



# MICROTUBE 200

OWNER'S MANUAL (version 1)

Originally written by ADA SIGNAL PROCESSORS, INC. Scanned and edited by Jur at 10<sup>th</sup> of June 2004. 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.

Release No.1 for <http://www.adadepot.com>

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## INTRODUCTION

Thank you for purchasing the ADA MICROTUBE 200 Stereo Guitar Power Amplifier. The MICROTUBE 200 is designed specifically for use with guitar component systems, such as the ADA MP-1 MIDI TUBE PREAMP and ADA SPLIT-STACK SPEAKER CABINETS. Your new MICROTUBE 200 will preserve all the tone and fidelity from your guitar, preamp, and effects units, while delivering warm and clean power only available from a tube amplifier. Please take a few moments to read this manual and familiarize yourself with your new MICROTUBE 200.

**IMPORTANT: At this time, please complete and return the enclosed warranty card.**

## FEATURES

- Vacuum tubes in signal path provide all signal amplification output for guitar.
- Revolutionary, lightweight design (only 8 lbs., 1 rack space)
- Preserves tube fidelity: distortion, compression, and all harmonics.
- Bridgeable.
- Presence control.
- Multi-level power supply protection with status LED.
- LED peak/level indicators.
- Optimized for use with guitar speaker cabinets.
- One year parts and labor warranty.

## SPECIFICATIONS

<b>Input Impedance:</b>	50k ohms
<b>Output Power:</b>	100 Watts RMS, 4 ohms both channels 200 Watts RMS, 8 ohms bridged
<b>Frequency Response:</b>	40 Hz. to 30 kHz. +/- .5dB
<b>Tube Complement:</b>	2 x 12AX7A
<b>Controls:</b>	Power on-off, Standby, Separate A & B channel attenuators, Presence control
<b>Weight:</b>	8 lbs.
<b>Depth:</b>	9.5"
<b>Height:</b>	1 rack space (1.75")
<b>Power Requirements:</b>	95-125 VAC 50/60 Hz. 475 Watts

## 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

**WARNING:** The MICROTUBE 200 power amplifier will deliver 100 watts per channel into 4 ohms in stereo mode or 200 watts into 8 ohms in mono/bridged mode. Be careful not to overload your speaker cabinet(s). Check power handling specification on speaker cabinet(s) before connecting the MICROTUBE 200.

**WARNING:** In mono/bridge mode the minimum load on your MICROTUBE 200 must not be less than 8 ohms.

Before connecting the MICROTUBE 200 to speaker cabinets, check the impedance of your speakers and configure them to achieve optimal performance. If you are using more than one cabinet per side refer to the speaker configuration diagram F. An overall impedance from 4 ohms to 16 ohms (stereo operation), and 8 to 16 ohms (mono/bridged operation) is recommended for maximum performance.

*Note: Refer to the QUICK SET UP CHART of this manual for connection diagram.*

Connect stereo inputs (A & B) on rear panel of MICROTUBE 200 to the outputs of your preamp or effects device, using line level outputs. For bridged or dual mono operation, connect preamp or effect output to the mono input of the MICROTUBE 200.

Use speaker cables to connect MICROTUBE 200 outputs to the inputs of your speaker cabinets (12 to 16 gauge speaker cable only). For stereo operation, connect outputs A & B to inputs of speaker cabinets (left & right). For bridged mono operation, connect the bridge output to the input of your 8 ohm minimum speaker cabinet. For mono in dual out operation, connect outputs A & B to inputs of speaker cabinets (left & right). Note: Use of the "Bridge" speaker jack automatically engages bridging input circuit. You may not use either A speaker or B speaker out jacks if you are using Bridged Mono speaker jack.

Before turning your MICROTUBE 200 on, make sure the front panel volume attenuators are in a fully counterclockwise 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. In mono/bridge mode the A channel attenuator is active.

The "Presence" control is like a shelving E.Q. In the off/counter-clockwise position the amplifier output is flat. Turning the presence control clock-wise increases highs to a maximum of +9dB shelving from 3 kHz.

*Note: If while using your MICROTUBE 200 the Protection LED lights, turn power switch off, and wait for protect light to extinguish before restarting amplifier. Repeated activation of protection circuit indicates possible speaker mismatch, excessive internal temperature, AC line voltage outside operating window 95VAC - 125VAC, or possible malfunction of MICROTUBE 200.*

## 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 & MICROTUBE 200 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.

For multiple cabinet arrays, knowing the individual cabinet impedances and power ratings will allow you to calculate the overall impedance of your array. This is necessary to correctly match the ADA MICROTUBE 200 drive requirements.

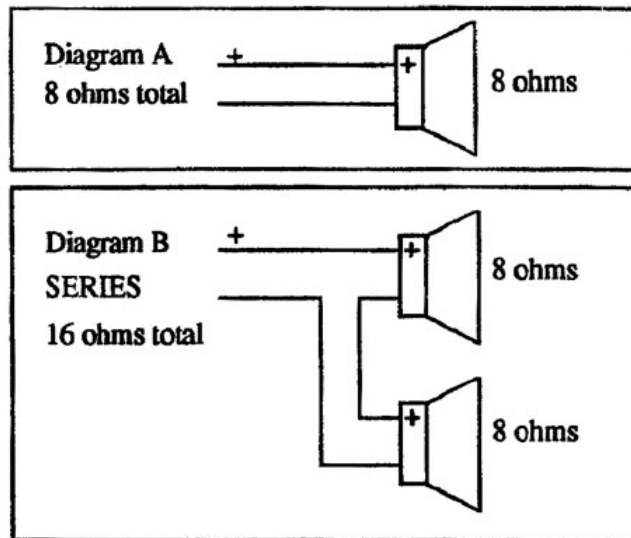
The rated impedance of a single speaker is the minimum resistance to an electrical signal within the frequency range of the speaker. A 16 ohm speaker means that there is never less than 16 ohms presented to the amplifier output. When connecting a single 16 ohm speaker to an amplifier, the amplifier will be "driving" a nominal 16 ohm load.

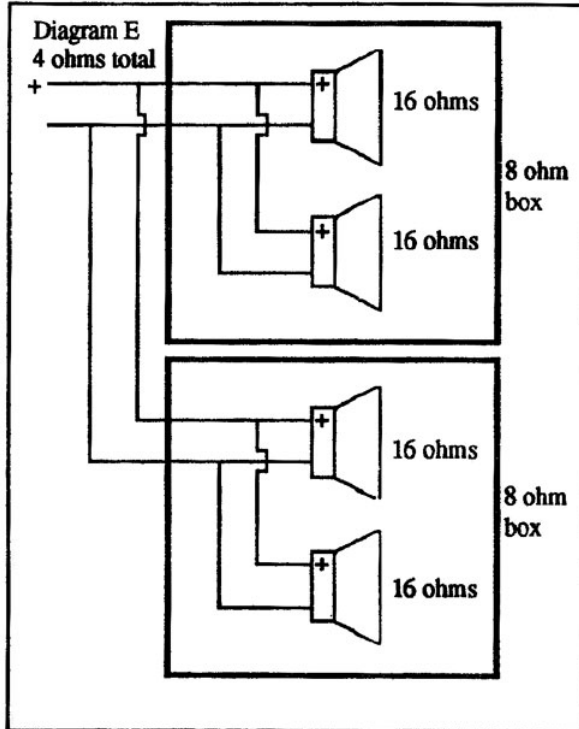
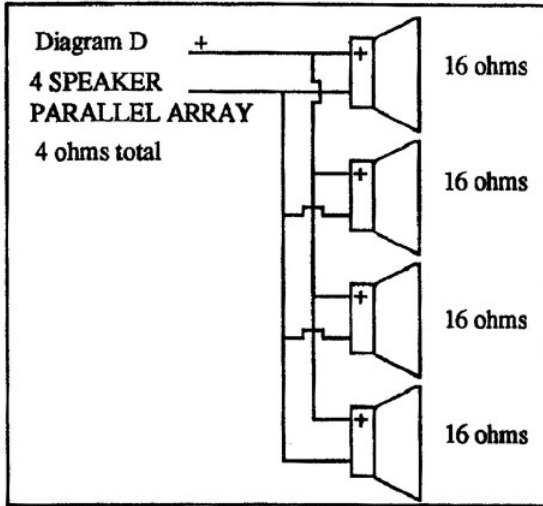
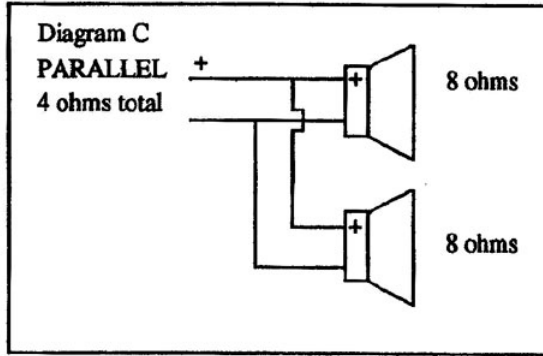
When a speaker cabinet has more than one speaker in it, the overall cabinet impedance will vary depending on how many speakers there are, and how the speakers are wired within the cabinet. The following example drawings assume that you are using all 16 ohm speakers. If you are using 8 ohm speakers, divide all totals by 2. If you are using all 4 ohm speakers, divide all totals by 4. 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 speakers of equal impedance wired 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. Use of multiple speakers or cabinets of different impedances causes unequal power sharing between speakers and is not recommended.





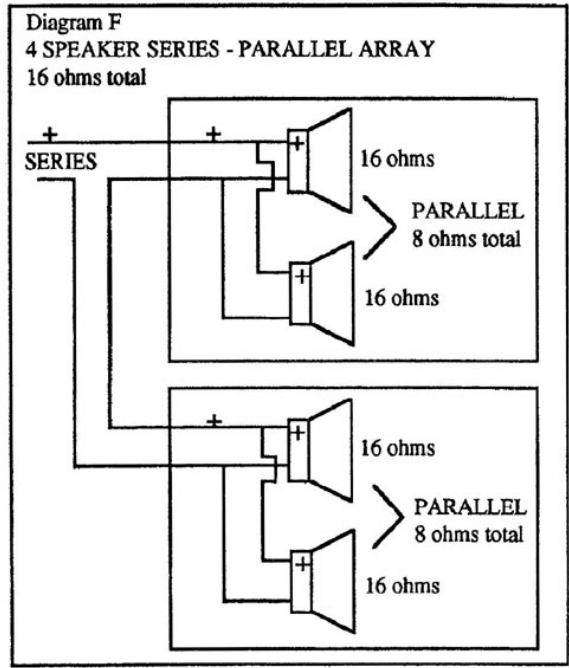
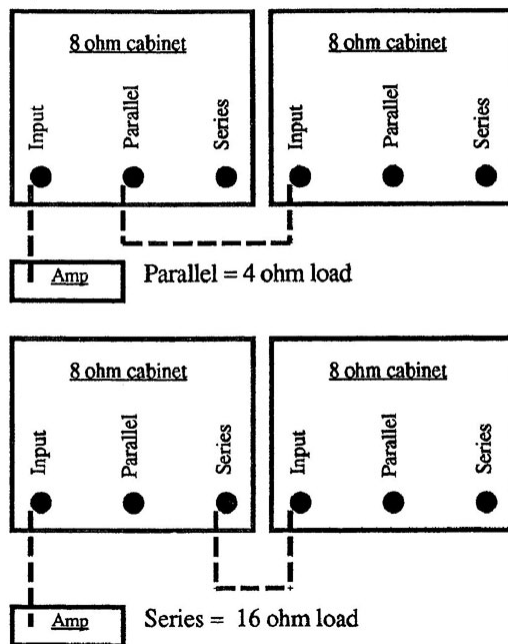


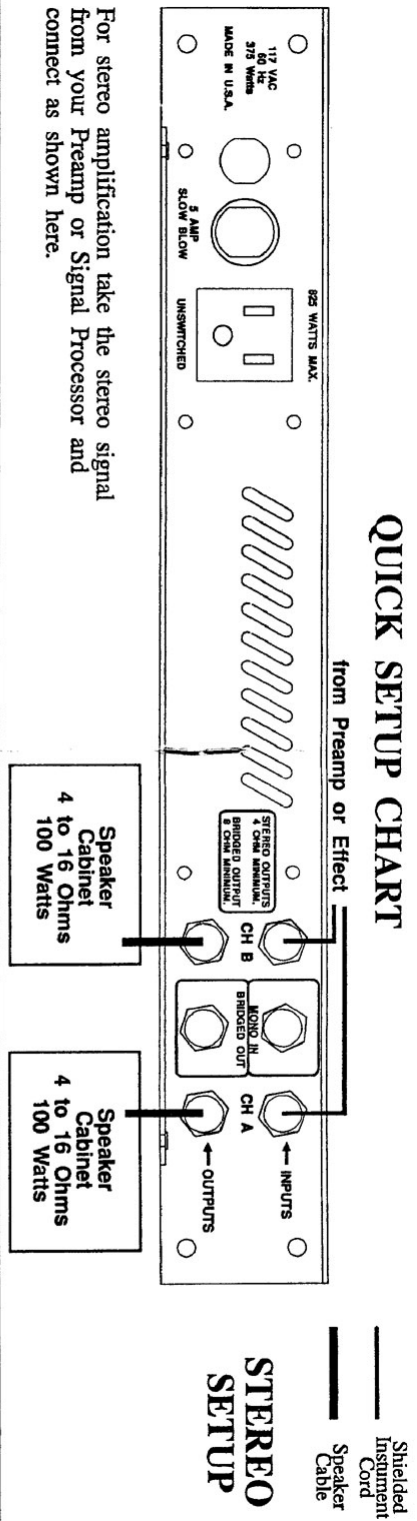
Diagram H



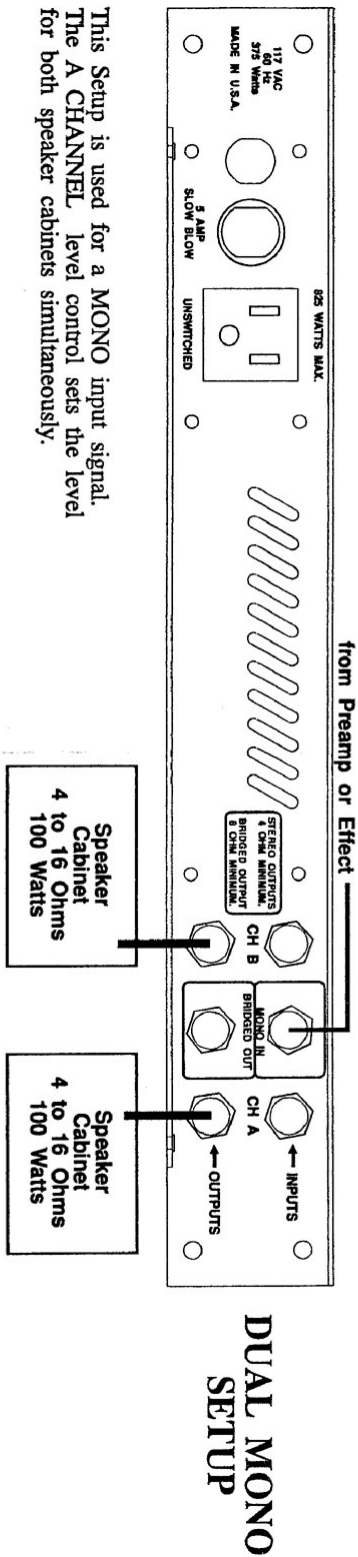
The ADA SPLIT-STACK speaker cabinet uses two 16-ohm speakers that are wired in parallel, which makes the cabinet an 8-ohm load. Only ADA SPLIT-STACK speaker cabinets offer you the versatility of parallel and series extension ports, allowing you to combine cabinets in various impedance configurations.



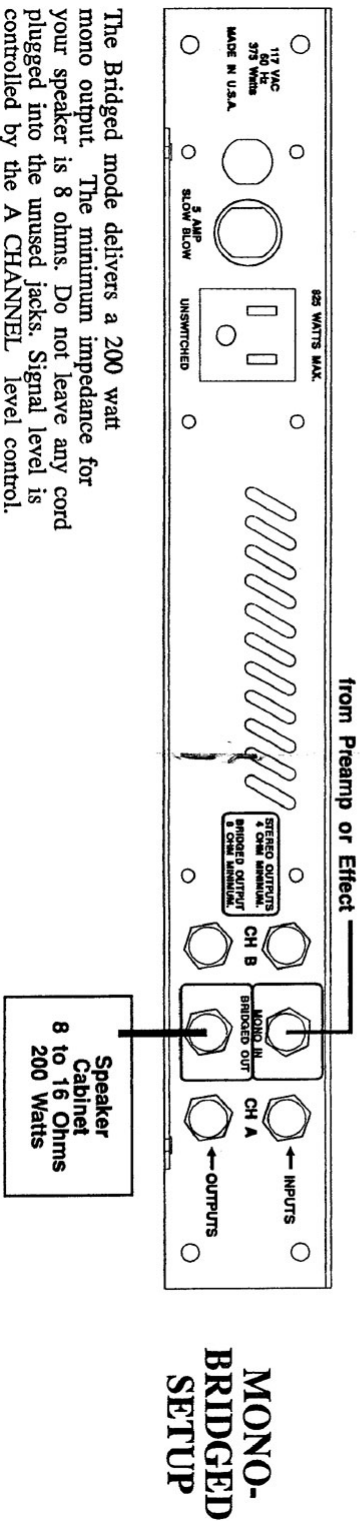
## QUICK SETUP CHART



For stereo amplification take the stereo signal from your Preamp or Signal Processor and connect as shown here.



This Setup is used for a MONO input signal. The A CHANNEL level control sets the level for both speaker cabinets simultaneously.



The Bridged mode delivers a 200 watt mono output. The minimum impedance for your speaker is 8 ohms. Do not leave any cord plugged into the unused jacks. Signal level is controlled by the A CHANNEL level control.