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Network-1 Technologies, Inc.

**UNITED STATES DISTRICT COURT**  
**FOR THE CENTRAL DISTRICT OF CALIFORNIA**  
**SOUTHERN DIVISION**

NETWORK-1 TECHNOLOGIES, INC.,

*Plaintiff,*

vs.

TP-LINK USA CORPORATION,

*Defendant.*

CASE NO. \_\_\_\_\_

**Complaint for Patent Infringement  
(U.S. Patent Nos. 6,218,930).**

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Network-1 Technologies, Inc. (“Network-1”) sues Defendant TP-Link USA Corporation (“TP-Link”) and, on information and belief, alleges as follows:

**INTRODUCTION**

1. Plaintiff Network-1 owns the invention described and claimed in United States Patent No. 6,218,930 entitled “Apparatus and method for remotely powering access equipment over a 10/100 switched ethernet network” (the “930 Patent”).

2. Defendant, without Plaintiff's permission,
  - (a) used Plaintiff's patented technology in connection with products that it made, used, sold, and offered to sell which distributed or used power transferred through Ethernet cables ("Power over Ethernet" or "PoE"), including Power Sourcing Equipment ("PSEs") and Powered Devices ("PDs") that are compliant with the IEEE 802.3af and 802.3at standards, and
  - (b) contributed to or induced others, including Defendant's customers who purchase PoE products from Defendant, to infringe the method claims of the '930 Patent.

Plaintiff Network-1 seeks damages for patent infringements of the method claims of the '930 Patent.

### **THE PARTIES**

3. Plaintiff Network-1 Technologies, Inc. is a Delaware corporation, with its principal place of business in New Canaan, Connecticut.

4. TP-Link USA Corporation is a California corporation, with its headquarters and principal place of business in Irvine, California. TP-Link is the company that is responsible for importing, marketing, advertising, offering to sell, and selling "TP-Link" branded products in the United States, including the accused products in this case. TP-Link buys TP-Link branded products, imports them into the United States, and sells them in the United States, including in this District.

### **JURISDICTION AND VENUE**

5. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 271 and 281, *et seq.*

6. The Court has original jurisdiction over this patent infringement action under 28 U.S.C. §§ 1331 and 1338(a).

7. Venue is proper in this District under 28 U.S.C. §§ 1391(b) and (c), and 1400(b) because Defendant is incorporated under the laws of the State of California, Defendant does business in this District in California, Defendant is responsible for acts of infringement in this District in California, and Defendant delivered or caused to be delivered products that infringed in this District in California.

### **THE '930 PATENT**

8. The United States Patent and Trademark Office issued the '930 Patent on April 17, 2001. A copy of the '930 Patent is attached as Exhibit 1.

9. Through assignment, Plaintiff Network-1 is the owner of all right, title, and interest in the '930 Patent, including all rights for damages for past infringements.

10. The validity of the '930 Patent has been confirmed in multiple proceedings in multiple forums.

11. Five parties accused of infringing the '930 Patent (all of them have since licensed the '930 Patent) filed five *Inter Partes* Reviews and one Covered Business Method Review challenging the validity of the '930 Patent. The Patent Trial and Appeal Board issued a final written decision, holding that none of the challenged claims of the '930 Patent were unpatentable. The Federal Circuit affirmed the PTAB's final written decision holding that none of the challenged claims of the '930 Patent were unpatentable. *Avaya Inc. v. Network-1 Techs., Inc.*, 612 F. App'x 613, 614 (Fed. Cir. 2015).

12. The '930 Patent was also reexamined twice before the Patent Office.

13. In the first reexamination, the Patent Office issued a reexamination certification confirming the patentability of all challenged claims and adding fourteen new claims. Exhibit 2.

14. In the second reexamination, the Patent Office issued a reexamination certificate confirming the patentability of all challenged claims. Exhibit 3.

15. The '930 Patent has been extensively licensed. To date, twenty-eight companies that made, used, and sold PoE products that comply with the IEEE 802.3af and 802.3at standards have licensed the '930 Patent. Licensees of the '930 Patent include Cisco Systems, Inc., Alcatel-Lucent USA, Sony Corporation, ShoreTel Inc., Microsemi Corporation, Motorola Solutions, Inc., NEC Corporation, Samsung Electronics Co., Ltd., and other companies that made or sold PoE networking products. Network-1 licensed its '930 Patent both in the context of litigation and outside of litigation.

16. To date, licensees have paid Network-1 more than \$187,000,000 to license the '930 Patent.<sup>1</sup>

17. Although not required under any RAND or FRAND obligation, Network-1 has been, and continues to be, willing to license its '930 Patent on reasonable and non-discriminatory terms.

18. The claims of the '930 Patent are directed to patent-eligible subject matter. Generally speaking, the '930 Patent claims an electronic detection circuit that (a) determines whether a remote access device connected to an Ethernet data cable (e.g., a VoIP telephone) is capable of accepting power over the Ethernet cable ("remote power"), and (b) delivers operating power to remote devices that can accept remote power.

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<sup>1</sup> See <https://ir.network-1.com/press-releases/detail/208/> ("Network-1's Remote Power Patent generated licensing revenue in excess of \$187,000,000.")

19. The '930 Patent addresses the problem of detecting whether a device attached to an Ethernet data cable can accept remote power before delivering remote power that might otherwise damage equipment that is not designed to receive remote power.

20. Determining whether a remote device in an Ethernet environment can accept remote power is a central aspect of the invention claimed in the '930 Patent because the devices that connect to Ethernet cables include both devices that can accept remote power (such as a VoIP phone) and devices that cannot (such as a computer).

21. As set forth in the claims of the '930 Patent, the claimed invention makes these determinations using a "low level current"—a current delivered from the "data node" (*e.g.*, an Ethernet switch or hub) to the access device (*e.g.*, a VoIP phone) over the "data signaling pair" that is insufficient to operate the access device. The delivered "low level current" generates a voltage level on the return path that identifies the electronic characteristics of the attached remote access device. The resulting voltage level can be sensed by the internal circuitry of the data node. If the sensing based on the "low level current" reveals that the access device can accept remote power, then the detection circuit controls the power by providing remote operating power over the data signaling pairs (the Ethernet cable) to the access device (the VoIP phone).

22. The Federal Circuit described the '930 Patent as follows:

The '930 patent is titled "Apparatus and Method for Remotely Powering Access Equipment over a 10/100 Switched Ethernet Network." It discloses an apparatus and methods for allowing electronic devices to automatically determine if remote equipment is capable of accepting remote power over Ethernet. *See* '930 patent col. 1 ll. 13-17. According to the patented method, a "low level current" is delivered over a data signaling pair to an access device (also called remote equipment or remote access equipment). *Id.* at col. 2 ll. 8-10. After the low level current is sent, a network switch senses the resulting "voltage level" on the data signaling pair. *Id.* at col. 1 l. 65-col. 2 l. 14. If the device can accept remote power, the sensed voltage level will match a "preselected condition" of the voltage, such as a particular "varying voltage" level. *Id.* at col. 2 ll. 10-14, col. 3 ll. 2-17. Upon detecting the preselected condition, the network switch will

increase the current from the low level to a higher level sufficient to allow the “remote equipment [to] become[] active.” *Id.* at col. 3 ll. 17-22. If the preselected condition of the voltage is not detected, the network switch will determine that the device cannot accept remote power and will not transmit a higher current. *Id.* at col. 3 ll. 3-11.

*Network-1 Techs. v. Hewlett-Packard Co.*, 976 F.3d 1301, 1305 (Fed. Cir. 2020).

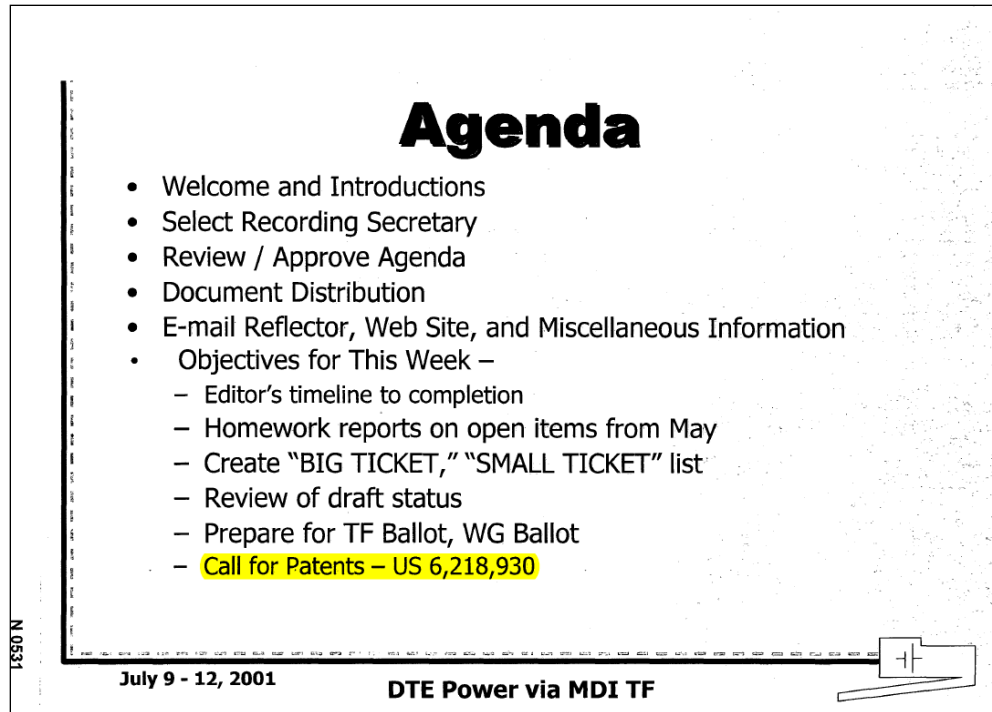
22. The claims of the ‘930 Patent fall into patent-eligible categories authorized by Section 101. Moreover, the claims of the ‘930 Patent are not directed to any patent-ineligible exception.

**INDUSTRY KNOWLEDGE THAT THE ‘930 PATENT COVERS THE  
802.3af AND 802.3at POWER OVER ETHERNET STANDARDS**

23. When the IEEE 803.af Power over Ethernet standard was developed, the ‘930 Patent was identified as a patent that covers the IEEE 802.3af standard.

24. The IEEE (Institute of Electrical and Electronics Engineers) is a standard-based organization comprising representatives of the major players in the networking industry. The IEEE created an 802.3af task force committee to develop an industry standard for providing Power over Ethernet.

25. By the summer of 2001, the IEEE 802.3af task force had already selected a detection method for the new Power over Ethernet standard. That detection method is identical to the one found in the final 802.3af standard used in Defendant’s Power over Ethernet products. At that time, some members of the 802.3af task force became aware of the ‘930 Patent and realized that its claims covered the detection method that the 802.3af task force was adopting as part of the Power over Ethernet standard. As a result, the Chairman of the IEEE 802.3af task force committee placed the ‘930 Patent on the agenda for the July 2001 802.3af task force meeting of the committee in the form of a “Call for Patents”:



Agenda, July 2001 Plenary Meeting of the 802.3af DTE Power via MDI Task Force.

26. As explained on the IEEE’s website, a Chairman of an IEEE standard committee would include a “Call for Patents” on an agenda and call out a patent (e.g., the ‘930 Patent) because those involved in developing the standard believed that the patent was essential for practicing the proposed standard.

27. The ‘930 Patent was the only patent that was ever identified by the 802.3af task force in a “Call for Patents” and placed on an agenda for a task force meeting.

28. This Agenda identifying the ‘930 Patent as an essential patent for practicing the 802.3af standard was publicly available to any person or company who was interested in or concerned about whether the 802.3af Power over Ethernet standard infringed any patent.

29. After the ‘930 Patent was called out, the members of the 802.3af committee took information about the ‘930 Patent back to their respective networking companies for further investigation. Over the following six weeks, key networking manufacturers expressed concerns

that the ‘930 Patent “has become a major show stopper” to practicing the proposed 802.3af standard. The Chairman of the 802.3af committee wrote in an email that “key players” in the network industry were “very worried about the Merlot<sup>2</sup> patent, specifically the detection scheme which is pretty much what we do in 802.3af.”

30. The Chairman of the 802.3af committee emailed his supervisor at the IEEE and declared the ‘930 Patent a “Red Alert!!!” to the proposed 802.3af standard. As a result, the Chairman of the 802.3af committee and his supervisor attempted to get a letter of assurance from Merlot, the owner of the ‘930 Patent at the time. In a letter of assurance, Merlot would agree to license the ‘930 Patent on reasonable terms to networking companies that manufactured products that would comply with the proposed 802.3af standard. Representatives of networking companies on the 803.3af standard committee believed that “[i]f IEEE can get an assurance letter from Merlot, everybody is happy” because the owner of the ‘930 Patent would be willing to license the patent to the industry.

31. But Merlot did not initially provide a letter of assurance. As a result, the IEEE 802.3af task force was motivated to look for an acceptable alternative detection method that would not infringe the ‘930 Patent. But despite spending significant time and effort evaluating other options, the committee was not able to come up with an acceptable alternative that could be used for high data speed applications. As a result, although the IEEE 802.af task force had not yet obtained a letter of assurance, the IEEE voted on and formally adopted the 802.2af standard covered by the ‘930 Patent.

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<sup>2</sup> At this time, the ‘930 Patent was owned by Merlot (before it was assigned to Network-1) and was referred to as the “Merlot patent.”



32. Although not required, after the 802.3af standard was formally adopted, Merlot did provide a Letter of Assurance to the IEEE. This Letter of Assurance identified the ‘930 Patent as essential for any networking company who wanted to manufacture an 802.3af standard product. Any person or company who was interested in or concerned about whether the 802.3af standard infringed any patent could find the ‘930 Patent Letter of Assurance using a simple Google search:

<p><b>C. IEEE STANDARD or PROPOSED IEEE STANDARD:</b></p> <p>Number: <u>P802.3af</u></p> <p>Title: <u>AMENDMENT 1: DATA TERMINAL EQUIPMENT (DTE) POWER v.i.a. MEDIA DEPENDENT INTERFACE (MDI).</u></p> <p><b>D. PATENT HOLDER'S POSITION REGARDING LICENSING ESSENTIAL PATENT RIGHTS:</b></p> <p>If the Patent Holder owns or controls granted patent(s) and/or pending applications that it believes may be infringed by compliance with the Proposed IEEE Standard, please specify the patent number, published application, and/or relevant claims. (A patent search is not required.)</p> <p>Patent Number(s) (if known): <u>US 6,218,930</u></p>
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33. The IEEE maintains a spreadsheet of patents that are essential for practicing any 802.3 standard (802.3af is one of these 802.3 standards). The spreadsheet identifies the ‘930 Patent as essential to practicing the 802.3af standard and includes a link to the Letter of Assurance for the ‘930 Patent:

Std No.	Patent Owner	Contact for License	Patent Serial No. (if indicated)	Letter Date	Licensing Assurance Received	Date record entered or revised (if known)
802.3af	Merlot Communications, Inc. 4 Berkshire Blvd, Bethel CT 06801	Ronald M. Keenan, Chief Technology Officer, tel:+1 203-730-1791, fax: +1 203-730-1797, email: rkeenan@merlotcom.com	6,218,930 US	<a href="#">2 Jul 2003</a>	yes	2 Jul 2003

Any person or company who was interested in or concerned about whether the 802.3af standard infringed any patent could find the IEEE’s spreadsheet using a simple Google search.

34. At least since 2015, a simple Google search would demonstrate that the ‘930 Patent is the most important patent covering products that comply with the 802.3af standard. For many years, extensive publicly available information has demonstrated that the ‘930 Patent is a

“hugely important” PoE patent in this standardized field. For example, a Google search using the words “patent PoE 802.3af” returned the following three articles among the first seven search results:

- “Network-1’s ‘930 patent (6,218,930) teaches an essential component of industry standard Power over Ethernet, or PoE. As described in the IEEE 802.3af and 802.3at standards, PoE enables delivery of power over existing local area network (LAN) cabling, eliminating the need for running separate and expensive power cables.”  
<https://www.network-1.com/portfolios/power-over-ethernet>
- “Network-1, The Little-Known Company With A Hugely Important Power-Over-Ethernet Patent.” <https://www.businessinsider.com/network-1-the-little-known-company-with-a-hugely-important-power-over-ethernet-patent-2011-1>
- “Transition has agreed to license Network-1’s Remote Power Patent for Power over Ethernet products through 2020, and to pay quarterly royalties.”  
<https://www.cablinginstall.com/connectivity/rj45-utp-shielded/article/16478698/transition-networks-agrees-to-licensing-royalty-payments-in-poe-patent-suit-settlement>

35. Any person or company who was interested in or concerned about whether the 802.3af and 802.3at standards infringed any patent would have come across these and similar articles identifying the ‘930 Patent using a simple Google search.

### **COUNT I – INFRINGEMENT OF THE ‘930 PATENT**

36. Plaintiff incorporates by reference each of the allegations in paragraphs 1 - 35 above.

37. On or about April 17, 2001, the '930 Patent, disclosing and claiming an “Apparatus and method for remotely powering access equipment over A 10/100 switched ethernet network,” was duly and legally issued by the United States Patent and Trademark Office.

38. Plaintiff Network-1 is the owner of the '930 Patent with full rights to pursue recovery of royalties or damages for infringement of such patent, including full rights to recover past damages.

39. A reexamination certificate confirming all challenged claims of the '930 Patent and adding fourteen new claims was issued on October 14, 2014. A second reexamination certificate confirming the patentability of all challenged claims of the '930 Patent was issued on November 9, 2015.

40. The '930 Patent is valid.

41. Defendant infringed, contributed to the infringement, and induced others to infringe the '930 Patent by manufacturing, using, selling, offering for sale, or by using methods claimed in the '930 Patent or by contributing to or inducing others to make, use, sell, or offer to sell the claimed invention or use the claimed methods without a license or permission from Plaintiff. Defendant made, used, sold, or offered to sell Power over Ethernet products, including certain products that comply with the IEEE 802.3af and 802.3at standards. These products were used to infringe the method claims of the '930 Patent.

42. An exemplary claim chart with respect to Claim 6 of the '930 Patent is attached as Exhibit 4. The chart applies the constructions of the '930 Patent claims approved by the Federal Circuit. *Network-1 Techs. v. Hewlett-Packard Co.*, 976 F.3d 1301, 1304 (Fed. Cir. 2020).

43. Defendant had knowledge of, or was willfully blind to, the claims of the '930 Patent and the infringements alleged in this Complaint.

44. Defendant knowingly induced others, including their customers who purchased Defendant's Power over Ethernet products, to practice the methods claimed in the '930 Patent and possessed a specific intent to encourage infringement of the '930 Patent. For example, Defendant's Power over Ethernet products, when connected and operated as intended and instructed and suggested by Defendant's associated manuals, literature, advertising, or other placards and data, infringe the '930 Patent. In addition, Defendant knew (or was willfully blind to knowing) that Defendant's Power over Ethernet products used to infringe the '930 Patent (a) constituted material parts or components of the inventions claimed in the '930 Patent, (b) were especially made or adapted for use in a manner that infringes the '930 Patent, and (c) did not have substantial use that did not infringe the '930 Patent.

45. Plaintiff has been damaged by Defendant's infringement of the '930 Patent. The marking requirement of 35 U.S.C. § 287(a) does not apply because Plaintiff is only asserting method claims.

#### **WILLFULNESS ALLEGATIONS**

46. Upon information and belief, Defendant's acts of infringement have been willful.

47. Defendant's acts of infringement were committed with knowledge of Plaintiff's rights in the '930 Patent, and in willful and wanton disregard of Plaintiff's rights, or were committed with willful blindness to Plaintiff's rights, rendering this an exceptional case under 35 U.S.C. § 285.

48. Despite this knowledge or willful blindness and despite an objective likelihood that its actions constituted infringement of the '930 Patent, Defendant infringed the '930 Patent.

This objectively-defined risk was known or was so obvious that it should have been known to Defendant. Defendant disregarded this objectively high likelihood that its actions constituted infringement of the '930 Patent.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff Network-1 prays for judgment as follows:

- A. Compensatory damages awarding Plaintiff damages caused by Defendant's infringement of the '930 Patent;
- B. Enhancement of Plaintiff's damages against Defendant by reason of the nature of Defendant's infringement pursuant to 35 U.S.C. § 284;
- C. For costs of suit and attorney's fees;
- D. For pre and post-judgment interest; and
- E. For such other relief as justice requires.

**JURY DEMAND**

Plaintiff Network-1 demands trial by jury of all issues.

Date: October 27, 2022

Respectfully submitted,  
DOVEL & LUNER, LLP

By: /s/ Gregory Dovel

*Counsel for Plaintiff*  
*Network-1 Technologies, Inc.*

**Exhibits**

Exhibit 1: '930 Patent

Exhibit 2: Reexamination Certificate 1 (2014)

Exhibit 3: Reexamination Certificate 2 (2015)

Exhibit 4: Exemplary claim chart