

MICROTUBE 100

OWNER'S MANUAL (version 1)

Originally written by ADA SIGNAL PROCESSORS, INC. Scanned and edited by Jur at 17th of july 2002. Original ADA logo edited and rendered by Barend Onneweer of Raamw3rk. (http://www.raamw3rk.net) 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.ada-mp1.com

CONTENTS

Introduction
Features
Specifications
Precautions
SetUp
Speaker Impedance
Quick Set Up Chart
Tube Replacement
Warranty
Returning Units For Service

MICROTUBE 100 OWNER'S MANUAL

INTRODUCTION

Thank you for purchasing the ADA MICROTUBE 100 Stereo Guitar Power Amplifier. The MICROTUBE 100 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 100 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 100.

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

FEATURES

- Hybrid Design: All voltage gain developed by vaccuum tubes. Output current supplied by Mosfets.
- Revolutionary, lightweight design - only 10.5 lbs., 1 rack space.
- Preserves tube fidelity: distortion, compression, and all harmonics.
- Bridgeable.
- Presence control.
- Multi-level power supply protection.
- LED peak/level indicators.
- Optimized for use with guitar speaker cabinets.
- One year parts and labor warranty (90 days on tubes).

SPECIFICATIONS

Output Power:	**SINGLE**	**STEREO**	**BRIDGED**
4 Ohms	56.25W	52W/CH	N/A
8 Ohms	40.5W	36W/CH	105W
16 Ohms	26W	22W/CH	64W

Input Impedance:	33k ohms
Output Impedance:	0.2 Ohms
Input Sensitivity:	0.5 VRMS
Damping Factor:	16
Slew Rate:	6 VMS
THD.:	< 0.5% Best Spec, in any configuration
Max. Gain:	34 dB.
Frequency Response:	20 Hz. to 30 kHz. +/- .5dB (8 ohm)
Dynamic Range:	90 dBu A-weighted
Tube Complement:	2 x 12AX7A
Controls	
front:	Power on - off, Standby, Separate A & B channel attenuators, Presence control
rear:	AC Outlet, 1/4" in/out jacks
Weight:	10.5 lbs.
Depth:	17.25"
Height:	1 rack space (1.75")
Power Requirements:	95-125 VAC 50/60 Hz. 475 Watts

Note: Power ratings are RMS, measurements taken below clipping at 1kHz, with presence control set to min.

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 100 power amplifier will deliver 50 watts per channel into 4 ohms in stereo mode or 100 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 100.

WARNING: In mono/bridge mode the minimum load on your MICROTUBE 100 must not be less than 8 ohms.

Before connecting the MICROTUBE 100 to speaker cabinets, check the impedance of your speakers and configure them to achieve optimal performance. Refer to the speaker configuration diagrams A-G. 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 100 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 100.

Use speaker cables to connect MICROTUBE 100 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 100 on, make sure the standby switch is off. Power up your system in the order of signal flow - preamp first, power amp last. To shut down your system, turn standby switch off and use the reverse procedure - power amp first, preamp last.

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 above 1.2kHz.

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 100 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.

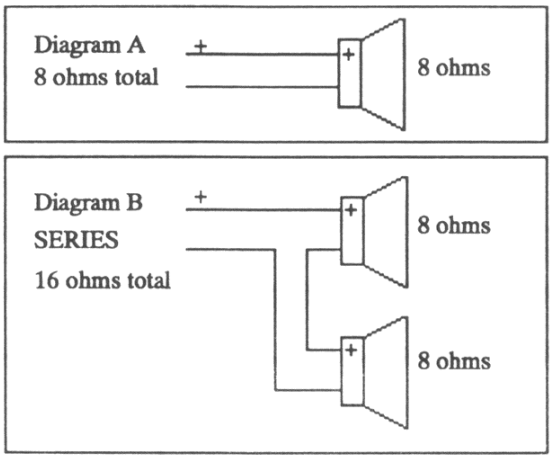
For multiple cabinet arrays, knowing the individual cabinet impedances and power ratings will allow you to calculate the overall impedance of your array. This is necessary to correctly match the ADA MICROTUBE 100 drive requirements.
The rated impedance of a single speaker is the minimum resistance to 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 x 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 x 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.

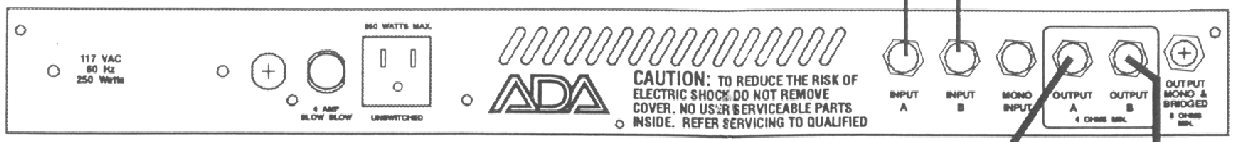


QUICK SETUP CHART

Shielded Instument Cord

Speaker Cable

STEREO SETUP

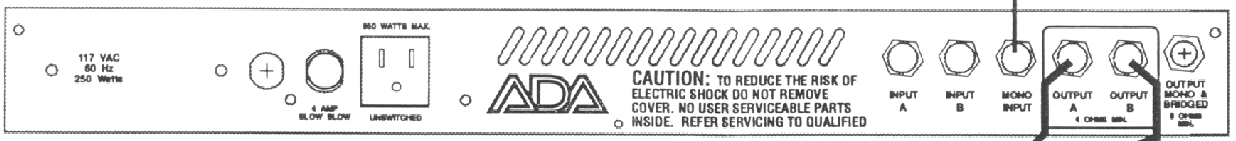


For stereo amplification take the stereo signal from your Preamp or Signal Processor and connect as shown here.

Speaker Cabinet 4 to 16 Ohms 50 Watts

Speaker Cabinet 4 to 16 Ohms 50 Watts

DUAL MONO SETUP

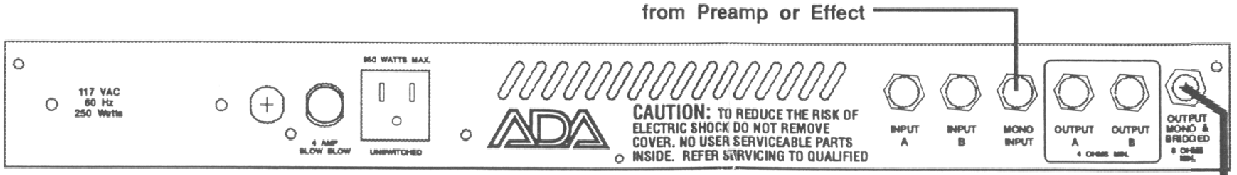


This Setup is used for a MONO input signal. The A CHANNEL level control sets the level for both speaker cabinets simultaneously.

Speaker Cabinet 4 to 16 Ohms 50 Watts

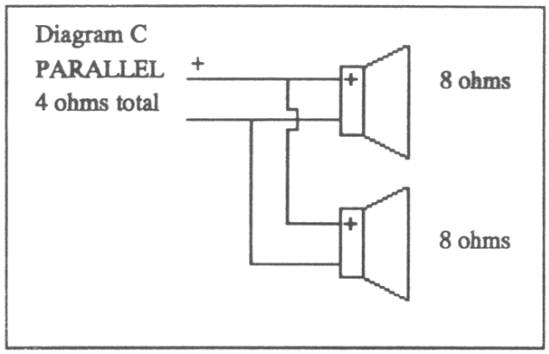
Speaker Cabinet 4 to 16 Ohms 50 Watts

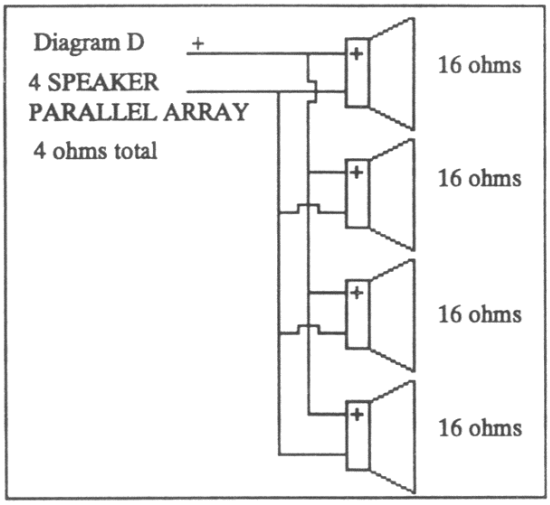
MONO-BRIDGED SETUP

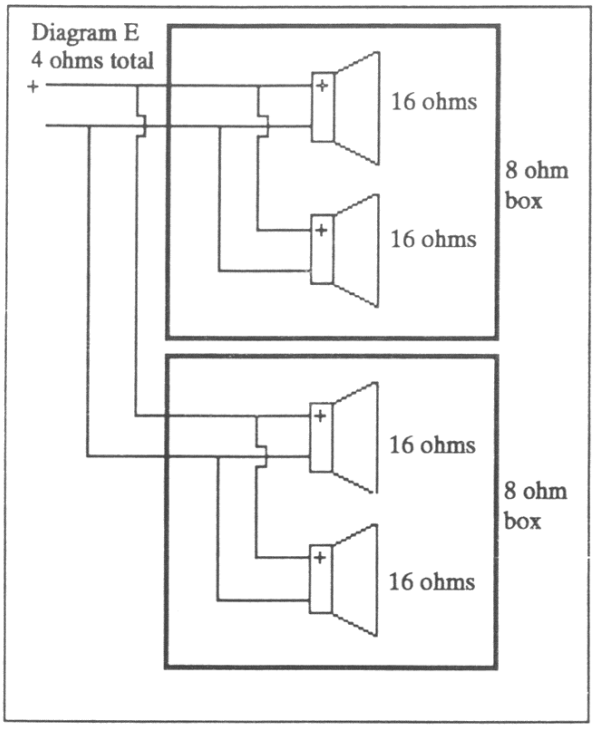


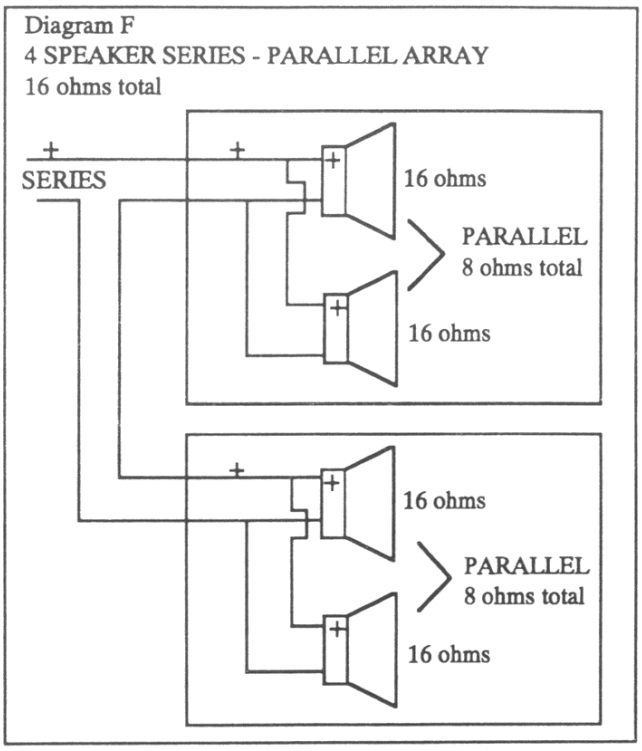
The Bridged mode delivers a 100 watt mono output. The minimum impedance for your speaker is 8 ohms. Do not leave any cord plugged into the unused jacks. Signal level is controlled by the A CHANNEL level control.

Speaker Cabinet 8 to 16 Ohms 100 Watts


Diagram C
PARALLEL
4 ohms total
+
8 ohms
8 ohms

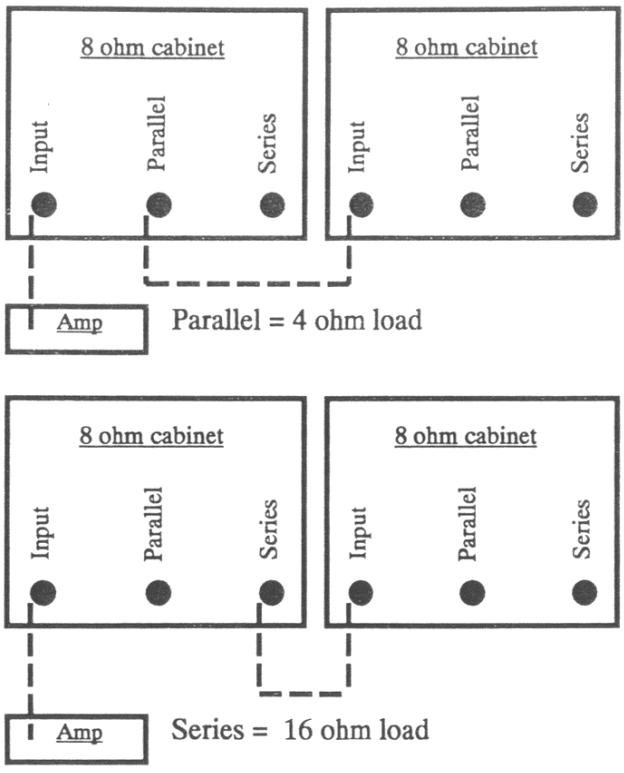

Diagram D
4 SPEAKER
PARALLEL ARRAY
4 ohms total
+
16 ohms
16 ohms
16 ohms
16 ohms


Diagram E
4 ohms total
+
16 ohms
16 ohms
8 ohm box
16 ohms
16 ohms
8 ohm box



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.

Diagram G



TUBE REPLACEMENT

Your factory installed 12AX7A tubes should last approximately two years. Tubes should be replaced by qualified service personnel only. When tube replacement becomes necessary, we recommend that you use only ADA replacement tubes for the cleanest and quietest performance possible. These can be obtained from ADA or an authorized ADA dealer. Order ADA part number 800301 for a pair. For more information call ADA customer service at (510) 532-1152.

WARRANTY

ADA MICROTUBE 100 Guitar Power Amplifier (excluding tubes) is warranted against defects in material and workmanship for a period of three-hundred and sixty five (365) days from date of purchase. Original factory installed tubes are warranted against defects in material and workmanship for a period of ninety (90) days from date of purchase. This warranty is to the original owner and is non-transferable. During the warranty period, ADA or its agent will, at its sole option, repair or replace defective parts and make necessary repairs to the product which is defective at no charge. If the failure is the result of misuse, abuse, accident or misapplication, ADA has no obligation to repair or replace the failed product ADA retains the right to make such determination on the basis of factory inspection. ADA will not be responsible for any speaker or device damaged by the MICROTUBE 100. This warranty remains valid only if repairs are performed by ADA or its agent, and provided that the serial number on the unit has not been defaced or removed. This warranty is expressly in lieu of all other warranties either expressed or implied. This warranty gives you specific rights. You may have other rights that vary from state to state.

RETURNING UNITS FOR SERVICE

If your MICROTUBE 100 requires service, please call our Customer Service Department at (510) 532-1152 for a Return Authorization (RA) Number and shipping instructions. **Do not ship repairs to ADA without an RA number.**