

DEPARTMENT OF HOMELAND SECURITY
U.S. CUSTOMS AND BORDER PROTECTION
NOTICE OF ISSUANCE OF FINAL DETERMINATION CONCERNING
CERTAIN DEVICES KNOWN AS “PWN PLUGS”



AGENCY: U.S. Customs and Border Protection, Department of Homeland Security.

ACTION: Notice of final determination.

SUMMARY: This document provides notice that U.S. Customs and Border Protection (“CBP”) has issued a final determination concerning the country of origin of certain devices known as Pwn Plugs. Based upon the facts presented, CBP has concluded that the programming operations performed in the United States, using U.S.-origin software, substantially transform non-TAA country microcomputer devices. Therefore, the country of origin of Pwn Plugs is the United States for purposes of U.S. Government procurement.

DATE: The final determination was issued on July 13, 2012. A copy of the final determination is attached. Any party-at-interest, as defined in 19 CFR § 177.22(d), may seek judicial review of this final determination on or before [insert 30 days from date of publication in the Federal Register].

FOR FURTHER INFORMATION CONTACT: Heather K. Pinnock, Valuation and Special Programs Branch: (202) 325-0034.

SUPPLEMENTARY INFORMATION: Notice is hereby given that on July 13, 2012, pursuant to subpart B of Part 177, U.S. Customs and Border Protection

Regulations (19 CFR Part 177, subpart B), CBP issued a final determination concerning the country of origin of certain devices known as Pwn Plugs which may be offered to the U.S. Government under an undesignated government procurement contract. This final determination, HQ H215555, was issued under procedures set forth at 19 CFR Part 177, subpart B, which implements Title III of the Trade Agreements Act of 1979, as amended (19 U.S.C. § 2511–18). In the final determination, CBP concluded that, based upon the facts presented, the programming operations performed in the United States, using U.S.-origin software, substantially transform non-TAA country microcomputer devices. Therefore, the country of origin of the Pwn Plugs is the United States for purposes of U.S. Government procurement.

Section 177.29, CBP Regulations (19 CFR § 177.29), provides that a notice of final determination shall be published in the *Federal Register* within 60 days of the date the final determination is issued. Section 177.30, CBP Regulations (19 CFR § 177.30), provides that any party-at-interest, as defined in 19 CFR § 177.22(d), may seek judicial review of a final determination within 30 days of publication of such determination in the *Federal Register*.

DATED: July 13, 2012

Sandra L. Bell
Executive Director
Regulations and Rulings
Office of International Trade

Attachment

HQ H215555

July 13, 2012

MAR OT:RR:CTF:VS H215555 HkP

CATEGORY: Origin

Mr. Dave Porcello
CEO, Pwnie Express
Rapid Focus Security, LLC
27 French Street
Barre, VT 05641

RE: U.S. Government Procurement; Trade Agreements Act; Country of Origin of the "Pwn Plug";
Substantial Transformation

Dear Mr. Porcello:

This is in response to your undated letter, received on April 20, 2012, requesting a final determination on behalf of Rapid Focus Security, LLC, dba Pwnie Express ("Pwnie Express"), pursuant to subpart B of part 177 of the U.S. Customs and Border Protection ("CBP") Regulations (19 C.F.R. Part 177). Under these regulations, which implement Title III of the Trade Agreements Act of 1979 ("TAA"), as amended (19 U.S.C. § 2511 et seq.), CBP issues country of origin advisory rulings and final determinations as to whether an article is or would be a product of a designated country or instrumentality for the purposes of granting waivers of certain "Buy American" restrictions in U.S. law or practice for products offered for sale to the U.S. Government.

This final determination concerns the country of origin of the "Pwn Plug". As a U.S. importer, Pwnie Express is a party-at-interest within the meaning of 19 C.F.R. § 177.22(d)(1) and is entitled to request this final determination.

FACTS:

The Pwn Plug is described as a full security testing suite packed into a micro-server the size of a power brick that provides covert, encrypted access over Ethernet, wireless and 3G/GSM connections. Its proprietary software is designed to conduct cyber security audits ("penetration tests") of computer networks, including password auditing, vulnerability checking, network traffic inspecting, wireless network analysis, network port/service scanning, and firewall rule validating. The Pwn Plug runs on the publicly available off-the-shelf SheevaPlug computer platform (a microcomputer device that runs network-based software services that normally require a dedicated computer) made in China. Various types of wireless adapters and an external storage card can be attached to the Pwn Plug by the end-user. There are two versions of the Pwn Plug: the Pwn Plug Wireless, and the Pwn Plug Elite, both referred to herein as the Pwn Plug.

Pwnie Express imports SheevaPlug microcomputer devices from China that measure 4.3 x 2.7 x 1.9 inches and contain a central processing unit, memory chips (SDRAM and HDD), and a SDHC/SDIO card slot for disk and Input/Output expansion. Pwnie Express removes all software from the SheevaPlugs, including their operating systems, and programs them with the following software: Marvell/DENX U-boot environment (BIOS); Linux Kernel package; Ubuntu/Debian Linux open-source base operating system; Open-source security testing suite; Pwnie Express web User Interface; and, Pwnie Express remote access scripts. The Linux software and the other open-source tools were developed by the worldwide open-source community. The role of this software is to provide the basic operating system environment and the security tools needed to perform standard cyber security penetration tests. The role of Pwnie Express' proprietary software, developed entirely in the U.S., is to conduct the actual penetration tests of computer networks. It provides secure and reliable remote access over a variety of network protocols and customer environments and has its own interface for web-based configuration and set-up. Software installation takes

approximately two hours. Product literature and packaging are printed in the United States. Each Pwn Plug is then packaged for sale together with a USB adapter made in China, a USB Ethernet adapter made in China, a USB modem made in China, a 16GB SD card made in Taiwan, various cables made in China, and the product literature printed in the U.S.

ISSUE:

What is the country of origin of the Pwn Plug for purposes of U.S. Government procurement?

LAW AND ANALYSIS:

Pursuant to Subpart B of Part 177, 19 CFR § 177.21 et seq., which implements Title III of the Trade Agreements Act of 1979, as amended (19 U.S.C. § 2511 et seq.), CBP issues country of origin advisory rulings and final determinations as to whether an article is or would be a product of a designated country or instrumentality for the purposes of granting waivers of certain "Buy American" restrictions in U.S. law or practice for products offered for sale to the U.S. Government.

Under the rule of origin set forth under 19 U.S.C. § 2518(4)(B):

An article is a product of a country or instrumentality only if (i) it is wholly the growth, product, or manufacture of that country or instrumentality, or (ii) in the case of an article which consists in whole or in part of materials from another country or instrumentality, it has been substantially transformed into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was so transformed.

See also 19 C.F.R. § 177.22(a).

In order to determine whether a substantial transformation occurs when components of various origins are assembled into completed products, CBP considers the totality of the circumstances and makes such determinations on a case-by-case basis. The country of origin of the item's components, extent of the processing that occurs within a country, and whether such processing renders a product with a new name, character, and use are primary considerations in such cases. Additionally, factors such as the resources expended on product design and development, the extent and nature of post-assembly inspection and testing procedures, and worker skill required during the actual manufacturing process will be considered when determining whether a substantial transformation has occurred. No one factor is determinative.

In Data General v. United States, 4 Ct. Int'l Trade 182 (1982), the court determined that for purposes of determining eligibility under item 807.00, Tariff Schedules of the United States (predecessor to subheading 9802.00.80, Harmonized Tariff Schedule of the United States), the programming of a foreign PROM (Programmable Read-Only Memory chip) in the United States substantially transformed the PROM into a U.S. article. In programming the imported PROMs, the U.S. engineers systematically caused various distinct electronic interconnections to be formed within each integrated circuit. The programming bestowed upon each circuit its electronic function, that is, its "memory" which could be retrieved. A distinct physical change was effected in the PROM by the opening or closing of the fuses, depending on the method of programming. This physical alteration, not visible to the naked eye, could be discerned by electronic testing of the PROM. The court noted that the programs were designed by a U.S. project engineer with many years of experience in "designing and building hardware." While replicating the program pattern from a "master" PROM may be a quick one-step process, the development of the pattern and the production of the "master" PROM required much time and expertise. The court noted that it was undisputed that programming altered the character of a PROM. The essence of the article, its interconnections or stored memory, was established by programming. The court concluded that altering the non-functioning circuitry comprising a PROM through technological expertise in order to produce a functioning read only memory device, possessing a desired distinctive circuit pattern, was no less a

"substantial transformation" than the manual interconnection of transistors, resistors and diodes upon a circuit board creating a similar pattern.

In Texas Instruments v. United States, 681 F.2d 778, 782 (CCPA 1982), the court observed that the substantial transformation issue is a "mixed question of technology and customs law."

In C.S.D. 84-85, 18 Cust. B. & Dec. 1044 (Apr. 2, 1984), CBP stated:

We are of the opinion that the rationale of the court in the *Data General* case may be applied in the present case to support the principle that the essence of an integrated circuit memory storage device is established by programming [W]e are of the opinion that the programming (or reprogramming) of an EPROM results in a new and different article of commerce which would be considered to be a product of the country where the programming or reprogramming takes place.

Accordingly, the programming of a device that changes or defines its use generally constitutes substantial transformation. See also Headquarters Ruling Letter ("HQ") 558868, dated February 23, 1995 (programming of SecureID Card substantially transforms the card because it gives the card its character and use as part of a security system and the programming is a permanent change that cannot be undone); HQ 735027, dated September 7, 1993 (programming blank media (EEPROM) with instructions that allow it to perform certain functions that prevent piracy of software constitute substantial transformation); and, HQ 733085, dated July 13, 1990; but see HQ 732870, dated March 19, 1990 (formatting a blank diskette does not constitute substantial transformation because it does not add value, does not involve complex or highly technical operations and did not create a new or different product); HQ 734518, dated June 28, 1993, (motherboards are not substantially transformed by the implanting of the central processing unit on the board because, whereas in *Data General* use was being assigned to the PROM, the use of the motherboard had already been determined when the importer imports it).

HQ H052325, dated February 14, 2006, concerned the country of origin of a switch and a switch/router. The Brocade 7800 Extension Switch was assembled to completion in China and programmed in the U.S. with U.S.-origin operating system (OS) software and customer specified firmware and software. The Brocade FX8-24 switch/router contained a PCBA that was assembled and programmed in China and shipped to the U.S., where it was assembled with other components to make the final product. The completed unit was then programmed with U.S.-origin OS software and customer firmware and software. In both cases, the U.S.-origin OS software provided the devices with their functionality. Customs found that in both cases, the processing performed in the United States, including the downloading of the U.S.-origin OS software, resulted in a substantial transformation of the foreign origin components, and that the United States was the country of origin.

In HQ H014068, dated October 9, 2007, CBP determined that a cellular phone designed in Sweden, assembled in either China or Malaysia and shipped to Sweden, where it was loaded with software that enabled it to test equipment on wireless networks, was a product of Sweden. Once the software was installed on the phones in Sweden, they became devices with a new name, character and use, that is, network testing equipment. As a result of the programming operations performed in Sweden, CBP found that the country of origin of the network testing equipment was Sweden.

In HQ H175415, dated October 4, 2011, hardware components were assembled into complete Ethernet switches in China. The switches were then shipped to the U.S., where they were programmed with EOS software, developed in the U.S. The U.S.-origin EOS software enabled the imported switches to interact with other network switches through network switching and routing, and allowed for the management of functions such as network performance monitoring and security and access control. Without this software, the imported devices could not function as Ethernet switches. As a result of the programming performed in the U.S., with software developed in the U.S., CBP found that the imported switches were substantially transformed in the U.S.

Similarly, in this case, fully assembled SheevaPlug microcomputer devices are imported into the United States, where they are programmed with Pwnie Express proprietary software developed in the U.S. The custom software provides a web-based interface for configuring the microcomputer devices into Pwn Plugs. In addition, the U.S. software allows Pwn Plugs to provide secure, persistent and reliable remote access over a variety of network protocols and customer environments. Without the U.S.-origin Pwnie Express software, an imported microcomputer device could not function as a Pwn Plug. As a result of the programming performed in the U.S., with software developed in the U.S., we find that the imported microcomputer devices are substantially transformed in the U.S. See Data General, C.S.D. 84-85, HQ 052325, HQ 558868, HQ 735027, and HQ 733085. The country of origin of Pwn Plugs is the United States.

When the U.S.-origin Pwn Plugs are packaged together with cables, wireless adaptors and modems from China and memory cards from Taiwan, we find that the essential character of the products offered for sale is provided by the U.S.-origin Pwn Plugs. “The term ‘character’ is defined as ‘one of the essentials of structure, form, materials, or function that together make up and usually distinguish the individual.’” Uniden America Corporation v. United States, 120 F. Supp. 2d. 1091, 1096 (citations omitted) (Ct. Int’l Trade 2000), citing National Hand Tool Corp. v. United States, 16 Ct. Int’l Trade 308, 311 (1992). In Uniden (concerning whether the assembly of cordless telephones and the installation of their detachable A/C (alternating current) adapters constituted instances of substantial transformation), the Court of International Trade applied the “essence test” and found that “[t]he essence of the telephone is housed in the base and the handset. Consumers do not buy the article because of the specific function of the A/C adapter, but rather because of what the completed handset and base provide: communication over telephone wires.” Id. at 1096.

We also find that the memory cards from Taiwan and the cables, wireless adaptors, and modems from China are substantially transformed with the Pwn Plug, in that they have a new character, use and name because they are attached to the Pwn Plug. See Uniden, supra, in which the court also found that the detachable A/C adapters underwent a substantial transformation pursuant to the Generalized System of Preferences (GSP) when attached to the cordless telephones. The court noted that the substantial transformation test is to be applied to the product as a whole and not to each of its detachable components. See id. Consequently, the court found that the A/C adapter, as part of the cordless phone, had a new character, use and name. See also HQ H100055, dated May 28, 2010, in which CBP found that a detachable hand control and battery charger were substantially transformed when attached to a lift unit. In addition, the Court in Uniden noted that the cordless telephone with its detachable components was a “GRI 1 article” and not a set, mixture or composite good. Id. at 1099-1100 (addressing the applicability of T.D. 91-7, Cust. B. 7, entitled “Eligibility of Sets, Mixtures and Composite Goods for Special Tariff Treatment Programs” to the cordless telephones at issue, the Court noted that “[i]f the Department of Treasury had meant for T.D. 91-7 to apply to GRI 1 articles, it would not have chosen to make frequent use of the very specific language ‘sets, mixtures and composite goods’ throughout T.D. 91-7.”). Likewise, in this instance, we find that when Pwn Plugs are packaged together with cables, wireless adaptors, modems, and memory cards they are GRI 1 articles.

Based on the findings of the court in Uniden, we find that the cables, wireless adaptors, modems, and memory cards are substantially transformed when attached to Pwn Plugs. Moreover, they are packaged together with Pwn Plugs and offered for sale as GRI 1 articles. Consequently, the country of origin of Pwn Plugs for purposes of U.S. government procurement will be the United States.

Please contact the Trade Commission, Division of Enforcement, 6th and Pennsylvania Avenue, NW, Washington, DC 20508, on whether the Pwn Plugs may be marked “Made in the U.S.A.”

HOLDING:

Based on the facts provided, the programming operations performed in the United States impart the essential character to Pwn Plugs. As such, Pwn Plugs are considered products of the United States for purposes of U.S. Government procurement. Moreover, because Pwn Plugs convey the essential character

of the retail products, and the adapters, modems and memory cards are used with the Pwn Plugs, they are substantially transformed when attached to the Pwn Plugs. The country of origin of the adapters, modems and memory cards for purposes of U.S. government procurement, when packaged with Pwn Plugs, is the United States.

Notice of this final determination will be given in the Federal Register, as required by 19 C.F.R. § 177.29. Any party-at-interest other than the party which requested this final determination may request, pursuant to 19 C.F.R. § 177.31, that CBP reexamine the matter anew and issue a new final determination. Pursuant to 19 C.F.R. § 177.30, any party-at-interest may, within 30 days of publication of the Federal Register Notice referenced above, seek judicial review of this final determination before the Court of International Trade.

Sincerely,

Sandra L. Bell, Executive Director
Regulations and Rulings
Office of International Trade

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