

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF TEXAS  
TYLER DIVISION**

<p>CHRIMAR SYSTEMS, INC., d/b/a CMS TECHNOLOGIES and CHRIMAR HOLDING COMPANY, LLC,</p> <p style="text-align: center;">Plaintiffs,</p> <p>v.</p> <p>FANVIL TECHNOLOGY CO., LTD., a SHENZHEN, GUANGDONG, CHINA corporation,</p> <p style="text-align: center;">Defendant.</p>	<p>Civil Action No. 6:18-cv-93</p> <p>PATENT CASE</p> <p>JURY TRIAL DEMANDED</p>
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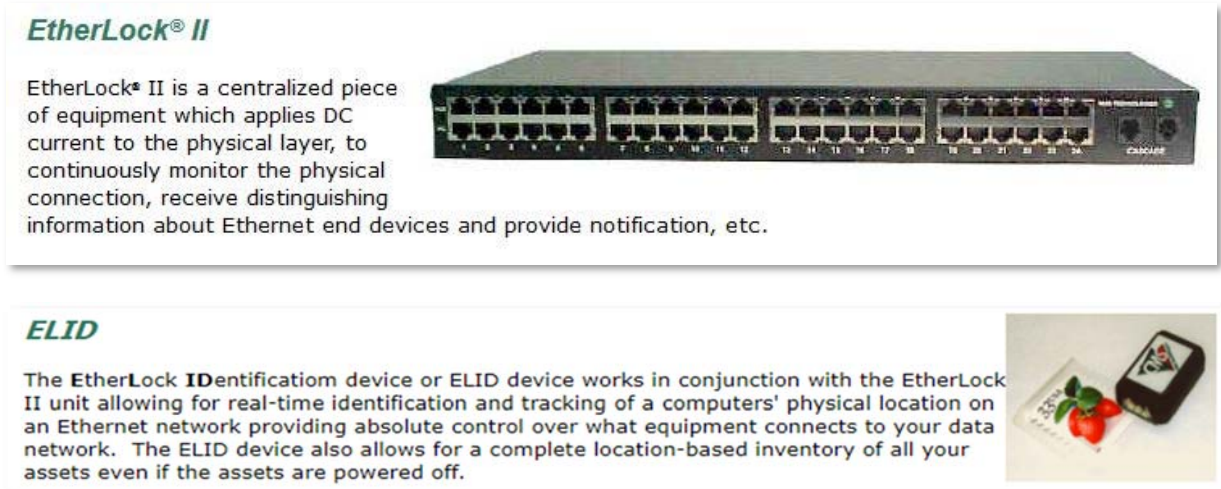
**COMPLAINT**

Plaintiffs Chrimar Systems, Inc. d/b/a CMS Technologies ("Chrimar") and Chrimar Holding Company, LLC ("Holding") file this Complaint against the above-named Defendant for infringement of United States Patents Nos. 8,155,012 ("the '012 Patent"), 8,942,107 ("the '107 Patent") and 9,812,825 ("the '825 Patent"), collectively the "Patents-in-Suit."

**THE PARTIES**

1. Chrimar is a Michigan corporation with a place of business located at 36528 Grand River Avenue, Suite A-1, Farmington Hills, Michigan 48335.
2. Holding is a Texas limited liability company with a place of business located at 911 NW Loop 281, Suite 211-30, Longview, Texas 75604.
3. Chrimar and Holding are collectively referred to as "Plaintiffs" or CMS.
4. Chrimar was the first company to employ DC current within a BaseT network in the early 1990s and has received a number of US patents for this very important technology.

Chrimar continues to market its EtherLock® family of products for asset control, management and security, including the including the EtherLock® II and EtherLock IDentification (ELID) products:



[http://cmstech.com/security\\_solutions/products/products.html](http://cmstech.com/security_solutions/products/products.html)

5. Chrimar’s installed ELID/NIC-Stick circuitry practice certain claims of the ‘012, ‘107, and ‘825 Patents. *See also* <http://www.cmspatents.com/>.

6. Chrimar has entered into numerous non-exclusive licenses for certain equipment under certain Chrimar patents including certain Power over Ethernet (PoE) equipment designed for deployment within a BaseT Ethernet network. *See, e.g.*, <https://realtimepressrelease.com/press-releases-tagged-with/chrimar/>.

7. Upon information and belief Fanvil Technology Co., Ltd. (“Fanvil”) is a Chinese corporation with a place of business located at Level 3, Block A, Gaoxinqi Building, Anhua Industrial Park, Qianjin 1 Road, 35<sup>th</sup> District, Bao’An, Shenzhen, 518101 P.R. China. This Court has personal jurisdiction over Fanvil Technology.

### **JURISDICTION AND VENUE**

8. This action arises under the patent laws of the United States, 35 U.S.C. §101 *et seq.*

9. This Court has subject matter jurisdiction under 28. U.S.C. §§1331 and 1338 (a).

10. Venue is proper in this judicial district under 28 U.S.C. §§1391(c)(3) and 1400 (b).

11. Fanvil is subject to this Court's specific and general personal jurisdiction due to their substantial business in this forum. For example, upon information and belief, Fanvil is subject to the specific personal jurisdiction of this Court because Chrimar's claims for patent infringement arise from Fanvil's acts of infringement in the State of Texas. These acts of infringement include selling infringing products in the State of Texas and placing infringing products into the stream of commerce through an established distribution channel with full awareness that substantial quantities of the products have been shipped into the State of Texas. Therefore, this Court has personal jurisdiction over Fanvil under the Texas long-arm statute, TEX. CIV. PRAC. & REM. CODE § 17.042.

### **PATENTS-IN-SUIT**

12. Chrimar is the owner and the assignee of the '107 Patent, entitled "Piece of Ethernet Terminal Equipment" and Holding is the exclusive licensee of the '107 Patent. CMS has ownership of all substantial rights in the '107 Patent, including the right to exclude others and to enforce, sue and recover damages for past and future infringement. A true and correct copy of the '107 Patent is attached as Exhibit A.

13. The '107 Patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

14. Chrimar is the owner and assignee of the '825 Patent, entitled "Ethernet Device" and Holding is the exclusive licensee of the '825 Patent. CMS has ownership of all substantial rights in the '825 Patent, including the right to exclude others and to enforce, sue and recover damages for past and future infringement. A true and correct copy of the '825 Patent is attached as Exhibit B.

15. The '825 Patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

16. Chrimar is the owner and assignee of the '012 Patent, entitled "System and Method for Adapting a Piece of Terminal Equipment" and Holding is the exclusive licensee of the '012 Patent. CMS has ownership of all substantial rights in the '012 Patent, including the right to exclude others and to enforce, sue and recover damages for past and future infringement. A true and correct copy of the '012 Patent is attached as Exhibit C.

17. The identified claims of the '012 Patent are valid, enforceable and were duly issued in full compliance with Title 35 of the United States Code.

18. The '107, '825 and '012 Patents are collectively the "Patents-in-Suit."

19. The Patents-in-Suit generally cover plug and play automation and/or asset control capabilities employed by certain BaseT Ethernet equipment including powered devices ("PDs") that comply with or are compatible with certain portions of the IEEE Standards commonly referred to as PoE Standards (e.g., the IEEE 802.3af or IEEE 802.3at standards).

#### **FANVIL'S ACCUSED PRODUCTS**

20. Upon information and belief, Fanvil makes, uses, offers to sell, sells, and/or imports Power over Ethernet (PoE) powered devices (PDs) that comply with and/or are compatible with the IEEE 802.3af and/or 802.3at. Such products include, but are not limited to:

<b>PRODUCT TYPE</b>	<b>MODEL NUMBER</b>
IP Phone	C01 with PoE
IP Phone	C58 with PoE
IP Phone	C58P
IP Phone	C62
IP Phone	C62P
IP Phone	C66
IP Phone	C400
IP Phone	C600
IP Phone	F52 with PoE
IP Phone/Intercom	i12
IP Phone/Intercom	i18
IP Phone	i20T
IP Phone	i23
IP Phone	i31
IP Phone	X3P
IP Phone	X3SP
IP Phone	X3SSP
IP Phone	X3G
IP Phone	X4
IP Phone	X4G
IP Phone	X5
IP Phone	X5B
IP Phone	X5G
Hotel Phone	H2
IP Door Phones	i21
IP Door Phones	i21T
IP Door Phones	i23
IP Door Phones	i30
IP Door Phones	i31

21. These products, and any of Fanvil's other similar products, are collectively referred to herein as the "Accused Products." Fanvil's Accused Products employ plug and play automation and/or asset control capabilities as claimed in the Patents-in-Suit.

22. Upon information and belief, the Accused Products are offered for sale and sold throughout the United States, including within the Eastern District of Texas.

23. Fanvil has purposefully and voluntarily placed the Accused Products into the stream of commerce with the expectation that these products will be purchased and used by end users in the United States, including end users in the Eastern District of Texas.

24. Upon information and belief, the Accused Products are offered for sale and sold throughout the United States, including within this District.

25. Upon information and belief, Fanvil has purposefully and voluntarily placed the Accused Products into the stream of commerce with the expectation that these products will be purchased and used by end users in the United States, including end users in this District.

26. Upon information and belief, Fanvil provides direct and indirect support concerning the Accused Products to end users, including end users within this District.

**COUNT I**  
**INFRINGEMENT OF U.S. PATENT NO. 8,942,107**

27. CMS incorporates paragraphs 1 through 26 herein by reference.

28. In violation of 35 U.S.C. § 271, Fanvil has directly infringed and continues to directly infringe, both literally and/or under the doctrine of equivalents, the `107 Patent by making, using, offering for sale, selling, and/or importing the Accused Products in the United States, including within this District, that infringe at least claim 48 of the `107 Patent without the authority of Chrimar.

29. The identified claim of the `107 Patent is presumed valid.

30. The Accused Products are pieces of Ethernet terminal equipment. For example, the Fanvil C600 Phone is a device that can originate and Ethernet data and Ethernet data

transmissions, and is configured to communicate with other devices over a BaseT Ethernet network.



## C600 Specification

### FANVIL C600 Enterprise Smart Video IP Phone

A New Enterprise Phone with Intelligent One-touch DSS Features

The C600 provides the complete desk phone solutions with flexible functionality, HD Voice Quality, and highly easy operation. It is absolutely an excellent Smart Video Phone for small to large sized business, as well as mission-critical Enterprise Business.

**Highlights**

- ✓ Full Programmable DSS Key and Soft Function Key
- ✓ DSS Can Support Upto 100 Stations
- ✓ On Line Recording & Message Forwarding
- ✓ Call Conference Enhancement
- ✓ Flexible Dial Plan with Auto Provision
- ✓ Support LDAP & XML Phone Book



• WAN Port -10/100/1000 Base-T RJ-45 for LAN

31. The Accused Products comprise an Ethernet connector comprising first and second pairs of contacts used to carry Ethernet communications signals.

Network	
Ethernet	RJ-45 (10/100Base-T)

32. The Accused Products at least one path for the purpose of drawing DC current, the at least one path coupled across at least one of the contacts of the first pair of contacts and at least one of the contacts of the second pair of contacts.

• Supports PoE (802.3af)

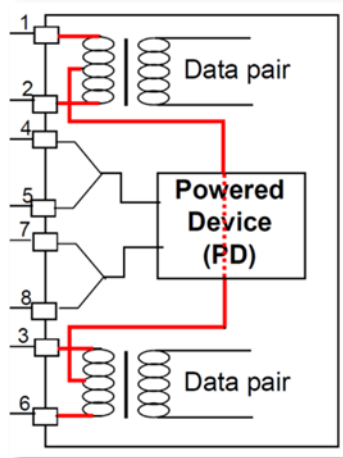
The IEEE 802.3af standard further explains:

**33.3.1 PD PI**

The PD shall be capable of accepting power on either of two sets of PI conductors. The two conductor sets are named Mode A and Mode B. In each four-wire connection, the two wires associated with a pair are at the same nominal average voltage. Figure 33–5 in conjunction with Table 33–7 illustrates the two power modes.

Table 33-7—PD pinout

Conductor	Mode A	Mode B
1	Positive $V_{Port}$ , Negative $V_{Port}$	
2	Positive $V_{Port}$ , Negative $V_{Port}$	
3	Negative $V_{Port}$ , Positive $V_{Port}$	
4		Positive $V_{Port}$ , Negative $V_{Port}$
5		Positive $V_{Port}$ , Negative $V_{Port}$
6	Negative $V_{Port}$ , Positive $V_{Port}$	
7		Negative $V_{Port}$ , Positive $V_{Port}$
8		Negative $V_{Port}$ , Positive $V_{Port}$



IEEE 802.3af standard, 33.3.1, Table 33-7, and Figure 33-4 (annotated, emphasis added).

The Accused products are to draw different magnitudes of DC current flow via the at least one path, the different magnitudes of DC current flow to result from at least one condition applied to at least one of the contacts of the first and second pairs of contacts, wherein at least one of the magnitudes of the DC current flow to convey information about the piece of Ethernet terminal equipment. As shown above, the Accused Fanvil C600 Phone claims compliance with the IEEE 802.3af Standard. The IEEE 802.3af standard prescribes the presentation of valid detection signatures by drawing different magnitudes of DC current flow in response to at least one electrical connection (e.g. a voltage or current) applied to least one of the contacts of the



first and second pairs of contacts, wherein at least one of the magnitudes of the DC current flow to convey information about the piece of Ethernet terminal equipment.:

### 33.3.3 PD valid and non-valid detection signatures

A PD shall present a valid detection signature at the PI between Positive  $V_{Port}$  and Negative  $V_{Port}$  of PD Mode A and between Positive  $V_{Port}$  and Negative  $V_{Port}$  of PD Mode B as defined in 33.3.1 while it is in a state where it will accept power via the PI, but is not powered via the PI.

A PD shall present a non-valid detection signature at the PI between Positive  $V_{Port}$  and Negative  $V_{Port}$  of PD Mode A and between Positive  $V_{Port}$  and Negative  $V_{Port}$  of PD Mode B as defined in 33.3.1 while it is in a state where it will not accept power via the PI.

When a PD becomes powered via the PI, it shall present a non-valid detection signature on the set of pairs from which it is not drawing power.

The valid and non-valid detection signature regions are separated by guardbands. The guardbands for the V-I slope are the ranges 12K $\Omega$  to 23.75K $\Omega$  and 26.25K $\Omega$  to 45K $\Omega$ . A PD that presents a signature in a guardband is non-compliant.

V-I slope is the effective resistance calculated from the two voltage/current measurements made during the detection process.

$$V-I \text{ slope} = (V_2 - V_1) / (I_2 - I_1) \quad (33-1)$$

where  $(V_1, I_1)$  and  $(V_2, I_2)$  are measurements made at the PD PI.

The valid PD detection signature shall have the characteristics of Table 33-8.

**Table 33–8— Valid PD detection signature characteristics, measured at PD input connector**

Parameter	Conditions	Minimum	Maximum	Unit
V-I Slope (at any 1V or greater chord within the voltage range conditions)	2.7V to 10.1V	23.75	26.25	KΩ
V offset			1.9	V
I offset			10	μA
Input capacitance	2.7V to 10.1 V	0.05	0.12	μF
Input inductance	2.7V to 10.1 V		100	μH

A non-valid detection signature shall have one or both of the characteristics in Table 33–9

**Table 33–9— Non-valid PD detection signature characteristics, measured at PD input connector**

Parameter	Conditions	Range of values	Unit
V-I Slope	V < 10.1V	Either greater than 45 or less than 12	KΩ
Input Capacitance	V < 10.1V	Greater than 10	μF

IEEE 802.3af standard, 33.3.3, Table 33-8, and Table 33-9

33. The Accused Products comprise at least one blocking capacitor to block the flow of the DC current through a path across the contacts of the Ethernet connector. In PoE PDs, a blocking capacitor is added to the Bob Smith termination in order to DC isolate each separate winding.

34. Accordingly, Fanvil has and continues to directly infringe the '107 Patent, including, but not limited to, at least claim 48 of the '107 Patent in violation of 35 U.S.C. §271(a) by making, using, offering for sale, selling, and/or importing into the United States the Accused Products.

35. Fanvil has been on notice of the '107 Patent since at least September 17, 2017 when it received a notice letter from Chrimar that Fanvil was infringing claims of the '107 patent.

36. Fanvil has not produced or indicated that it intends to rely upon an opinion of counsel suggesting that the '107 Patent is invalid or that the Accused Products do not infringe the '107 Patent.

37. CMS has been damaged as a result of Fanvil's infringing conduct described in this Court.

38. Unless enjoined by this Court, Fanvil will continue to infringe the '107 Patent.

**COUNT II**  
**INFRINGEMENT OF U.S. PATENT NO. 9,812,825**

39. CMS incorporates paragraphs 1 through 38 herein by reference.

40. In violation of 35 U.S.C. § 271, Fanvil has directly infringed and continues to directly infringe, both literally and/or under the doctrine of equivalents, the '825 Patent by making, using, offering for sale, selling, and/or importing the Accused Products in the United States, including within this District, that infringe at least claim 66 of the '825 Patent without the authority of Chrimar.

41. The Accused PD Products are powered-off BaseT Ethernet devices prior to receiving their operational power and configured to be interrogated for a predetermined response via at least one direct current (DC) signal.

42. For example, each Accused PD Product has pairs of contacts of its Ethernet connector that are used to carry 10BaseT and/or 100BaseTX Ethernet communication signals. Additionally, each Accused PD Product implements Section 33.3.5.1 of the 802.3af standard, or a similar provision of another standard, which defines that a PD is powered off and shall "turn on" when certain conditions are met. For example, the literature for the Fanvil C600 Phone provides:

• WAN Port -10/100/1000 Base-T RJ-45 for LAN

- Supports PoE (802.3af)

43. The Accused Products comprise an Ethernet jack connector of the BaseT Ethernet device. The Ethernet jack connector comprises first and second pairs of contacts. Each of the first and second pairs configured to carry BaseT Ethernet communication signals wherein the first pair of contacts consists of a transmit pair of the Ethernet jack connector and wherein the second pair of contacts consists of the receive pair of the Ethernet jack connector.

- WAN Port -10/100/1000 Base-T RJ-45 for LAN

44. The Accused Products comprise at least one path of the BaseT Ethernet device. The at least one path is for the purpose of drawing at least one direct current (DC) signal. The at least one path is coupled across at least one of the contacts of the first pair and at least one of the contacts of the second pair of the Ethernet jack connector.

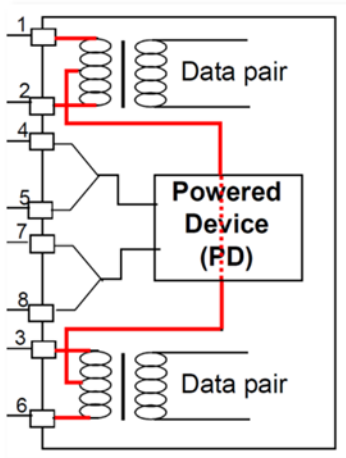
The IEEE 802.3af standard explains:

**33.3.1 PD PI**

The PD shall be capable of accepting power on either of two sets of PI conductors. The two conductor sets are named Mode A and Mode B. In each four-wire connection, the two wires associated with a pair are at the same nominal average voltage. Figure 33-5 in conjunction with Table 33-7 illustrates the two power modes.

Table 33-7—PD pinout

Conductor	Mode A	Mode B
1	Positive $V_{Port}$ , Negative $V_{Port}$	
2	Positive $V_{Port}$ , Negative $V_{Port}$	
3	Negative $V_{Port}$ , Positive $V_{Port}$	
4		Positive $V_{Port}$ , Negative $V_{Port}$
5		Positive $V_{Port}$ , Negative $V_{Port}$
6	Negative $V_{Port}$ , Positive $V_{Port}$	
7		Negative $V_{Port}$ , Positive $V_{Port}$
8		Negative $V_{Port}$ , Positive $V_{Port}$



IEEE 802.3af standard, 33.3.1, Table 33-7, and Figure 33-4 (annotated, emphasis added).

45. Each Accused PD Product implements detection and classification protocols requiring at least one path for the purpose of drawing DC current, the at least one path coupled across at least one of the contacts of the first pair of contacts of the Ethernet connector and at least one of the contacts of the second pair of contacts of the Ethernet connector as explained in the 802.3af standard:

IEEE 802.3af standard, 33.3.3

46. The Accused Products are powered-off BaseT Ethernet devices prior to receiving their operational power and configured to receive or return at least one direct current (DC) signal via at least one of the contacts of the first pair and configured to return or receive the at least one direct current (DC) signal vial at least one of the contacts of the second pair. The predetermined response is carried by at least two different magnitudes in the flow of the at least one direct current (DC) signal.

47. For example, the below excerpts of the PoE Standards demonstrate that a compliant product, such as the Accused PD Products, will draw different magnitudes of DC current flow in response to at least one electrical connection applied to a contact, as required to comply with the detection and classification protocols.

IEEE 802.3af standard, Figure 33C.11 This signature impedance is within the at least one path and distinguishes an Accused PD Product from non-PoE Ethernet devices

48. The Accused Products are powered-off BaseT Ethernet devices wherein the predetermined response is based on a difference between the at least two different magnitudes in the flow of the at least one direct current (DC) signal. For example, the IEEE 802.3af standard Section 33.3.3 states:

**33.3.3 PD valid and non-valid detection signatures**

A PD shall present a valid detection signature at the PI between Positive  $V_{Port}$  and Negative  $V_{Port}$  of PD Mode A and between Positive  $V_{Port}$  and Negative  $V_{Port}$  of PD Mode B as defined in 33.3.1 while it is in a state where it will accept power via the PI, but is not powered via the PI.

A PD shall present a non-valid detection signature at the PI between Positive  $V_{Port}$  and Negative  $V_{Port}$  of PD Mode A and between Positive  $V_{Port}$  and Negative  $V_{Port}$  of PD Mode B as defined in 33.3.1 while it is in a state where it will not accept power via the PI.

When a PD becomes powered via the PI, it shall present a non-valid detection signature on the set of pairs from which is it not drawing power.

The valid and non-valid detection signature regions are separated by guardbands. The guardbands for the V-I slope are the ranges 12K $\Omega$  to 23.75K $\Omega$  and 26.25K $\Omega$  to 45K $\Omega$ . A PD that presents a signature in a guardband is non-compliant.

V-I slope is the effective resistance calculated from the two voltage/current measurements made during the detection process.

$$V-I \text{ slope} = (V_2 - V_1) / (I_2 - I_1) \quad (33-1)$$

where  $(V_1, I_1)$  and  $(V_2, I_2)$  are measurements made at the PD PI.

The valid PD detection signature shall have the characteristics of Table 33-8.

49. Fanvil has been on notice of the '825 Patent since at least the filing date of this Complaint.

50. Fanvil has not produced or indicated that it intends to rely upon an opinion of counsel suggesting that the '825 Patent is invalid or that the Accused Products do not infringe the '825 Patent.

51. CMS has been damaged as a result of Fanvil's infringing conduct described in this Court.

52. Unless enjoined by this Court, Fanvil will continue to infringe the '825 Patent.

**COUNT III  
INFRINGEMENT OF U.S. PATENT NO. 8,155,012**

53. CMS incorporates paragraphs 1 through 52 herein by reference

54. In violation of 35 U.S.C. § 271, Fanvil has directly infringed and continues to directly infringe, both literally and/or under the doctrine of equivalents, the '012 Patent by making, using, offering for sale, selling, and/or importing the Accused Products in the United



States, including within this District, that infringe at least claim 115 of the '012 Patent without the authority of Chrimar

55. Each Accused Product is an adapted piece of terminal equipment having an Ethernet connector.



The slide features the FANVIL logo in red at the top left. A red horizontal bar spans across the slide, with the text "C600 Specification" in white on the right side. Below the bar, the title "FANVIL C600 Enterprise Smart Video IP Phone" is centered in bold black text, followed by the subtitle "A New Enterprise Phone with Intelligent One-touch DSS Features". To the left of the phone image, there is a paragraph of text describing the phone's capabilities and a list of highlights. To the right is a photograph of the FANVIL C600 phone, which is a black desk phone with a large color touchscreen display and a handset on a cradle.

**FANVIL**

**C600 Specification**

**FANVIL C600 Enterprise Smart Video IP Phone**  
A New Enterprise Phone with Intelligent One-touch DSS Features

The C600 provides the complete desk phone solutions with flexible functionality, HD Voice Quality, and highly easy operation. It is absolutely an excellent Smart Video Phone for small to large sized business, as well as mission-critical Enterprise Business.

**Highlights**

- ✓ Full Programmable DSS Key and Soft Function Key
- ✓ DSS Can Support Upto 100 Stations
- ✓ On Line Recording & Message Forwarding
- ✓ Call Conference Enhancement
- ✓ Flexible Dial Plan with Auto Provision
- ✓ Support LDAP & XML Phone Book



▪ WAN Port -10/100/1000 Base-T RJ-45 for LAN

56. The Accused Products comprise at least one path coupled across specific contacts of the Ethernet connector. The at least one path permits use of the specific contacts for Ethernet communication.

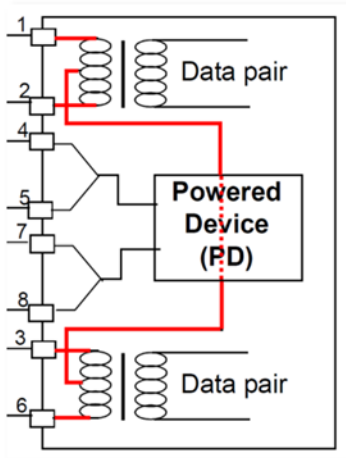
The IEEE 802.3af standard explains:

#### 33.3.1 PD PI

The PD shall be capable of accepting power on either of two sets of PI conductors. The two conductor sets are named Mode A and Mode B. In each four-wire connection, the two wires associated with a pair are at the same nominal average voltage. Figure 33-5 in conjunction with Table 33-7 illustrates the two power modes.

Table 33-7—PD pinout

Conductor	Mode A	Mode B
1	Positive $V_{Port}$ , Negative $V_{Port}$	
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5		Positive $V_{Port}$ , Negative $V_{Port}$
6	Negative $V_{Port}$ , Positive $V_{Port}$	
7		Negative $V_{Port}$ , Positive $V_{Port}$
8		Negative $V_{Port}$ , Positive $V_{Port}$



IEEE 802.3af standard, 33.3.1, Table 33-7, and Figure 33-4 (annotated, emphasis added). And from Fanvil’s literature:

Network	
Ethernet	RJ-45 (10/100Base-T)

57. The connector comprises the contact 1 through the contact 8. The specific contacts comprising at least one of the contacts of the Ethernet connector and at least another one of the contacts of the Ethernet connector.

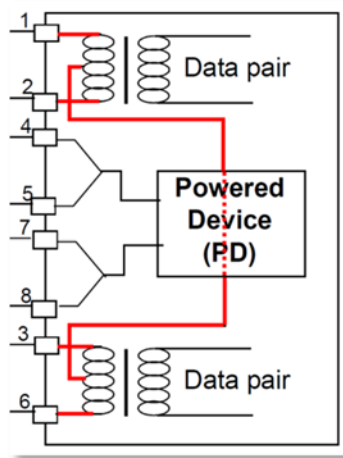
The IEEE 802.3af standard explains:

**33.3.1 PD PI**

The PD shall be capable of accepting power on either of two sets of PI conductors. The two conductor sets are named Mode A and Mode B. In each four-wire connection, the two wires associated with a pair are at the same nominal average voltage. Figure 33-5 in conjunction with Table 33-7 illustrates the two power modes.

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7		Negative $V_{Port}$ , Positive $V_{Port}$
8		Negative $V_{Port}$ , Positive $V_{Port}$



IEEE 802.3af standard, 33.3.1, Table 33-7, and Figure 33-4 (annotated, emphasis added)

58. The Accused Products comprise impedance within the at least one path arranged to distinguish the piece of terminal equipment.

The IEEE 802.3af standard explains:

**Table 33–8— Valid PD detection signature characteristics, measured at PD input connector**

Parameter	Conditions	Minimum	Maximum	Unit
V-I Slope (at any 1V or greater chord within the voltage range conditions)	2.7V to 10.1V	23.75	26.25	KΩ
V offset			1.9	V
I offset			10	μA
Input capacitance	2.7V to 10.1 V	0.05	0.12	μF
Input inductance	2.7V to 10.1 V		100	μH

A non-valid detection signature shall have one or both of the characteristics in Table 33–9

**Table 33–9— Non-valid PD detection signature characteristics, measured at PD input connector**

Parameter	Conditions	Range of values	Unit
V-I Slope	V < 10.1V	Either greater than 45 or less than 12	KΩ
Input Capacitance	V < 10.1V	Greater than 10	μF

59. Each Accused Product includes impedance within the at least one path that is arranged to be variable. The IEEE 802.3af standard explains both discovery and classification.

**Table 33–8— Valid PD detection signature characteristics, measured at PD input connector**

Parameter	Conditions	Minimum	Maximum	Unit
V-I Slope (at any 1V or greater chord within the voltage range conditions)	2.7V to 10.1V	23.75	26.25	K $\Omega$
V offset			1.9	V
I offset			10	$\mu$ A
Input capacitance	2.7V to 10.1 V	0.05	0.12	$\mu$ F
Input inductance	2.7V to 10.1 V		100	$\mu$ H

A non-valid detection signature shall have one or both of the characteristics in Table 33–9

**Table 33–9— Non-valid PD detection signature characteristics, measured at PD input connector**

Parameter	Conditions	Range of values	Unit
V-I Slope	V < 10.1V	Either greater than 45 or less than 12	K $\Omega$
Input Capacitance	V < 10.1V	Greater than 10	$\mu$ F

**Table 33–4— PD classification**

Measured I <sub>Class</sub>	Classification
0mA to 5mA	Class 0
> 5mA and < 8mA	May be Class 0 or 1
8mA to 13mA	Class 1
> 13mA and < 16mA	May be Class 0, 1, or 2
16mA to 21mA	Class 2
> 21mA and < 25mA	May be Class 0, 2, or 3
25mA to 31mA	Class 3
> 31mA and < 35mA	May be Class 0, 3, or 4
35mA to 45mA	Class 4
> 45mA and < 51mA	May be Class 0 or 4

60. Accordingly, Fanvil has and continues to directly infringe the '012 Patent, including, but not limited to, at least claim 115 of the '012 Patent in violation of 35 U.S.C. §271(a) by making, using, offering for sale, selling, and/or importing into the United States the Accused Products.

61. Fanvil has been on notice of the '012 Patent since at least the filing date of this Complaint.

62. Fanvil has not produced or indicated that it intends to rely upon an opinion of counsel suggesting that the '012 Patent is invalid or that the Accused Products do not infringe the '012 Patent.

63. CMS has been damaged as a result of Fanvil's infringing conduct described in this Court.

64. Unless enjoined by this Court, Fanvil will continue to infringe the '012 Patent.

#### **ADDITIONAL ALLEGATIONS**

65. CMS has complied with 35 U.S.C. §287.

#### **JURY DEMAND**

CMS hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

#### **PRAYER FOR RELIEF**

CMS requests that this Court find in its favor and against Fanvil, and that this Court grant CMS the following relief;

- A. Enter judgment that Fanvil has infringed the '107 Patent;
- B. Enter judgment that Fanvil has infringed the '825 Patent;

C. Enter judgment that Fanvil has infringed the '012 Patent

D. Award Plaintiffs damages in an amount adequate to compensate Plaintiffs for Fanvil's infringement of the '107, '825 and '012 Patents, but in no event less than a reasonable royalty in accordance with 35 U.S.C. §284;

E. Award Plaintiffs pre-judgment and post-judgment interest to the full extent allowed under the law, as well as their costs;

F. Declare that this is an exceptional case and award Plaintiffs their reasonable attorneys' fees incurred in this action;

G. Enter an appropriate Order requiring Fanvil to pay Plaintiffs ongoing royalties for any continued infringement of the '107, '825 and '012 Patents; and

H. Award such other relief as the Court may deem appropriate and just under the circumstances.

Date: March 1, 2018

Respectfully submitted,

by /s/ Richard W. Hoffmann

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P42352)

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