AARDVARK SOUND BOARD

PARTS LIST

1 SN76477 SOUND GENERATOR
2 8212 8-BIT PORT (OR 74412)
2 7430 8 INPUT NAND
2 7406 HEX INVERTER (OR 7405)
1 74138 OR 74L138 DECODER
1 2N2222A NPN TRANSISTOR
1 2N2907 PNP TRANSISTOR
1 8 OHM SPEAKER
2 8T28 IC CHIPS (QUEST ELECTRONICS)
8 1 MEG POTENTIOMETERS (POTS)
2 1K RESISTORS
1 3.9K RESISTOR
1 100K RESISTOR
3 4.7K RESISTORS
1 6.8K RESISTORS
1 10K RESISTOR
1 15K RESISTOR
1 18K RESISTOR
1 22K RESISTOR
1 27K RESISTOR
1 33K RESISTOR
1 47K RESISTOR
5 .01 UF CAPACITORS
3 .1 UF CAPS
1 .05UF CAP
1 390PF CAP
1 5UF CAP
1 10UF CAP
1 40-PIN DIP CABLE

TOOLS REQUIRED: THIN SOLDER, SOLDER IRON WITH SMALL TIP, HAND TOOLS, OHM METER.

ASSEMBLY:

1) INSPECT BOARD CAREFULLY FOR BROKEN FOIL RUNS. IT HAS BEEN INSPECTED HERE, BUT IT IS BETTER TO FIND ANY DEFECTS BEFORE YOU START SOLDERING.

2) MAKE SURE YOU HAVE THE RIGHT SIDE OF THE BOARD UP. THE COPYRIGHT STATEMENT SHOULD BE ON TOP IN THE LOWER RIGHT CORNER.

3) INSERT RESISTORS AND CAPACITORS IN HOLE PROVIDED AND SOLDER. BE ESPECIALLY CAREFUL IN THE AREA WITH ALL THE POTENTIOMETERS AND CAPACITORS TO THE RIGHT AND BELOW THE SOUND CHIP, BOARD SIZE MADE THAT AREA RATHER CROWDED. POTENTIOMETER HOLE SPACING IS A COMPROMISE AMONG THE VARIOUS SIZE POTS THAT MIGHT BE USED. YOU WILL PROBABLY HAVE TO DO SOME LEAD BENDING. IF THE SPACE BECOMES TOO CROWDED, SOME PARTS MAY BE SOLDERED ONTO THE BOTTOM OF THE BOARD. AFTER SOLDERING, CLIP EXCESS LEADS.

4) PLACE IC'S IN PADS PROVIDED. BECAUSE OF SPACE CONSIDERATIONS, THE PIN ONE LOCATIONS OF THE CHIPS VARY GREATLY. REFER CAREFULLY TO THE PHYSICAL DIAGRAM AND PLACE CHIPS ACCORDINGLY. (ALL BUT THE 40-PIN DIP HAVE POLARITY DOTS, BUT SOME THESE HAVE BEEN DRILLED- DON'T LET IT CONFUSE YOU.) SOLDER IC'S IN PLACE.

5) USING DISH SOAP (JOY) , HOT WATER AND A STIFF BRUSH SCRUB THE BOARD CLEAN OF FLUX. USE A HAIR DRYER ON COOL OR AN AIR COMPRESSOR TO THOROUGHLY DRY

THE BOARD, EXPECIALLY UNDER THE CHIPS.

6) CONNECT 8 OHM SPEAKER TO HOLES PROVIDED (ON SOME OF OUR TEST BOARDS WE INSTALLED A PHONO JACK IN THE UPPER RIGHT CORNER BY THE 40-PIN DIP AND JUMPERED TO THE HOLES. THIS ALLOWS EASY CONNECTION TO ANY SPEAKER SYSTEM.)

7) CONNECT THE +5 AND GROUND CONNECTIONS ON THE BOARD TO THE POWER SUPPLY OF THE 600 BOARD.

8) CONNECT THE BOARD TO THE 600 BOARD WITH THE 40-PIN DIP CABLE. IF YOU WANT YOU CAN HARD WIRE ONE END OF THE CABLE TO THE SOUND BOARD AND ONLY USE A CONNECTOR ON THE END THAT GOES TO THE 600 BOARD. THE 40 PIN CABLES WE USED HERE HAD THE FIRST WIRE CONNECTED TO PIN 40, THE SECOND TO PIN ONE AND SO ON (40,1,39,2,38,3,37,4,36,5.. ETC.) BUT IT WOULD BE BEST TO TAKE A GOOD LOOK AT THE ONE YOU HAVE BEFORE SOLDERING IT INTO PLACE.

9) ENTER THE PROGRAM INCLUDED WITH THESE INSTRUCTIONS AND ENJOY SOUND!

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8 FORX=1TO8:PRINT:NEXT
10 A=40952
11 B=A+1
12 C=57088
13 GOTO105
15 POKE530,1
20 POKEC,127
25 D=PEEK(C)
30 D=D-255
35 D=D-D-D
40 POKEC,191
45 E=PEEK(C)
50 IFD=127THENPOKEB,1
55 IFE=191THENPOKEA,00
60 IFE=223THENPOKEA,96
65 IFE=239THENPOKEA,80
70 IFE=247THENPOKEA,08
71 IFE=251THENGOTO95
74 POKEC,239
76 F=PEEK(C)
78 IFF=127GOTO400
80 IFF=191GOTO450
81 IFF=251THENPOKEA,32
82 IFF=223GOTO480
83 IFF=247THENPOKEA,106
84 IFF=239THENPOKEA,16
85 IFD=0GOTO20
90 POKEB,D
92 GOTO20
95 POKEA,00:POKEB,00
100 END
105 PRINT"**********************
110 PRINT"       SOUND GENERATOR
120 PRINT"     DEMO PROGRAM
130 PRINT"**********************
132 PRINT:PRINT:PRINT
135 GOTO600
140 PRINT:PRINT
150 PRINT"KEY    CODE
155 PRINT" ---     ---
158 IFQQ=2GOTO240
160 PRINT
170 PRINT" 1 THESE KEYS ARE
180 PRINT"TO USED FOR THE
190 PRINT"8  ORGAN FREQUENCY
200 PRINT:PRINT"9 ORGAN SELECT (VCO)
210 PRINT:PRINT"0 ORGAN SELECT (VCO+SLF)
220 PRINT:PRINT": ORGAN SELECT (VCO+SLF+NOISE)
230 PRINT:PRINT"- PHASOR SELECT
235 PRINT:PRINT"RUB OUT   STOP
236 GOTO15
240 PRINT:PRINT"W RANDOM SOUNDS (VCO)
250 PRINT:PRINTE RANDOWM SOUNDS (VCO+SLF)
260 PRINT:PRINT"R SIREN
270 PRINT:PRINT"T MOTOR
280 PRINT:PRINT"Y MACHNE GUN
290 PRINT:PRINT"U WHITE NOISE
300 GOTO235
400 POKEA,00
405 ZZ=80
410 FORX=100TO129
413 FORZ=1TOZZ
414 NEXTZ
420 POKEB,X
425 NEXTX
429 POKEB,00
430 GOTO20
450 POKEA,96
455 ZZ=150
460 GOTO410
480 POKEA,00
490 FORR=1TO20
500 POKEB,1
510 FORCC=1TO70
515 NEXTCC
520 POKEB,2
530 FORCC=1TO70
540 NEXTCC
545 NEXTR
546 POKEB,00
550 GOTO20
600 PRINT:PRINT
610 PRINT"THIS PROGRAM IS INTENDED TO SHOW YOU SO
ME OF THE BASIC SOUND
620 PRINT:PRINT"PRESS 1 FOR FIRST SET OF KEY CODE
S
630 PRINT:PRINT"PRESS 2 FOR SECOND SET OF KEY COD
ES
640 INPUTQQ
645 PRINT:PRINT:PRINT
650 GOTO140
OK
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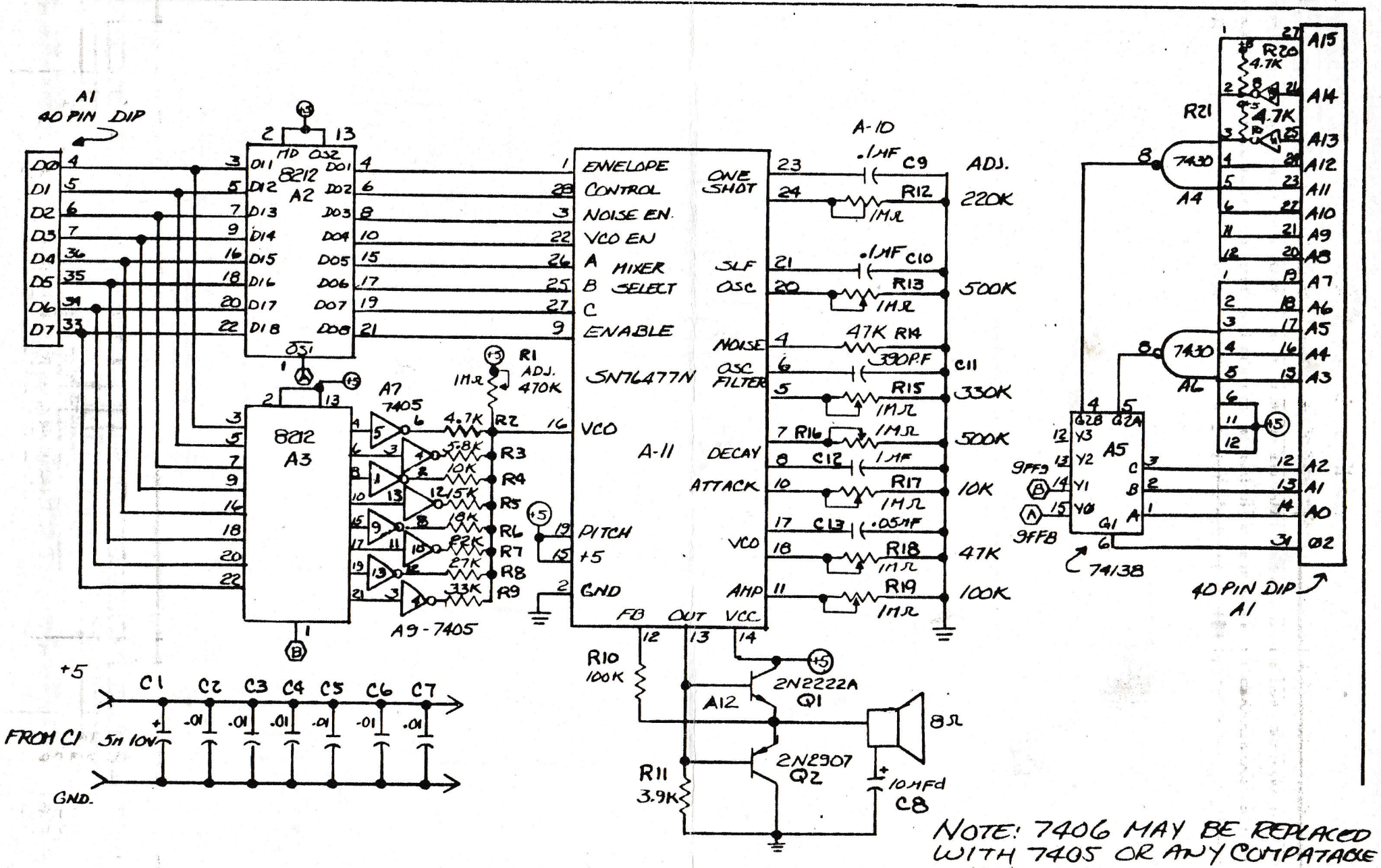

NOTE: 7406 MAY BE REPLACED WITH 7405 OR ANY COMPATABLE HEX INVERTER

POT. ADJUSTMENTS

R12 - 220K
R13 - 500K
R15 - 330K
R16 - 500K
R17 - 10K
R18 - 47K
R19 - 100K
R1 - 470K