

```
1 -----
2 --
3 --          GNAT RAVENSCAR for NXT          --
4 --          Copyright (C) 2010, AdaCore    --
5 --
6 -----
7
8 -- Based on the sound driver provided by the LeJOS project.
9
10 with Interfaces; use Interfaces;
11 with System;
12
13 package NXT.Audio is
14   pragma Elaborate_Body;
15
16   procedure Mute;
17   -- prevent sound from coming out of the speaker
18
19   procedure Unmute;
20   -- allow sound from the speaker
21
22   Maximum_Volume : constant := 100;
23
24   subtype Allowed_Volume is Integer range 0 .. Maximum_Volume;
25   -- Zero is muted, i.e., no sound output
26
27   procedure Play_Tone
28     (Frequency : Unsigned_32;
29      Interval   : Unsigned_32;
30      Volume     : Allowed_Volume);
31   -- Plays a tone of the specified Frequency for the specified Interval.
32
33   -- The min, max, and default frequencies used for playing input samples (as
34   -- opposed to generated tones)
35
36   Maximum_Rate : constant := 22_050;
37   Minimum_Rate : constant := 2_000;
38   Default_Rate : constant := 8_000;
39
40   subtype Sampling_Rates is Unsigned_32 range Minimum_Rate .. Maximum_Rate;
```

```
41
42 procedure Play_Sample
43   (Input      : System.Address;
44    Input_Length : Unsigned_32;
45    Volume     : Allowed_Volume;
46    Rate       : Sampling_Rates := Default_Rate);
47 -- Plays the sound sample starting at Input, of extent Input_Length. We
48 -- don't use an explicit array type for Input because in practice the input
49 -- values will come via the linker so the user won't know how big the array
50 -- should be. We don't use an explicit access type because that would
51 -- require the user to do the conversion from the address provided by the
52 -- linker, hence it would not be any safer and not convenient for the user.
53 --
54 -- The address provided by Input is expected to be the starting address of
55 -- a sound sample, such as that of a wav file. Note that only 8-bit PCM
56 -- values are supported.
57 -- Input_Length is given in terms of bytes.
58 -- The value of Rate should match what was actually used to create the
59 -- input sample, so when playing wav files the value specified should come
60 -- from the input wav file metadata. See NXT.Audio.Wav, for example.
61
62 function Time_Remaining return Integer;
63 -- Returns the approximate number of milliseconds remaining in the
64 -- currently playing tone or sample.
65 -- Returns zero when no tone or sample is playing.
66
67 end NXT.Audio;
68
```