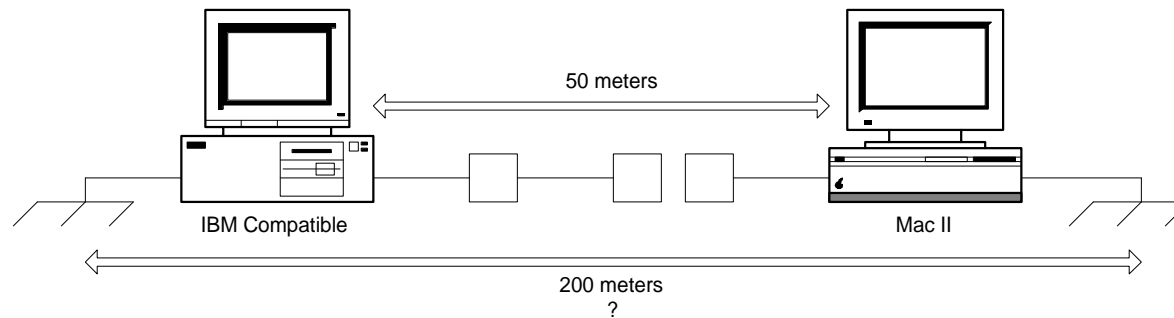


# Isolation & IEEE P1394a

- Issues
- Examples
- Recommendation

# Issues

- Green Wire (Earth) Grounds Connected at Distances up to 50 meters



- Potential Voltage Differences up to 60VAC

# Examples of Possible Failures

- Melting Cables
- Arcing when Connecting / Disconnecting
  - Silicon Damage
  - Signal Integrity
  - Lightning / ESD

# Possible Implications

- Customer Dissatisfaction
- Bad Press (**FIRE WIRE**)
  - Safety
  - Litigation

# Products at Risk

Any Product that has the Potential of Green (Earth) Ground Connected directly to V- or Shield of IEEE1394 Bus Cable

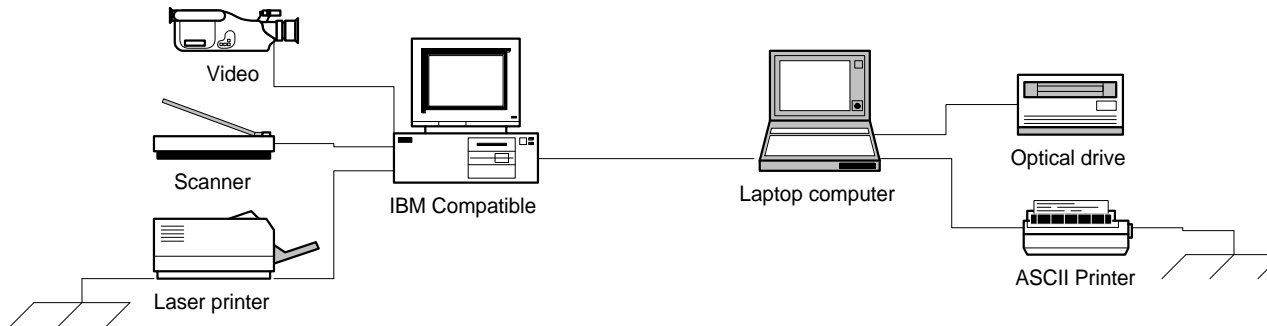
## Examples (Obvious / Direct)

- Any device that has 3 wire power cord and Chassis is connected to V-

## Examples (Not obvious / indirect)

- IEEE1284 Connections
  - RS-232 Connections
  - SCSI Connections
    - Telephone
    - Cable TV
- Exposed Coax connections

# Product Types Affected



- PC's
- Printers
- Set Top Boxes
  - VCR's
  - Modems
  - Bridges
- Converters
- Cam-corder

# Products NOT Affected

- IEEE1394 ONLY Products that have NO Green (Earth) Ground Connections and meet UL requirements

Examples when connected to only the following

- Double Insulated Power Connections
  - IEEE802.3 (10 Base2, 10BaseT)
    - IEEE802.12
    - IEEE802.3U
  - Any Isolated Connection

# Recommendation

**ALL Products Implementing the  
IEEE1394 Bus Standard SHALL have  
the 1394 Bus ISOLATED from Green  
(Earth) Ground**