



Written Progress Report for

# Electric Guitar Effects Combiner

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**Submitted To:** Dr. Andrew Rawicz

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March 22, 2010

Dr. Andrew Rawicz  
School of Engineering Science  
Simon Fraser University  
Burnaby, British Columbia  
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Re: ENSC 440 Written Progress Report for an Electric Guitar Effects Combiner

Dear Dr. Rawicz,

The attached document, *Written Progress Report for an Electric Guitar Effects Combiner*, outlines the current status and the progress we have made so far for our ENSC 440 (Capstone Engineering Science Project) project. This project is set to make combining the effects of an electric guitar for a professional guitar player easier and more efficient.

This document outlines the progress and the development for the proof-of concept design as well as the final production. This document will be used by team members and the project manager as a milestone marker to outline our progress in the semester.

Musictronics team is established by three innovative and passionate engineers: Kianoush Nesvaderani, Amanueal Heilegio, and myself, Gondang Prabowo Yudo. If you have any questions or concerns about our proposal, please feel free to contact me by e-mail at [gpy1@sfu.ca](mailto:gpy1@sfu.ca).

Sincerely,

A handwritten signature in black ink, appearing to read "Gondang Prabowo Yudo", written over a light blue rectangular background.

Gondang Prabowo Yudo  
President and CEO  
Musictronics



## 1.0 INTRODUCTION

The Combinator entails the construction of a music box that can combine the analogue effects of the electric guitar for professional guitar players. The device is consisted of three major parts, Multiply/Add Circuit, the Configuration Circuit, and Converters. We are currently at the stage of developing each of these parts in order to reach to our final product.

### 1.1 SCOPE

This document outlines the status of each of the major tasks in the building of our product. The document is going to give a description on each of the following:

- Development of Multiply/Add Circuit
- Development of the Configuration Circuit
- Development of Converters

## 2.0 Development of Multiply/Add Circuit

This is the most important and the most challenging part of our project that we are still working on. Due to the fact that we had to borrow an FPGA board from the school to start building this part, we are still going through the initial steps of coding the board. After contacting different professors, we were finally able to get a hold of Dr. Lesley Shannon who gave us the permission to borrow an FPGA board from the Engineering Science Laboratory. The following table shows the tasks both “in progress” and “completed”.

Task	In Progress	Completed
Providing the FPGA board		✓
Research		✓
Coding	✓	
Testing		

Table 2.1

### 3.0 Development of Configuration Circuit and Converters

The reason to combine these tasks is the fact that both these tasks are at the same stage. The electronic parts have been purchased, and the design of the circuits are already laid out and specified. However, we are currently putting the majority of our time to complete the coding on FPGA board. Once we complete that, we have a better approach toward what exactly needs to be outputted from the configuration circuit and converters in order to be fed into the multiply/add circuit. In fact, having the FPGA board ready to use was supposed to be our first major step, which was delayed due to the lack of having the physical board by two weeks ago. The following table shows our progress in our circuits' building:

Task	In Progress	Completed
Getting the parts		✓
Research		✓
Assembling the circuit		✓
Testing	✓	

Table 3.1

### 4.0 Conclusion

Although we are technically behind the schedule, we are putting most of our time into completing our Multiply/Add Circuit. We are planning to have the board coded and ready by the first week of April. From there, we are going to assemble everything together and start testing the final system. Once we have our finished system tested and ready to use, we will put the system inside our casing to have the final product.