

Hans Hadiardja, 307173666 – DECO1013 Assignment 1

Scenario

You are in a submarine at war in enemy territory. Your submarine has 5 warning noises that will sound at different situations. These are described as follows:

1. When there is an enemy submarine nearby
2. When you have been “locked on” by another submarine
3. When a torpedo is detected to have been launched at your submarine by another submarine
4. When there is a breach in the submarine and water is gushing in
5. When you have a lock on a target submarine

Design Rationale

The warning sounds were designed and generated using the Vacuum plug-in in ProTools. The design of these sounds was based on criticality of the situation. That is, a more distressing sound was generated for more critical situations. A more in depth explanation of the design rationale for each of the five sounds are found below:

1. The sound for when there is an enemy submarine nearby should give some sort of a threatening response, thus the harsh blaring sound. However, it should sound too critical, thus the slow and steady repetition. The fading in and out of the sound will prevent it from becoming just a background noise that is easily ignored.
2. The short, harsh and almost staccato like sound attempts to create a more critical alert compared to the previous sound. There is also a change in pitch every few seconds again to prevent the sound from becoming a background noise. The rate of each sound is also quite fast to emphasise the criticality.
3. The sound for when a torpedo is detected to have been launched at your submarine is similar to the previous sound, except with a higher pitch and a much faster rate. This should give the highest sense of urgency
4. This sound is quite distinct and resembles an ambulance siren. The changing pitch as well as the two different sounds will clearly indicate the crew member of the type of alarm. The sharp, higher pitch sound that repeats at quite a fast rate also heightens the rate of emergency as it should.
5. This sound is again quite distinct and somewhat comical instead of threatening. This would distinguish the sound when compared to the others that it is not an alarm, but more an indicator. Again the changing pitch prevents the sound from blending in to the background.

Vacuum Plug-in Settings

The settings on the vacuum plug-in to generate the five sounds are given below:

1. Used a purely sawtooth wave at 32 degree range for VTO one and another purely sawtooth wave at 8 degree range for VTO two. This is to generate the

- harsh blaring sound. Used a wah-wah effect at approximately 0.40 Hz rate and using the modwheel at max to emphasise the change of pitch with the wah-wah effect. This is done to create the fading in and out sound
2. Used around 50% sawtooth and 50% square wave at 8 degree range for VTO one and purely sawtooth at 2 degree for VTO two. The addition of the square wave increases the pitch of the sound while the sawtooth creates a harsh blaring sound. Also used a vibrato sound at 3.11 Hz rate and again using the modwheel at max for the change in pitch. Both VTO sounds were mixed with high drive and ring modifier.
 3. Used around 50% saw and 50% square wave at 8 degree for VTO one and purely sawtooth at 2 degree for VTO two. Very similar to the previous sound but with vibrato at 4.8 Hz and at a higher pitch.
 4. Used two different sounds. One sound used a purely sawtooth wave at 8 degree range. Used a vibrato sound at 0.32 Hz rate and maximum modwheel position for distinct change in pitch with the vibrato. Also used a MW mod 2 source. The second sound also used sawtooth at 8 degree range, vibrato, but at a much faster rate of 3.7 Hz for the sharp, higher pitch part.
 5. Used a purely triangle wave at 2 degree range. Only VTO one is used to create a more comical sound. No modwheel is used or any other modifications are used.