Imperial College London

RISK ASSESSMENT AND STANDARD OPERATING PROCEDURE

1. PERSON(S) CARRYING OUT THIS ASSESSMENT – This assessment has been carried out by the students carrying out the activity.	
Names	Mingsong Wu, Jiayang Zhang
Date	22/11/2021

2. PROJECT DETAILS.						
Project Name	Digital Theremin				Experiment Code	G1
Brief Description Of Project Outline	To build and programmatically implement an 8-bit digital theremin that uses a pair a ultrasound transducers. Project is a mixture of electronic digital/analog signal processing as well as assembly code design.					
Location	Campus	South Ken	Building	Blackett	Room	419

3. HAZARD SUMMARY – Think carefully about all aspects of the experiment and what the work could entail. Write down any potential hazards you can think of under each section – this will aid you in the next section. If a hazard does not apply then leave blank.			
Manual Handling		Electrical	Y
Mechanical		Hazardous Substances	
Lasers		Noise	Y
Extreme Temperature		Pressure/Steam	
Trip Hazards	Y	Working At Height	
Falling Objects		Accessibility	
Other	Y		

4. CONTROLS – List the multiple procedures which may be carried out during the experiment along with the controls/ precautions that you will use to minimise any risks. Remember to take into consideration who may be harmed and how – other people such as students, support staff, cleaners etc will be walking past the experimental setup even when you aren't around.	
Brief description of the procedure and the associated hazards	**Controls to reduce the risk as much as possible**
Use of 240V Mains Powered Equipment.	Isolate Socket using Mains Switch before unplugging or plugging in equipment
Trip hazards	All bags/coats to be kept out of aisles and walkways
Use of Computer Display.	Avoid prolonged sessions; take breaks.
Use of PB-503 protoboard workstation capable of supplying +-15V DC.	Demarcate live power rails clearly and keep far from 5V digital circuitry. Ensure resistance of all paths are adequate to avoid short circuits.
Use of 8ohm speaker with amplifier.	Ensure amplifier power is set to less than half to avoid volume approaching uncomfortable levels.

5. EMERGENCY ACTIONS – What to do in case of an emergency, for example, chemical spillages, pressure build up in a system, overheating in a system etc. Think ahead about what should be done in the worst case scenario.
All present must be aware of the available escape routes and follow instructions in the event of an evacuation. Electrical short-circuit fire risk: 1) make fire known to everyone in room/vicinity. 2) attempt to put out fire with nearest extinguisher (must not be water based, CO2 and powder are fine) if fire is small 3) if fire is too large, activate fire alarm before it spreads and evacuate the building via the stairwell to the Blackett loading bay carpark (level 2).