

12. SOUND

SOUND

Consider the following format:

SOUND VOICE%,FREQUENCY%,DISTORTION%,VOLUME%

ATARI computers have four independent sound channels called voices; they are numbered 0, 1, 2, and 3. The value of VOICE% determines which voice you are issuing a command to. The value of FREQUENCY% (1 to 255) determines the sound frequency. For example, 121% is middle C. (See reference manual for a complete table). The value of DISTORTION% ranges from 0% to 15%. It controls the amount and type of noise output; 10% produces a pure note. The value of VOLUME% also ranges from 0% (sound off) to 15% (highest volume). Once started, a channel will continue to emit the same sound until another command is given to that channel, or until the program ends.

ASOUND and SCONTROL

You can use ASOUND and SCONTROL to set up a series of notes and then allow the computer to play the series automatically without any further commands. For example, the program starts a tune and then does something else, like manipulate a player, while the system is playing the specified tune. The formats for these commands are:

ASOUND VOICE%,ADR(linenumber)

SCONTROL integerexpress,integerexpress,integerexpress,integerexpress

In ASOUND the value of VOICE% specifies which voice you are issuing a command to (0, 1, 2, or 3). The number after ADR is the linenumber where the data for the voice is located. The data may extend over several successive lines and specifies frequency, duration, distortion, and volume. ASOUND does not start a voice; it only specifies what is to be played.

SCONTROL starts and stops the voices. The four numbers following SCONTROL correspond to the four ATARI voices. If the number is one, the voice is started or continued. If it is zero, the voice is stopped or not started. Thus you use ASOUND commands to specify the data for the voices and SCONTROL to simultaneously start them. This allows you to synchronize the voices. Consider the following program, which plays two notes and stops:

```
10  ASOUND 0%,ADR(1000)
20  SCONTROL 1%,0%,0%,0%
30  WAIT 60%
40  GOTO 5000
1000 CODE"5,!121,!168,7,!243,!170,0,FF"
5000 END
```

The 0% following ASOUND specifies that the sound will be produced on voice 0. Line 1000 is where the data for the voice is located. The CODE command at line 1000 is a special way of entering data into a program. It is used mainly with assembly language code. Here we are using it to enter a series of numbers separated by commas. If preceded by ! the numbers are in