

# Hardware Side of JT65-HF

## **Required Hardware:**

- **HF SSB Transceiver**
- **Computer**
- **2-6 Customs Cables**
- **Digital Interface (may not be required)**

# JT65 Hardware Interconnects

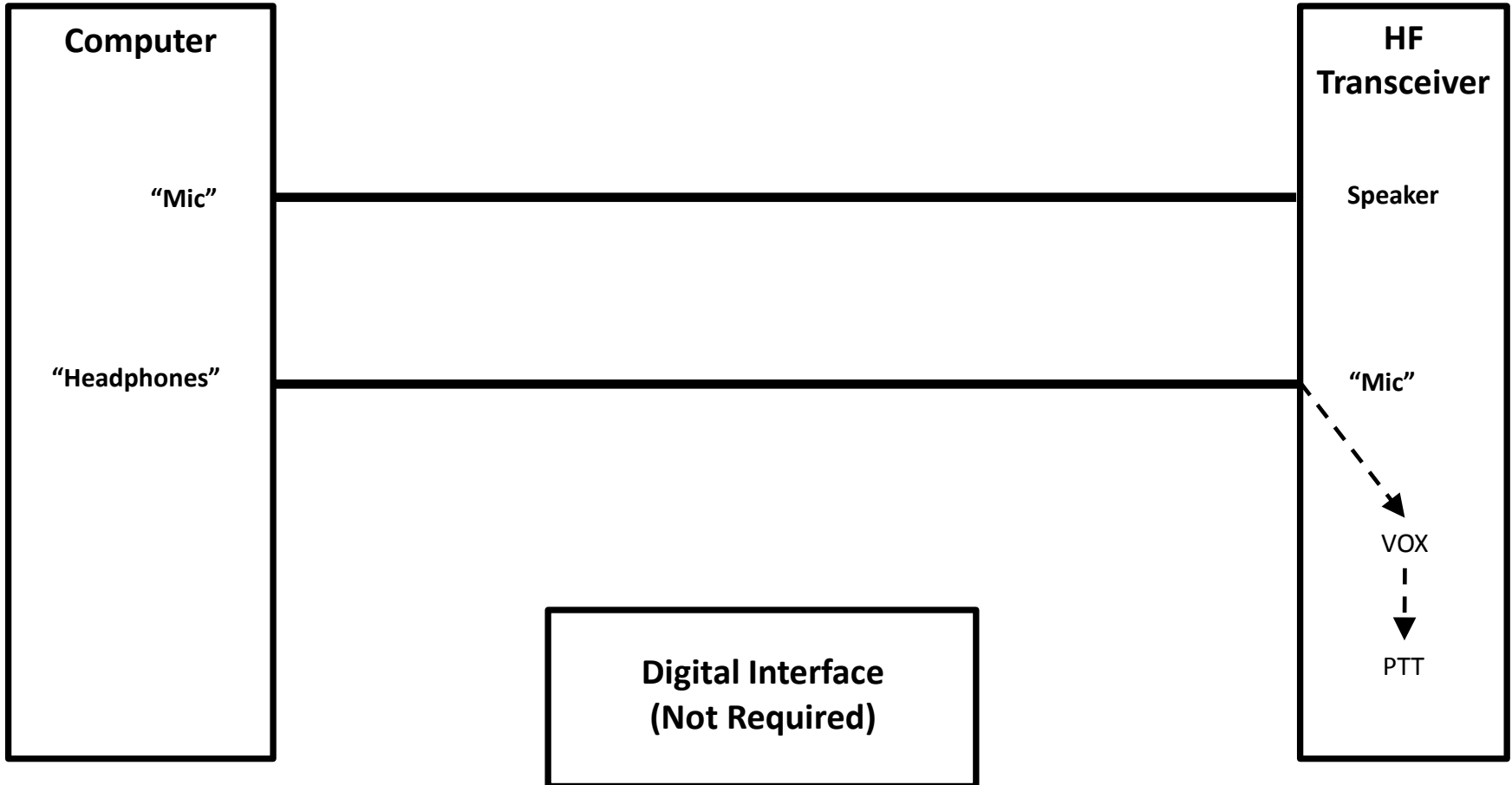
**Computer**

**Digital  
Interface**

**HF  
Transceiver**

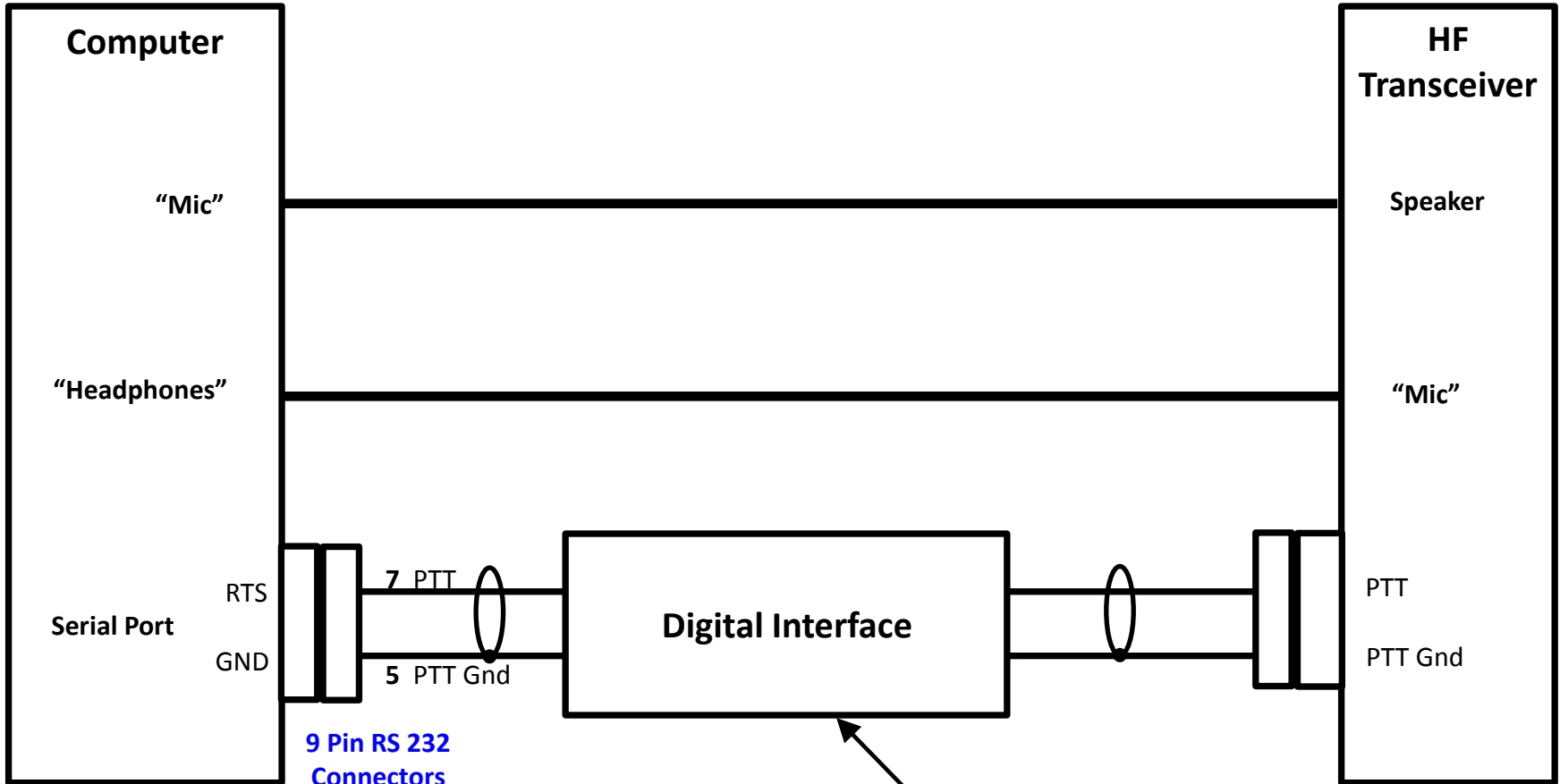
# JT65 Hardware Interconnects – Simplest

Only 2 signal paths involved



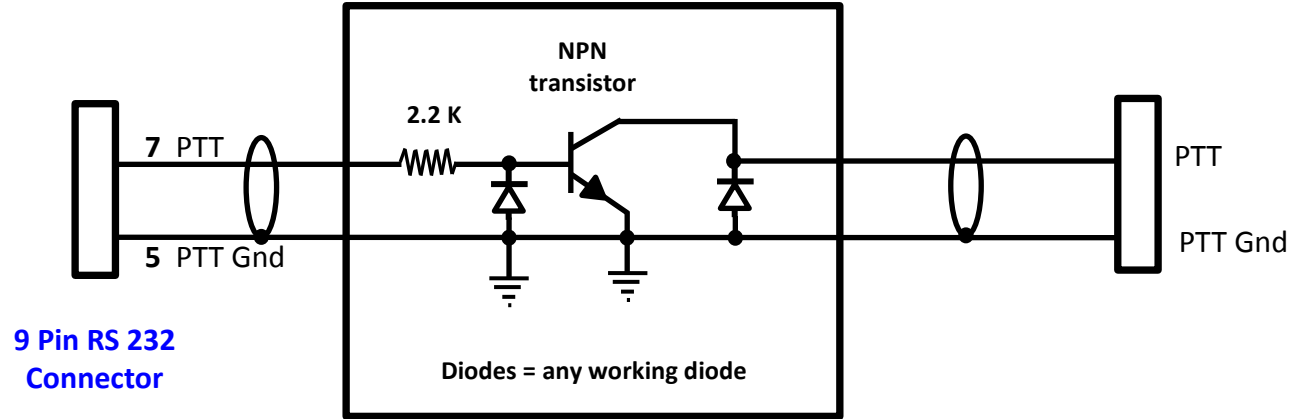
# JT65 Hardware Interconnects – Simple

Only 3 signal paths involved



Only required to generate PTT signal

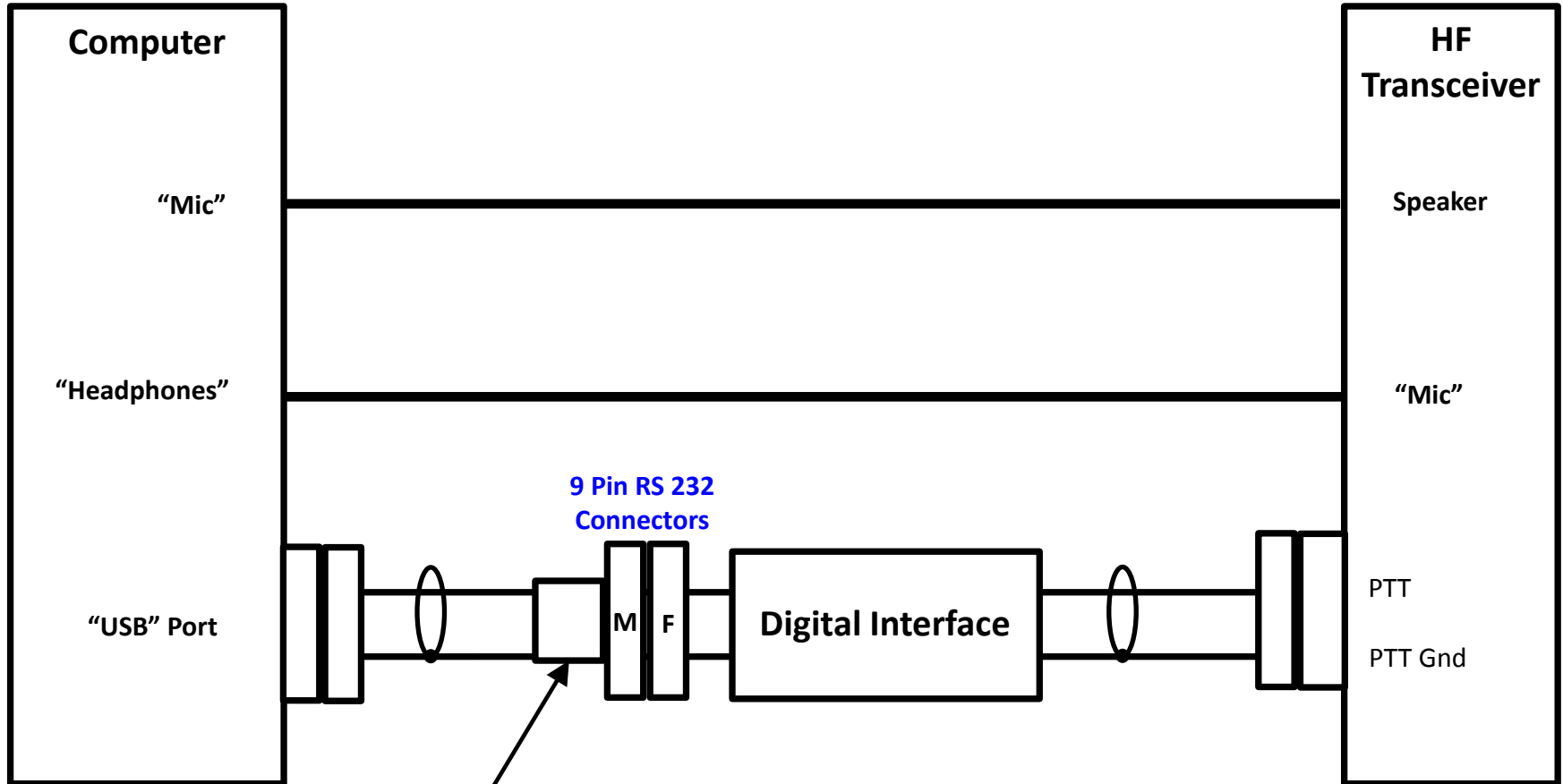
# Digital Interface - Simplest



## POTENTIAL PROBLEMS:

- Some computers do not have a “MIC” input
- Tones generated by computer may not have equal amplitude
  - May be hard to identify this problem
  - May not be a common problem
- No RS 232 serial port
- Difficult to set MIC level to transmitter
  - Typical computer audio out is ~2V
  - Typical “MIC” input level is ~10mV
- Difficult to set MIC level to computer
  - Don't use JT65 software to adjust receiver audio level
- Ground loops

# Digital Interconnects Using A USB Port



USB 2.0 to RS232 Converter

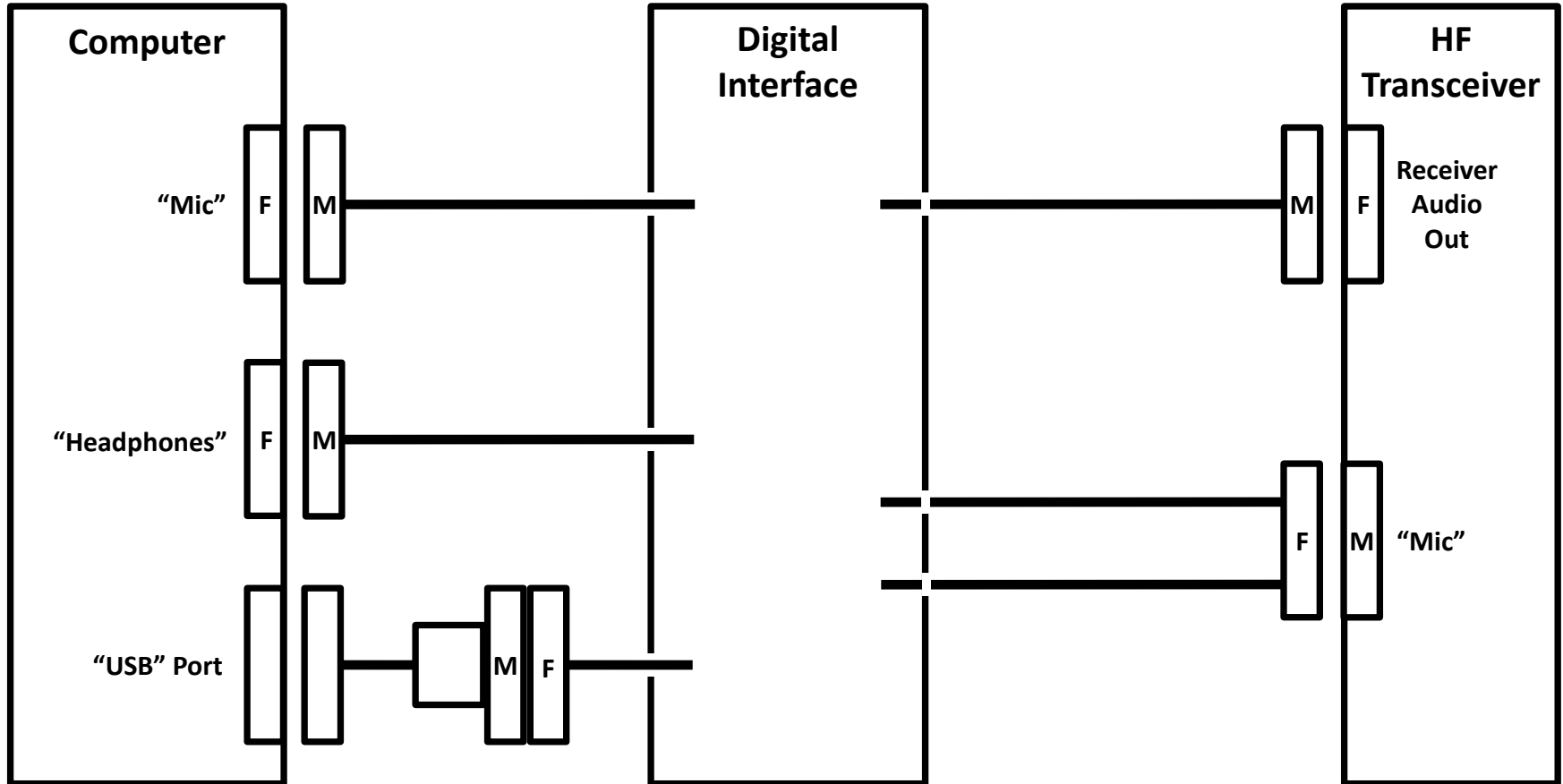
•Mfg: [eforcity](#)

•Model: PCABUSBX0049

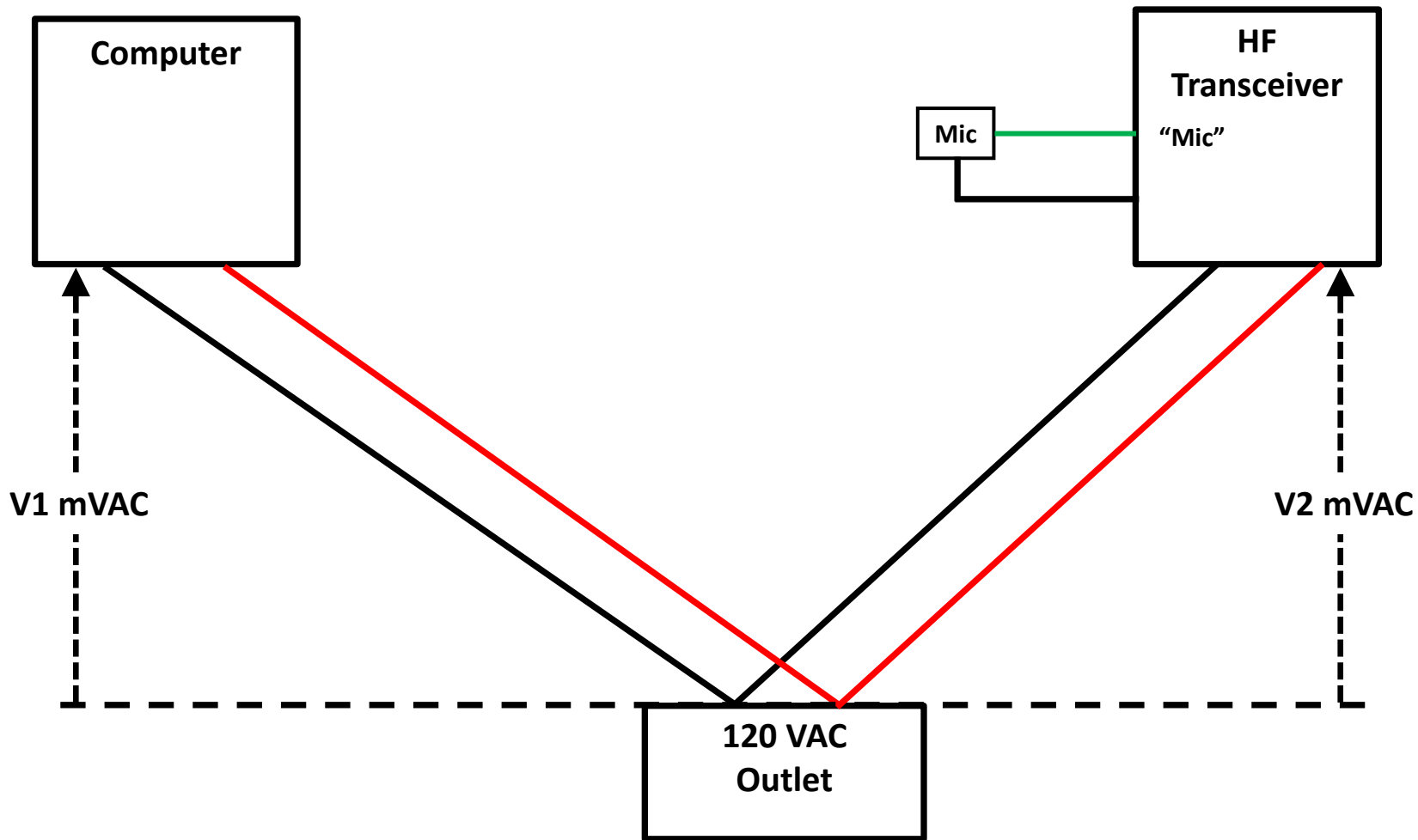
•Driver Download: <http://driverdownload168.com>



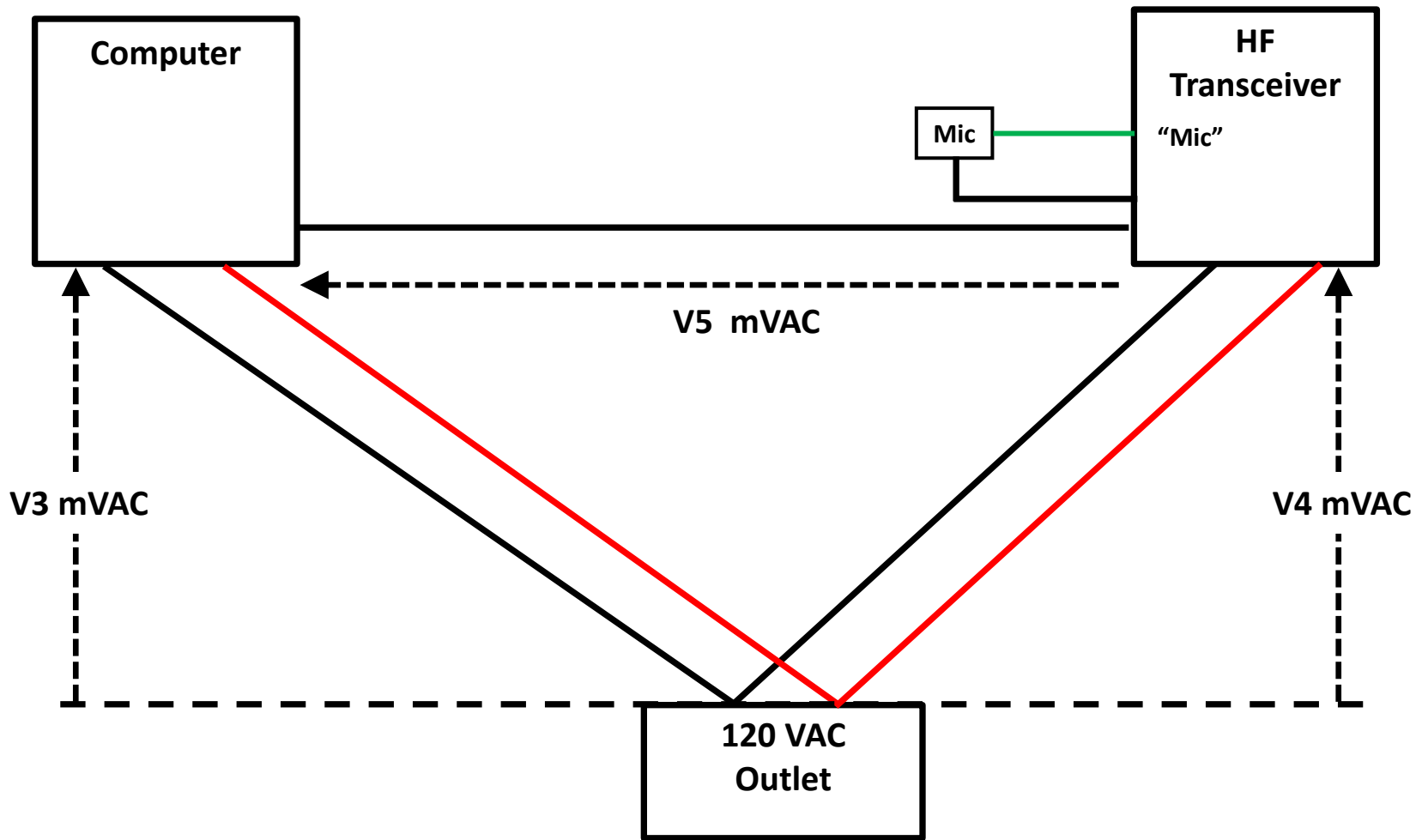
# Digital Interconnects – Best



# Ground Loops

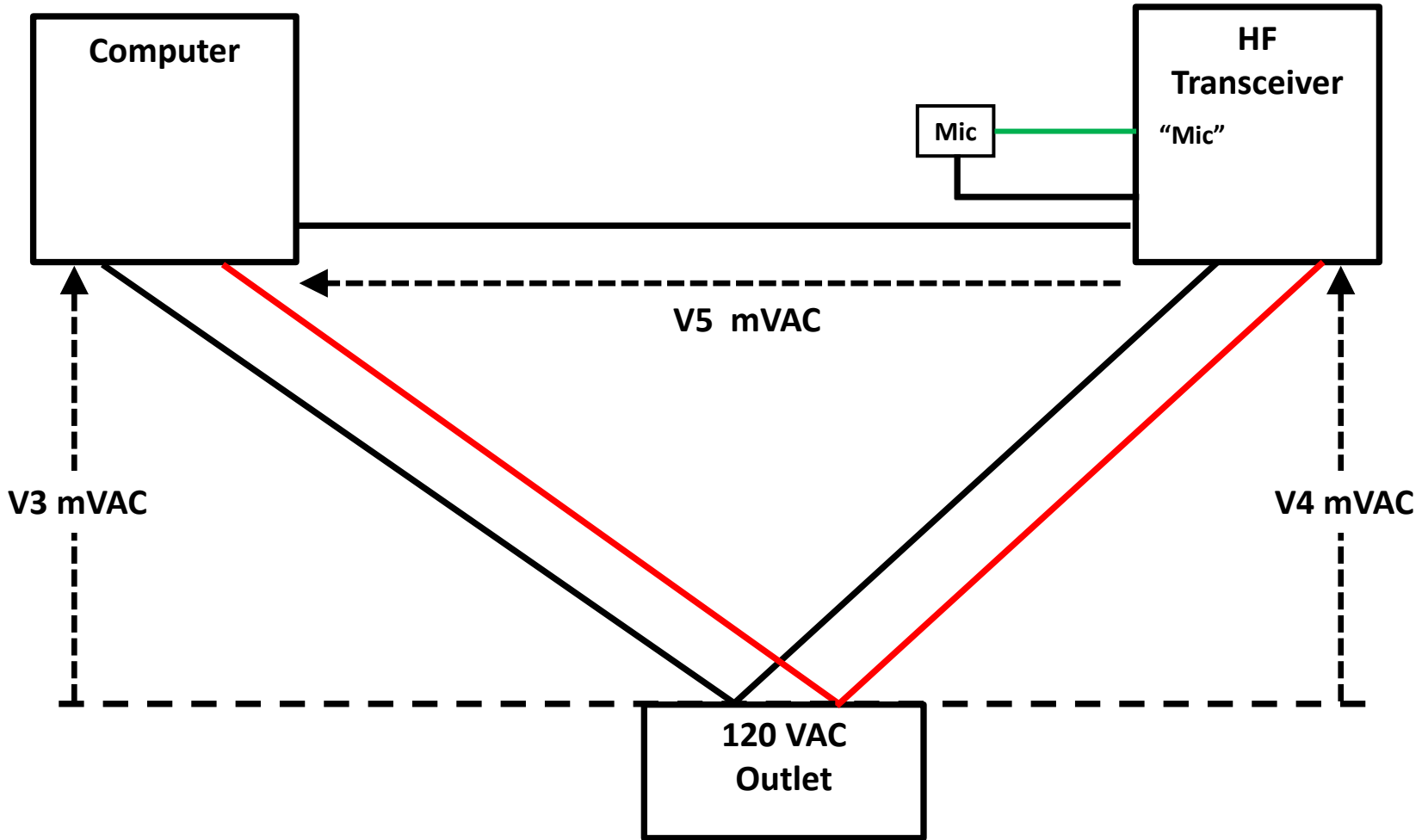


# Ground Loops

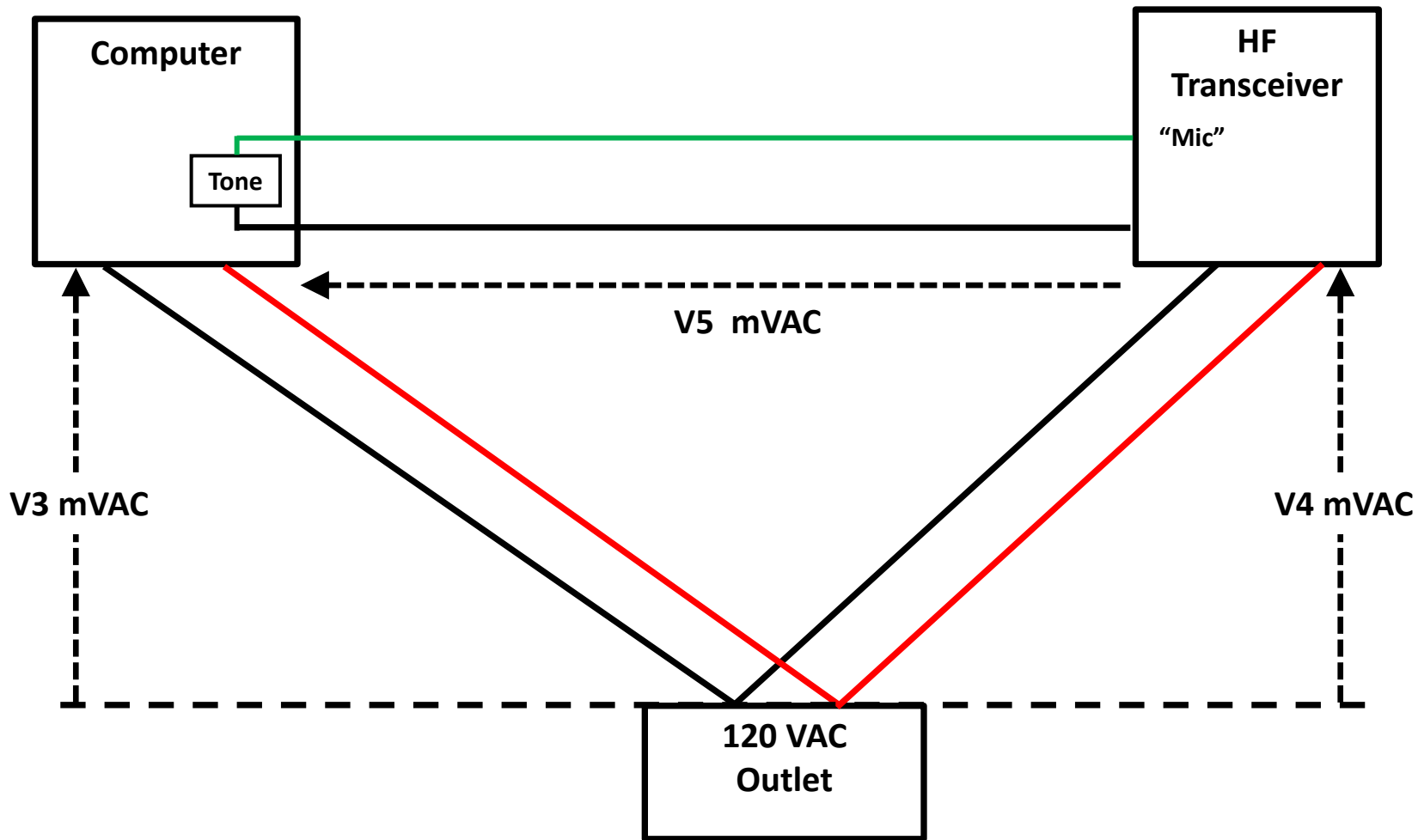


# Ground Loops

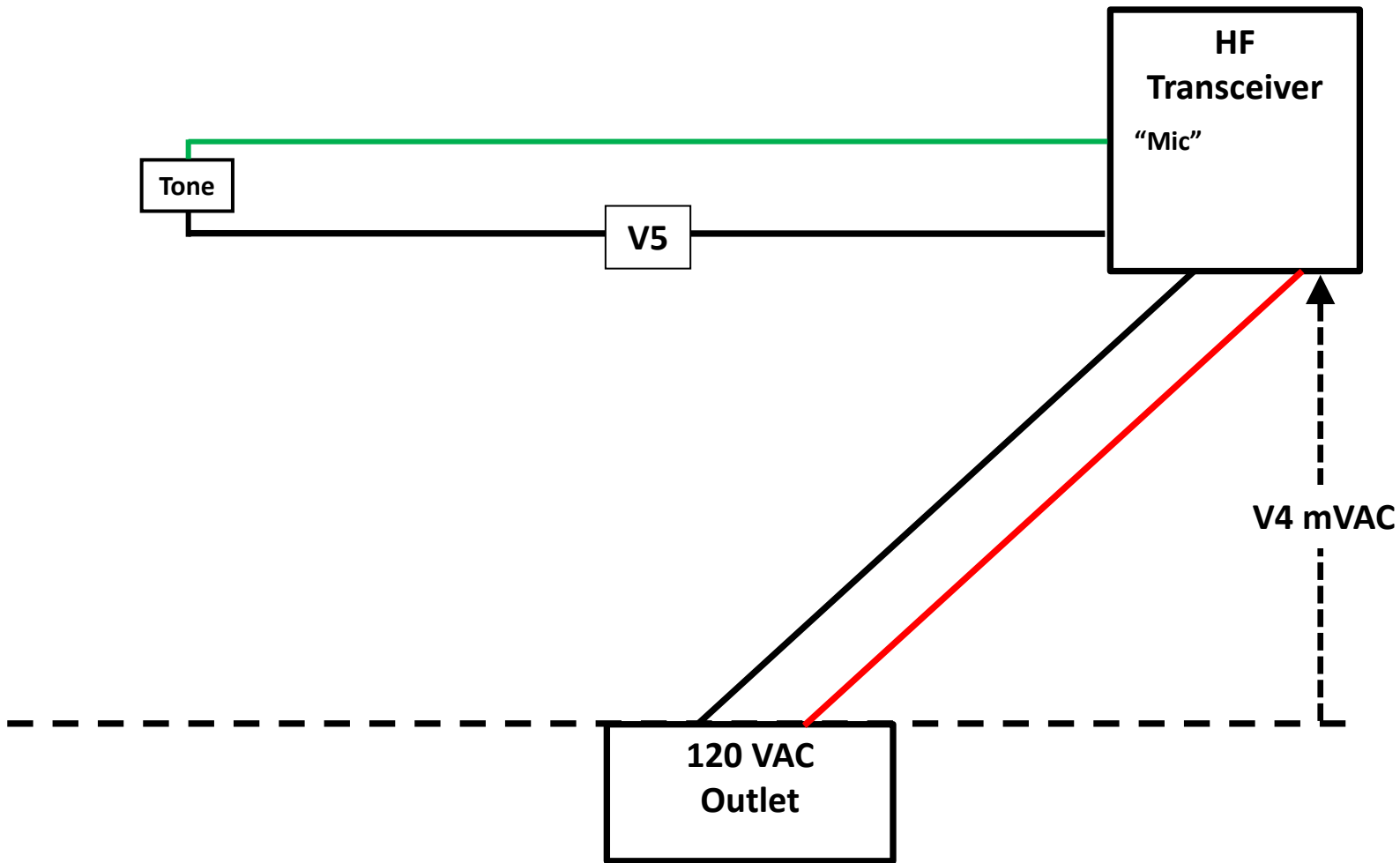
Note: All voltages are 60 Hz AC



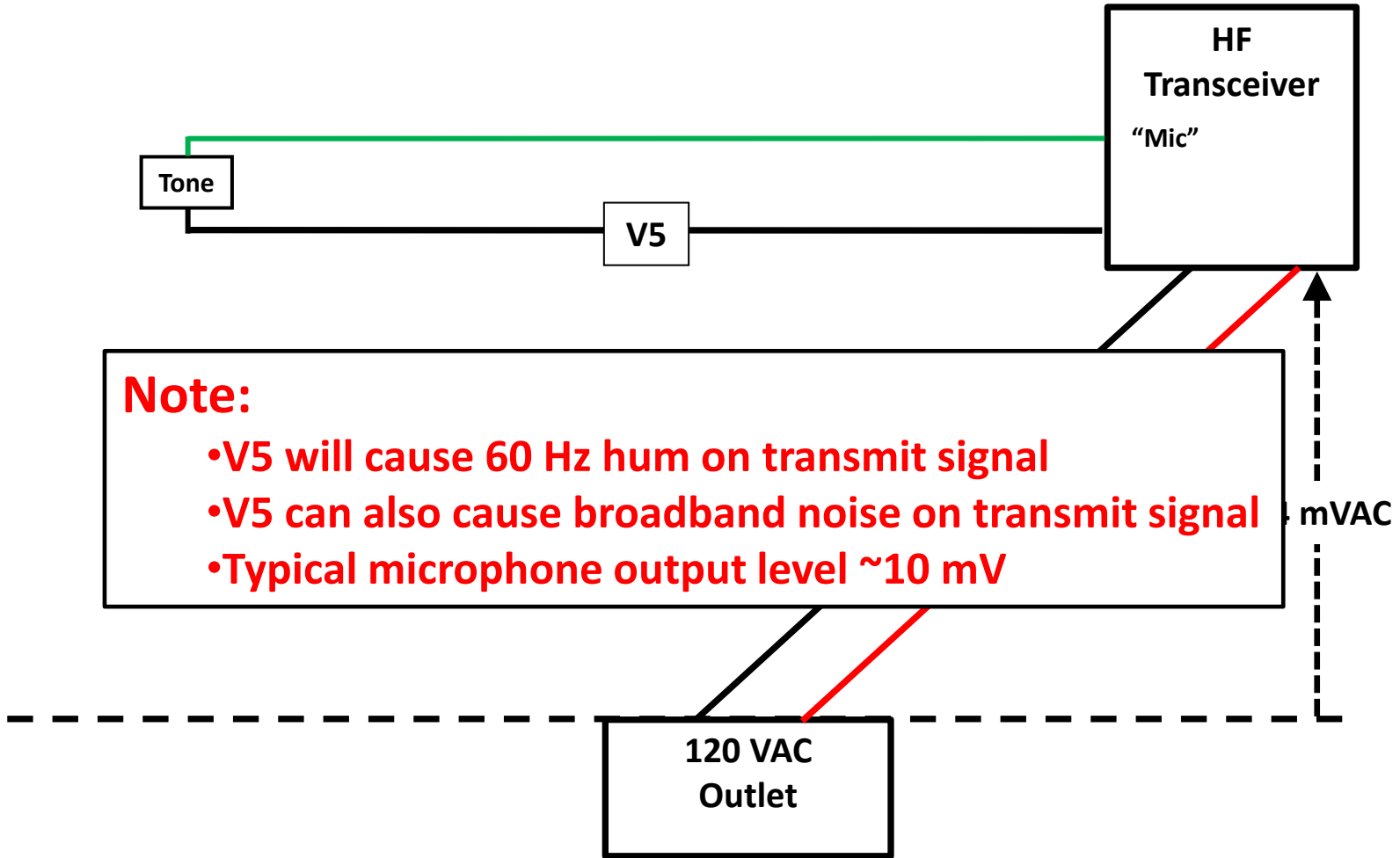
# Ground Loops



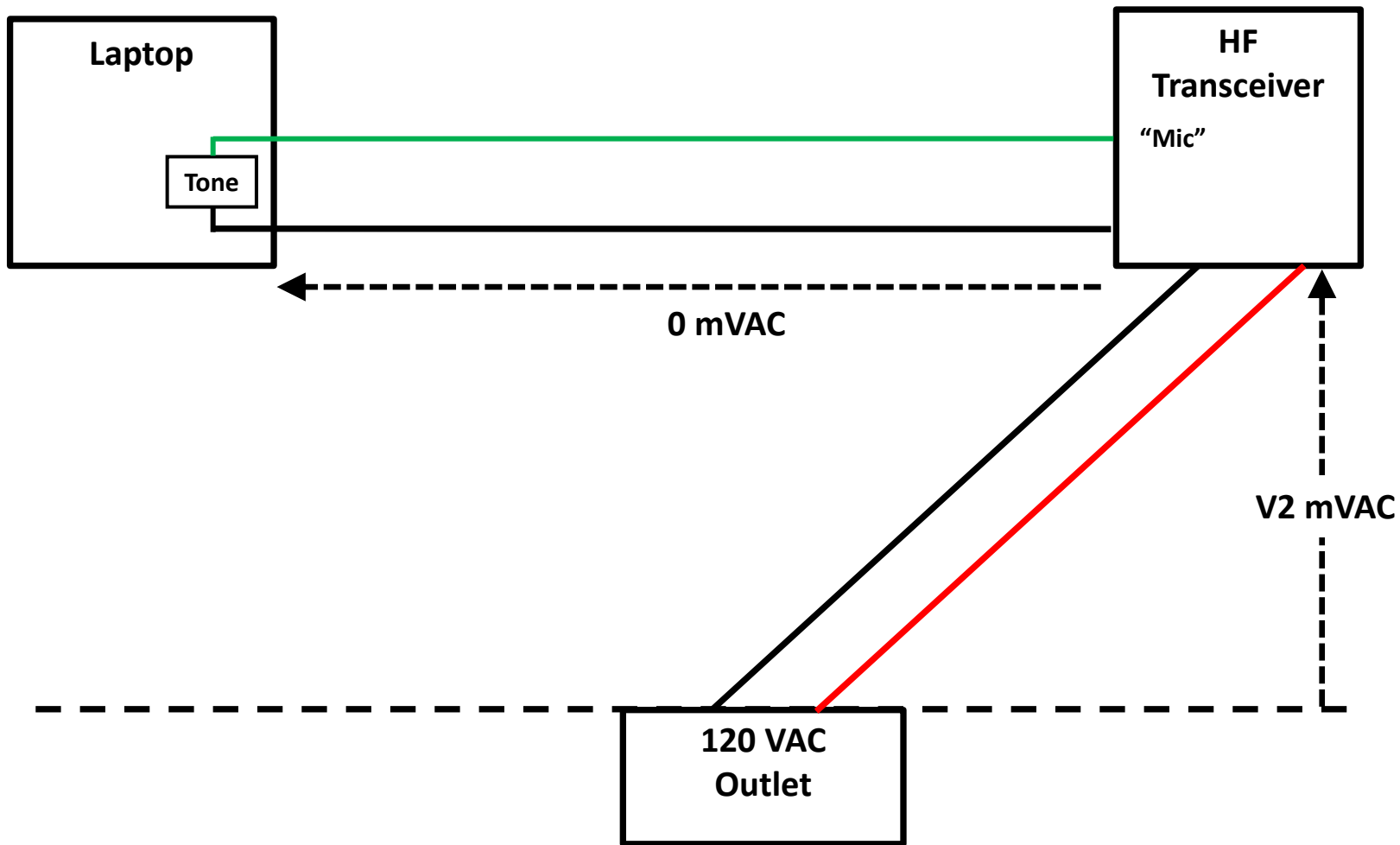
# Ground Loops



# Ground Loops

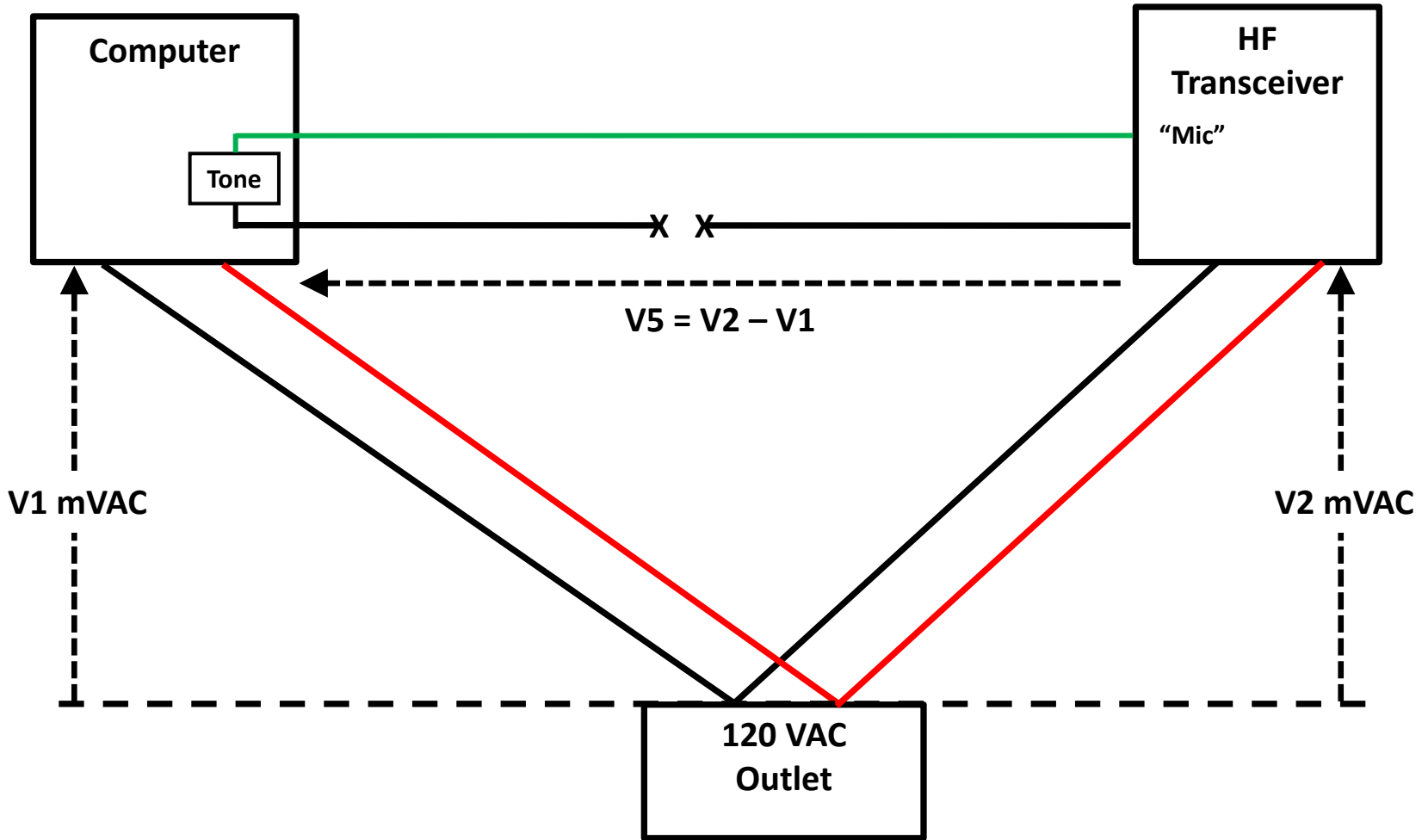


# Ground Loops

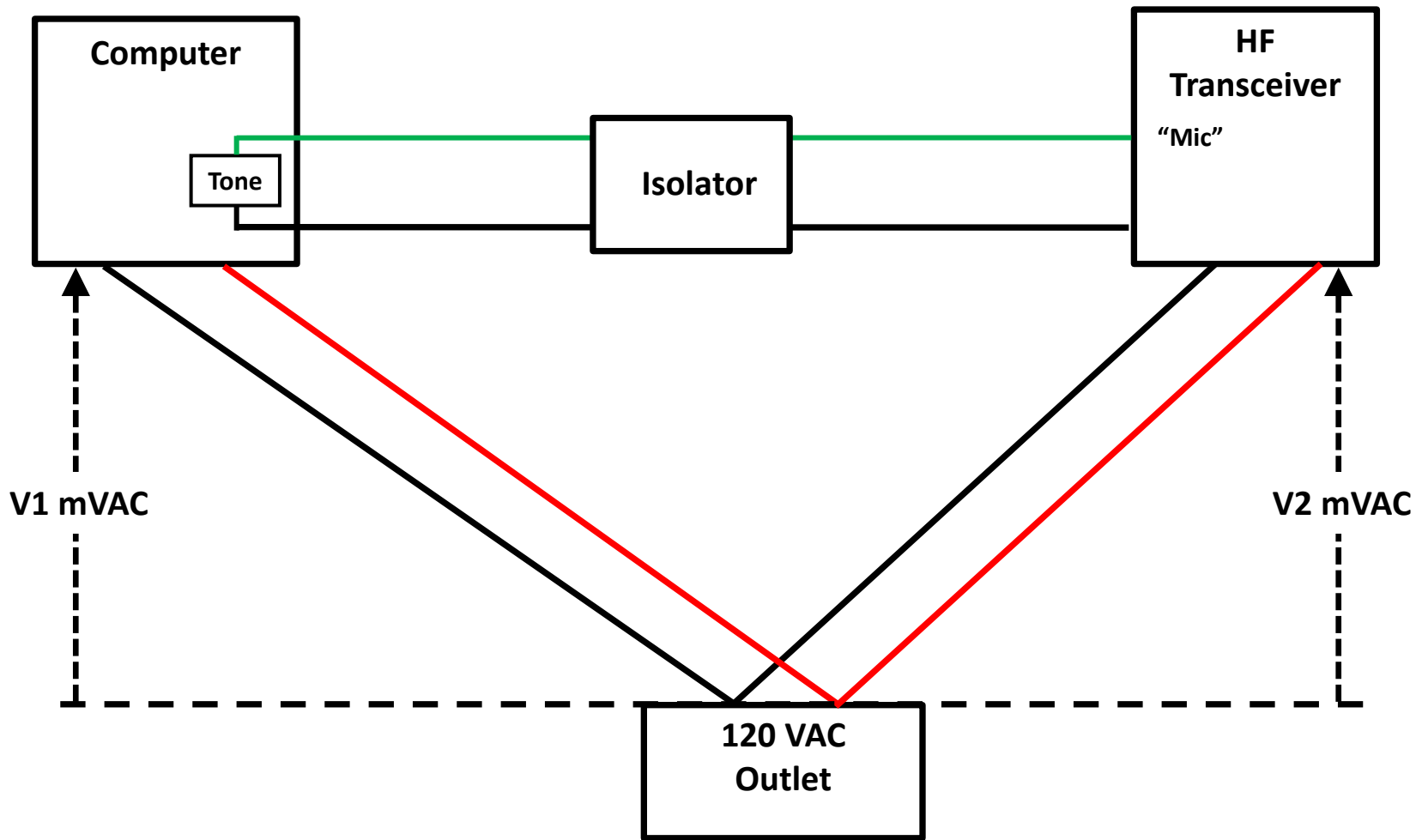




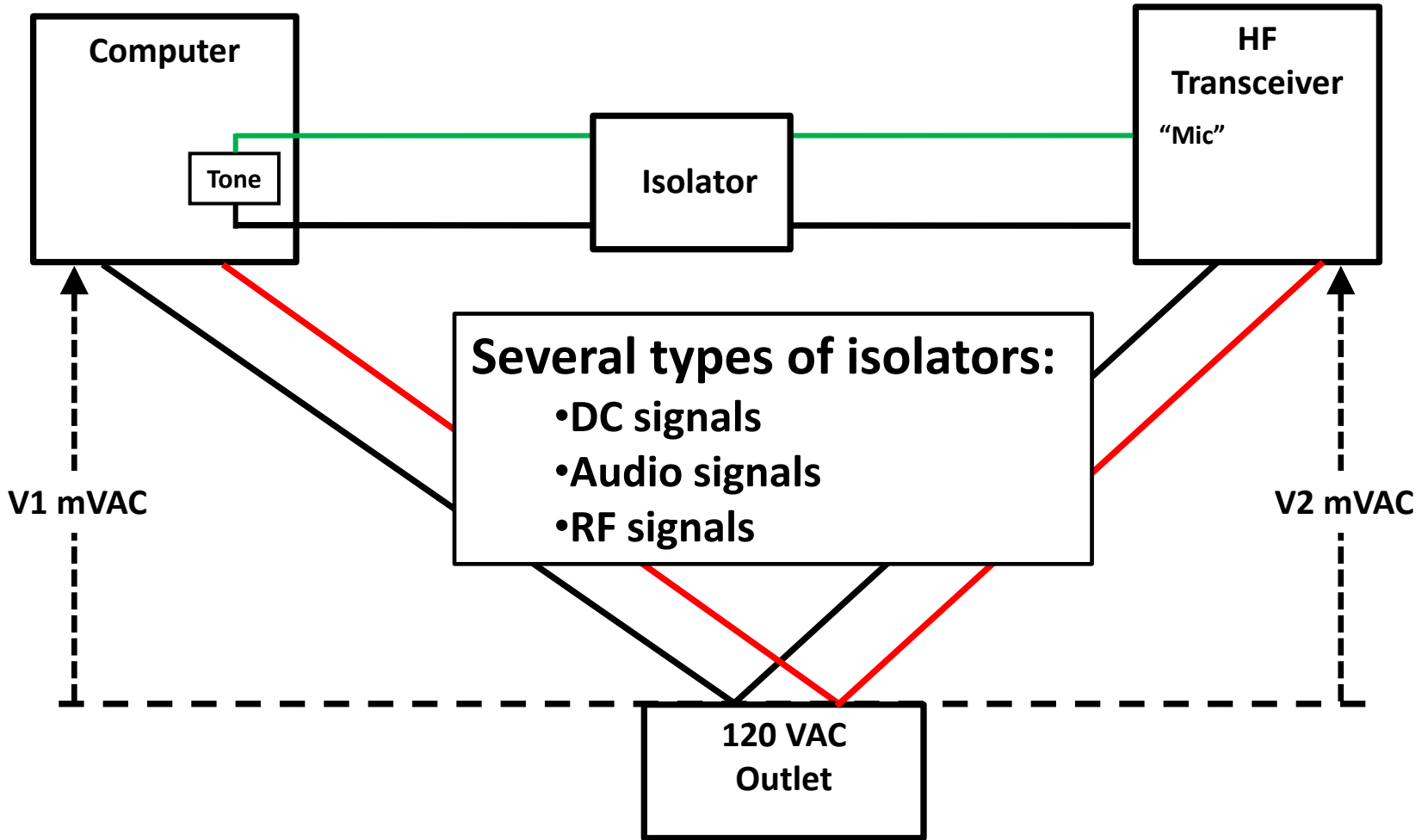
# Ground Loops



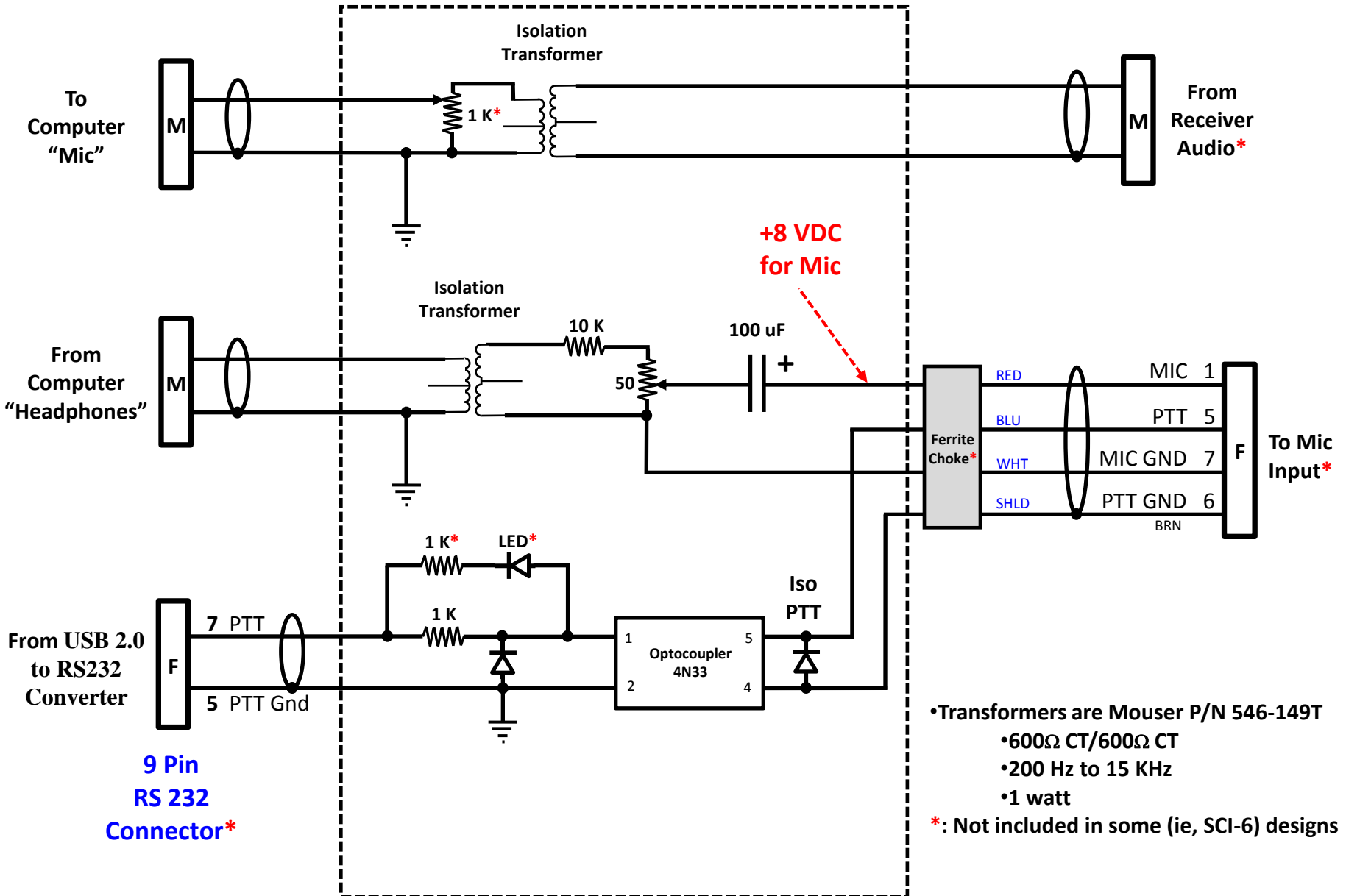
# Ground Loops



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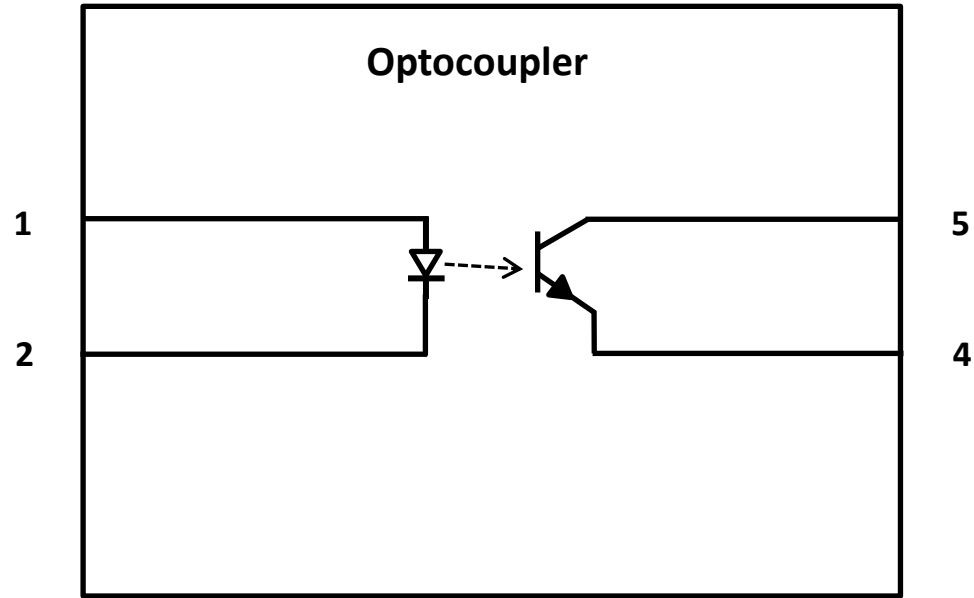


# Digital Interface



- Transformers are Mouser P/N 546-149T
- 600Ω CT/600Ω CT
- 200 Hz to 15 KHz
- 1 watt
- \*: Not included in some (ie, SCI-6) designs

# Optocoupler



Turn-On time < 5 usec  
Turn-OFF time < 100 usec