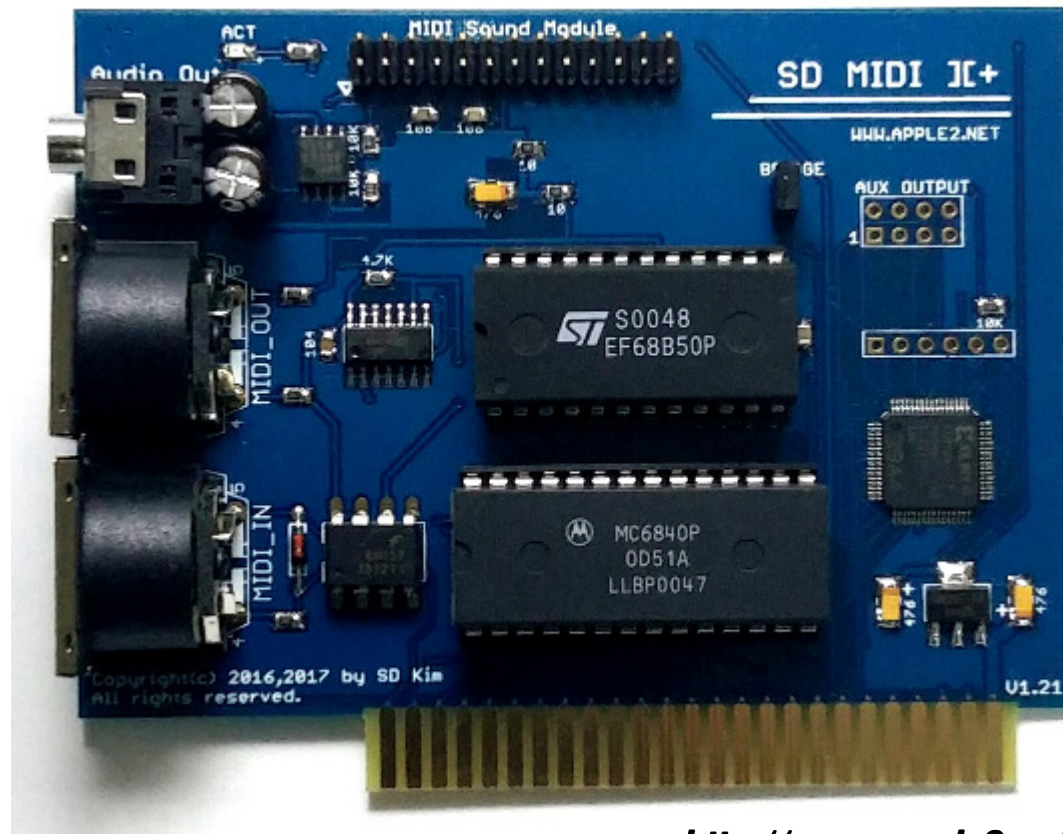


# SD MIDI I[+



<http://www.apple2.net>



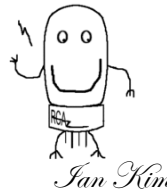
Jan Kim

# Introduction and features

- ***MIDI card for APPLE II is rare and not reliable anymore, So, I decided to develop a compatible MIDI card for APPLE II.***
- ***SD MIDI ][+ is compatible to one of famous MIDI card on APPLE II It have 2 standard MIDI IN and MIDI OUT and more connector for Sound module.***
- ***User can install Sound Module add- on board so, it would be a perfect MIDI sound card.***
- ***It has MIDI IN to Audio output (if you have Sound module) named Bridge mode. So, user can use this SD MIDI ][+ as a standalone MIDI sound device.***
- ***It have 4 output pins for special user purpose. User easily ON/OFF the pins to control own device or service function.***
- ***Audio output used a OPAMP buffer for better sound quality.***

***Ian Kim have plan to develop more fun devices for APPLE II.***

***Thanks for your keep supporting.***

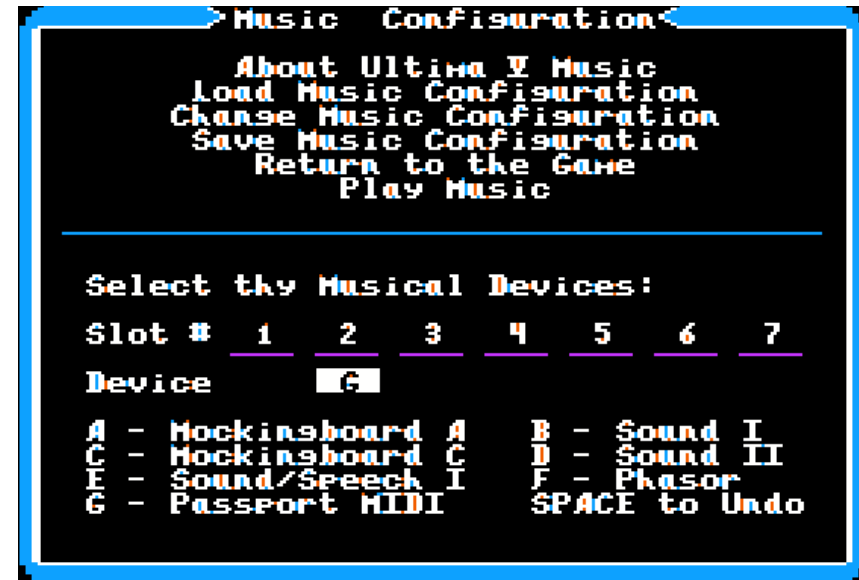
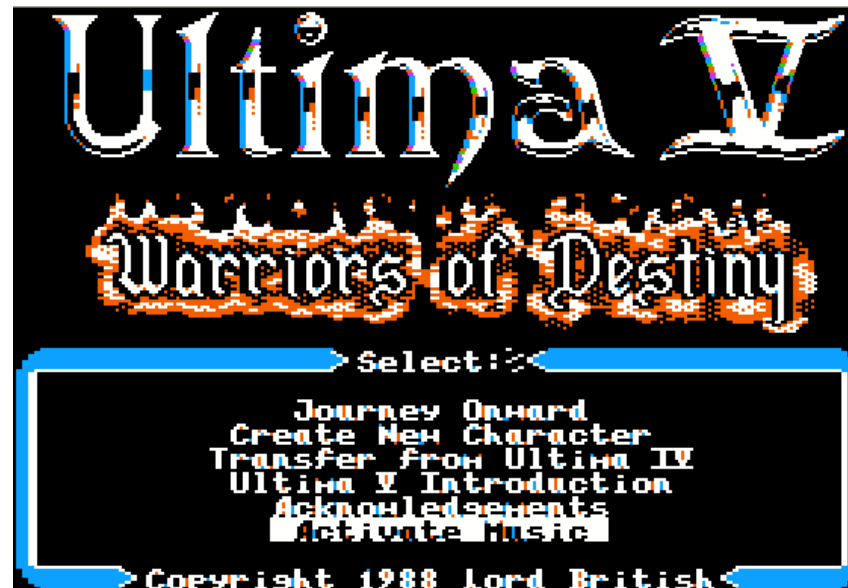


# Installation

## **WARNING**

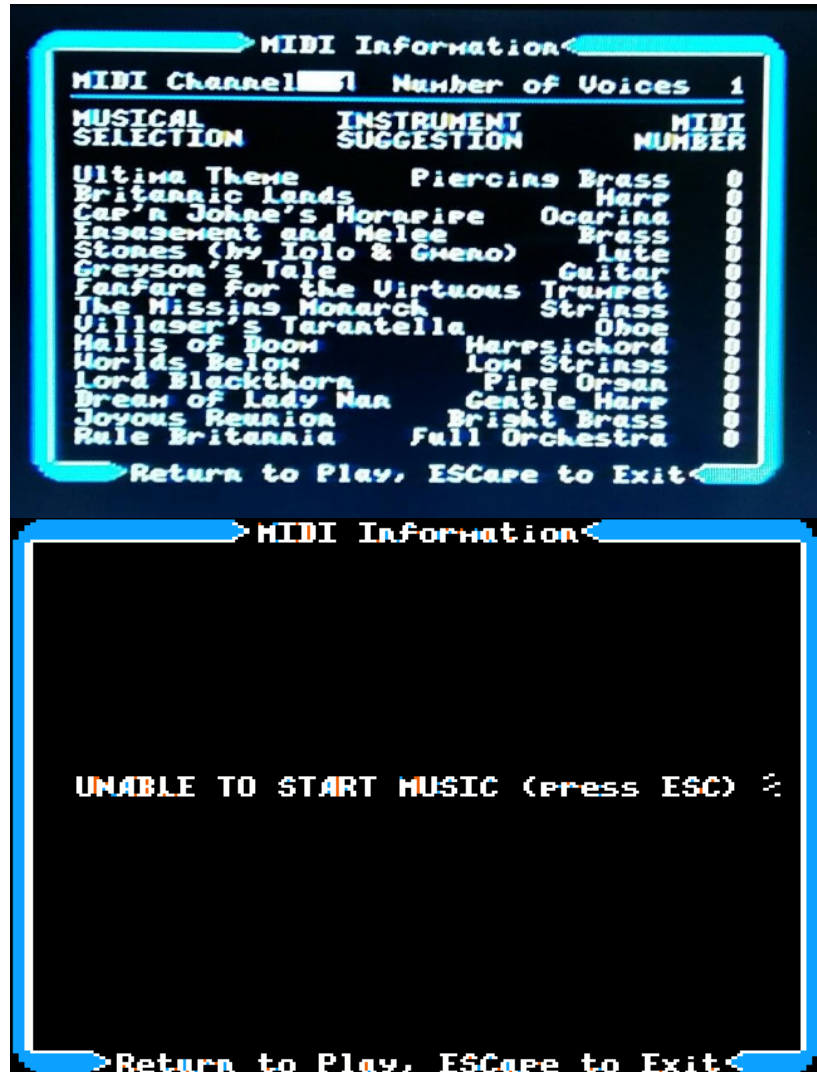
1. Please **unplug power cord** APPLE II , Audio Amplifier and MIDI device.  
(Different voltage may impact APPLE II and/or other devices)
2. Please connect cables such as Audio out, MIDI IN/Out(You may need to enlarge a hole on APPLE II back side)
3. Consider the cable location and path of After install all the You can close the APPLE II cover.
4. Insert MIDI card in APPLE II. (Recommended slot# 2)
5. You can **Turn ON** your APPLE II, Amplifier and MIDI devices (if you have)
6. If APPLE II ON with beep sound, please test MIDI card. But, If no beep and not start, please check the card position and connectors.
7. Test MIDI output by the Ultima 5.(To active Music on Ultima5, You need 128KB APPLE //e)
8. If works properly, enjoy it on your APPLE II.

# How to activate SD MIDI ][ + on Ultima V



- Select Active Music on Menu then Press 'C' for Change Music configuration and move your pointer for proper slot number of SD MIDI card and press 'G' for set Passport MIDI. If you finished, then Press 'Enter' for setting music.

# Detected or failed



If MIDI card detected, you will see this screen for instruments setup.

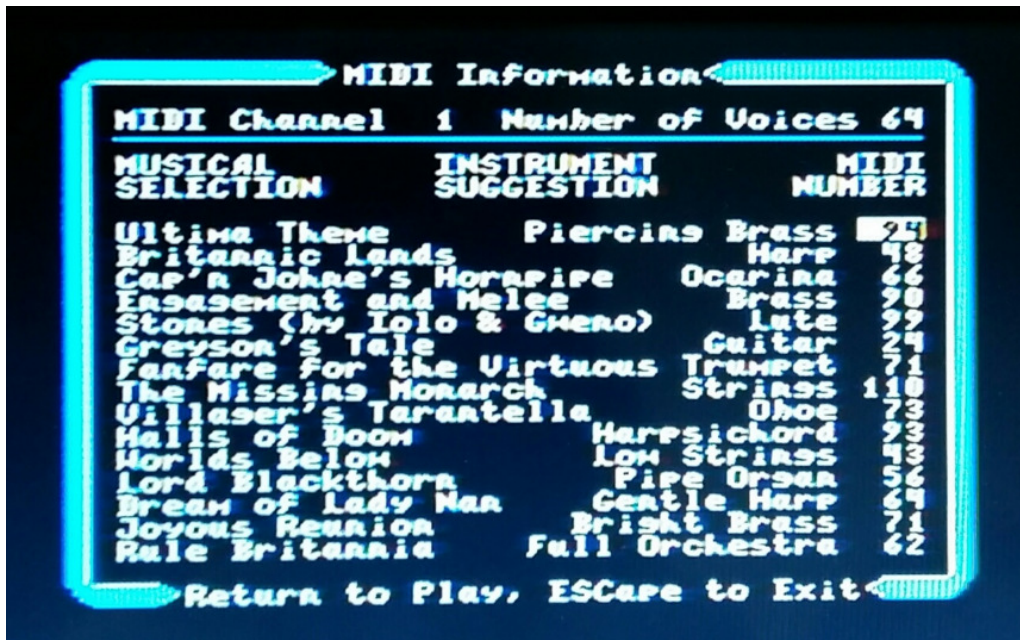
Set '**64**' on Number of Voices,  
Set Music which your favorite music instruments(MIDI Number).  
The MIDI Number is - 1 of GM Instrument table as following.

If you have this screen, It means that your MIDI card **failed** to detect due to wrong SLOT number, card fail/conflict or unknown reason.

Please off your APPLE II and clean the card contact edge and try again and also try it on another SLOT.

If you still have problem, please contact me.

# Instruments example for U5



MIDI Information		
MUSICAL SELECTION	INSTRUMENT SUGGESTION	MIDI NUMBER
Ultima Theme	Piercing Brass	67
Britannic Leads	Harp	78
Cap'n Johne's Hornpipe	Ocarina	66
Engagement and Melee	Brass	90
Stones (by Iolo & Gweno)	Lute	99
Greyson's Tale	Guitar	24
Fanfare for the Virtuous	Trumpet	71
The Missing Monarch	Strings	110
Villager's Tarantella	Oboe	73
Halls of Doom	Harpichord	93
Worlds Below	Low Strings	43
Lord Blackthorn	Pipe Organ	56
Dream of Lady Nan	Gentle Harp	64
Joyous Reunion	Bright Brass	71
Rule Britannia	Full Orchestra	62
Return to Play, ESCape to Exit		

- Try with this sets of music instruments for the Ultima 5



# General MIDI instrument list

**\*\* In Ultima V, you have to put - 1 number of the list**

## 1-8 Piano

01. Acoustic Grand Piano
02. Bright Acoustic Piano
03. Electric Grand Piano
04. Honky-tonk Piano
05. Electric Piano 1
06. Electric Piano 2
07. Harpsichord
08. Clavi

## 9-16 Chromatic Percussion

09. Celesta
10. Glockenspiel
11. Music Box
12. Vibraphone
13. Marimba
14. Xylophone
15. Tubular Bells
16. Dulcimer

## 17-24 Organ

17. Drawbar Organ
18. Percussive Organ
19. Rock Organ
20. Church Organ
21. Reed Organ
22. Accordion
23. Harmonica
24. Bandoneon

## 25-32 Guitar

25. Acoustic Guitar (nylon)
26. Acoustic Guitar (steel)
27. Electric Guitar (jazz)
28. Electric Guitar (clean)
29. Electric Guitar (muted)
30. Overdrive Guitar
31. Distortion Guitar
32. Guitar harmonics

## 33-40 Bass

33. Acoustic Bass
34. Electric Bass (finger)
35. Electric Bass (pick)
36. Fretless Bass
37. Slap Bass 1
38. Slap Bass 2
39. Synth Bass 1
40. Synth Bass 2

## 41-48 Strings

41. Violin
42. Viola
43. Cello
44. Contrabass
45. Tremolo Strings
46. Pizzicato Strings
47. Orchestral Harp
48. Timpani

## 49-56 Ensemble

49. String Ensemble 1
50. String Ensemble 2
51. SynthStrings 1
52. SynthStrings 2
53. Choir Aahs
54. Voice Oohs
55. Synth Voice
56. Orchestra Hit

## 57-67 Brass

57. Trumpet
58. Trombone
59. Tuba
60. Muted Trumpet
61. French Horn
62. Brass Section
63. SynthBrass 1
64. SynthBrass 2

65. Soprano Sax
66. Alto Sax
67. Tenor Sax
68. Baritone Sax
69. Oboe
70. English Horn
71. Bassoon
72. Clarinet

## 73-80 Pipe

73. Piccolo
74. Flute
75. Recorder
76. Pan Flute
77. Blown Bottle
78. Shakuhachi
79. Whistle
80. Ocarina

## 81-88 Synth Lead

81. Synth Lead 1 (square)
82. Synth Lead 2 (sawtooth)
83. Synth Lead 3 (calliope)
84. Synth Lead 4 (chiff)
85. Synth Lead 5 (charang)
86. Synth Lead 6 (voice)
87. Synth Lead 7 (fifths)
88. Synth Lead 8 (bass + lead)

## 89-96 Synth Pad

89. Synth Pad 1 (new age)
90. Synth Pad 2 (warm)
91. Synth Pad 3 (polysynth)
92. Synth Pad 4 (choir)
93. Synth Pad 5 (bowed)
94. Synth Pad 6 (metallic)
95. Synth Pad 7 (halo)
96. Synth Pad 8 (sweep)

## 97-104 Synth FX

97. SFX 1 (rain)
98. SFX 2 (soundtrack)
99. SFX 3 (crystal)
100. SFX 4 (atmosphere)
101. SFX 5 (brightness)
102. SFX 6 (goblins)
103. SFX 7 (echoes)
104. SFX 8 (sci-fi)

## 105-112 Ethnic

105. Sitar
106. Banjo
107. Shamisen
108. Koto
109. Kalimba
110. Bag pipe
111. Fiddle
112. Shanai

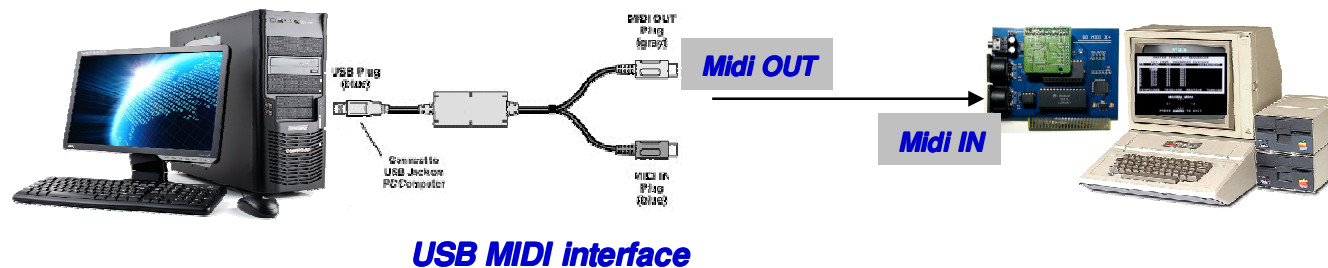
## 113-120 Percussion

113. Tinkle Bell
114. Agogo
115. Steel Drums
116. Woodblock
117. Taiko Drum
118. Melodic Tom
119. Synth Drum
120. Reverse Cymbal

## 121-128 Sound FX

121. Guitar Fret Noise
122. Breath Noise
123. Seashore
124. Bird Tweet
125. Telephone Ring
126. Helicopter
127. Applause
128. Gunshot

# How to connect MIDI Cable on PC to APPLE II

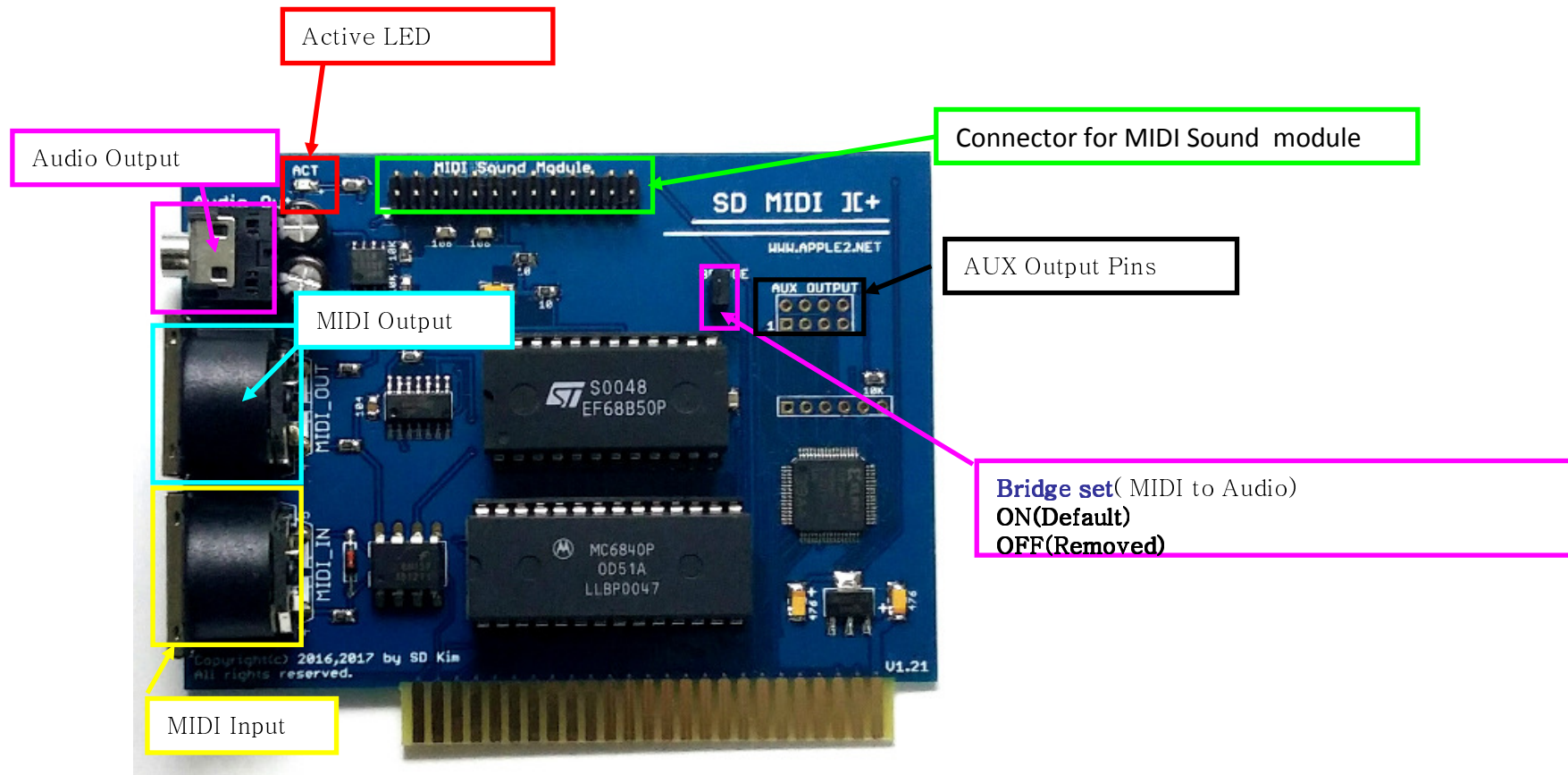


- Connect MIDI cable to SD MIDI ][+ then you can hear sound when Bridge Mode ON
- You can record/play with MIDI Sequencer software on APPLE II.
- You can play sound when you receive MIDI data from APPLE II to PC(Windows XP).

**\* This connection isn't required all of user.  
It is required if user wants to handle MIDI signal with PC.**



# SD MIDI ][+ Connectors



# AUX OUT Pinouts

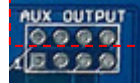
**SD MIDI ][+** provide 4 TTL output, Those pins could be used for user purpose such as device function ON/OFF.

**Address; \$Cn00**

X	X	X	X	P3	P2	P1	P0
---	---	---	---	----	----	----	----



**P0,P1,P2,P3**



**GND,G1,O2,O1 ;Refer MC6840 Manual**

You can ON/OFF on BASIC commands.

(\* SD MIDI ][+ is in the 2<sup>nd</sup> Slot)

**POKE 49664, 0 ; All pins Low**

**POKE 49664, 255 ; All pins High**

**In the Monitor;**

**(n is slot number)**

**Cn00:FF 'All pins High '**

**Cn00:0 'All pins Low'**

# MIDI Sound module connector

- **SD MIDI ][+**  used Waveblaster connector which was used on SoundBlaster 16,Audician 32,ESS AudioDrive,Aureal Vortex 2 etc..
- You may use those board if power rating isn't high. current should not exceed 100mA (you can change if you need some more, please contact me)



Refer the link

[https://en.wikipedia.org/wiki/Creative\\_Wave\\_Blaster](https://en.wikipedia.org/wiki/Creative_Wave_Blaster)

Pin	Function	Pin	Function
1	DGnd	2	-
3	DGnd	4	TTL-MIDI input
5	DGnd	6	+5 Volts
7	DGnd	8	TTL-MIDI output
9	DGnd	10	+5 Volts
11	DGnd	12	Audio R in
13	-	14	+5 Volts
15	AGnd	16	Audio L in
17	AGnd	18	+12 Volts
19	AGnd	20	Audio R out
21	AGnd	22	-12 Volts
23	AGnd	24	Audio L out
25	AGnd	26	!Reset

# Other information

- Tested and works on APPLE //e.
- No proper S/W for APPLE II or II+.
- Ultima5 game sound configuration doesn't work on APPLE IIGS.
- If you have no Sound module you can't have sound from Audio output.
- The ACT LED is ON while transmitting MIDI data.
- Components number/values may changed without notice.
- Warranty period is 3 months and not included shipping costs.
- Disassemble/Modify or Soldering any parts, It may expire the warranty.
- Service contact information ; Email to [quick09@gmail.com](mailto:quick09@gmail.com)
- Thank you very much



*San Kim*

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