



HARMONIZED SYSTEM
REVIEW SUB-COMMITTEE

-
24th Session
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NR0201E1
(+ Annex)
O. Eng.

Brussels, 6 September 2001.

STUDY OF NOTE 5 TO CHAPTER 84

(Item C.1 on Agenda)

Reference documents :

NC0250E2, Annex H/6 (HSC/25 – Report)
NR0115E1 (RSC/22)

NR0133E2, Annex D/5 (RSC/22 – Report)
NR0188E1 (RSC/24)

I. BACKGROUND

1. After the publication of Doc. NR0188E1, the Secretariat received, on 23 August 2001, a note from the International Chamber of Commerce (ICC) containing information and a discussion paper concerning the terms “automatic data processing machine”, “freely programmable” and “data processing”. The note is annexed to this document.

II. SECRETARIAT COMMENTS

2. Given the recent arrival of the note, the Secretariat has refrained from commenting in depth.
3. Despite the fact that the discussion paper mainly addresses the question on the current scope of heading 84.71, the Secretariat considers that the observations might be extremely useful in the discussion on Note 5 to Chapter 84 and, consequently, the future scope of heading 84.71.

III. CONCLUSION

4. The Committee is invited to take into consideration the observations submitted by ICC, as set out in the Annex to this document, when discussing possible amendments to Note 5 to Chapter 84.

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File No. 2818

**ICC Submission on Terms used in the Harmonized System :
ADP Machine, Freely Programmable, and Data Processing**

Automatic Data Processing (ADP) Machine. The expression “automatic data processing machine” is a synonym for the term “computer.” According to the American National Standard Dictionary of Information Technology (ANSDIT), a computer is a functional unit that can perform substantial computations, including numerous arithmetic operations and logic operations without human intervention.¹ A computer may consist of a stand-alone unit or several interconnected units in the form of a system. The term computer usually refers to a digital computer. Digital computer is defined as a computer that accepts, processes, or produces digital data.

Freely Programmable. An ADP machine (a.k.a. computer) is freely programmable. The capability to be freely programmed means that computers are capable of being programmed by the user to perform a wide range of functions. It is up to the user to take advantage or not to take advantage of the full functionality.

In other words, by virtue of the freely programmable characteristic, computers have a “generic” or “general function” to process all types of data including programmers’ code, numbers, text, audio, video, etc. Processing in the context of computers includes the ability to freely manipulate data (edit, compose and combine different types of data) and not simply reproduce it. As general-function machines, computers are capable of, and used for, a variety of applications including word processing, financial management, computer-aided design, behavioural simulation (e.g., reaction of designs to wind or material resistance), desktop publishing, games, and education. The only limitation in terms of applications is the ability of the user to translate his/her task into a form that can be processed by the computer.

Data Processing. Data processing is defined by ANSDIT as the systematic performance of operations upon data; for example, arithmetic or logic operations upon data, merging or sorting of data, assembling or compiling of programs, or operations on text, such as text editing, sorting, merging, storing, retrieving, displaying, or printing. Data processing is also an abridged term for automatic data processing, which is defined as : “Data processing performed by a computer system. Loosely, a synonym for data processing.” The expression “data processing” does not have the same meaning as the individual terms “data” and “processing” and thus, the terms should not be separated.

Attached is a paper that discusses these terms in greater detail.

¹ A similar definition is found in the Grand Dictionnaire Encyclopédia Larousse : Ordinateur : Machine électronique de traitement numérique de l'information, obéissant à des programmes formés par des suites d'opérations arithmétiques et logiques, à des fins administratives, comptables, techniques, scientifiques, pédagogiques, industrielles ou personnelles. (Computer : Automatic data processing machine, which follows programs using successive arithmetic and logical operations, used for administrative, accounting, technical, scientific, educational, industrial or personal purposes.)

ICC Discussion Paper

I. What is a Computer? – Freely Programmable Defined.

Note 5 (A) to Chapter 84 defines the expression “automatic data processing machines” for purposes of heading 84.71. The most important class of automatic data processing machines is “digital machines” (Note 5 (A) (a)). A digital machine must be capable of :

- (1) storing the processing program or programs and at least the data immediately necessary for the execution of the program;
- (2) being freely programmed in accordance with the requirements of the user;
- (3) performing arithmetical computations specified by the user; and,
- (4) executing, without human intervention, a processing program which requires them to modify their execution, by logical decision during the processing run.

The ICC believes that under this definition a digital automatic data processing machine or system must store a processing program and data, must include input/output capabilities, and must possess a central processing unit that is freely programmable. The most important criterion used to distinguish ADP machines of heading 84.71 from goods of other headings is whether they are freely programmable.

The capability to be freely programmed means that computers are capable of being programmed by the user to perform a wide range of functions. In other words, by virtue of the freely programmable characteristic, computers have a “generic” or “general function” to process all types of data including programmers’ code, numbers, text, audio, video, etc. Processing in the context of computers includes the ability to freely manipulate data (edit, compose and combine different types of data) and not simply reproduce it. As general-function machines, computers may be capable of, and used for, a variety of applications including word processing, financial management, computer-aided design, behavioural simulation (e.g., reaction of designs to wind or material resistance), desktop publishing, games, and education. The only limitation in terms of applications is the ability of the user to translate his/her task into a form which can be processed by the computer.

The freely programmable characteristic is found in a wide range of apparatus. Main frame computers gave way to work stations, personal computers, and computer networks. Advances in basic components, and in particular microprocessors and memory, now allow the freely programmable characteristic and general functionality to be extended to hand-held devices. Trends toward network computing have resulted in so-called “network computers” where program and data storage remains on the network until required by the user and then is transferred to the freely programmable and general function network computer for discrete processing.

The major implication of the freely programmable and general functionality principles is that as long as the computer keeps its general purpose character, functionality can be expanded without affecting classification in heading 84.71. This result flows from the application of the “principal function” test in Section XVI, Note 3. Adding functionality without altering the general purpose character of the computer enhances the range of capabilities of the computer without changing its principal function -- a general function to process data in the manner directed by the user without limitations imposed by the hardware. For example, the addition of large hard disk drives, CD-ROM/DVD-ROM drives, modems, radio transceivers,

sound cards, video cards, fax cards and/or TV cards will all expand the functionality of the computer, but will not change its principal function or, therefore, the heading 84.71 classification.

II. What is Not a Computer ? --The Limits on Freely Programmable as a Basis for Classification.

The term "freely programmable" does not mean that all devices that incorporate a computer or microprocessor, and therefore process information by computerized means, are classifiable in heading 84.71. Machines that process information by computerized means, but which are not heading 84.71 computers can be loosely divided into two categories : (i) those that incorporate or work in conjunction with a freely programmable computer, but are dedicated to a non-data processing function; and (ii) those that have microprocessors that are not freely programmable.

Functional units/Specific function machines. Those apparatus that incorporate/work in conjunction with a computer, but are dedicated to a non-data processing function are computers that are specifically designed, configured and, therefore, dedicated to the particular non-data processing function. By virtue of the "specific function test" (Chapter 84, Note 5 (E)) or the "functional unit/clearly defined function test" (Section XVI, Note 4) they are classified in the heading appropriate to their respective functions. Examples of such dedicated function computers are medical diagnosis apparatus, flight simulators, letter-sorting systems, line-testing equipment, semiconductor-testing devices, industrial control devices, and some CAD/CAM specialized drawing instruments.

By being dedicated to specific functions, these apparatus lose the characteristic of being general-purpose machines even though they process information by computerized means. General purpose computers are rendered "dedicated" through the addition of software and hardware that makes the computer suited for one task to the exclusion of all others (e.g., photoplotter-based CAD drawing system). However, the fact that a computer is presented with software for a particular purpose does not mean that it is classified outside of heading 84.71. So long as the user may program the computer for other purposes, it retains the general-purpose character of an ADP machine. For example, the Harmonized System Committee (HSC) recently classified a computer presented only with video editing software as a data processing machine of heading 84.71 because it was also capable of running other software applications. (Avid Media Composer, HSC/27/May 01; Annex H/2 to Doc. NC0430E2).

Microprocessors that are not freely programmable. Apparatus that have microprocessors that are not freely programmable also process information by computerized means and have limited rather than general functionality. Limited functionality excludes such devices from heading 84.71. Limited functionality results primarily from the fact that the microprocessor is not freely programmable, but also sometimes from the configuration of the apparatus.

Among the best examples of such limited function apparatus are VCRs and some scientific calculators. In general, limited functionality is the principal characteristic distinguishing such devices from the freely programmable/general function computers of heading 84.71. Limited functionality remains the distinguishing characteristic even when such limited function apparatus have conventional PC boards or microprocessors. The

presence of microprocessors increases the sophistication of the device, but as configured at the time of import, the devices do not have the technical capability to be freely programmed. Thus, sophisticated televisions and Hi-Fi sets that are to some extent computerized (though not configured to be freely programmable) are properly classifiable in Chapter 85, not heading 84.71. This concept is expressed with precision in the HS Explanatory Notes : “machines which operate only on fixed programs, that is programs which cannot be modified by the user, are excluded even though the user may be able to choose between a number of such fixed programs” (page 1403).

III. Conclusion.

In conclusion, the most important criterion used to distinguish ADP machines of heading 84.71 from goods of other headings is whether they are freely programmable.

Freely programmable means that the user can program the device to perform a wide range of functions. An ADP machine (a.k.a. computer) is freely programmable. As long as a computer maintains its general-purpose character, functionality can be expanded without affecting classification in heading 84.71. However, not all devices that incorporate a computer or microprocessor, and therefore process information by computerized means, are considered freely programmable and therefore, classifiable in heading 84.71. Machines that process information by computerized means, but which are not heading 84.71 computers include those that incorporate or work in conjunction with a freely programmable computer, but are dedicated to a non-data processing function; and those that have microprocessors that are not freely programmable.
