp!

Sincerely,

A handwritten signature in black ink that reads "Nick Sagona". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Nick Sagona

**⚡ WARNING! ⚡**

Dangerous and potentially lethal voltages may be present in the amplifier even after it has been turned off and unplugged. Do not open the amp yourself or touch the inside of it. Only have a qualified service technician open up and work on the amplifier.

# Safety Instructions

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1. Always use the correct types of tubes for this amplifier.
2. Always match the impedance to correct value of the speaker load.
3. Do not attempt to bypass the fuses or use different fuse values.
4. Please only use the provided SonicTone footswitch, which is compatible with this amplifier.
5. Please only use an active 5-pin DIN cable to connect the footswitch to the amplifier.
6. Please operate the amplifier in dry and safe conditions.
7. Please store the amplifier in a reasonable, climate-controlled environment.
8. If you are experiencing issues with the amplifier, please have it worked on by a qualified service technician only. Do not attempt to open the amp and work on it yourself.

# Features

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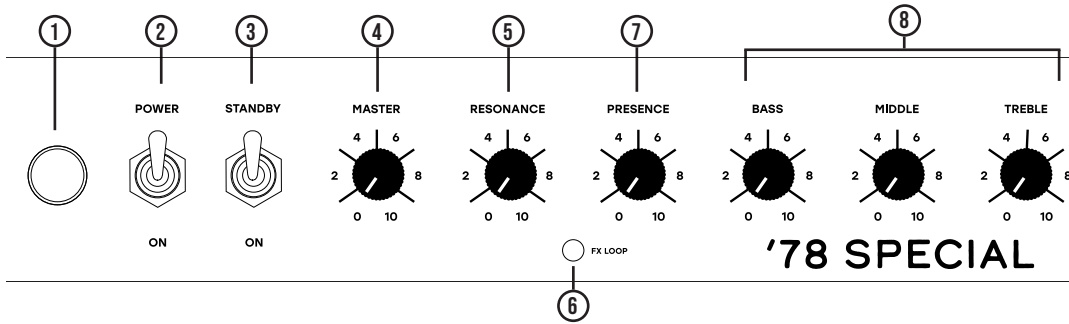
The '78 Special is a fixed-biased tube amplifier that uses four (4) 12AX7 preamp tubes. The 50-watt model uses two (2) 6CA7 power tubes and the 100-watt model uses (4) 6CA7 power tubes. The features include:

- 2 channels with independent gain controls (footswitchable)
- Shared 3-band EQ
- Custom value mid pot
- Bright switch on channel 1
- Fat switch
- Mean/Classic switch
- Silver/Gold clipping switch
- Presence and resonance controls
- Master volume
- Solo boost control, footswitchable
- Tube-driven, buffered FX loop, bypassable and footswitchable
- FX loop series/parallel switch with send and return controls
- Mono preamp out & mono power amp in jacks
- Custom value, vintage-spec choke
- 3-way output impedance switch (16, 8 or 4 ohm)
- Birch plywood cabinet with finger-jointed construction
- 3-button footswitch

## Footswitch Operation:

The footswitch requires the active 5-pin DIN cable to be inserted into the footswitch jack on the rear panel as well as the jack on the footswitch. In order for the footswitch to operate correctly, the corresponding switches on the amp must be set to the OFF position. The left button (orange LED) engages channel 2. The middle button (red LED) engages the solo boost. The right button (green LED) engages the FX loop.

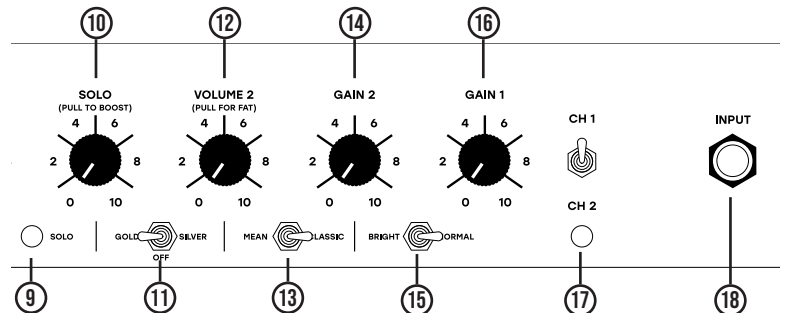
# Front Panel



1. **Pilot Light** - illuminates when the amp is turned on.
2. **Power Switch** - turns the amp on.
3. **Standby Switch** - allows the amp to be played. When the standby is off, the tubes are kept warm, but the amp will not make any sound.
4. **Master** - the overall master volume of the amp.
5. **Resonance** - active tonal control that can be used to thicken up the amp's overall sound.
6. **FX Loop LED** - illuminates when the FX loop is engaged.
7. **Presence** - active tonal control that can be used to brighten up the amp's overall sound.
8. **Bass, Middle and Treble** - passive equalization controls to adjust the tone of the amp.

*\*The solo boost is an additive volume boost for channel 2 and works in conjunction with volume 2. The higher volume 2 is set, the less of an effect the solo boost will have. When volume 2 is set at a lower setting, the boost can be as much as 12 dB. When volume 2 is set at a higher setting - for example, past half way - the boost will be around 2 or 3 dB.*

9. **Solo Boost LED** - illuminates when the solo boost is engaged.
10. **Solo Boost Level & Switch\*** - control to adjust the level of the solo boost. Pull out to activate.
11. **Silver/Gold Clipping Switch\*\*** - 3-way switch to engage more clipping distortion. The center position is off.

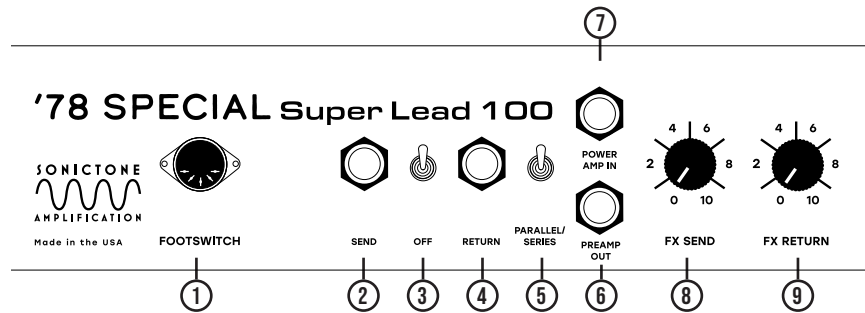


12. **Volume 2** - control to adjust the overall volume on channel 2.  
**Fat Switch** - switch to engage a fatter tone with a little more gain. This option affects both channels.
13. **Mean/Classic** - switch to engage additional gain and a more aggressive, slightly brighter voicing on channel 2.
14. **Gain 2** - control to adjust the amount of gain on channel 2.
15. **Bright Switch** - switch to engage a slightly brighter tone for channel 1.
16. **Gain 1** - control to adjust the amount of gain on channel 1.
17. **CH 1 / CH 2 Switch & LED** - switch to change between channels 1 and 2 when not using the footswitch. The LED illuminates when channel 2 is engaged.
18. **Input Jack** - mono input jack to plug your guitar into.

*\*\*The "Gold" clipping mode is based on a popular mod that was added to gold-faced British amps of the 1970's. The "Silver" clipping mode is based on a slightly different clipping feature found in silver-faced British high-gain amps that first appeared in 1987.*

*The clipping circuit mainly effects the high gain signal of channel 2 and has virtually no effect on channel 1. The nature of the clipping circuit acts as a "limiter," causing the signal to clip and produce more distortion. Due to this, while the clipping switch is engaged, the overall volume will appear lower, depending on the position of the volume 2 control. The more volume 2 is increased, the signal will become slightly louder and the overall saturation will be increased. Use the master volume to compensate and adjust this feature to your own personal taste.*

# Rear Panel



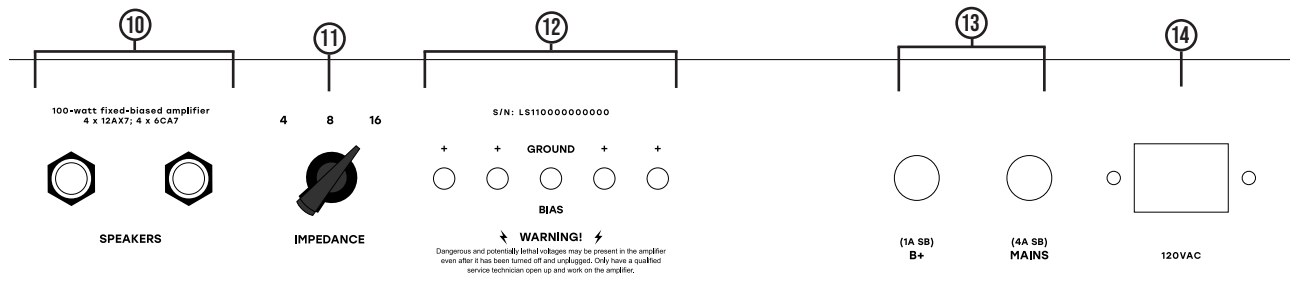
1. **Footswitch Jack** - 5-pin DIN jack to plug the provided footswitch cable into.
2. **FX Loop Send Jack** - mono input jack for the FX loop instrument level send signal.
3. **FX Loop Bypass Switch** - switch to fully bypass the FX loop circuit.
4. **FX Loop Return Jack** - mono input jack for the FX loop instrument level return signal.
5. **FX Series/Parallel Switch** - switch to operate the FX loop in either series or parallel mode. In parallel mode, the original signal is allowed to pass through unaffected and the send control acts as a “wet/dry blend” to mix the level of affected signal into the mix with the unaffected signal. In parallel, depending on the amount of “wet” signal set by the send control, the overall signal may be louder due to the dry and wet signals being mixed together. In this scenario, it is recommended to use the return control to balance out the overall volume.
6. **Preamp Out** - mono unbalanced output jack to send the post-FX loop line level signal to another external unit or power amp.
7. **Power Amp In** - mono unbalanced input jack to send a line level preamp signal from another amp into the power amp of this amp. Once a line is plugged into this jack, the internal preamp is disconnected and the power amp will only amplify the incoming external preamp signal.
8. **FX Loop Send Level** - control to adjust the level of the send signal to the outboard FX chain.
9. **FX Loop Return Level** - control to adjust the level of the return signal to the amp.

**A note about the FX Loop** - When the FX loop is off (bypassed), the entire signal will bypass the FX loop circuit altogether. However, the send and return jacks are switched jacks that are connected together internally when nothing is plugged into them. Therefore, when the FX loop is on, signal will be allowed to pass through the FX loop even if nothing is plugged into it. If the FX loop is on but not being used, the return control can be used as an additional volume control to reduce the volume when the FX loop is on, and then boost the volume when the FX loop is switched off using the footswitch. This will effectively provide a volume “boost” option.

**A note about the insert points** - It is important to make a distinction between the FX loop and the “preamp out/power amp in” jacks. The FX loop is a lower instrument level signal designed for FX units and requires the “make-up” gain of the return stage. The “preamp out/power amp in” insert point is post-FX loop and is a higher line level signal that needs no recovery stage. The two insert points have different purposes and behave differently because of this.

In summary, the FX loop is designed to feed external FX units via the send jack and receive the processed instrument level signal to the return jack. The “preamp out/power amp in” insert point is designed to feed other power amps, or receive a line level signal from another preamp.

## Rear Panel (continued)



- 10. Parallel Speaker Jacks** - mono input jacks to plug the speaker(s) into. PLEASE NOTE: The jacks are in parallel, so if you plug two equal impedance speaker loads into them, you must set the impedance switch to half their impedance. For example, with two 16 ohm speaker loads plugged in, the impedance switch should be set to 8 ohms.
- 11. Impedance Selector Switch** - switch to select the correct impedance of the speaker load hooked up to the amp.
- 12. Bias Probes** - test jacks to check the approximate bias point of each power tube in millivolts (mV).\*
- 13. Fuse Holders** - receptacles for the amp's fuses.
- 14. AC Jack** - jack to plug the provided AC cord into.

### \*Important Note About Biasing:

The value given at the bias probes represents the voltage drop across an internal 1 ohm resistor attached to the cathode of each power tube. Using Ohm's law ( $V = IR$ ), the value in millivolts (mV) can easily be converted to milliamps (mA) to get the approximate cathode current. For example, a reading of 40mV would equal 40mA. Power tube cathode current can act as a set point for adjusting the amplifier's bias. This is only an approximation to guide you in checking and setting the bias of the amp, as other factors go into calculating an amp's bias, such as the available plate voltage and max plate dissipation of the power tubes. Before leaving the shop, all SonicTone amplifiers are biased by measuring the plate voltage and plate current, and using those values to properly set the plate dissipation of the power tubes at idle.

The bias pot is located on the top of the amp chassis near the power tubes. As always, please have a qualified technician service the amp and set the bias accordingly. When biasing the amp, all measurements should be performed with the amplifier warmed, set to play mode and with all controls set to zero.

## 2-Year Limited Warranty

This amplifier is protected with a limited, 2-year warranty for any and all defective issues with the build workmanship and parts, excluding tubes, transformers and speakers. The warranty does not cover general wear and tear, neglect, misuse or abuse, damage from liquids (water, alcohol, etc.), disasters, acts of God or unauthorized modifications. Any modifications made to the amp by the owner or a technician will void the warranty. The owner is responsible for all warranty shipping costs. Once the warranty work is completed, the customer will be notified and sent a final shipping invoice. The owner then is required to pay the shipping invoice to have the repaired amp shipped back to them. Returned warranty shipping will be insured and will require a signature.

### ! NOTICE !

Tube amplifiers are voltage-sensitive devices that require a certain amount of AC input voltage (VAC.) If the provided input voltage is too low, the amplifier may not function properly. If the provided input voltage too high, it may damage the amplifier. Please take care to ensure that the correct AC input voltage is provided to the amplifier. See the **specifications** section of this manual for more info.

# Sample Settings

## Channel 1 - Chimey Clean:

FX LOOP      '78 SPECIAL       SOLO | GOLD OFF | SILVER | MEAN | CLASSIC | BRIGHT | NORMAL

MASTER: 4, 6, 8 | RESONANCE: 4, 6, 8 | PRESENCE: 4, 6, 8 | BASS: 4, 6, 8 | MIDDLE: 4, 6, 8 | TREBLE: 4, 6, 8 | SOLO (PULL TO BOOST): 4, 6, 8 | VOLUME 2 (PULL FOR FAT): 4, 6, 8 | GAIN 2: 4, 6, 8 | GAIN 1: 4, 6, 8

CH 1  CH 2

## Channel 1 - Blues Crunch:

FX LOOP      '78 SPECIAL       SOLO | GOLD OFF | SILVER | MEAN | CLASSIC | BRIGHT | NORMAL

MASTER: 4, 6, 8 | RESONANCE: 4, 6, 8 | PRESENCE: 4, 6, 8 | BASS: 4, 6, 8 | MIDDLE: 4, 6, 8 | TREBLE: 4, 6, 8 | SOLO (PULL TO BOOST): 4, 6, 8 | VOLUME 2 (PULL FOR FAT): 4, 6, 8 | GAIN 2: 4, 6, 8 | GAIN 1: 4, 6, 8

CH 1  CH 2

## Channel 2 - 80's Rock:

For a classic 80's rock tone, start with the bass, middle and treble all at 7 and adjust to taste from there. For an early 80's tone, put the "Mean/Classic" switch on "Classic" and for a more aggressive mid-80's tone, switch it to "Mean."

FX LOOP      '78 SPECIAL       SOLO | GOLD OFF | SILVER | MEAN | CLASSIC | BRIGHT | NORMAL

MASTER: 4, 6, 8 | RESONANCE: 4, 6, 8 | PRESENCE: 4, 6, 8 | BASS: 4, 6, 8 | MIDDLE: 4, 6, 8 | TREBLE: 4, 6, 8 | SOLO (PULL TO BOOST): 4, 6, 8 | VOLUME 2 (PULL FOR FAT): 4, 6, 8 | GAIN 2: 4, 6, 8 | GAIN 1: 4, 6, 8

CH 1  CH 2

## Channel 2 - E.V.H. (Electrical Variance Harmonics):

The key to getting the E.V.H. tone with that upper-mid bite is to set the bass, middle and treble all to 10, which is what was commonly done. The custom value mid pot really comes into play at that point. From there, you can use the "Mean" and "Fat" switches - along with adjusting the resonance, presence and gain 2 controls - to dial in the tone from just about any era between 1978 and 1989.

FX LOOP      '78 SPECIAL       SOLO | GOLD OFF | SILVER | MEAN | CLASSIC | BRIGHT | NORMAL

MASTER: 4, 6, 8 | RESONANCE: 4, 6, 8 | PRESENCE: 4, 6, 8 | BASS: 4, 6, 8 | MIDDLE: 4, 6, 8 | TREBLE: 4, 6, 8 | SOLO (PULL TO BOOST): 4, 6, 8 | VOLUME 2 (PULL FOR FAT): 4, 6, 8 | GAIN 2: 4, 6, 8 | GAIN 1: 4, 6, 8

CH 1  CH 2



# Specifications

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**Product Series:** Legends Series

**Product Model:** '78 Special Head

## AC Input & Fuses:

- Standard IEC jack for U.S. 120VAC (International 240VAC)
- Slo-blo mains fuse: US 120VAC **50W** - 3A; **100W** - 4A (International 240VAC **50W/100W** - 2A)
- Slo-blo high voltage (B+) fuse: **50W** - 0.5A; **100W** - 1A

## Tubes & Power Output:

### 50-watt Model

- Four (4) 12AX7 preamp tubes
- Two (2) 6CA7 power tubes
- 50W @ 16, 8 or 4 ohms

### 100-watt Model

- Four (4) 12AX7 preamp tubes
- Four (4) 6CA7 power tubes
- 100W @ 16, 8 or 4 ohms

## Footswitch:

- 3-button SonicTone footswitch
- 5-pin active DIN cable required for proper operation

## Dimensions:

### 50W Head

- Width: 30 in
- Height: 10.75 in
- Depth: 9 in
- Weight: 36 lbs

### 100W Head

- Width: 30 in
- Height: 10.75 in
- Depth: 9 in
- Weight: 42 lbs



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