

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION

QINETIQ LIMITED,

Plaintiff,

v.

PICVUE ELECTRONICS, LTD.

Defendant.

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CIVIL ACTION NO. 2:05-CV-00199

**JURY TRIAL DEMANDED**

**FIRST AMENDED COMPLAINT**

Plaintiff, QinetiQ Limited (hereinafter “QinetiQ”), by and through its undersigned attorneys, files this First Amended Complaint against Picvue Electronics, Ltd. (hereinafter “Defendant” or “Picvue”) and alleges as follows:

**NATURE OF THIS ACTION**

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 101 *et. seq.*

**THE PARTIES**

2. QinetiQ is a company registered under the laws of the United Kingdom with its principal place of business at 85 Buckingham Gate, London SW1E 6PD, United Kingdom. QinetiQ is engaged in the research and development of various technologies, including liquid crystal display (LCD) technologies.

3. Defendant Picvue Electronics, Ltd. is a company organized under the laws of Taiwan with its principal place of business at 526, Sec. 2, Chien-Hsing Rd., Hsin-Fung, Hsin Chu, Taiwan. Defendant may be served by means of Letters Rogatory. Defendant develops, designs, manufactures, and provides after-sales service for LCD products, including super-

twisted nematic (“STN”) liquid crystal modules and panels that infringe the patent-in-suit, U.S. Patent No. 4,596,446 (the “446 patent”).

### **JURISDICTION AND VENUE**

4. This Court has personal jurisdiction over Defendant in that it has established minimum contacts with the State of Texas by placing its infringing STN LCD products into the stream of commerce with the expectation that they would reach this State; by taking actions purposefully directed toward the United States, including this State; and by establishing and maintaining a substantial and continuous affiliation with the Texas-based company Polytronix, Inc. The exercise of jurisdiction over the Defendant would not offend traditional notions of fair play and substantial justice.

5. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

6. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b), 1391(c), 1391(d), and 1400(b).

#### **Overview of Defendant Picvue**

7. According to its website (<http://www.picvue.com.tw>), Defendant is “the pioneer of the Taiwan LCD industry and [a] main supplier to the global TN [twisted nematic] / STN / Color STN LCD market.” It “specialize[s] in research, development, design, manufacturing and after[-]sales service of ... small and medium size TN / STN / Color STN LCDs and LCMs [liquid crystal modules].” Defendant began mass production of STN LCDs in 1992 and Color STN LCDs in 2002. Defendant “currently has two TN / STN [LCD] production lines[,]” capable of producing twenty million square inches per month, and “one Color STN LCD production line,” capable of producing twenty million square inches per month. Defendant’s LCD products, including its STN LCDs, are incorporated into finished consumer

electronics products, including “mobile phones, PDAs [personal digital assistants], photo printer[s], digital camera[s], home entertainment systems, calculators, translators, e-books, industrial displays, and games.” Relevant pages from Defendant’s website are attached hereto as Exhibit A and are made part of this Complaint.

8. Also according to its website, Defendant currently maintains a European and American Sales and Marketing Division, which is “primarily responsible for the sales and marketing in Europe and the Americas,” and includes a dedicated sales representative for the American market. “Currently, 30% to 40% of Picvue’s sales revenue come from [the American and European] regions,” and “in terms of sales volume, these two regions are roughly the same.” (Ex. A.) Upon information and belief, therefore, sales revenues from the Americas, including the United States, currently constitute and have historically constituted at least 15% to 20% of Defendant’s total sales revenue.

9. Defendant has been on notice of the ‘446 patent since at least as early as 1997.

Defendant’s business activities 1999–2003<sup>1</sup>

10. According to Defendant’s 1999 Annual Report, 78.63% of its total sales revenue in 1999 was derived from LCD products, with two TN / STN production lines producing at their full capacity of 20,000,000 square inches per month, 70% of which consisted of STN LCDs. Relevant pages from Defendant’s 1999 Annual Report are attached hereto as Exhibit B and are made part of this Complaint. Product sales to the Americas generated NT \$1,562,393,000 [US \$49,968,594] in revenue, representing 45% of Defendant’s total export revenue that year. In 1999, Defendant was the world’s largest supplier of PDA LCMs, supplying 1,900,000 pieces that year and occupying 32% of the global market share. In addition to the

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<sup>1</sup> The ‘446 patent-in-suit expired on June 23, 2003. Accordingly, this Complaint’s jurisdictional and venue allegations address Defendant’s acts of infringement at and prior to that time.

PDA market, Defendant also focused on developing the mobile phone market, supplying 6,400,000 mobile phone LCDs in 1999 globally. Defendant's major customers in 1999 included 3Com, Handspring, and Motorola.

11. According to its 2000 Annual Report, Defendant discontinued its production of black-and-white cathode-ray tube (CRT) components in 2000 to focus exclusively on LCD products, which represented 92.41% of Defendant's total sales revenue that year. Relevant pages from Defendant's 2000 Annual Report are attached hereto as Exhibit C and are made part of this Complaint. In 2000, two TN / STN production lines ran at the full capacity of 20,000,000 square inches per month, 80% of which consisted of STN LCDs. Defendant remained the world's largest PDA LCD supplier in 2000, occupying 35% of the global market share with sales of 4,500,000 pieces of PDA LCDs. In the mobile phone market, Defendant supplied 16,000,000 pieces of mobile phone LCDs in 2000, making it the world's seventh largest supplier, occupying 4.9% of the global market share. Revenue generated from sales to the Americas amounted to NT \$2,818,789,000 [US \$90,150,764], or 44.97% of Defendant's export sales revenue in 2000. Major customers in the United States included Palm, Handspring, and Nortel.

12. According to its 2001 Annual Report, 95.66% of Defendant's revenue in 2001 was derived from the sales of LCDs, and STN LCDs for PDAs and mobile phones were Defendant's main products. Relevant pages from Defendant's 2001 Annual Report are attached hereto as Exhibit D and are made part of this Complaint. Defendant remained the world's largest supplier of monochrome PDA STN LCD modules that year, occupying 30% of the global market share with sales of 3,800,000 PDA LCDs. Defendant also sold 5,500,000 LCD panels and 3,000,000 LCD modules for mobile phones. Defendant's European and American Sales and Marketing Division, which is charged with "promoting sales and developing markets in the European and American regions," appears on the organization chart in the 2001 Annual Report.

Sales to the Americas totaled NT \$2,608,579,000 [US \$83,427,808] in 2001, representing 53.97% of Defendant's export sales revenue. Major U.S. customers in 2001 included Palm, Handspring, and Nortel.

13. According to its 2002 Annual Report, 98.57% of Defendant's total sales revenue in 2002 was derived from LCD products. Relevant pages from Defendant's 2002 Annual Report are attached hereto as Exhibit E and are made part of this Complaint. Defendant sold 18,000,000 pieces of monochrome mobile phone LCD panels and modules, representing a 4.5% global market share, and 1,750,000 PDA LCDs, a 19% global market share. In order to enter the Color LCD market, Defendant invested NT \$1,458,725,000 [US \$46,653,074] in creating a new Color STN LCD production line, which began production in July 2002, and sent its Color LCD samples to mobile phone and PDA manufacturers throughout the world. Defendant continued to maintain a European and American Sales and Marketing Division in 2002, and its sales to the Americas totaled NT \$974,948,000 [US \$31,180,875], representing 40.15% of Defendant's export sales revenue. Palm remained one of Defendant's largest customers in 2002, generating 3.44% of its total product sales.

14. According to its 2003 Annual Report, 98.72% of Defendant's total sales revenue in 2003 was derived from LCD products. Relevant pages from Defendant's 2003 Annual Report are attached hereto as Exhibit F and are made part of this Complaint. Defendant sold 19,720,000 pieces of mobile phone LCD panels and modules that year, occupying 4% of the global market share, and 910,000 pieces of PDA LCD panels and modules, occupying 7% of the global market share. Defendant maintained its European and American Sales and Marketing Division in 2003, and its sales to the Americas totaled NT \$368,513,000 [US \$11,785,816], representing 14.76% of the company's export sales revenue, and 8.8% of its total sales revenue.

Defendant's STN LCD products in the U.S. stream of commerce

15. According to its website and annual reports, Defendant supplies and/or has supplied LCD products, including infringing STN LCD products, to many major consumer electronics companies that operate on a worldwide basis, including in the U.S., including, palmOne, Palm, Handspring, 3Com, Three-Five Systems, Motorola, Qualcomm, Kyocera, Nortel, Ericsson, LG, and Canon. (Exs. A–E.) These companies incorporated Defendant’s infringing STN LCDs into consumer and industrial electronics products such as PDAs, mobile phones, smart phones, global positioning system (GPS) units, car audio equipment, medical instruments, digital cameras, and office machines, which have been marketed and sold in the United States, including in Texas and in this District.

16. palmOne, Inc. is a U.S. corporation headquartered in Milpitas, California. It was formed in 2003 from the merger between Palm, Inc. and Handspring, Inc., both of which were Defendant’s customers. (Exs. B–F.) Defendant is the main supplier of PDA LCDs to palmOne. (Ex. A.) palmOne maintains an online store at <http://store.palmone.com>, and offers and sells its products through national retail chains including OfficeDepot, Staples, CompUSA, RadioShack, as well as other online and local retail stores. Upon information and belief, during the relevant period, palmOne and its predecessors, Palm and Handspring, offered and sold finished products containing Defendant’s infringing STN LCDs in the United States, including in the State of Texas and this District.

17. 3Com Corporation is a U.S. corporation headquartered in Marlborough, Massachusetts. Its products include network connection products such as network hubs and routers, IP phones, and, in the past, PDAs. 3Com has eight distributors in the United States, and more than 150 retailers in Texas, including Computers & More in Marshall, Texas, and national retail chains such as CompUSA and Sprint. Upon information and belief, during the relevant

period, 3Com offered and sold finished products containing Defendant's infringing STN LCDs in the United States, including in the State of Texas and this District.

18. Three-Five Systems, Inc. (TFS) is a U.S. corporation based in Tempe, Arizona. According to its website, TFS is "a global provider of end-to-end electronics manufacturing and display solutions to original equipment manufacturers (OEMs)[,]" and its products include, inter alia, LCD displays. TFS has five domestic and four overseas sales offices, serving markets throughout the U.S. and worldwide. Upon information and belief, during the relevant period, TFS offered and sold finished products containing Defendant's infringing STN LCDs in the United States, including in the State of Texas and this District.

19. Motorola is a U.S. corporation headquartered in Schaumburg, Illinois. It markets and sells mobile communication products, including mobile phones. According to its corporate profile,<sup>2</sup> 47% of Motorola's sales are generated in the United States. Motorola maintains an online store at <http://promo.motorola.com/motostore/index.html>, and has retailers throughout the United States, including three retailers in Marshall, Texas, and national retail chains such as Best Buy, RadioShack, Circuit City, Cingular Wireless, AT&T Wireless, Sprint, and T-Mobile. Upon information and belief, during the relevant period, Motorola offered and sold finished products containing Defendant's infringing STN LCDs in the United States, including in the State of Texas and this District.

20. Qualcomm Incorporated is a U.S. corporation headquartered in San Diego, California. Qualcomm offers digital and wireless communication products, such as chip sets for GPS units and mobile phones, and, in the past, Smartphones. Qualcomm has twenty-four offices throughout the U.S., including three offices in Austin, Irving, and Richardson, Texas. In February 2000, Qualcomm sold its consumer phone business to Kyocera Wireless Corporation, a

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<sup>2</sup> Motorola's corporate profile is available on its website, at [http://www.motorola.com/mot/doc/5/5332\\_MotDoc.pdf](http://www.motorola.com/mot/doc/5/5332_MotDoc.pdf).

U.S. subsidiary of the Japanese company, Kyocera Corporation, headquartered in San Diego, California. Qualcomm/Kyocera phones have been offered and sold to U.S. consumers, including those in the State of Texas and this District, through Kyocera's online store at <http://tools.kyocera-wireless.com/phoneshowcase.do>, and through mobile phone service providers such as Alltel, CellularOne, Cricket Communications, MetroPCS, Qwest Wireless, U.S. Cellular, Verizon Wireless, and Virgin Mobile. Upon information and belief, during the relevant period, Qualcomm and/or Kyocera offered and sold finished products containing Defendant's infringing STN LCDs in the United States, including in the State of Texas and this District.

21. Nortel Networks Corporation is a Canadian corporation headquartered in Brampton, Ontario, Canada. It has four regional offices and four major facilities in the U.S., including a major facility in Richardson, Texas. Nortel provides telecommunication solutions such as network connection equipment, business phone systems, and mobile phones. Nortel has sales partners throughout the United States, at least forty of which serve the State of Texas. Five of Nortel's sales partners are located in Houston, Texas: NetVersant Management Company, LP, Nextira One, LLC, Enterprise Systems Corporation, Genesis Telecom, Inc., and Advanced DataComm Inc. Upon information and belief, during the relevant period, Nortel offered and sold finished products containing Defendant's infringing STN LCDs in the United States, including in the State of Texas and this District.

22. Ericsson AB is a Swedish corporation headquartered in Stockholm, Sweden. According to its website, Ericsson is "the largest supplier of mobile systems in the world[.]" offering mobile communication products "from systems and applications to services and core technology for mobile handsets." In 2001, Ericsson and Japanese corporation Sony formed Sony Ericsson Mobile Communications, a joint venture between the two corporations responsible for,



inter alia, “marketing sales, distribution and customer services.” Sony Ericsson’s North American operation is located in Research Triangle Park, North Carolina. Consumers in the United States, including those in the State of Texas and this District, have been able to purchase Sony Ericsson products through its online “eShop” at <http://shopwireless.sonyericsson.com>, mobile phone service providers such as Cingular and T-Mobile, and other online and local retailers. Upon information and belief, during the relevant period, Ericsson and/or Sony Ericsson offered and sold finished products containing Defendant’s infringing STN LCDs in the United States, including in the State of Texas and this District.

23. LG Electronics, Inc. is a Korean corporation headquartered in Seoul, South Korea. It manufactures and sells consumer electronics, including TVs, audio/video equipment, computers products, home appliances, and mobile phones, in the United States and throughout the world. LG’s U.S. headquarters are located in Englewood Cliffs, New Jersey; and LG Electronics MobileComm U.S.A., Inc., LG’s North American wireless division, is headquartered in San Diego, California. LG products are offered for sale in the United States through retailers such as the national retail chain, Best Buy, including the Best Buy store in Tyler, Texas. Upon information and belief, during the relevant period, LG offered and sold finished products containing Defendant’s infringing STN LCDs in the United States, including in the State of Texas and this District.

24. Canon Inc. is a Japanese corporation headquartered in Tokyo, Japan. Its products include office machines, cameras, calculators, and industrial products such as semiconductor manufacturing equipment and medical equipment. Canon’s products have been offered and sold in the United States through its online “eStore” at <http://estore.usa.canon.com>, through national retail chains such as CompUSA, Target, Sears, Walmart, Sam’s Club, and OfficeMax, and through local distributors and retailers, such as East Texas Copy Systems, Inc. in

Longview, Texas. Upon information and belief, during the relevant period, Canon offered and sold finished products containing Defendant's infringing STN LCDs in the United States, including in the State of Texas and this District.

Defendant's affiliation with Texas corporation, Polytronix, Inc.

25. Upon information and belief, Defendant has also taken actions purposefully directed towards the State of Texas through its close affiliation with Polytronix, Inc., an LCD development and manufacturing company based in Richardson, Texas. Upon information and belief, after sending thirty of its engineers to Polytronix for training on STN LCD production in 1989 and 1990, Defendant acquired Polytronix, Inc. in 1991, and remained its parent company until January 2001.<sup>3</sup> Polytronix, Inc. currently has sales partners throughout the United States, including four sales partners in Houston, Dallas, Austin, and McAllen, Texas.

26. In April 1994, Defendant contracted with Polytronix to transfer its Color STN production technology to Picvue in two stages. The first stage of the contract was completed in June 1999, under which Picvue paid Polytronix NT \$7,500,000 [US \$239,866].<sup>4</sup> (Ex. B.)

27. In 1997, QinetiQ's predecessor, the Defence Evaluation and Research Agency ("DERA"), obtained a STN LCD module Model PVG322003 from Polytronix, manufactured by Defendant and offered for sale in the U.S. and the State of Texas through Polytronix. The front cover of the catalogue through which the product was offered for sale by Polytronix bore the names of both Picvue and Polytronix, and the address listed on the back cover was Polytronix, Inc., 805 Alpha Drive, Richardson, Texas, 75081.

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<sup>3</sup> Defendant held 49.74% of Polytronix's stock shares in 1999 and 49.69% in 2000, until it sold all Polytronix holdings in 2001 (Exs. B, C).

<sup>4</sup> The second stage of the contract was cancelled, and no consideration was paid. (Ex. B.)

28. During 1999, Defendant sold NT \$162,960,000 [US \$5,211,801] of its LCD products to Polytronix, and paid Polytronix US \$1,367,000 in commission fees. (Ex. B.)

29. In 2000, Picvue's sales to Polytronix grew to NT \$280,805,000 [US \$11,320,509], and commission fees amounted to US \$1,693,000. (Ex. C.) In addition, Polytronix's founder Jacob Lin became Picvue's CEO. (Ex. C.)

30. Upon information and belief, Polytronix was acquired by Chroum Technologies Inc., a U.S. company based in Richardson, Texas, in January 2001. According to its 2000 Annual Report, Defendant sold its shares in Polytronix for NT \$ 53,964,000 [US \$11,320,509], realizing a NT \$165,112,000 [US \$5,280,627] profit. (Ex. C.) After the acquisition, Picvue purchased distribution rights from Polytronix at the price of NT \$66,896,000 [US \$2,139,474]. Jacob Lin remained Defendant Picvue's CEO until his resignation in 2003. (Ex. D–F.)

31. Upon information and belief, Polytronix, Inc. has purchased from, and sold on behalf of Defendant, infringing STN LCD products in the State of Texas and this District throughout the relevant period.

#### **CLAIM FOR RELIEF**

32. On June 24, 1986, the United States Patent and Trademark Office (the "PTO") duly and legally issued U.S. Patent No. 4,596,446 (the "'446 patent"), entitled "Liquid Crystal Devices With Particular Cholesteric Pitch-Cell Thickness Ratio." On April 12, 1994, the PTO duly and legally issued Reexamination Certificate B1 4,596,446. On March 18, 1997, the PTO duly and legally issued Reexamination Certificate B2 4,596,446. Copies of the '446 patent and the Reexamination Certificates are attached hereto as Exhibit G and are made part of this Complaint.

33. QinetiQ is the owner of all right, title, and interest in and to the '446 patent, including all right to recover for any and all past infringement thereof.

34. Defendant has made, used, offered for sale, and/or sold nationwide throughout the United States, and/or has imported into the United States, STN LCD modules and/or panels which are covered by one or more claims of the '446 patent. Defendant's past manufacture, use, offer for sale, sale and/or importation of those devices directly infringes one or more claims of the '446 patent.

35. Defendant also has infringed one or more claims of the '446 patent by actively inducing and/or contributing to the infringement by others of one or more claims of the '446 patent.

36. Defendant's infringement of the '446 patent has been willful, wanton, and deliberate, and carried out with full knowledge and awareness of QinetiQ's patent rights and without license from QinetiQ.

37. As a result of Defendant's infringing conduct, QinetiQ has suffered damages.

#### **PRAYER FOR RELIEF**

WHEREFORE, QinetiQ respectfully requests that the Court enter judgment in its favor and against the Defendant as follows:

- (a) that the Defendant has directly infringed, contributorily infringed, and actively induced infringement of one or more claims of the '446 patent;
- (b) that the Defendant be ordered to compensate QinetiQ for its infringement of the '446 patent, and to pay enhanced damages, up to treble damages, as provided by 35 U.S.C. § 284 for the deliberate and willful nature of its infringement, and to pay interest thereon in the form of both pre-

judgment and post-judgment interest;

- (c) that this case is exceptional within the meaning of 35 U.S.C. § 285;
- (d) that the Defendant be ordered to pay QinetiQ's costs and expenses and its reasonable attorneys' fees under 35 U.S.C. § 285; and
- (e) that QinetiQ be granted such other relief as the Court deems just and proper.

**JURY TRIAL DEMANDED**

QinetiQ respectfully demands a trial by jury on all issues triable to a jury.

Respectfully submitted,

By: /s/ Otis Carroll by permission Wesley Hill

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