DECO1013: Sound Design & Sonification
Assignment 1: Functional Sound Design

Sound Functions Scenario – Car Safety

The context I have chosen to base my sound functions on is car safety. Since I am a car enthusiast and drive quite frequently, I have decided to base my sound designs on the automotive area, and essentially trying to make the driving experience a safer one.

I have also attached 5 images of the vacuum plug-in, for each of the scenarios (pictures are linked to larger images). The images illustrate the settings I had to tweak using vacuum in order to achieve the desired sound. I mostly played around with the shape of the wave (SHAPE knob), and altering the RANGE knob. This allowed me to create the desired sounds, whether I wanted a sharp sound or a more subtle and gentle wave.

Below are the 5 scenarios I have chosen to create my sound functions for, and are played in the respective order:

- **Car Alarm – Low urgency**
  - There will be two designs for this. One will be low urgency and another will be high urgency.
  - Low urgency – this alarm will sound if someone is getting exceedingly close to the car whilst the cars security system is enabled. Being low urgency, the pitch of the sound is of a moderate level, and the frequency is at a slow pace. It is designed to warn off any unwanted intruders, in order to try and prevent any theft. This sound will beep twice, for four times, and will then change to a higher pitch and a faster rate.

- **Car Alarm – High urgency**
  - High urgency – In the case of an attempt to steal a car, this alarm will sound high pitched and at a fast rate also. Once the car has been nudged, or made contact with whilst its security system is enabled, then the alarm will sound. The idea is to scare off the burglar by drawing attention to the cars location, thus highlighting the fact that there is danger present. To achieve this high pitched sound, the RANGE knob for VTO TWO was set to 2", which gave it its high pitch quality. Also, both CUTOFF’s were set to highest. This brought out the sharp tone for the alarm.
- **Seatbelt Off**
  - Whilst the car’s engine is running, this low urgency alarm will beep to warn the driver that their seatbelt is not enabled. It is a soft, gentle, but noticeable warning and will only stop once the seatbelt has been buckled. Seatbelts are essential when driving, and this warning will ensure the seatbelt will be worn by the driver. To achieve the desired sound, I only fed through VTO1, as it allowed me to achieve a more simplistic sound. I turned down the CUTOFF for VT LPF, and this gave the sound more harmonic and gentle. Also, for ENVELOPE TWO, I raised the RELEASE knob, and this gave it more depth instead of a sudden beep.

- **Petrol Meter Low**
  - This alarm will sound once the petrol meter reaches a critical level (almost empty). It is not healthy for the car to be running on such low fuel. As the remaining gunk at the bottom of the tank will begin to be used as fuel, this can cause damage to the engine. To prevent this, the medium urgency alarm will sound, warning the driver that the tank is near empty and it is advised to fill up soon. I tuned the DRIVE and RINGMOD to the highest, and toyed with the SHAPE knob to bring out the desired qualities.

- **High Engine Rev (revolution)**
  - I have decided to create an alarm that sets off once the cars revs reach a dangerous level, also known as redline. In order to ensure that the driver does not damage/blow the car’s engine, this alarm will sound to prevent or give warning to the driver, that it is advised to change gears. The alarm rate will be frequent but not so high pitched, as it may become annoying. There is a sense of urgency due to the rate at which it is beeping, and to achieve this I modified the SHAPE knobs on both VTO’s. Having the knobs tuned to PW0, gave it a higher pitch for alertness.