

# Low Power SCSI

- Laptop computers need to limit the power for longer battery life
  - Battery power units may not be able to provide TERMPWR for the far end terminators.
  - Battery power units may not be able to power the terminator inside in normal power mode when an external cable is attached, only power in a low power internal cable connection.
- Energy Star/Green PCs and workstations are required to reduce power with inactivity.
  - Reduce Termination power
  - Sleep mode, and bus shut down.

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- High performance and low power must work together.
  - Size TERMPWR fusing for the application, 1 Amp min for 8 bit bus and 1.5 Amp for 16 bit bus.
  - Regulated terminators reduce the TERMPWR current.
  - Low power mode for the terminators on short bus configurations, automatic termination current adjustment when external cables are added.
- Power Down Modes required when the SCSI devices are not in use, this includes powering down the SCSI bus, Termination, and controllers.
  - No device errors when the bus is powered down or hang conditions.

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- Powered down devices
  - Bus interfaces must be designed for devices that are not required for applications to be turned off.
  - Power off specifications must be less than the maximum capacitance and meet the input current requirements.
- 3.3 Volt operation compatible with 5.0 Volt devices.
  - Termpwr  $2.7 < 5.25$  Volts to the terminators at the far end of the cable.
  - Units may require TERMPWR to be supplied externally for the controller terminator to run in normal power mode versus low power mode when running the internal bus only.

# Differential Lower Power

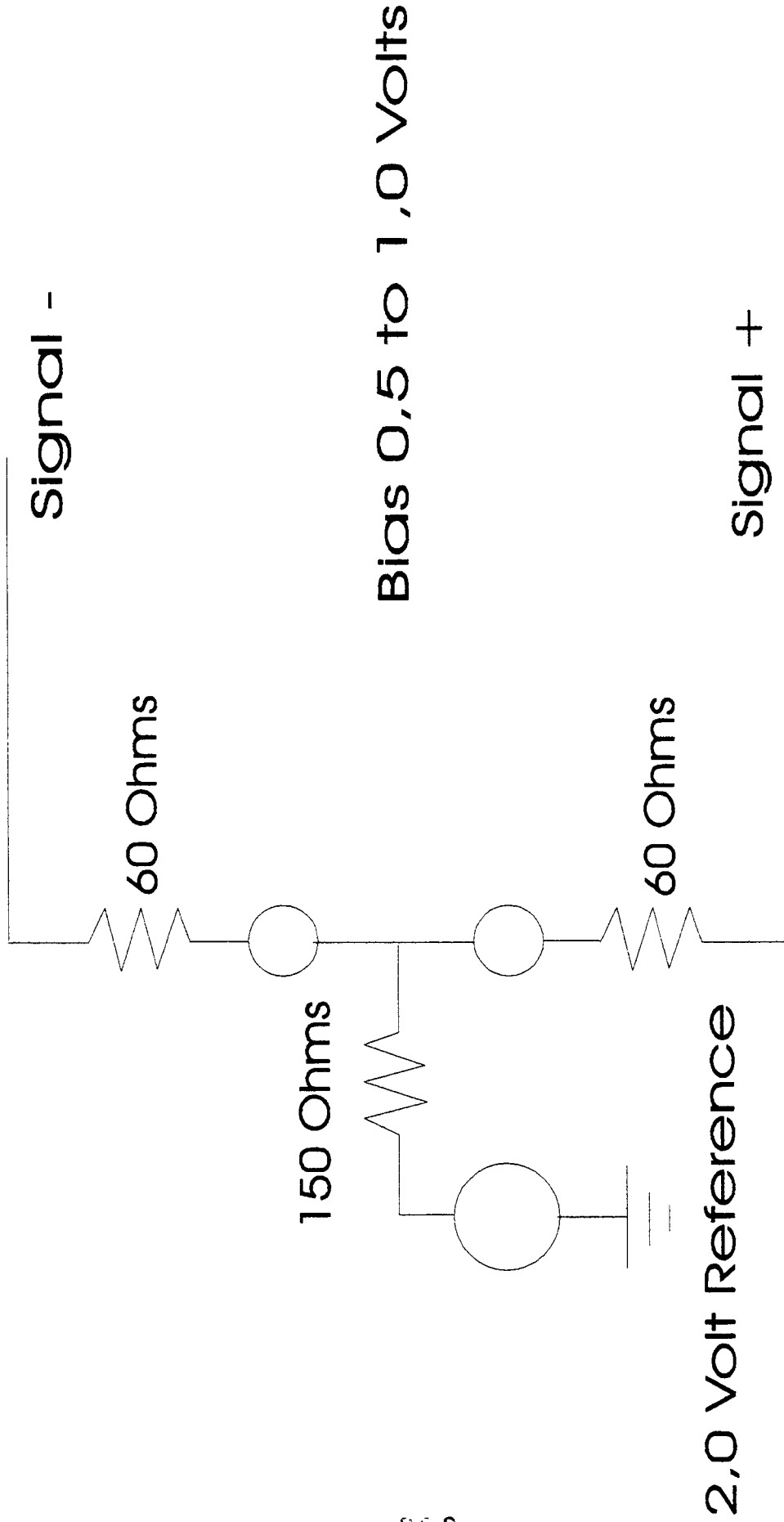
- **Alternative Differential Termination**

- Reduce the Idle TERMPWR Current
  - 166.59 mA @ 5 Volts, Current Passive
  - 25 mA Alternate
- Line Active Driver Current
  - 33 mA / driver, 2 Volt Typical Signal
  - 99 mW/driver @ 5 V, 43 mW/driver @ 3.3 Volts
- Reduce the TERMPWR Transient Current

- **AC/DC Bias Termination**

- AC 120 ohm Termination
- DC Bias for Line Idle
  - 1 mA/Driver, 2 Volt Typical Signal
  - 3 mW/Driver @ 5V, 1.3 mW/Driver @ 3.3V

# Differential Alternate Termination



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# Differential Alternate Termination

