

# apple II mp3 a2mp3

## setup and users manual

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**Briel Computers**  
P.O. Box 1524  
Boulevard, CA 91905

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# Setup and Users Manual

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## Chapter 1: Introducing the a2mp3 card

The a2mp3 card is a hardware device that works in most slots to play mp3 files. The a2mp3 uses the VMUSIC controller to handle all mp3 decoding and audio output. Simply place mp3 files onto a flash drive (pen drive), run the supplied software and you are listening to mp3's right on your apple 2.



**a2mp3 shown above with flash drive installed**

The software supplied is open source software that is designed to demonstrate a small fraction of what the a2mp3 can do. You can play, FF, pause and STOP just like any other mp3 player. You even have the option to play all songs and exit the program so you can run other programs with the a2mp3 running in the background.

Most flash drives will work with the a2mp3 player, but not all have been tested so you will have to try yours out to be sure. I have used 2-8gig pen drives with very good success. The current demo software only works on the root directory of the flash drive and can only handle a max of about 32-100 songs. This is a software design limitation, not a limitation of the a2mp3. I expect the song list limit to be solved very quickly. The root directory limitation is only there because of time restrictions to develop directory addressing. The controller has a limit to not reading long file names. So, anything over the 8.3 file size will show truncated but will not rename the file.

The a2mp3 has been tested on a GS running prodos, an apple IIplus and an apple II/e enhanced. The card does not have extensive testing with other hardware devices installed, but has been designed to not interfere with other devices. Please report any issues you find with other devices installed.

## Chapter 2: Building your kit with step by step instructions

Ok, you've just received your a2mp3 kit, what do you do next? Well, you have to build your kit before you can start playing music. First, let's take a look at the inventory of parts you should have received.

PART	QTY
VMUSIC Controller board	1
6551 ACIA chip	1
1.8432mhz crystal	1
20pF capacitor	1
0.1uF capacitor	1
8 pin male header	1
Connecting cable	1
28 pin machined socket	1
Blank a2mp3 printed circuit board	1
CD with manual and software	1
Zip tie	1

**If you find that you do not have any of the parts above from the list, contact Briel Computers right away.**

Once you have completed your inventory of parts we can get started right away. Allow for about 1 hour to build your a2mp3 depending on your skill level. You will need the following tools to build your a2mp3 board:

Soldering iron (25-40watt)  
Solder (low temp preferred)  
Wire cutters

**Step 1:** Clear a space on a table for working and plug in your iron. Be sure that the iron can not touch anything that can burn or melt. Allow about 5 minutes for your iron to reach temperature.

**Step 2:** Place the 28 pin socket into the board in its designated location and while holding the socket in place, turn the board over and place it on the table. Make sure the socket is seated all the way into the board before soldering.

**TIP:** I like soldering 2 corners on opposite sides of a socket and checking that the socket is flush with the board

**Step 3:** Locate the 20pF capacitor and place it into its designated location flush next to the 28 pin socket. The 20pF capacitor can be identified by the numbers **20J**. Use the wire cutters to remove the extra leads.

**Step 4:** Install the remaining capacitor (0.1uF capacitor) into its location and solder it down. Be sure the capacitor is flush with the board before soldering. Remove the extra leads with wire cutters.

**Step 5:** Install the 1.8432 MHz crystal into the location marked X1. Do not push flush, rather, leave just enough length remaining so you can fold the crystal over and have it lay flush on the board so the flat part is parallel with the board. Solder into position and remove the extra leads with wire cutters.

**Step 6:** Place the 8 pin male header into the location CN1 on the board. While holding the connector, turn the board over, and place on the table. Solder only 1 pin and check that the connector is sitting flush on the board. Continue to solder the remaining pins once you are sure the connector is flush.

**Step 7:** Connect the cable to the a2mp3 player. Lay the VMUSIC board next to the connector off to the left. Plug the cable in so the top pin wires match on both connectors.

**Step 8:** Using the zip tie, strap the VMUSIC board to the a2mp3 board through the small hole on the edge of the a2mp3 board and around the top of both boards. Secure into position.

Be sure to check your solder connections for solder bridges or missing solder spots. Use the rest of this page for notes on your build.

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## Chapter 3: Installing the a2mp3 card in your Apple II

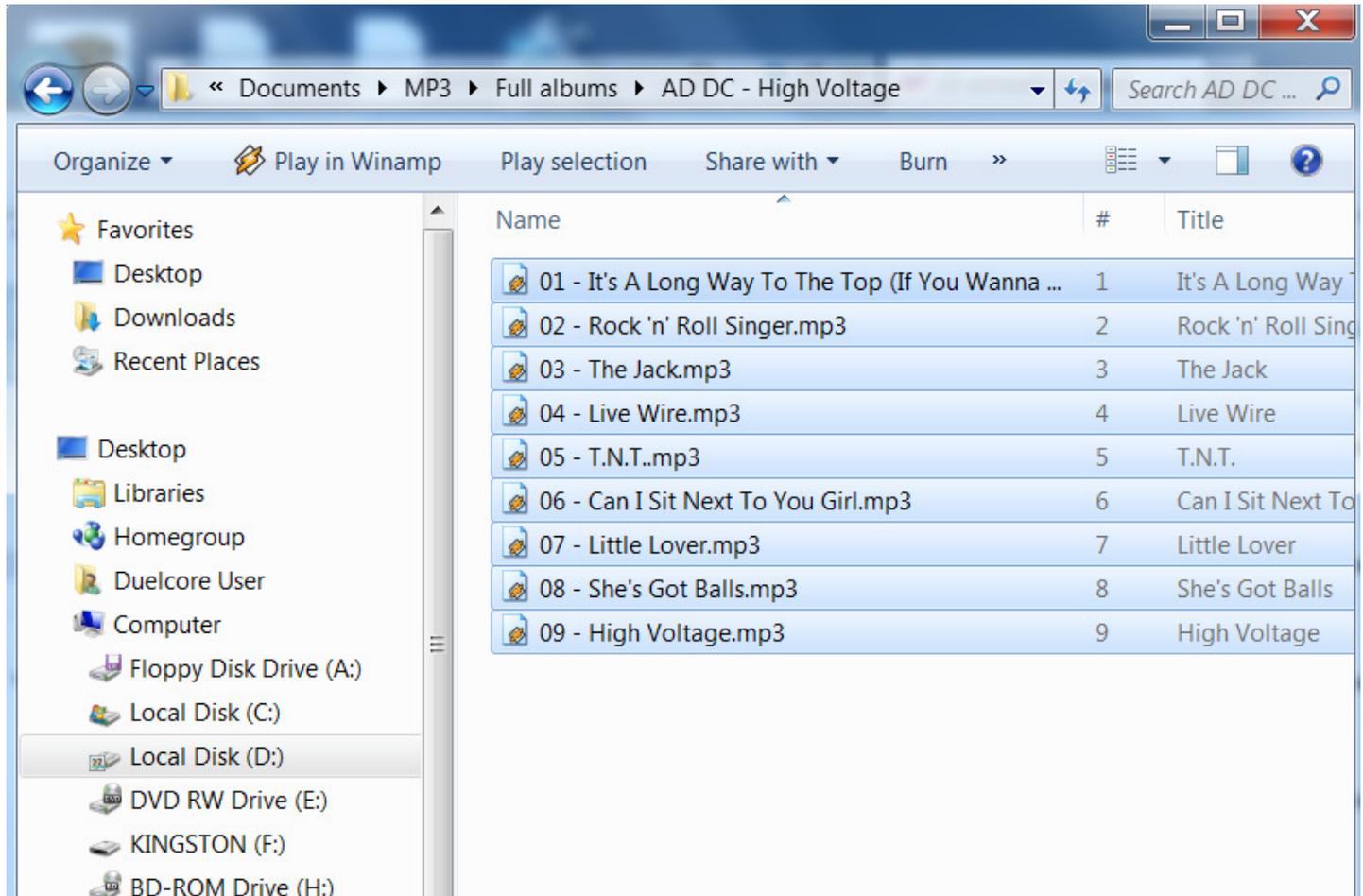
Installing the a2mp3 card is a simple process. First, make sure you have unplugged your Apple II computer from the wall. Doing this insures that you and your equipment do not get harmed. Next, removed any monitor or drives from the top of the Apple II and set them just to the side.

Remove the lid from your Apple II and inspect your system. Most people don't open their system, so now is a good time to look for signs of impending repair, such as puffy caps, cracking wires from the power supply, and such. Once you are finished with any maintenance needed, look for an open slot on your main board. You do not need to remove any slot covering like those used on the //e systems to install your a2mp3 card. Do not use slot 0 as that should be used for memory. Line your a2mp3 card up so the chips face to the right when looking front to back on your apple 2. The lettering on the a2mp3 board "BACK OF COMPUTER" should be at the back of your Apple 2. Carefully line up the card with the slot and slowly and slightly rock the card to insert it into the machine. If you find you need too much force, stop and start the process over. If you have a machine that has never had a card in that slot, you might want to remove the card and insert it a few times to clean off any residue that may have developed on the slot connectors over the years. At this time, you can now add your flash drive with your mp3 files to the card and plug in the speaker connector through an available hole.

Place the lid back on your Apple II and put any monitor or drives back. Plug in your Apple II and turn it on. If you see any signs of trouble, shut it off right away and check your work.

## Chapter 4: Loading MP3's onto your flash drive

The process of loading mp3 files onto your flash drive is a really simple process. Your flash drive should not need to be formatted in any special format. Simply locate your files on your home computer and select the files you wish to copy over.



Copy your files onto your flash drive and do a safe removal of the flash drive and insert it into the a2mp3 player. Be sure power is off when installing the flash drive on the Apple II mp3 card.

When you load the MP3 demo program the file name will appear truncated. So 09 – High Voltage.mp3 will show up as 09 – H~1.mp3.

You are now ready to listen to your mp3's.

## Chapter 5: Using the MP3 player demo program

The MP3 demo program is located on a prodos floppy image. You can use ciderpress or your desired method to transfer the program to your system. I prefer the new CFFA3000 from <http://www.dreher.net> which has floppy emulation and just requires me to load the floppy image onto a flash drive plugged into the CFFA3000.

However you choose to load the image file onto your system, the image is bootable. After you have booted, you can type -MP3 and the program will start. You need to know the slot # your a2mp3 card is located in. Enter the slot # of the a2mp3 card and press ENTER. There will be a slight pause while your flash drive is being read and mp3's are being located on the root directory of the flash drive. A list of the files will be displayed as they are found and put into a play list in the software program.

**NOTE: File ghosting has been known to occur where a group of files previously deleted from the flash drive show up in the play list. To fix this issue, format your flash drive and reload the MP3's.**

When the program starts it will display a simple display of commands in a box and begin playing the songs found in order as they are on the flash drive, not alphabetical.



- R – RESTART SONG** – This option will start the song you are currently listening to from the beginning
- F – FAST FORWARD NEXT TRACK** – Advances to the next song on the list (plays in a continuous loop)
- P – PAUSE/RESUME** – Pauses playing current MP3 or resumes playing if already paused
- A – PLAY ALL & EXIT** – Plays all songs from the beginning and exits program for background audio option
- X – STOP AND EXIT** – Stops playing MP3 files and exits the program.

## Appendix A: Troubleshooting

Below is just a small sample of some of the things to look for when trouble shooting problems with the a2mp3 board. If you can not find a solution from the list below, please email us at [vbriel@yahoo.com](mailto:vbriel@yahoo.com) and discuss your problem.

Condition	Solution
Nothing happens when I turn the Apple II on Nothing is on the display and no beep	Check your power source to make sure you are plugged in   and the a2mp3 card is installed correctly.
I can't get the program to show any mp3 files	Check that the pen drive is connected to the a2mp3   correctly and there are mp3 files on the flash drive
There is no audio coming out of the speakers	Check that the speakers are installed into the a2mp3 audio   port and the speakers are turned on. Check the volume.
The file names do not show up correctly	File names will show in 8.3 format, no changes to the file   name will happen

## Appendix B: Bill of Materials

<b>PART</b>	<b>QTY</b>
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0.1uF capacitor	1
8 pin male header	1
Connecting cable	1
28 pin machined socket	1
Blank a2mp3 printed circuit board	1
CD with manual and software	1
Zip tie	1

# Warranty

(Applies to factory assembled circuit boards only)

Briel Computers hereby warrants each of its products, and all components therein contained, to be free from defects in materials and/or workmanship for a period of thirty (30) days from date of purchase. In the event of the occurrence of malfunction or other indication of failure attributable directly to faulty workmanship and/or material, then, upon return of the product to Briel Computers, at 5392 Cornell Blvd, North Ridgeville, Ohio 44039 (postage prepaid), Briel Computers will, at its option, repair or replace said products or components thereof, to whatever extent Briel Computers shall deem necessary, to restore said product to proper operating condition. All such repairs or replacements shall be rendered by Briel Computers, without charge to the customer. The responsibility for the failure of any Briel Computers product, or component thereof, which, at the discretion of Briel Computers, shall have resulted either directly or indirectly from accident, abuse, or misapplication of the product, shall be assumed by the customer, and the Briel Computers shall assume no liability as a consequence of such events under the terms of this warranty. While every effort, on the part of Briel Computers, is made to provide clear and accurate technical instruction on the use, implementation, and application of its products, Briel Computers shall assume no liability in events which may arise from the application of such technical instruction, nor shall Briel Computers be held liable for the quality, interconnection, or application of peripheral products, which may have been recommended by Briel Computers, but which have not been supplied as part of the product. This warranty contains and embodies the limits of responsibility of Briel Computers, with regard to its products, and no other liability is expressed, implied, or should be assumed by the purchaser, and in no event shall Briel Computers be held liable for the loss of time, effort, or transportation costs, nor for loss of potential profits or other consequential losses which might arise from the purchase, assembly, use, application, or subsequent sale of the products of Briel Computers, nor from any instructions and/or technical information thereto related.