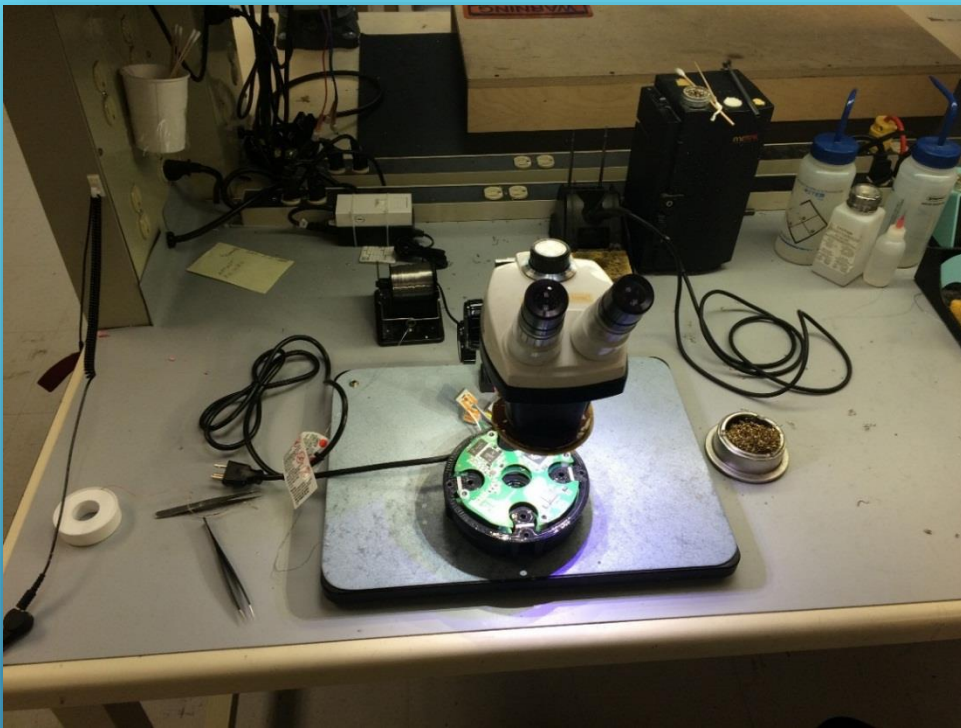




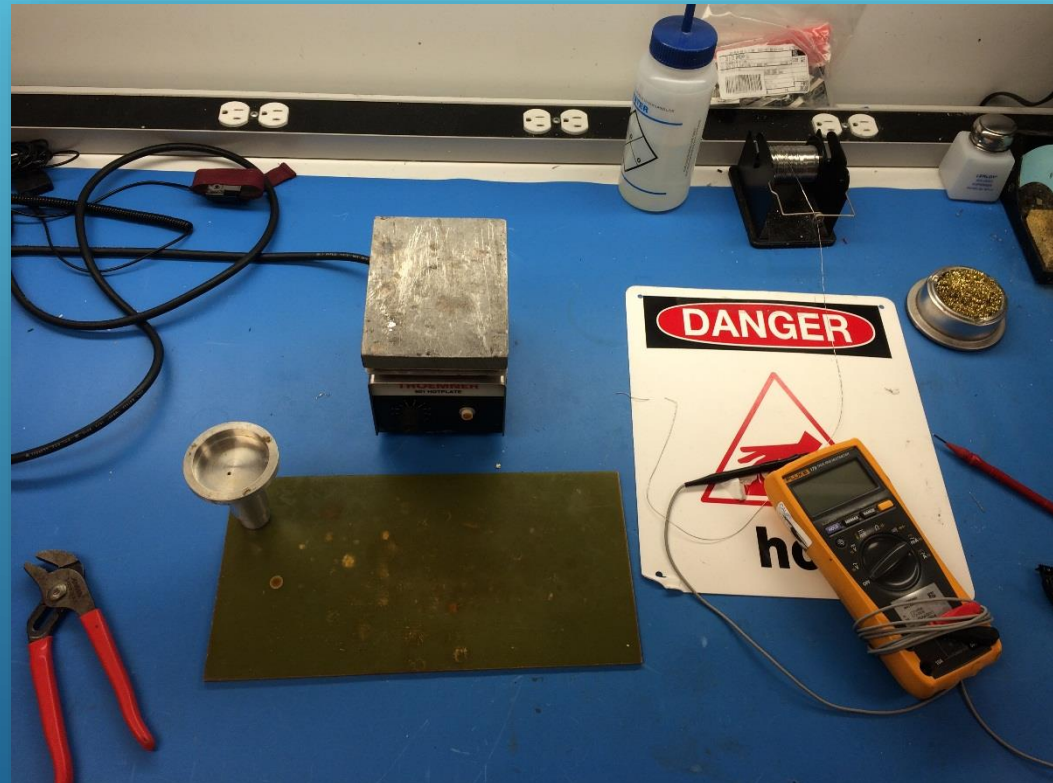
COOP PRESENTATION: ELECTRICAL ENGINEERING DEPARTMENT

By: Matthew Elia

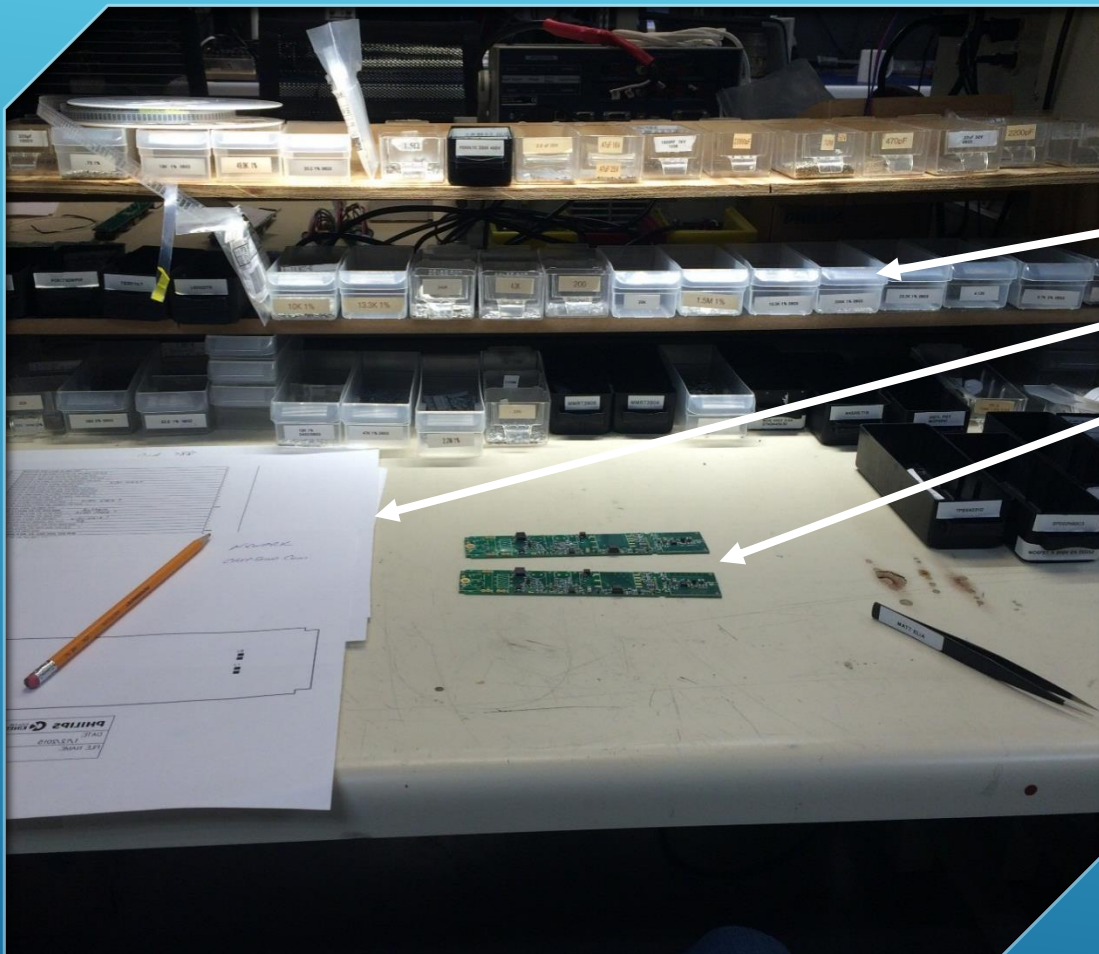
SKILLS I LEARNED



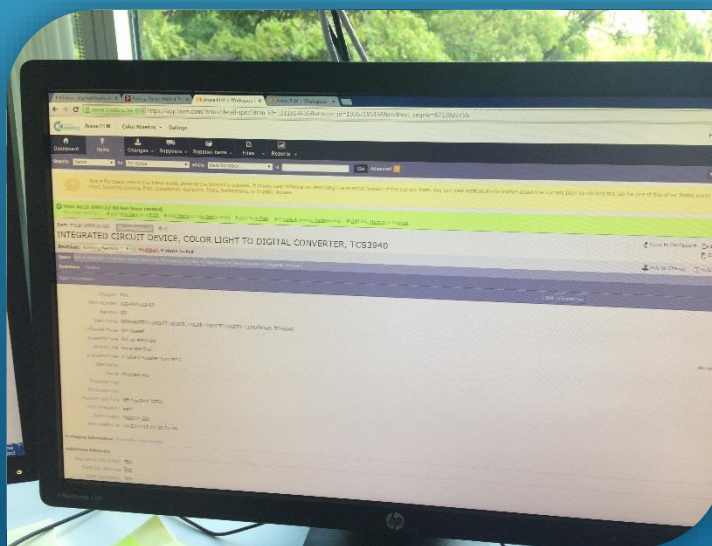
- Soldering under the microscope
- PCB assembly
- Basic wiring and connection techniques
 - I.E. crimping, desoldering braid, use of the heat gun to remove components



BOARD CONSTRUCTION



- Assembly of kits
- Organizing and reviewing a Bill of Materials
- Pasting and placing components on a board
- Baking and adding on of through-hole components



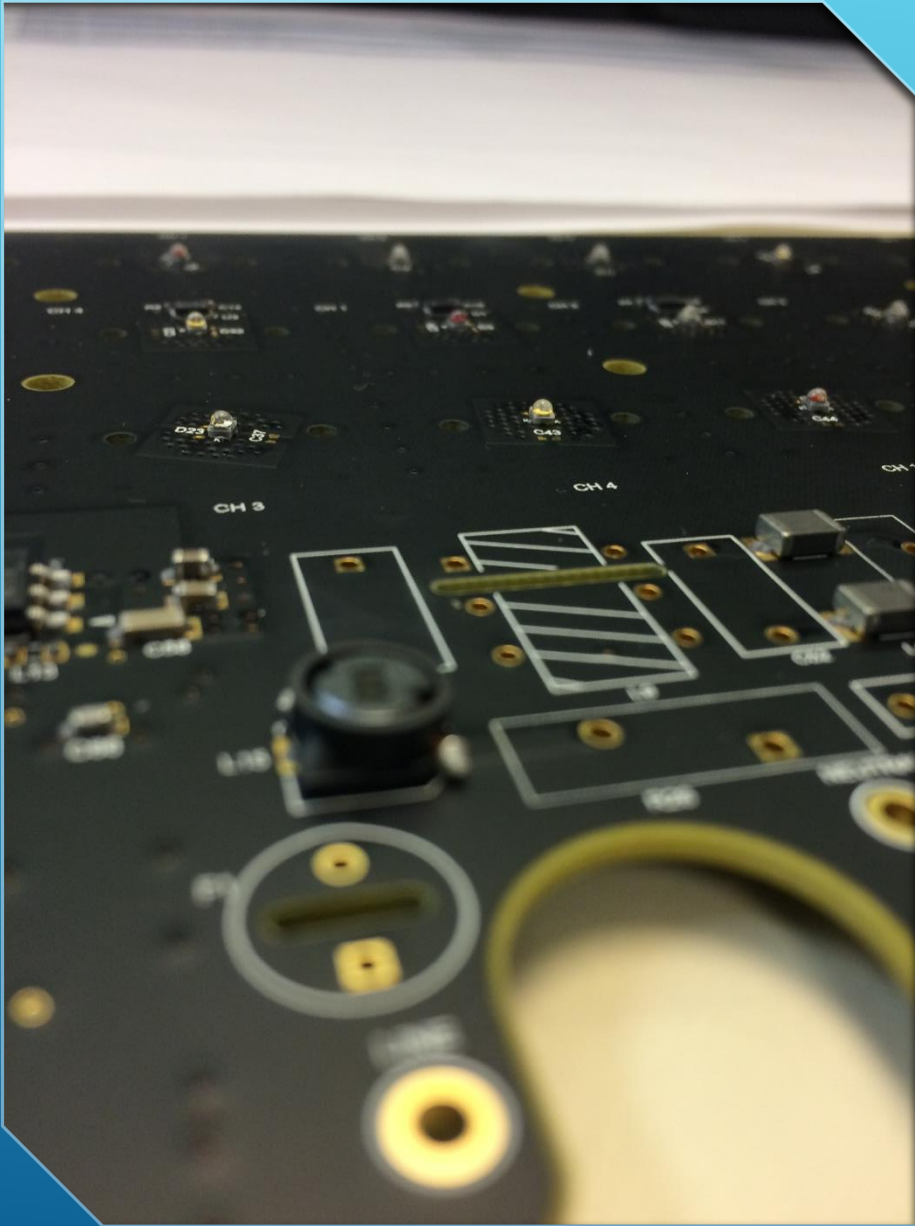


Reflow Oven



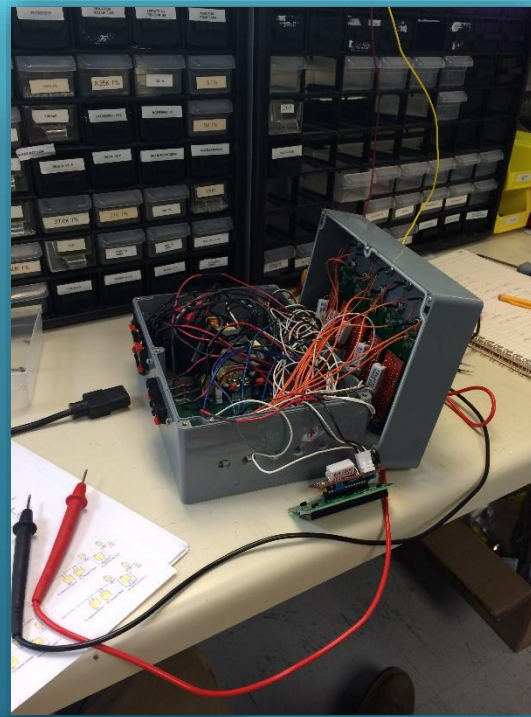
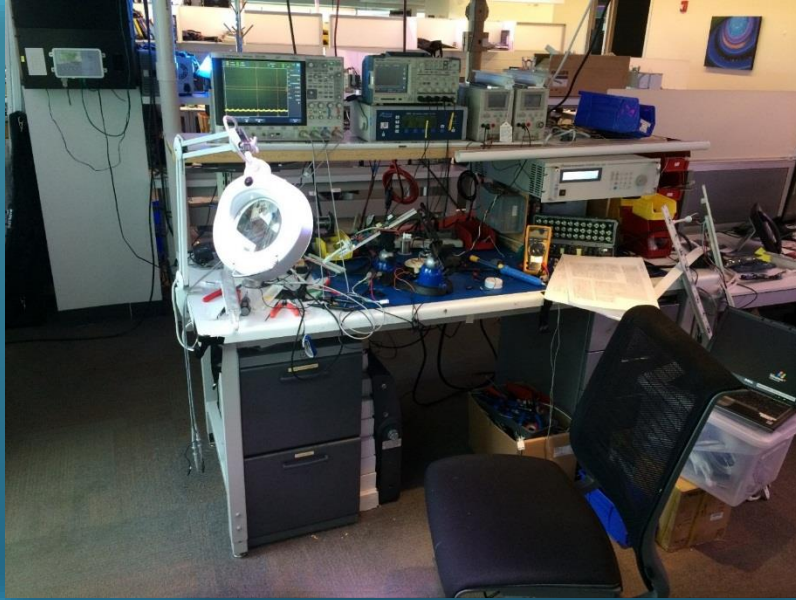
Capacitor

BOARD CONSTRUCTION (CONT.)



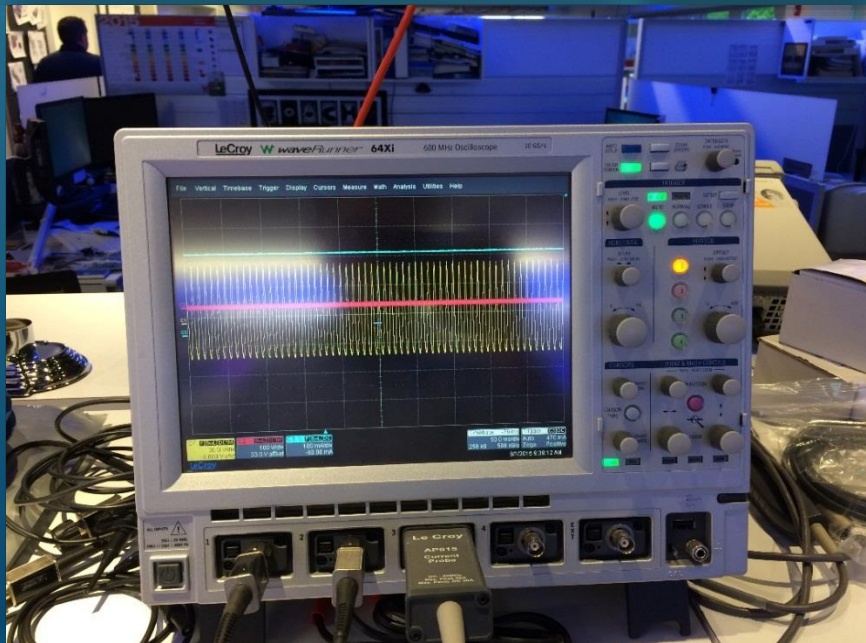
LEARNING ABOUT COMPONENTS

- Reviewing BOMs and ordering parts
- Placing components on new and old boards
- Learned about new components not seen before
- Absorbed the necessary jargon such as size and type



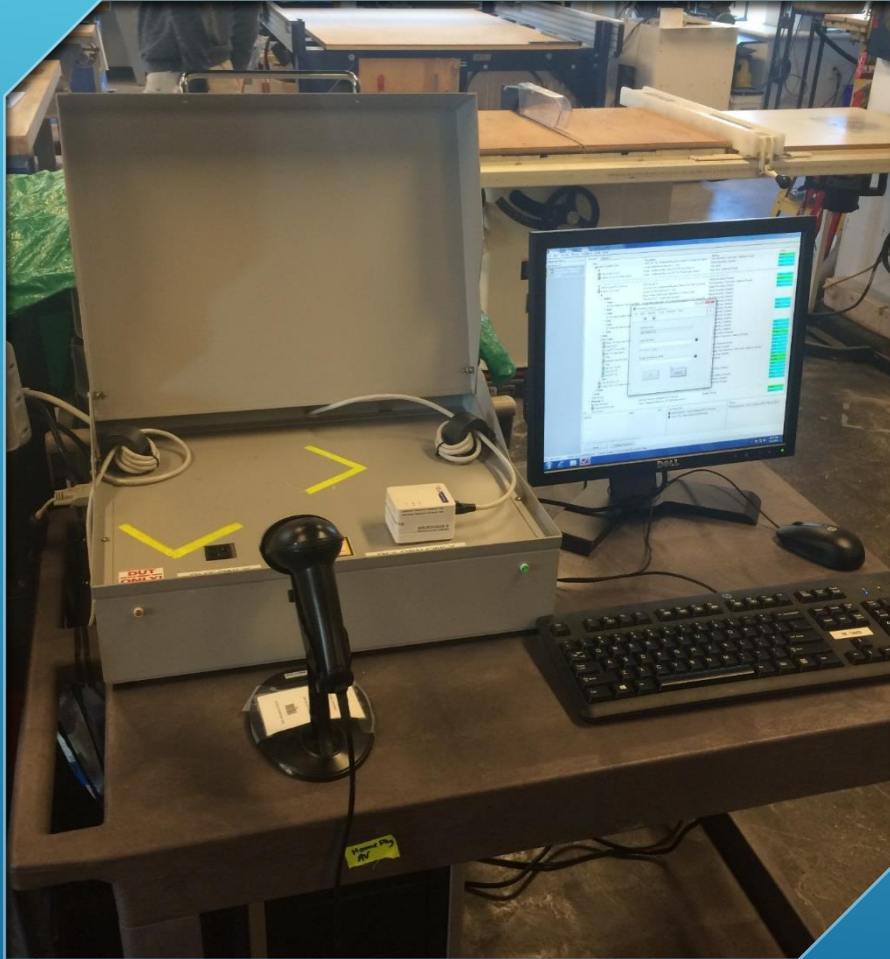
TESTING AND TROUBLESHOOTING

- Checked basic functionality of built boards (voltage rails etc)
- Programmed boards by installing firmware
- Troubleshot boards when certain circuitry was not working properly
- Learned to use various testing equipment not used before



Ex)

- Each board build
- 6 channel driver box
- Antumbra boards that would not program



PLC TESTING

- Tested both Power Line Communication Data Enabler and Reciever
- Ran through testing with varying frequencies to make sure that it would operate in a limit
- Used off the shelf PLC communication devices as the Golden Unit

LEARNING NEW SOFTWARE

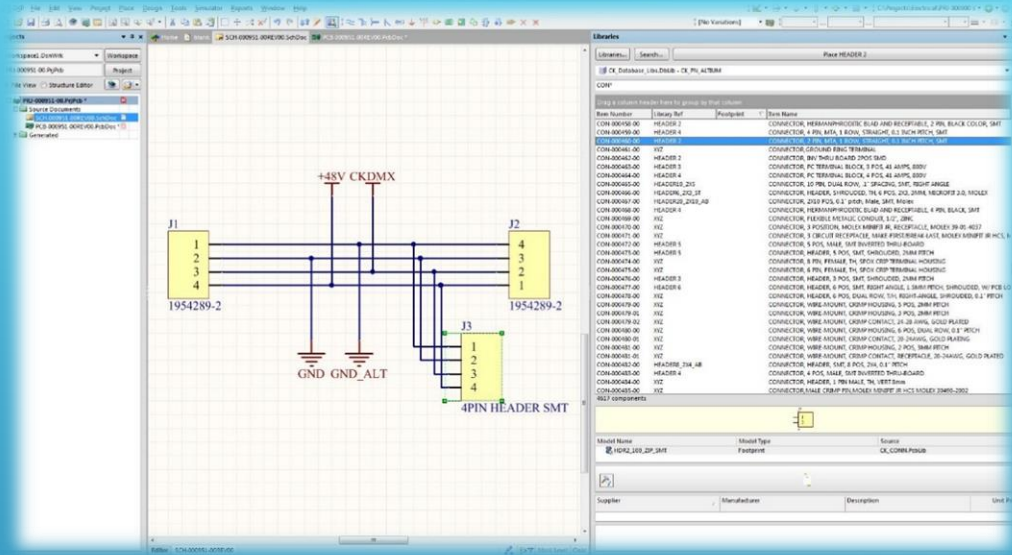
- Learned about all the basic software used at Philips Color Kinetics

(Quickplay Pro, ColorPlay 3, KTP, CK Firmware Updater, Intellipower Manager)

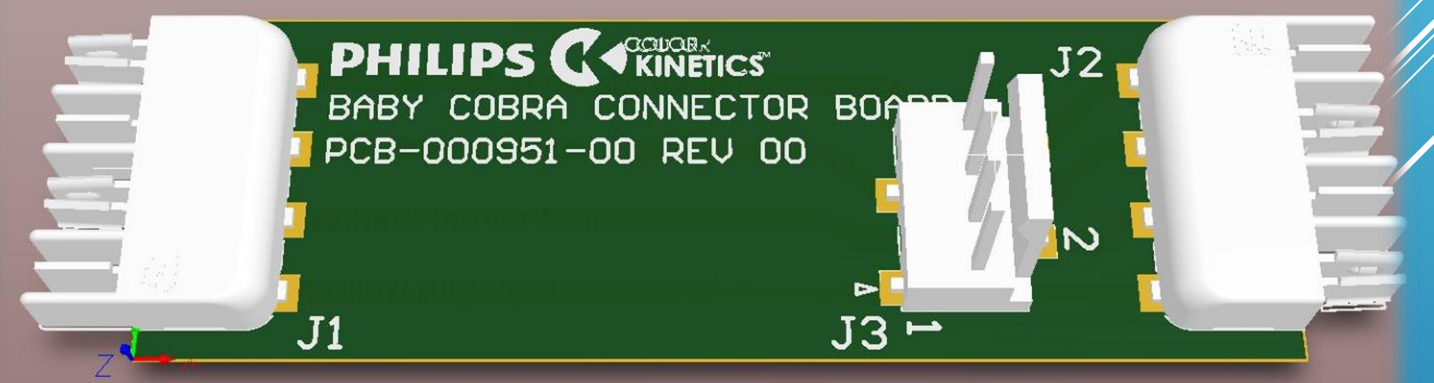
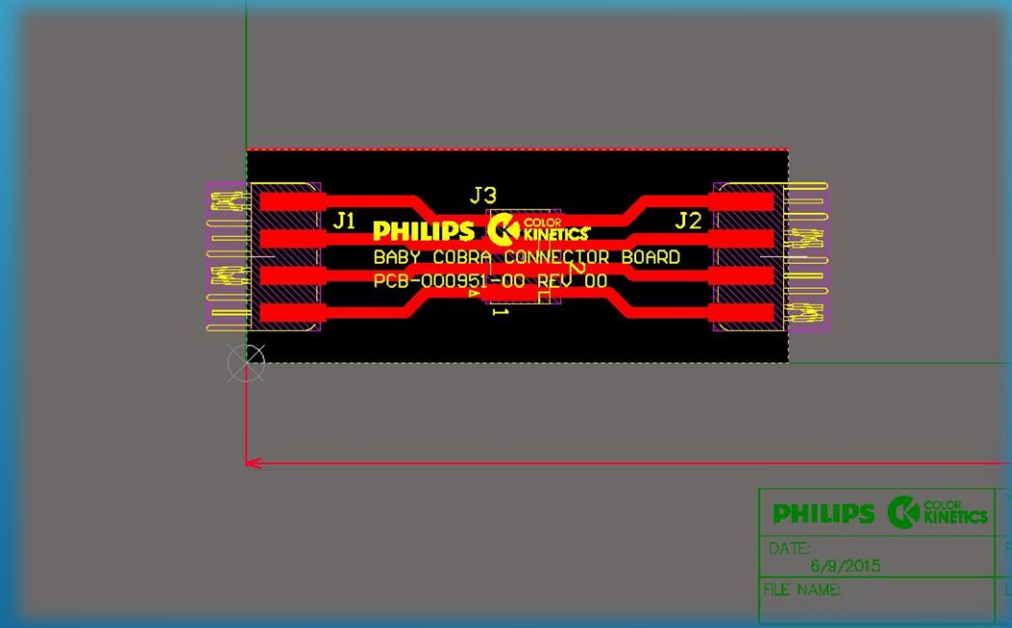
- Learned other important software applicable elsewhere in my Electrical Engineering career

(Altium Designer, Arena, Perforce, Microsoft Office Suite, Avitar)





BABY COBRA BOARD



HOW A COMPANY RUNS

- Meetings
 - Weekly Team meetings
- Design Reviews
 - Working together to critique and bolster an engineers schematic, layout, etc.
- Communication between Engineers
 - Conversations to solve common issues efficiently
 - Asking questions and learning through the guidance of all the Engineers and Technicians who work at PCK
 - Observing how an engineer might go about solving a problem



PHILIPS



THANK YOU!

