



HARMONIZED SYSTEM  
COMMITTEE

-  
28<sup>th</sup> Session  
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NC0501E1

O. Eng.

H9-3

Brussels, 15 October 2001.

### CLASSIFICATION OF THE PALM V™

(Item VII.13 on Agenda)

#### Reference documents :

NC0310E1 (HSC/26)  
NC0340E2, Annex H/6 (HSC/26-Report)  
NC0397E1 (HSC/27)  
NC0430E2, Annex H/14 (HSC/27-Report)

NC0455E1 (HSC/28)  
NC0498E1 (HSC/28)  
NC0500E1 (HSC/28)

#### I. BACKGROUND

1. On 11 October 2001, the Secretariat received from the ICC the following additional information concerning the PALM V™. The ICC indicates that it provides out the response of the manufacturer to the questions raised by the HSC at its 27<sup>th</sup> Session, held in May 2001.

#### II. COMMENTS FROM THE ICC

"(Questions raised during the 27<sup>th</sup> Session of the HSC :)

- (i) ***Is the Palm V freely programmable "in accordance with the requirements of the user"?***
2. The architecture and number of processors on the motherboard of the device generally dictate the programming capabilities of an automatic data processing machine. Accordingly, a high-end automatic data processing machine will be far more powerful in its programming capabilities than a low-end automatic data processing machine, laptop or handheld computer, but the latter are still freely programmable in accordance with the requirements of a user.
3. The Palm V is fitted with a Motorola microprocessor of the type used in the early Apple Macintosh and UNIX automatic data processing machines and systems. This microprocessor contains an instruction set which allows the device to run software programs

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developed by the manufacturer(s) and/or 3<sup>rd</sup> party developers. The user also has the ability to freely write his/her own programs directly on the device using one of the common programming languages such as “Pocket C” or “Quartus Forth.”

4. The Palm V does not use interchangeable program modules to function as a freely programmable device;<sup>1</sup> all the hardware necessary to enable programming of the device is built into it during manufacture. As is the case with a desktop or laptop computer, a number of programs are delivered pre-installed on the handheld device.
5. The additional programs that can be installed on the Palm V handheld device are not limited to a specific type of application nor are they limited to programs written by the device manufacturer. The Palm handheld computer is capable of using a large number of programs developed by unrelated third parties whose business is writing programs for automatic data processing machines. In addition to these types of programs, the Palm V user can freely generate his/her own self-created programs directly on the device itself, or can alternatively download programs that he/she has developed on the host computer.
6. Among the many 3<sup>rd</sup> party software applications available are ones similar to those available for the desktop computer, such as “Excel” type spreadsheets, word processing, games, graphs, flowcharts, e-mail applications, etc...

**(ii) Does the memory space taken up by the installation software influence the capacity of the device?**

7. The Palm V, as with all automatic data processing machines, has a limited amount of memory. In the case of the Palm V there is 2MB of RAM and 2MB of non-volatile flash memory (ROM). In the case of the companion model Palm Vx there is 8MB of RAM and 2MB of non-volatile memory (Flash ROM). The pre-loaded installation software, which we assume to be the Operating System software and Palm standard applications, is contained in the Flash ROM and is installed during manufacture of the device. The RAM stores the additional software applications and the data to be processed.
8. Accordingly, the memory capacity available to the user is NOT influenced by the presence of the installation software.

**(iii) Does the absence of a hard disk drive distinguish the Palm V from full size automatic data processing machines, given that unlike the latter, data may be lost from the apparatus at issue in the event of a power or technical failure ?**

9. Hard disk drives are merely one source of non-volatile memory; they are interchangeable with other non-volatile memory such as flash ROMs, flash EEPROMs, etc. Many earlier automatic data processing machines, for example some of Apple’s original automatic data processing machines, did not require hard disk drives and used built-in “chip” based non-volatile memory. Many large mainframe data processing machines do not have onboard disk drive access but contain a standardised interface that can be plugged into a separate storage device (disk drives, tape drives, etc.).

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<sup>1</sup>As is the case, for example, with certain language translating devices based on microprocessor or “computer” technology, which can form words and sentences in several different languages depending on the interchangeable module used.

10. With the development of flash EEPROM technology (Compact Flash memory cards, Memory Stick, etc.), many manufacturers of automatic data processing devices – in particular those of the portable type – are looking to replace hard disk drives with flash memory devices. These flash memory devices have the advantages of consuming less power, weighing less and operating at a faster speed.
11. The Palm V does not require a hard disk drive to perform its function as an automatic data processing machine. However, the most recently released Palm handheld devices have enhanced storage capability in the form of flash memory card “expansion slots” – similar to the PCMCIA slot of a laptop. It is also expected that future releases of Palm handheld devices will be able to connect to an external hard disk drive called a “Microdrive”. Currently, one of Palm’s licensees has a flash card connection in which you can plug a Microdrive. This is sold as a separate accessory. This Microdrive increases the memory capacity of the handheld device in the same way as an external hard disk drive increases the memory capacity of a “full size” desktop personal computer.
12. The presence or absence of a hard disk drive is not a determining factor for classification as an automatic data processing machine. The reference in legal Note 5 to Chapter 84 is to a machine’s capability of “storing” data and programs. The Palm V has storage capability in its flash ROM and RAM memories. If it were to be considered necessary to have a hard disk drive in order to be regarded as an automatic data processing machine, many large automatic data processing machines that are simply equipped with a storage access interface would be excluded.
13. The flash ROM stores the machine’s operating system and standard applications whereas the RAM stores the user’s additional applications and input data (see reply to (ii) above). The standard applications and operating system stored on the flash ROM will not be lost in the event of a power or technical failure. The programs and data loaded onto the RAM memory of the Palm V are not lost when the device is turned off.
14. While the data stored in the RAM may be lost if a power or technical failure occurs, the storage capability is not lost, it still exists. All data and applications can be re-loaded and re-activated by “hot-syncing” the Palm device to a host computer or through reloading each individual program. As with any other computer, if the programs or data become corrupted, they can be reloaded from an external source (for example, from a server).
15. It is also common knowledge that technical failures could cause data and applications to be permanently lost from the hard disk drives of desktop or “full size” automatic data processing machines. Such occurrences do not affect the classification of the device as an automatic data processing machine."

### III. CONCLUSION

16. The Committee is invited to take into account the ICC comments above when examining the classification of the "PALM V™" apparatus.

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