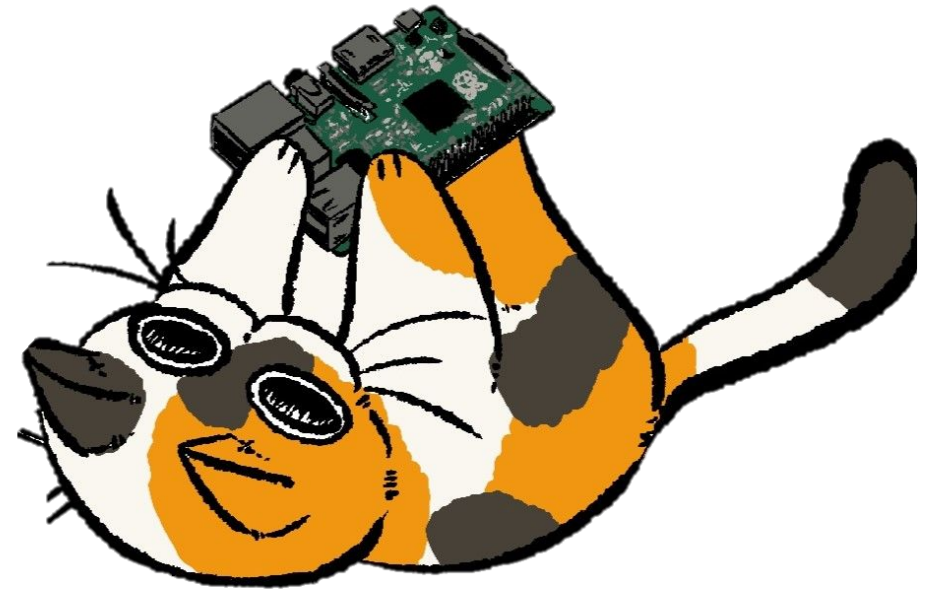




Student Branch Chapter @ USF

Introduction to Electronics Repair
Hardware Lead: Liam

Check in! Support Us



Follow Us



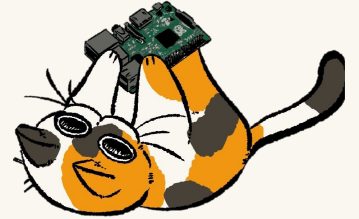
Discord

LinkedIn

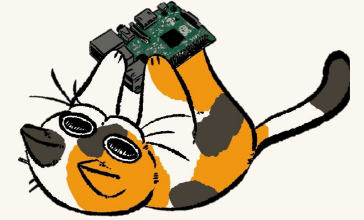
Instagram

**Bulls
Connect**

GitHub



What are we doing today?



- **Short presentation**
 - **Basics of electricity**
 - **Hands-on cable activity**
 - **Right to Repair**
- **Device destruction**
 - **Controllers**
 - **Laptop**
 - **Extras**

"This is the best book ever written for a beginner." Chicago Tribune

Electricity

FOR DUMMIES®

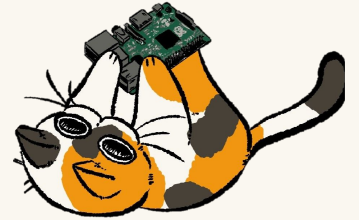
3rd Edition

Run DOS
applications on
your Windows PC

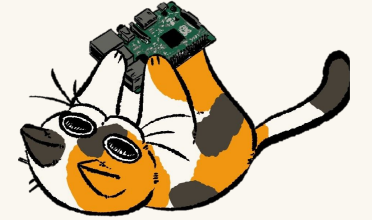
*A Reference
for the
Rest of Us* **f**

Dan Gookin

#1 bestselling author of
PCs For Dummies®



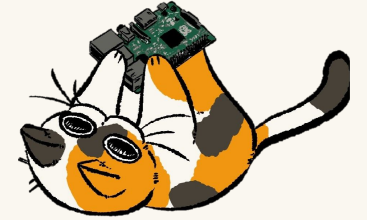
Electricity Basics - Resistance



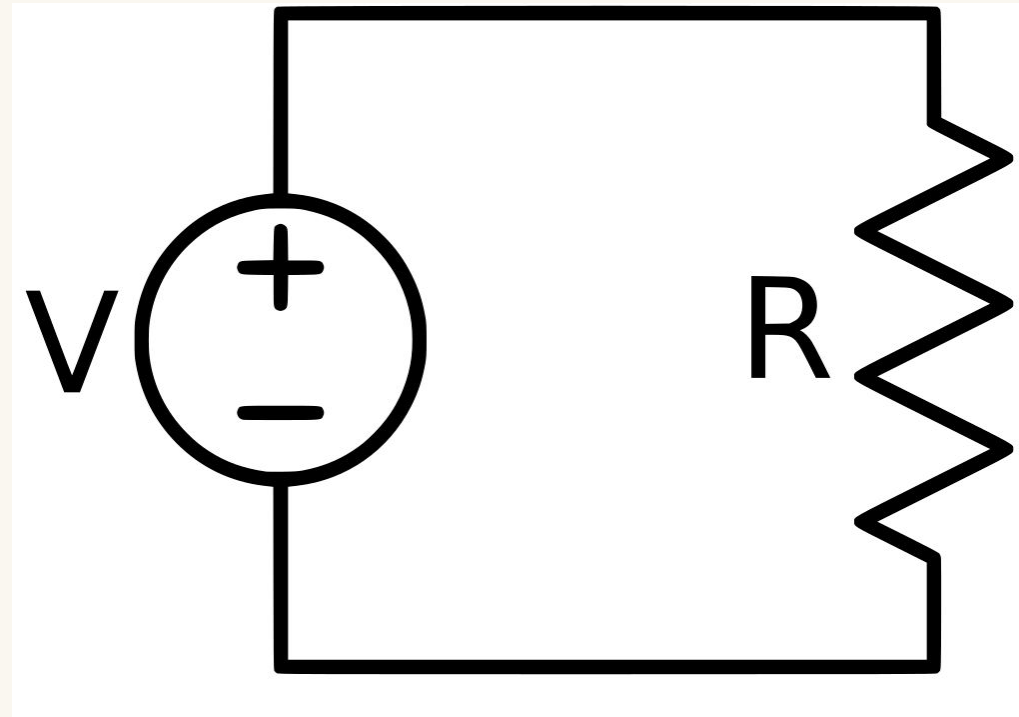
- Slows electrons from moving
- Determines the current flowing
- Lots of things have resistors:
 - Light bulbs
 - Vibration motors
 - Toasters
 - Heated bath tubs
- Not important for us today



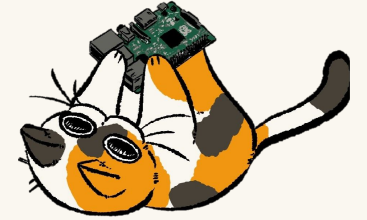
Electricity Basics - Voltage



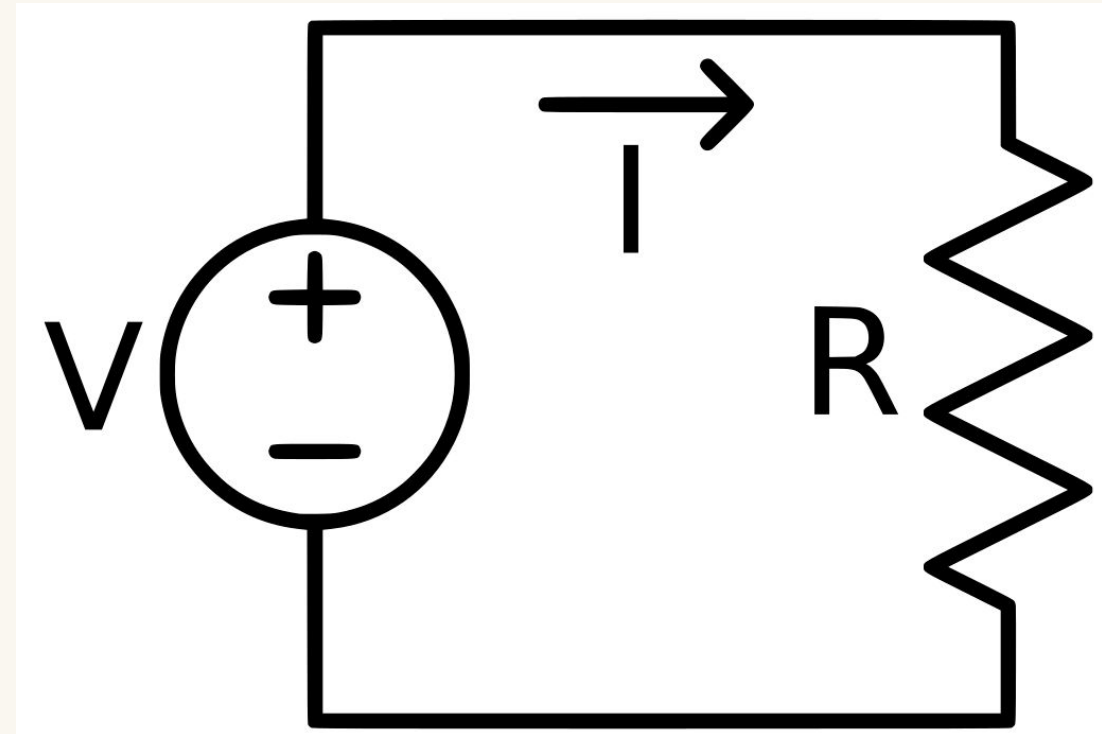
- Potential energy difference of 2 points
- Determines the current flowing
- Always resistance stopping it
- Many metaphors to understand:
 - Height of a fall to determine impact
 - Water pressure in a tank or faucet
 - You and the girl (or guy) you like



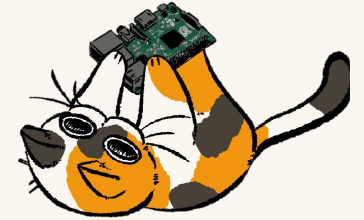
Electricity Basics - Current



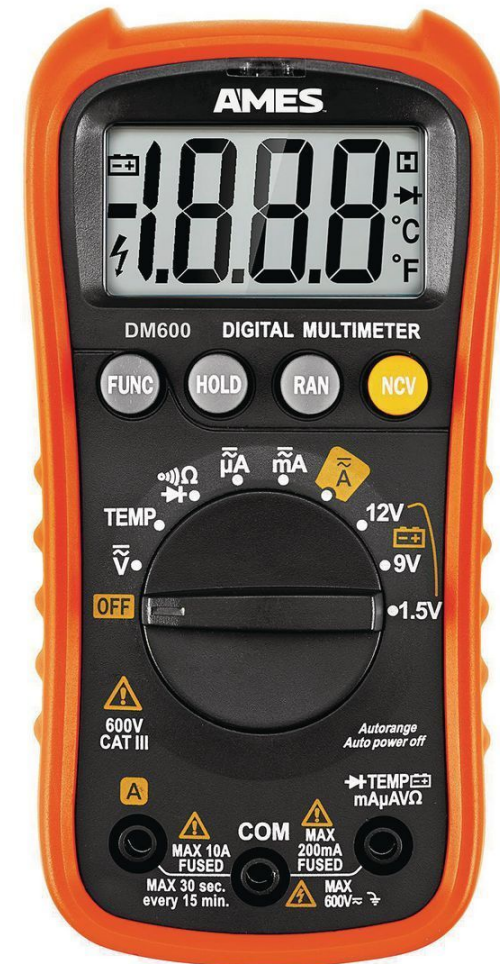
- Flow of electrons doing work
- Follows path of least resistance
- Ohm's law: $V = IR$ or $I = V/R$
- More current, more energy:
 - Brighter lights
 - More heat
 - Deadlier shocks



Multimeters

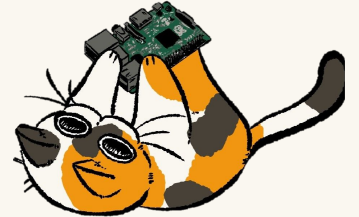


- General measurements
 - Ammeter
 - Voltmeter
 - Ohmmeter
- Special functions
 - Continuity test!



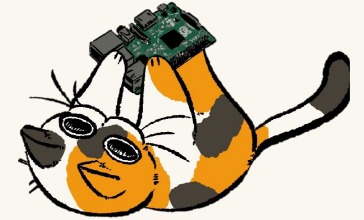
Static Grounding

- It is optimal to ground yourself from static
- Wearable wristbands can do this

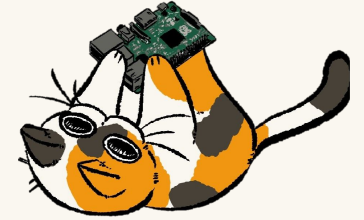


Static Grounding

- There has to be a wire or cable to connect
- If it's wireless, it's a total scam

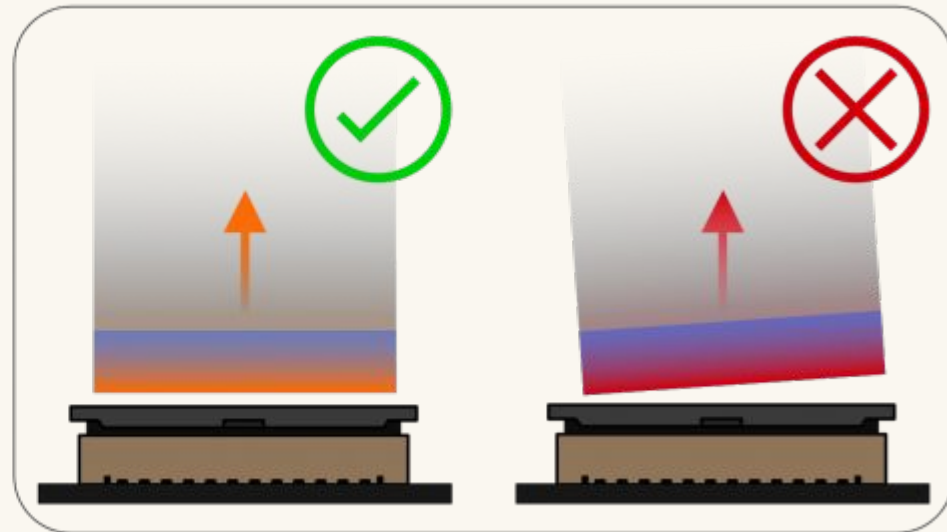
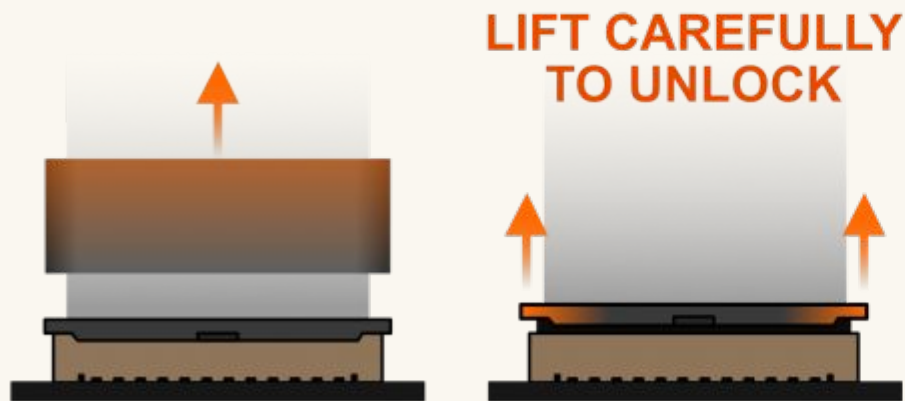
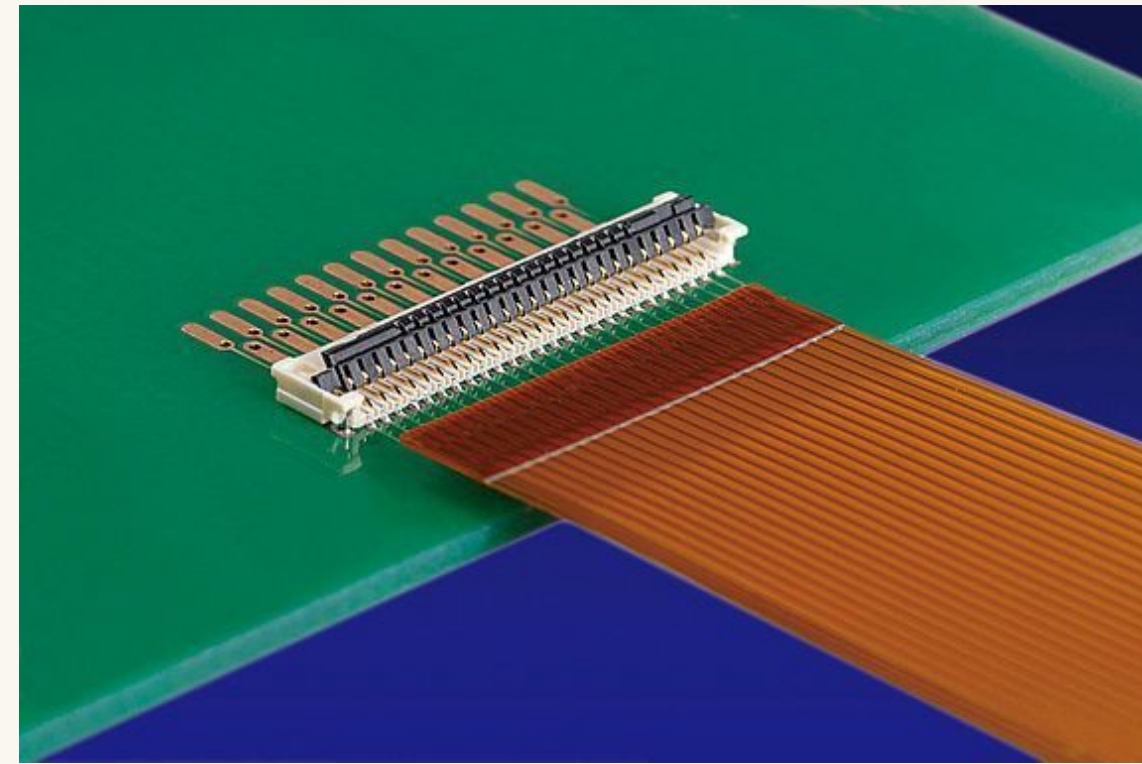


Ribbon Cables



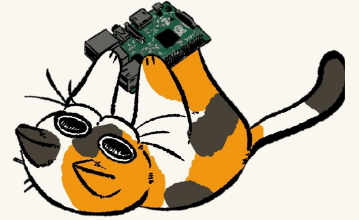
Hands On!

Typical ZIF (Zero Insertion Force) Connector Operation





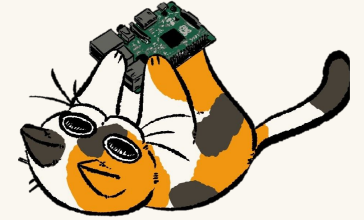
Right to Repair



Corporations hate:

- **Sustainability**
- **Long lasting products**
- **You**
- **Your freedoms**
- **Your dignity**
- **Your mother**

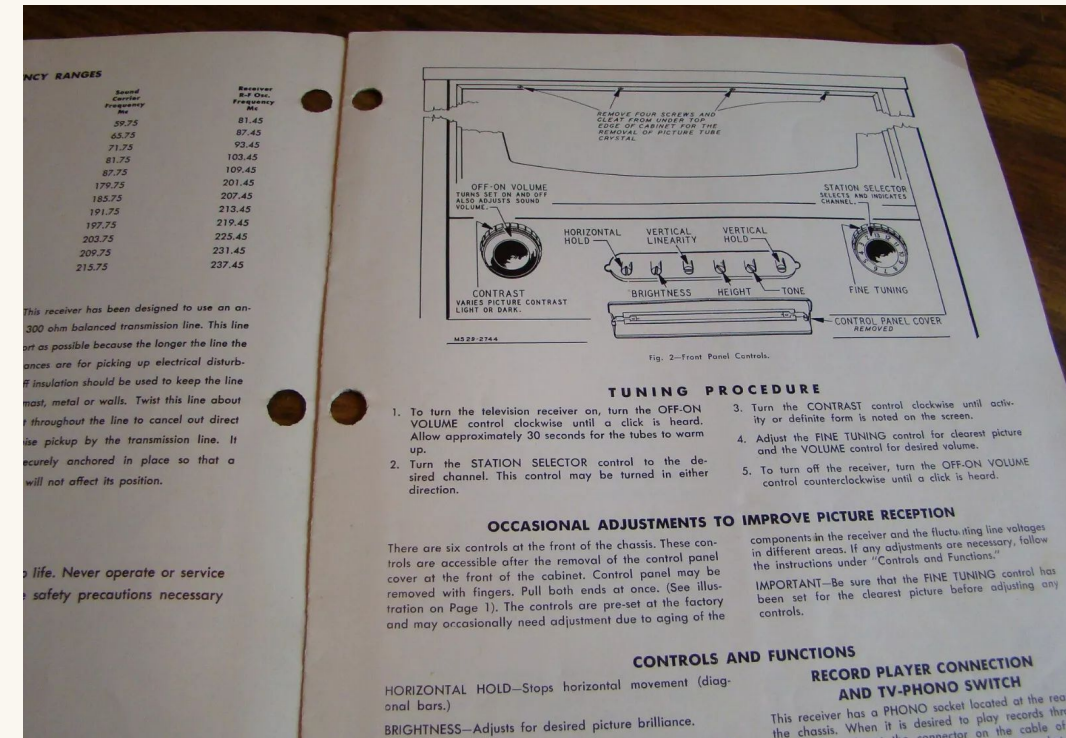
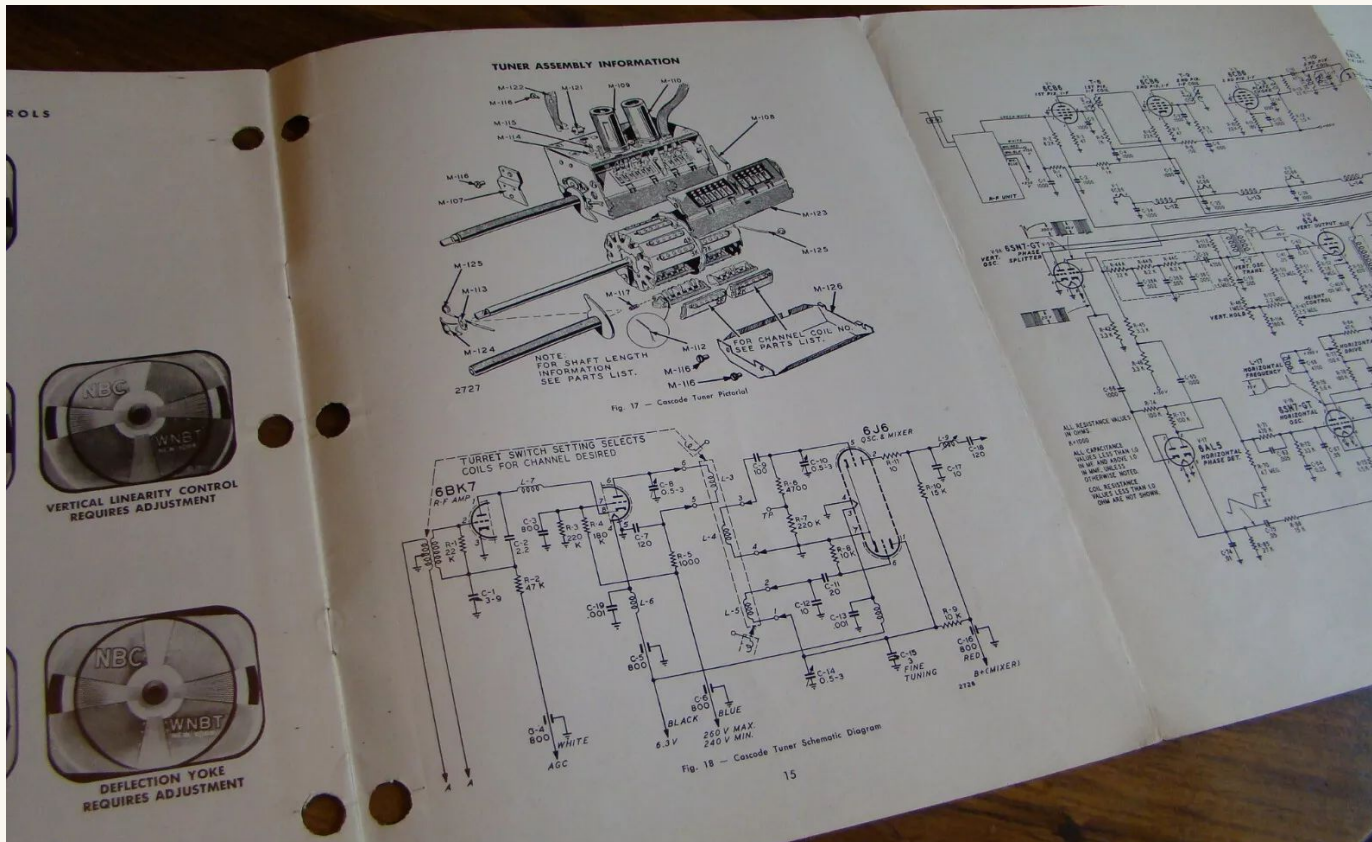
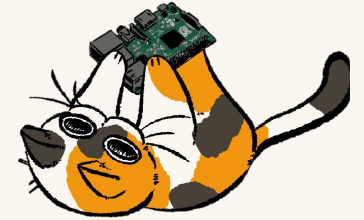
Right to Repair



Corporations have:

- **Stopped farmers from repairing their tractors' electronics**
- **Blocked repair shops from schematics to repair devices**
- **Banned suppliers from selling replacement parts**
- **Made fake repair programs for PR to pretend they care**
- **Paid lobbyists to block attempts at repair legislation**
- **Taken out attack ads to sway public opinion against repair**

Right to Repair

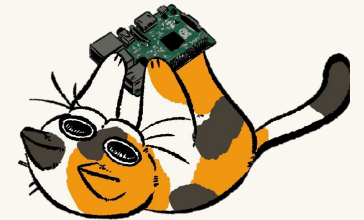


life. Never operate or service
safety precautions necessary

HORIZONTAL HOLD—Stops horizontal movement (diagonal bars).
BRIGHTNESS—Adjusts for desired picture brilliance.

RECORD PLAYER CONNECTION
AND TV-PHONO SWITCH
This receiver has a PHONO socket located at the rear of the chassis. When it is desired to play records through the connector on the cable at

Next workshops 😊 !



Pizza will be provided!

Internship Panel

Learn from past interns!

SEPTEMBER 23 | 6 - 7:30PM | TBD

- Ask students about their internships in software/hardware
- Learn how to get your own internship / go to conferences
- Experience as international student



Register here!



Pub subs and brownies will be provided!

Code Your Own Interactive Resume!

SEPTEMBER 24 | 5 - 6:30PM |

- Beginner friendly!
- Teaches:
React.js
CSS
JS
Next.js
Firebase



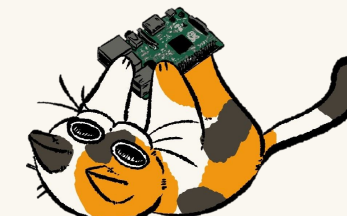
Register here!



FREE IEEE-CS
STICKERS



Next workshops 😊 !



Publix catering will be provided!

CISCO Presents: Amazon Web Services & Microsoft Azure Cloud Certifications

SEPTEMBER 27 | 3:30 - 5:00 PM | TBD

- Learn about AWS, Azure & Cisco Cloud certifications
- Learn how they will make you appealing to recruiters
- Listen about exam taking experience



Register here!



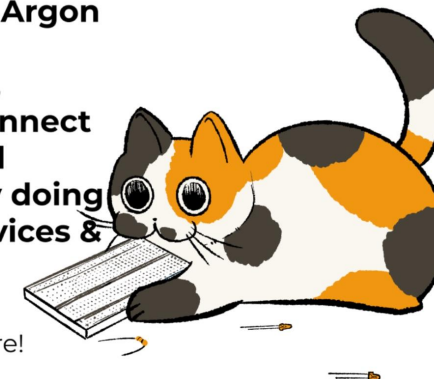
Publix catering will be provided!



Build & Keep Internet of Things Circuit

OCTOBER 4 | 4 - 5:30PM | TBD

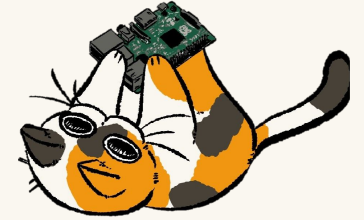
- Build & keep a circuit w/ Argon Particle Board (Nordic processor, resistors, LED, breadboard), that can connect to WiFi, Bluetooth, Cloud
- Learn about IoT, industry doing smart houses, health devices & self-driving cars
- Open to all majors



Register here!



Next workshops 😊 !



October 9 5pm-6:30pm
Introduction to SQL Databases



No flyer but taught by Zarina :D
(pretend this looks good)

Food will be provided!

Resume Critique by CISCO Engineers

OCTOBER 11 | 5 - 6:30PM | TBD

- Learn about job opportunities at CISCO
- Get your resume reviewed by CISCO engineers
- Network with CISCO engineers



 **IEEE
COMPUTER
SOCIETY**
Student Branch Chapter at
the University of South Florida

Register here!

