SOUNDPLUG

INSTRUCTIONS

SOUNDPLUG plugs into the PARALLEL data port on the back of your Sorcerer. (Accidentally plugging into the SERIAL port will not cause any damage, but it will only work in the PARALLEL port).

Note: On some Sorcerers the cut-out for the plug is not sufficiently wide to allow the plug to fully enter the socket. If this is the case, carefully cut back the plastic with a stanley knife until the SOUNDPLUG will push right home.

Connect your loudspeaker to the RCA connector, and adjust the loudness with the volume control on the side of the SOUNDPLUG. (Clockwise = increase volume).

The maximum loudness achievable with SOUND-PLUG is determined mostly by the efficiency of the loudspeaker. This can vary enormously. A 50 mm transistor radio speaker, without a baffle will produce a weak tinny sound. But a Hi Fi Bass Reflex Speaker will blast you ears!

If the video screen "flickers" while SOUNDPLUG is being used, turn the volume down until the flicker disappears.

The volume control is designed to be a "Preset and forget" type. However if you wish to be able to change the volume without a screwdriver, it is permissable to glue a small knob to the control. Use PVC cement or superglue but be carefull not to let any glue get between the control and the case, or you will have a permanently set volume. (A suitable knob can be made from the terminal nuts or an Eveready "Big Jim" battery.).

DRIVING SOUNDPLUG

Sounds are produced at the parallel port by alternately switching it on and off at an audible rate, producing a squarewave. This is a waveform with predominantly odd harmonics, and has a "hollow" sound, a bit like a bassoon.

The parrallel port has 8 output bits. Some programs use bit 0, some use bit 7, others use all 8. SOUNDPLUG will work with these. All SYSTEM SOFTWARE programs will work with SOUNDPLUG.

BASIC is too slow to produce musical tones. The fastest that BASIC can switch the port on and off—

10 OUT 255, 255 : OUT 255, 0 : GO TO 10, will produce a low pitched buzz.

Machine code is essential. Here is a little demo program to illustrate one way to use SOUNDPLUG.

To enter the program do the following:

Type BYE (go to monitor)

Type EN 60 (enter code at Hex addr. 60)

Now type in the machine code (the Hex numbers in heavy type)

Type / (Terminate ENTER mode)

Type SE O = 60 (Sets OUTPUT vector to Hex 60)

To save this program on tape:

Type PP (return to BASIC)

Now when you type CTRL-G (hold down CTRL key while pressing G key) you should be rewarded by a "beep" from the speaker.

If you have a BASIC program that takes a long time to complete some task. use this beep to signal when the computer has finished.

PRINT CHR$(7) will output a "BELL".

EXIDY Z-80 ASSEMBLER
ADDR OBJECT

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                        ; ** DEMONSTRATION PROGRAM FOR SOUNDPLUG **
                        ; IMPLEMENTATION OF CTRL-G "BELL"
                        ; Adapted from item by BRETT COX in SCUA newsletter
                        ; December 1979
                        ORG    0060H
E01B          VIDEO     EQU    0E01BH        ;THIS IS THE SORCERER VIDEO
                                             ;DRIVER
0080          DLY       EQU    080H          ;THIS SETS THE BEEP
                                             ;FREQUENCY
'0060 FE 07             CP     07            ;CHECK FOR CONTROL—G
                                             ;CHARACTER
'0062 28 04             JR     Z,BELL-$      ;BEEP IF IT IS
'0064 CD 1B E0          CALL   VIDEO         ;CARRY ON...
'0067 C9                RET
'0068 21 80 01 BELL     LD     HL,0180H      ;THIS SETS DURATION OF BEEP
'006B 3E 80   START     LD     A,DLY         ;SET PULSE 'OFF' TIME
'006D 3D      LOOP1     DEC    A
'006E 20 FD             JR     NZ,LOOP1-$
'0070 3E FF             LD     A,0FFH
'0072 D3 FF             OUT    (0FFH),A      ;SET ALL OUTPUT BITS 'ON'
'0074 3E 80             LD     A,DLY         ;PULSE 'ON' TIME
'0076 3D      LOOP2     DEC    A
'0077 20 FD             JR     NZ,LOOP2-$
'0079 D3 FF             OUT    (0FFH),A      ;SET ALL OUTPUT BITS 'OFF'
'007B 2B                DEC    HL            ;CHECK FOR
'007C 7C                LD     A,H           ;END OF
'007D FE 00             CP     00            ;BEEP DURATION
'007F C8                RET    Z             ;YES
'0080 18 E9             JR     START-$       ;NO
BELL      0068 DLY      0080 LOOP1    006D
LOOP2     0076 START    006B VIDEO    E01B
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