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CLASSIFICATION OF THE "FIRE 9000" AND "FIRE 1000" APPARATUS IN SUBHEADING  
9006.59 (RESERVATION BY THE US ADMINISTRATION)

(Item VII.2 on Agenda)

Reference documents :

41.600, Annex F/20 (HSC/20 – Report)	42.100, Annex H/15 (HSC/21 - Report)
42.057 (HSC/21)	42.435 (HSC/22)
42.105 (HSC/21)	42.750, Annex G/10(HSC/22 - Report)
42.119 (HSC/21)	

I. BACKGROUND

1. At its 22<sup>nd</sup> Session, following a reservation by Canada, the Committee re-examined the classification of the "FIRE 9000" and "FIRE 1000" apparatus, on the basis of Doc. 42.435.
2. The Committee decided to classify the product in heading 90.06 and, more specifically, subheading 9006.59, thereby confirming the Committee's previous decision. The classification was based on application of GIRs 1 and 6, taking into account the provisions of Note 1 (m) to Section XVI and Note 5 (E) to Chapter 84.
3. The United States Administration notified the Secretary General of its request that the decision of the Committee to classify the apparatus at issue in HS subheading 9006.59, be referred to the Council under the provisions of paragraph 2 of Article 8 of the Harmonized System Convention.
4. On 11 August 1999, the Secretariat received the following Note from the United States Administration in support of the reservation it had entered in respect of the decision at the Harmonized System Committee's 22<sup>nd</sup> Session to classify the apparatus at issue in heading 90.06. This note is reproduced below.

File No. 2618

II. UNITED STATES NOTE ON THE CLASSIFICATION OF  
FIRE 9000 AND FIRE 1000 LASER PHOTOPLOTTERS

5. "The Canadian Administration submitted the classification of the "FIRE 9000" and the "FIRE 1000" to the Committee in a Note contained in Doc. 40.266. The United States Administration submitted its comments in a Note contained in Doc. 40.726. At the 21<sup>st</sup> Session the Committee decided, by vote of 10 – 6, that these goods were classifiable in heading 90.06 as photographic cameras. Canada entered a reservation to the decision, stating its view that these apparatus were not cameras. The Committee again decided at its 22<sup>nd</sup> Session, by vote of 17 – 12, that these goods were classifiable as photographic cameras in heading 90.06 despite the fact that neither the FIRE 9000 or the FIRE 1000 had an object lens nor were able to record an image of an object by light reflecting from an object. In view of the terms of HS 90.06, the U.S. Administration could not accept the Committee's conclusion that these machines are "cameras" and entered a reservation to this decision.
6. This classification of these laser photoplotters initially arose as a result of a difference between the Administrations of Canada and the United States. Canada had asserted classification as an output unit for an automatic data processing machine in heading 84.71. The United States had asserted classification as a drawing instrument of heading 90.17. The Secretariat initially suggested classification as a photographic camera of heading 90.06 because it appeared to be similar to a machine described in the Explanatory Note to heading 90.06, but subsequently noted that classification in this heading may be difficult because the FIRE laser photoplotters do not use light reflecting from actual images. Furthermore, neither the Secretariat nor the Committee were able to draw any concrete or specific conclusions with respect to the relevance of the comparison between the FIRE laser photoplotters and the machine on which the Explanatory Note was based.
7. The FIRE photoplotters have been adequately described in previous documents. As emphasized below, neither of the two laser photoplotters incorporates a lens-like device for allowing light from an object to be transferred and recorded as an image on film. Accordingly, we believe that the classification in heading 90.06 is inapplicable and, for that reason, some of the comments are repeated in this Note.
1. Heading 90.06
8. Heading 90.06 provides for "photographic cameras." A photographic camera requires, at a minimum, a lens or similar device for capturing the image of a real object and a light-sensitive material (film) for recording the image. This conclusion is supported by the technical literature and the Explanatory Notes.
9. For example, the McGraw-Hill Multimedia Encyclopedia of Science and Technology, Version 2.0, 1995, describes a "camera" as a device for forming and recording images (the basic tool of photography) and "photography" as the process of forming stable or permanent visible images directly or indirectly by the action of light or other forms of radiation on sensitive surfaces. In its simplest form a photographic camera has an opening or lens at one end which permits the light from an object to pass through and expose the film at the opposite end.
10. These criteria are fully consistent with the Explanatory Notes. The Explanatory Notes to heading 90.06 describe the various types of apparatus that are classifiable as

photographic cameras. All of the examples identified in the Explanatory Notes to heading 90.06 have a lens and use film for recording the light reflecting from actual objects.

11. It has been suggested that EN 90.06 (I)(14)(iii), page 1587, supplies a basis for classification in heading 90.06:

“(14) Cameras used for composing or preparing printing plates or cylinders by photographic means.

\* \* \*

iii) Apparatus to select the primary colours in illustrations (photographs, transparencies, etc.), consisting essentially of an optical device and an electronic calculator, designed for the production, by photographic means, of screened and corrected negatives which will be used in the preparation of printing plates.”  
[Underscoring added for emphasis.]

The apparatus described in the Explanatory Notes clearly makes use of a lens and film for recording images. This is evident in the references to an “optical device” and to “illustrations” which are the object of the optical device. The optical device takes an image of an illustration and the electronic calculator processes the color information taken directly from the image. Based on this description, it is clear that the ENs are describing a photographic camera of heading 90.06 because it uses light reflecting from an actual object in order to transpose or imprint the image of the object on film. Therefore, the Explanatory Notes do not support the expansion of heading 90.06 to include devices other than those that make use of a lens to record a light image on film.

12. The FIRE laser photoplotters do not photograph or capture images of actual objects. The “input” for these machines is not light reflecting from an object or illustration. The input is digital data, a non-image source. These laser photoplotters reproduce images from digital information contained on a tape or other data storage medium. Because there is no utilization of light reflecting from an object by which the image of an actual object is being recorded, the transfer of this digital information onto a sensitized surface cannot be a photographic process of heading 90.06. Therefore, laser photoplotters are neither described by, nor analogous to the “camera” devices that are described in EN 90.06.

## 2. Note 1(m) to Section XVI and Heading 84.71

13. Note 1(m) to Section XVI specifically excludes articles of Chapter 90 from inclusion in any of the headings in Section XVI. The Committee, in both of its previous considerations, concluded that Note 1(m) to Section XVI was applicable. The only consideration, at that point, was the appropriate heading in Chapter 90.
14. The laserplotters, which function as drawing instruments, fall within the terms of heading 90.17 and, therefore, are excluded from classification in Section XVI. Although these photoplotters are machines which may be used in conjunction with ADP machines, they cannot be classifiable as units of ADP machines for purposes of heading 84.71. The specific function of the photoplotters is the drawing function relative to the machines of heading 90.17.
15. Even if heading 84.71 were considered by virtue of Note 5(B) to Chapter 84, the laser photoplotters are excluded by operation of Note 5(E) to Chapter 84. The FIRE 9000 and

FIRE 1000 are machines which perform the function of a good of another heading and either incorporate or work in conjunction with an ADP machine.

3. Heading 90.17

16. Heading 90.17 provides, in pertinent part, for “drawing” instruments. No restrictions are placed on the nature of drawing instruments or on the nature of media on which the instruments draw. EN 90.17 (A)(2), page 1607, makes it clear that the term “drawing instrument” would also include machines that incorporate ADP machines or work in conjunction with such machines.
17. The FIRE 9000 and FIRE 1000, as described in the manufacturer’s trade literature, refer to machines that are able to work in conjunction with computers to reproduce printed circuit board artwork or continuous-tone graphics on photographic film. These machines, whether or not working in conjunction with a computer, produce drawings, PCB designs or graphics artwork, a function that is described by the term “drawing” in heading 90.17.
18. Within the technology used in the drafting or drawing industry of today, these are computer-aided drawing machines. Specifically, the FIRE 9000 draws an image on the film used to produce a mask for creating the circuit lines on a printed circuit board, and the FIRE 1000 draws an image on the film used to produce posters, signs or similar graphics artwork. Both apparatus function to draw computer-aided artwork.

4. Heading 90.10

19. Heading 90.10 refers to “apparatus and equipment for photographic laboratories,” subject to the very important condition that the apparatus are not specified or included elsewhere. Because the FIRE photoplotters satisfy the description for drawing instruments in heading 90.17, heading 90.10 is inapplicable by its own terms.

5. Conclusion

20. In determining whether the FIRE 9000 and FIRE 1000 are described as goods of Chapter 90, it is concluded that they satisfy the terms of heading 90.17 as drawing instruments. Heading 90.06 is precluded because the laser photoplotters fail to satisfy the requirement that they be “cameras.” Heading 90.10, as a residual heading, is also precluded because the FIRE laser photoplotters otherwise satisfy the terms of heading 90.17.
21. In view of this, these apparatus are precluded from classification in heading 84.71 by application of Note 1(m) to Section XVI because they meet the terms of heading 90.17 in Chapter 90.
22. Therefore, both the FIRE 9000 and FIRE 1000 are classifiable in heading 90.17, specifically in subheading 9017.20, as other drawing instruments.”

### III. SECRETARIAT COMMENTS

23. In principle, the following different views were expressed on the classification of “FIRE 9000” and “FIRE 1000” apparatus (see Annex F/20 to Doc. 41.600, HSC/20 – Report) :
- (i) The apparatus meet the criteria of Note 5 to Chapter 84 and are, consequently, classifiable in heading 84.71;
  - (ii) The apparatus are photographic cameras of heading 90.06 and are, therefore, excluded from Chapter 84 by virtue of Note 1 (m) to Section XVI and Note 5 (E) to Chapter 84; and
  - (iii) The apparatus are drawing machines of heading 90.17 and are, therefore, excluded from Chapter 84 by virtue of Note 1 (m) to Section XVI and Note 5 (E) to Chapter 84.
24. The Committee decided to classify the “FIRE 9000” and “FIRE 1000” apparatus in heading 90.06 (17 votes), rather than in heading 90.17 (12 votes).
25. The United States Administration’s reservation reiterates their position that the “FIRE 9000” and “FIRE 1000” equipment are to be regarded as drawing instruments. The Committee decided, however, to classify the apparatus at issue in heading 90.06. This decision seems to have been based on the consideration that (i) the apparatus was excluded from heading 84.71 by virtue of Note 1 (m) to Section XVI and of Note 5 (E) to Chapter 84 and (ii) the image produced by the apparatus was made on a photosensitive film by means of the light produced by laser beams (see paragraphs 4 and 5 of Doc. 41.600, Annex F/20, HSC/20 - Report).

#### Description and Function

26. A full description of the apparatus is given in the Annex to this document.

#### Further Secretariat Analysis

27. Following the 22<sup>nd</sup> Session of the HSC, the Secretariat conducted further research and would like to begin by noting that while heading 90.06 reads “Photographic ... cameras; ...” the French text reads “Appareils photographiques; ...”. [“photographic apparatus”]. It is clear that the key word in these texts is “photographic”. “Photographic” derives from “photography”, which is defined in The New Encyclopaedia Britannica (15<sup>th</sup> Edition, Volume 25, Macropaedia/Knowledge in Depth, page 761) as follows : “Photography (from the Greek *photos* [“light”] and *graphos* [“writing”]) is the recording of visible images by light action on light-sensitive materials.” The “recording of visible images by light action on light-sensitive materials” is exactly the function performed by the FIRE 9000 and FIRE 1000 laser photoplotters. Consequently, these apparatus could be regarded as photographic cameras or, in French, “appareils photographiques”.
28. The Secretariat understands that the equipment described in the Explanatory Note to heading 90.06, (I)(14)(i) and (iii), page 1587, are cameras that, while being huge apparatus, operate along the lines of the common camera, where the lens is required in order to focus the outside light onto the film. The equipment in group (iii) of this Explanatory Note, on the other hand, operate by having the light “projected” onto the film from inside the camera. Consequently, there is no requirement for a lens that focuses the outside light.

29. In Doc. 40.266, the Secretariat pointed out that the “FIRE 9000” and “FIRE 1000”, in terms of their photographic process, were similar to the “Colorgraph”. The “Colorgraph” performed a much more complex function, i.e., it scanned a colour image transforming each colour into signals, by means including an arithmetical operation, in order to project, by means of a light source, corresponding light dots on a light-sensitive film. It is evident that it was the projection of the light dots on a film, which permitted the apparatus to be classified as a photographic camera.
30. The “FIRE 9000” and “FIRE 1000” apparatus create a latent image on photosensitive film by means of a laser, from digital data provided by an external host automatic data processing machine. When a laser beam is used, a focusing lens is not necessary in order for the laser photoplotters to produce an image, as the laser beam uses coherent light and, consequently, is capable of projecting the light onto the film in the form of a small dot. To produce the image, the film is held against the inside of a half-cylindrical drum (by vacuum or by mechanical pressure). A rotating mirror causes the light spot to move along one of the lines across the film. When the line is completed, the mirror moves fractionally along the axis of the drum and, as the mirror continues to rotate, the data is synchronized to move the spot along the next line. As the mirror rotates, the light spot is turned on and off (or varied in intensity) to create the image.
31. The Nomenclature Committee decided to classify the “Colorgraph” in CCCN heading 90.07 (HS heading 90.06). That decision was followed by the introduction of a Classification Opinion which was subsequently deleted since the text of the Opinion was later incorporated in the Explanatory Note to CCCN heading 90.07 (see HS Explanatory Note 90.06, page 1587, Part (I), Item (14) (iii)). While the description of the “Colorgraph” apparatus in the Explanatory Note to heading 90.06 dates from the beginning of the 1960s and is therefore outdated insofar as the modern apparatus is concerned, the operating principle has not changed.

#### IV. CONCLUSION

32. The Committee is invited to re-examine the classification of the “FIRE 9000” and “FIRE 1000” equipment, taking into account the arguments put forward by the United States Administration in support of its reservation and the comments of the Secretariat set out in paragraphs 5 to 22 and 23 to 31, respectively.

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Product Specific Description

(Annex to Doc. 42.435)

A. "FIRE 9000"

This apparatus is a laser photoplotter comprising a keyboard, a screen (cathode ray tube), a raster image processor (RIP) and an image reproducer. It is used to plot or draw a latent "printed circuit board" image on photographic film (positive, negative or merged composite films), which is subsequently used in the production of printed circuit boards (PCB).

B. "FIRE 1000"

This apparatus is a laser photoplotter comprising an image reproducer, which depends on an external raster image processor (RIP) or an automatic data processing machine for rasterization. It produces latent colour transparencies which are used to reproduce digital artwork with continuous-tone.

1. Both the "FIRE 9000" and "FIRE 1000" create a latent image on photosensitive film of a width of more than 35 mm (maximum dimensions of the film : 26.5 x 22.5 inches (672.1 x 571.5 mm) and 8.66 x 9.44 inches (220 x 240 mm), respectively), by means of a laser, from digital data provided by an external host automatic data processing machine by tape or otherwise. They do not photograph or copy actual images. They operate in conjunction with an external automatic data processing machine, receiving data which has been thus generated and which is subsequently stored in a suitable computer code or format. For the FIRE apparatus to reproduce an image, the computerized data must first be transformed into "raster" data, whereby the data is broken up into millions of individual picture elements, arranged in the series of regular, adjacent lines. The rasterization is performed by a RIP (raster image processor) machine. This machine is included with the "FIRE 9000", but not with the "FIRE 1000" which depends on an external RIP machine or a host automatic data processing machine for rasterization. The automatic data processing machine or automatic data processing system which provides the data to the RIP machine, is not presented with the FIRE apparatus.
2. Depending on the mode, between 1,000 and 8,000 lines per inch (394 and 3,150 lines per cm) are used across the film to create the image. An image is made by modulating the spot (i.e. turning the spot of light on and off or by varying its intensity) up to 8,000 times per inch as it follows each line across the film. For colour images, a red spot, a green spot and a blue spot move along each line in turn.
3. To produce the image, the photographic film is held against the inside of a half-cylindrical drum (by vacuum or by mechanical pressure). A rotating mirror causes the light spot to move along one of the lines across the film. When the line is completed, the mirror moves fractionally along the axis of the drum, and as the mirror continues to rotate, the data is synchronized to move the spot along the next line. As the mirror rotates, the light spot is turned on and off (or varied in intensity) to create the image.
4. The photoplotters are used in computer aided design (CAD) systems to produce high resolution images on supports and are designed to be used in connection with an automatic data processing machine.