HP *ProCurve* Networking

HEWLETT PACKARD

Power over the DTE

A simple and low-cost proposal

Presented by

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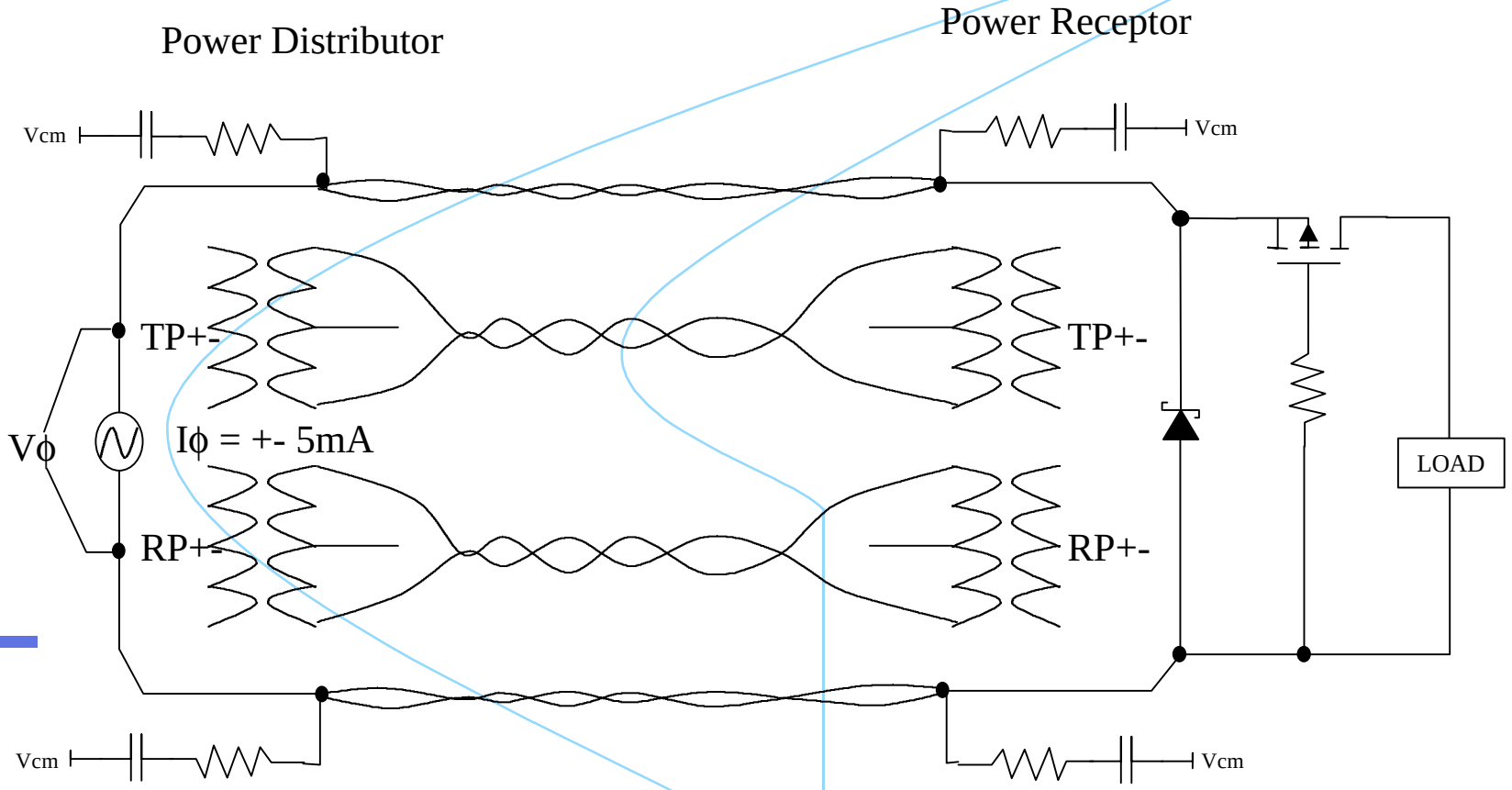
Invent!

Objectives

- Low Cost
- Simple
- Compatible with installed base
  - Support 10/100BASE-T
  - Support 1000BASE-T (optional)
- Safe
- Reliable
- Flexible

Invent!

Proposal: Diode Detection



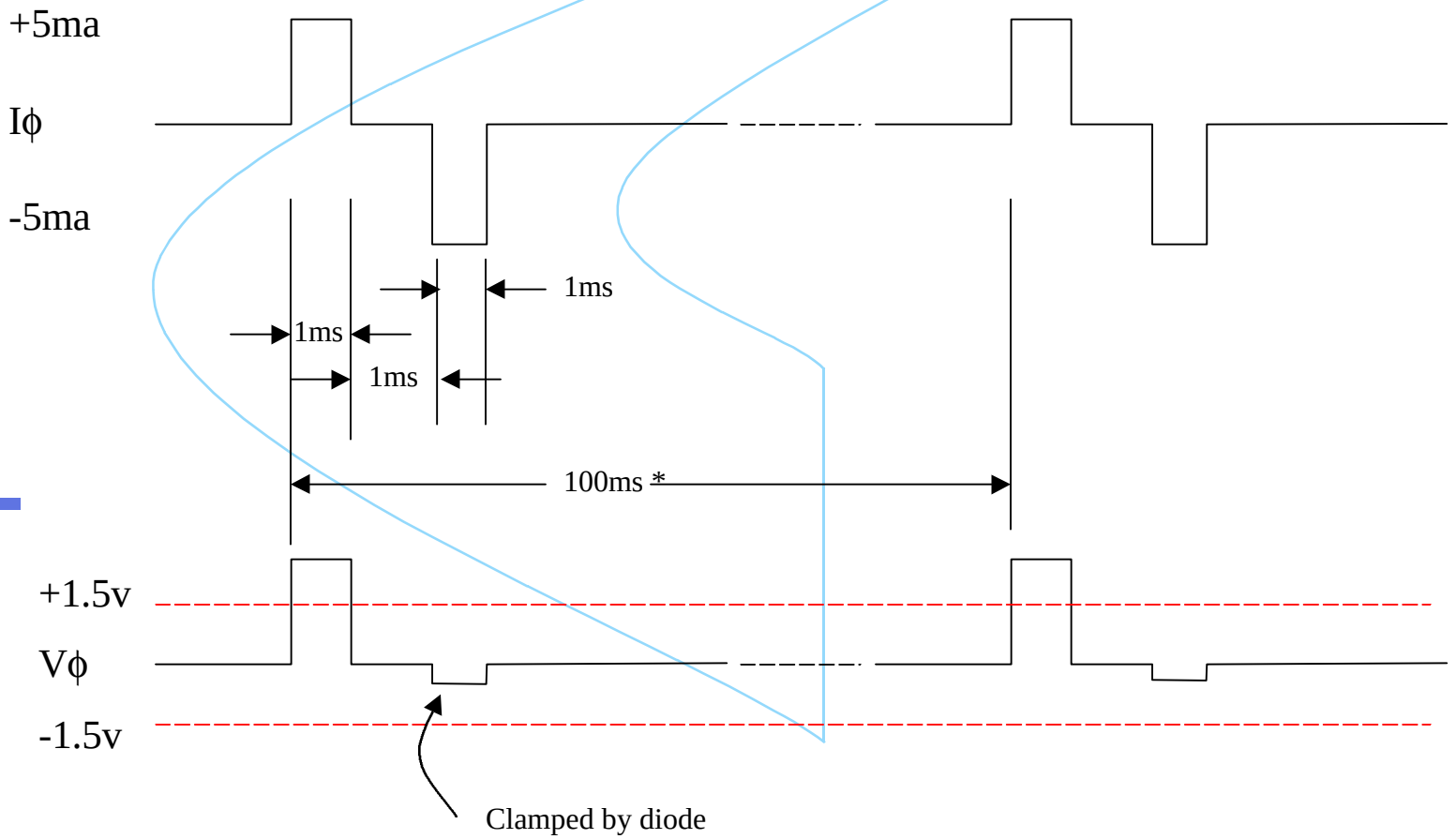
When Iϕ = +, Vϕ => 2.5V
When Iϕ = - , Vϕ =< .5V

Therefore, comparators set to ±1.5 volts will detect proper mode with 0,1,0,-1..

Invent!

Proposal: Diode Detection

- Provides assurance of proper polarity prior to turning on full voltage.
- Low duty cycle reduces power to shorted/incompatible devices.
- FET automatically turns on at 4Vto prevent load from limiting voltage during detection

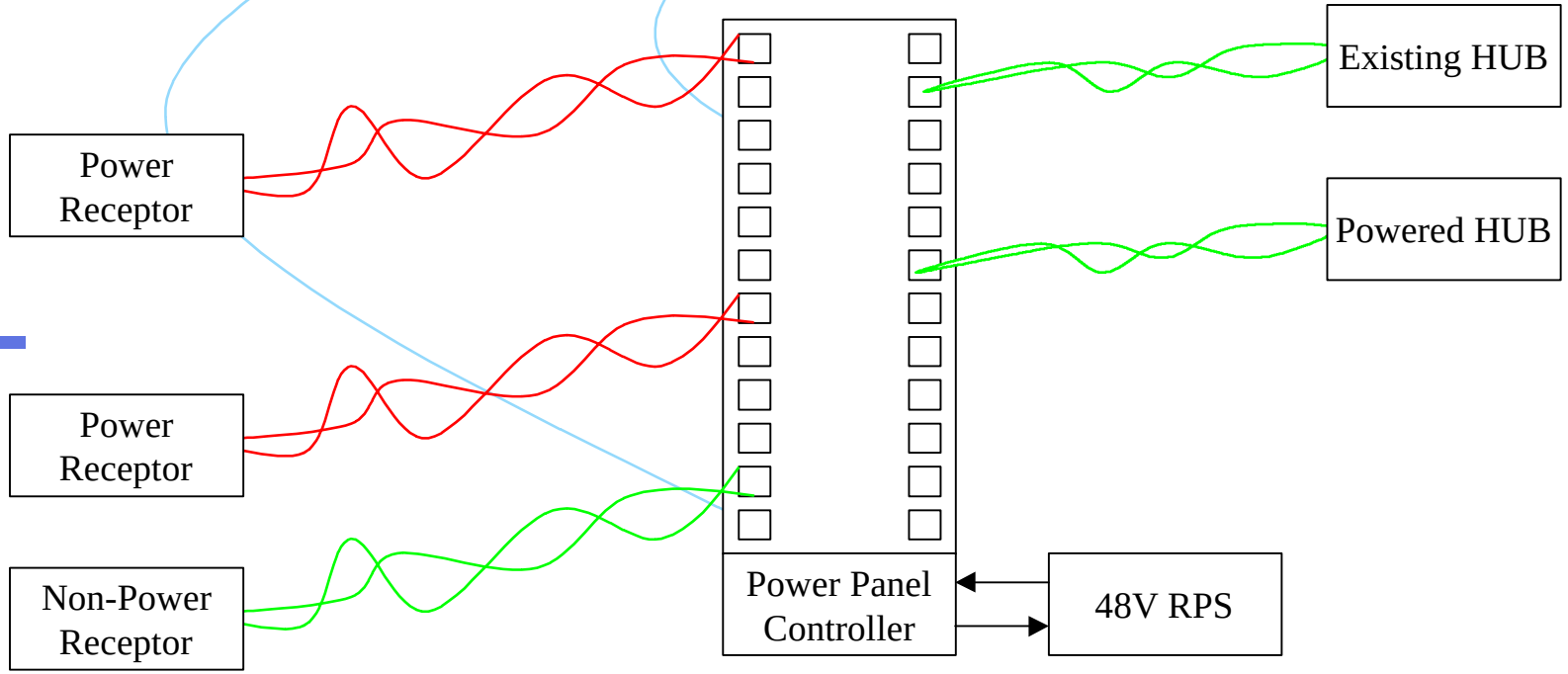


Invent!

* may be randomized to allow detection of other sources attached.

Why use Diode Detection?

- Allows patch panel or hub to supply power.
- Doesn't interfere with signal pairs.
- Simplifies Customer upgrade path… works with existing equipment.
- May support detection of conflict with other distributor.



Invent!

Why use Diode Detection?

Low Cost

- Requires 5ma alternating current source, comparator, diode, FET, capacitors.

Simple

- Low intelligence required. May be performed by an active patch panel or switch/hub.

Compatible

- Supports 10BASE-T, 100BASE-T

Safe

- 5ma current source limited… prevents excess power to incompatible devices.
- Diode method provides polarity detection to ensure proper connection.

Reliable

- Plenty of margin (>1v) on detection method
- Doesn't impact DC core on magnetic modules.

Flexible

- Allows distribution from hub or patch panel.

Invent!