



# **T100S All Tube Stereo Guitar Amplifier**

## **OWNER'S MANUAL**

Originally written by ADA SIGNAL PROCESSORS, INC. Scanned and edited by Jur at 30th of april 2003. Original ADA logo edited and rendered by Barend Onneweer of [Raamw3rk](http://www.raamw3rk.nl).) The version of this manual is copyrighted and may not be sold or placed on a website without permission of the editor.

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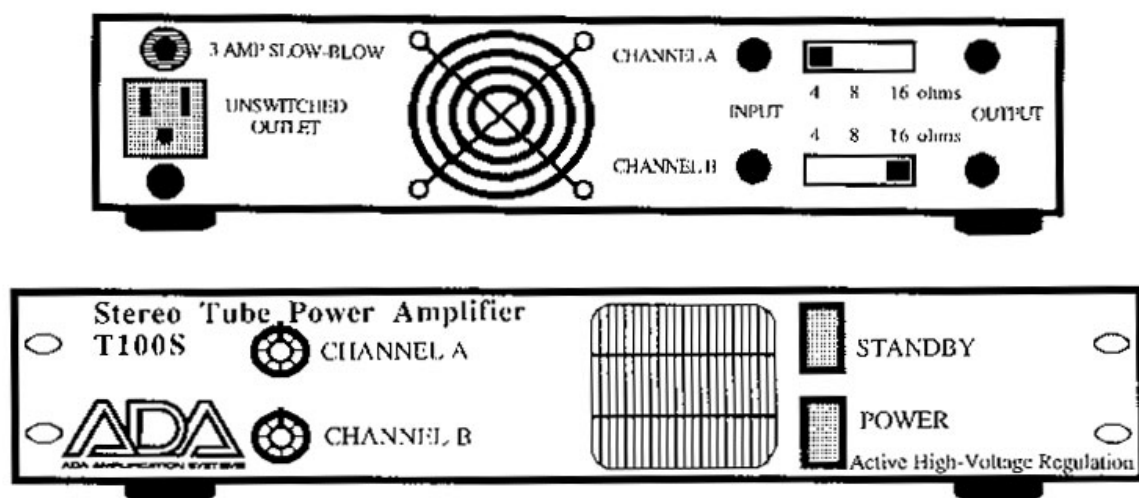
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## T100S OWNER'S MANUAL

Thank you for purchasing the **ADA T100S** All Tube Stereo Guitar Power Amplifier. The T100S is a Class B Tube amplifier designed specifically for use with guitar component systems, such as the ADA MP-1 MIDI TUBE PREAMP and SPLIT-STACK SPEAKER CABINETS. Your new T100S will preserve all the tone and fidelity from your guitar, preamp, and effects units, while delivering warm, clean tube power to your speaker cabinets. Please take a few moments to read this manual and familiarize yourself with your new T100S.

**Important: Fill-out the enclosed warranty card now and return it to ADA.**

## FEATURES

- Preserves tube fidelity: distortion, compression, and all harmonics.
- Optimized for use with guitar speaker cabinets.
- High voltage regulation to produce clean transient response and protect tubes.
- Portable, lightweight design - only 27 pounds.
- Can be tail mounted with tail mount kit.
- One year parts and labor warranty (90 days on tubes).

## SPECIFICATIONS

Input Impedance:	50k ohms
Output Power:	50 Watts per channel into an 8 ohm load.
Frequency Response:	10 Hz to 20 kHz
Controls:	Power on – off Standby on - off Separate channel attenuators Separate output impedance selectors of 4, 8, or 16 ohms.
Weight:	27 Lbs.
Depth:	9.5 In.
Height:	2 rack space (3.25")

## PRECAUTIONS

**WARNING:** To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

**CAUTION:** To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

## SET UP

Check impedance of speaker array to be used with the T100S. If you are using more than one cabinet per side refer to the speaker configuration diagram F on page 10. An overall impedance from 4 ohms to 16 ohms is recommended for maximum performance. Set impedance selector on rear panel to match the overall impedance of your speaker array for each channel (you can run different impedances on each channel). Connect stereo inputs on rear panel of T100S to the outputs of your preamp or effects device, using line level outputs. If you're not running stereo, connect only one input cable to the T100S. The T100S **cannot** be used as a bridged-output amplifier.

Use speaker cables to connect T100S outputs to the inputs of your speaker cabinets (12 to 16 gauge speaker cable only). Note: If you are using one mono speaker cabinet you should not connect anything to the unused output from the T100S. Set the input attenuator to "0" on the unused channel if you are playing in mono. Your T100S will automatically shut down power to the unconnected channel. **No dummy load is required.**

Before turning your T100S on, make sure the front panel volume attenuators are in a fully counter-clockwise position. Power up your system in the order of signal flow. Preamp first,



Power amp last. To shut down your system, turn volume attenuators down and use the reverse procedure: Power amp first, Preamp last.

**NOTE:** *To prolong tube life, let your T100S warm-up in standby mode for at least one minute before use. Before turning your T100S off let it cool in standby mode or at least one minute.*

## TUBE REPLACEMENT

With proper care the tubes in your T100S will yield many hours of performance. When your amp becomes microphonic and/or noisy, it's time to replace the tubes. Only ADA replacement tubes should be used. Tubes must be replaced as a set per channel. To replace tubes, first disconnect A.C. power. **Let your T100S cool with power turned off for one minute to allow caps to discharge.** Remove top cover plate. Using caution not to break tubes, pull spring-connected tube retainers off the top of the tubes and let them rest against the side of the tubes. Pull tubes from their sockets and plug in the new ADA tubes. Carefully pull tube retainers into position. Replace top cover and screws. Note: Tubes are fragile, handle them with care. To order a matched set of ADA tubes, contact your Authorized ADA Dealer.

## SPEAKER IMPEDANCE

It is important to always "match" your speaker system to your power amplifier, especially when using component systems such as the ADA MP-1 & T100S power amplifier. A proper impedance match will give you optimal performance and keep your power amp in a "safe operating area" so it won't overheat or blow fuses.

To get the proper impedance match using more than one speaker involves a little bit of thought because the overall impedance of all the speakers on a channel is what the amplifier "sees". The overall impedance is the important value that must be known for proper impedance matching.

The impedance of a single speaker is the amount of resistance to an electrical signal at 1000 cycles per second (Kilohertz, abbreviated KHz). A 16 ohm speaker means that there is 16 ohms (units of resistance) at 1KHz. When connecting a single 8 ohm speaker to an amplifier, the amplifier will be "driving" an 8 ohm load.

When speaker cabinets have more than one speaker in them, and depending on how they are connected, the impedance can have various values.

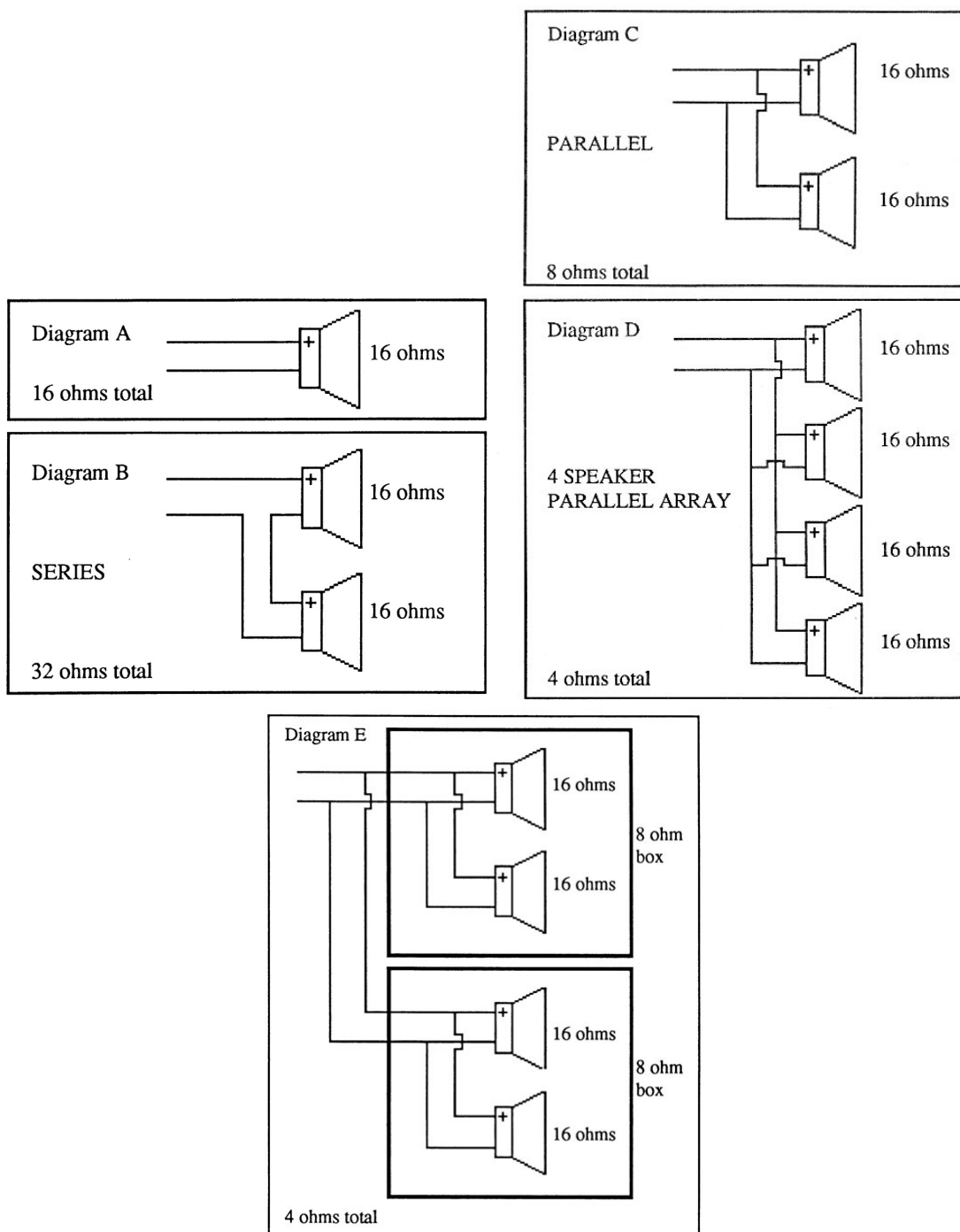
In these diagrams we are using the same type of 16 ohm speaker. Diagram A is a simple one speaker configuration. Diagram B is a series connection. To get the overall impedance add the two speakers' impedances ( $16 + 16 = 32$ ).

Diagram C is a parallel configuration. Some of the electrical signal goes to the top speaker and some goes to the bottom. For the two speakers (of equal impedance) the total impedance is 1/2 of the value of each speaker ( $1/2 \times 16 = 8$ ).

If you have four equal impedance speakers in parallel as shown in diagram D, the overall impedance is 1/4 of the value of one speaker ( $1/4 \times 16 = 4$ ).

Diagram E is the same as diagram D except the four speakers are split into two cabinets.





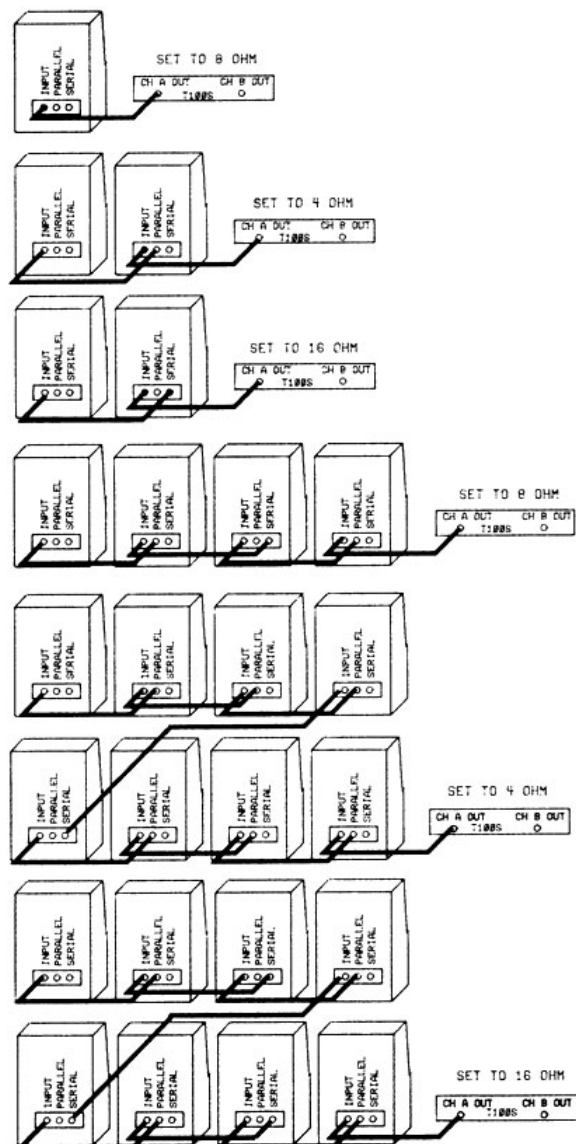
## ACCESSORIES

For price and ordering information contact your local Authorized ADA Dealer.

- **Tail mount kit:** secures rear panel of amplifier to rack mount rails. ADA part # 800310
- **6CA7 power tube matched set:** replacement tube set for one channel. ADA part # 800302
- **12AT7 driver tube matched set:** replacement input driver tube set for two channels. ADA part # 800301



Diagram F



The ADA SPLIT-STACK speaker cabinet uses two 16-ohm speakers that are wired in parallel, which makes the cabinet an 8-ohm load. Only ADA SPLIT-STACK speaker cabinets offer you the versatility of parallel and series extension ports, allowing you to combine cabinets in various impedance configurations.

