

Weekly Internship Report

Computer Engineering Technology | Stage (247-610-VA)

MicroRepair Inc.

Saeid Ranjbaran
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Week One Report

[Day 1, April 18]

Easter Monday. Religious holiday so no work was done on this day.

[Day 2, April 19]

First official day at MicroRepair Inc. with Mr. Ranjbaran. Work environment and some basic workshop rules were introduced. Those being how to handle printed circuit boards properly, how to maintain a clean workbench, how to organize printed circuit boards according to production progress, etc.

The rest of the workday consisted of producing water-proof stranded cable ends. These cables consisted of three parts: 1) the stranded copper cable, 2) a blue sleeve and 3) a special crimp fitting on the ends of the cable. The cables were first stripped to expose the bare copper, then the sleeve was placed on cable, and finally, the crimp fitting was fitted and crimped on it.

[Day 3, April 20]

This workday consisted of continuing the work from the previous day. The remainder of the day consisted of assembling a neuro brain training system printed circuit board. The heart of the system consists of a dsPIC33F 16-bit microcontroller. I/O consists of a USB type A connector and five special probe inputs. For this day, the USB type A connector was soldered on the boards.

[Day 4, April 21]

This workday consisted of continuing the work from the previous day. More water-proof stranded cable ends were made. Afterwards, the neuro brain training system PCBs were further assembled and soldered. A relay and a DIP8 socket were assembled and soldered in place. The remainder of the work consisted of prepping some electrolytic capacitors for assembly and soldering onto other printed circuit boards.

[Day 5, April 22]

This workday consisted of continuing the work from the previous day. The neuro brain training system PCBs had programming pin headers assembled and soldered. Some repair work as well.

Leonardo Fusser

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April 25, 2022

John Salik, Eng.
Internship Supervisor

By signing above, I declare that the information stated here is true and correct.

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Week Two Report

[Day 6, April 25]

Soldering and assembly continued on the neuro brain training system PCBs. Special connectors for probe inputs were assembled and soldered onto the boards. These connectors needed a strong soldering iron to perform the work because of the pad sizes on the boards.

[Day 7, April 26]

No work performed on this day. A trip to the dentist's office for a checkup and fingerprints for the CNSC (Canadian Nuclear Safety Commission) summer employment needed to be taken care of.

[Day 8, April 27]

Performed multiple board pick-and-place procedure. Placed pin headers and spade connectors on the boards.

[Day 9, April 28]

Work from previous day continued here.

[Day 10, April 29]

Repair done on an Integra DTR-40.1 home cinema receiver. Unit powered on but did not produce any sound output. It was determined that the issue was with a Dolby Digital DSP IC that went completely dead. The unit could not be repaired.

On the side, another repair was done on a customer's power supply. Customer had stated that the power supply kept blowing the main fuse (2.5A fuse). It was determined that two main switching transistors (BJT) were blown on the primary side of the power supply. Components were replaced and power supply worked once again.

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Week Three Report

[Day 11, May 2]

Created custom wiring harnesses for a car PCB. First, crimped wires were produced beforehand and then a black connector was used to fit on the crimped wires. A total of 4 wires were fitted onto each black connector. Close to 1000 black connectors were done.

[Day 12, May 3]

Pick and place work was done. Components were placed on two different boards.

[Day 13, May 4]

Pick and place work was done. Components were placed on two different boards.

[Day 14, May 5]

Repair work was done on two customer boards. The first board had a few burned traces and an electrolytic capacitor had to be replaced. The second board had an electrolytic capacitor that had exploded. This electrolytic capacitor had been put in the wrong way by the customer who had attempted to replace the original defective electrolytic capacitor.


[Day 15, May 6]

Pick and place work was done. Components were placed on two different boards.

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