pragma Restrictions (No_Streams);

package NXT.Sound_Sensors is
    pragma Elaborate_Body;

    type Sound_Sensor ('<>) is tagged limited private;
    -- NB: by making the type indefinite, we force an initialization when
    -- objects are declared, thereby ensuring a call to a constructor function

    function Id (This : Sound_Sensor) return Sensor_Id;
    -- Returns the sensor identifier assigned to this sensor

    function Sound_Level (This : Sound_Sensor) return Integer;
    -- returns the current sensor value as a percentage

    procedure Use_DBA_Mode (This : in out Sound_Sensor);
    -- causes This sensor to use DBA mode

    procedure Use_DB_Mode (This : in out Sound_Sensor);
    -- causes This sensor to use DB mode

    function DBA_Mode (This : Sound_Sensor) return Boolean;
    -- returns whether This sensor is using DBA mode. When it returns False the
    -- sensor is in DB mode.

private

    Max_Raw : constant := 1023; -- max reading from A/D converter
    -- the raw input value varies inversely with the volume of the sound
type Sound_Sensor is tagged limited
  record
    Id : Sensor_Id;
    DBA_Mode : Boolean;
  end record;

end NXT.Sound_Sensors;