

Collector of Central Excise Vs. Allied Computers

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Court : Customs Excise and Service Tax Appellate Tribunal CESTAT Delhi

Decided On : Feb-19-1987

Reported in : (1987)(13)LC379Tri(Delhi)

Judge : H Syiem, M Santhanam

Appellant : Collector of Central Excise

Respondent : Allied Computers

Judgement :

1. The Appellate Collector of Central Excise, Madras, by order-in-appeal No. 55/81 dated 15.7.1981 decided that the microcomputer trainer model MCT-1 manufactured by M/s. Allied Computers was not assessable under Item 33DD of the Central Excise Tariff. In arriving at his conclusion, he gave much weight to the opinion of the Department of Electronics, Government of India, which said that the product was not a computer falling under tariff Item 33DD of the Central Excise Tariff.
2. The Government of India by a notice dated 28.12.1981 issued under Section 36(2) of the Central Excises and Salt Act, 1944, wanted to review the decision of the Appellate Collector. It is this notice that is the cause for this hearing before us.
3. The learned Counsel for the manufacturers, Mr. Lakshmi Kumaran, placed before this Tribunal the facts regarding this microcomputer. He referred not only to the opinion of the Department of Electronics but also and chiefly, to the printed

literature, their letter dated 27th October, 1979 addressed to the Deputy Collector explaining the basics and the features of this computer, and the technical description of the microcomputer model MCT-1 prepared by the factory.

4. According to the learned Counsel, this computer cannot even compute.

It has numeric keys only 0 to 7 which means that it cannot do any operation involving the numerals 8 and 9. A computer must have arrangement for attachments of inputs and outputs, that is to say, independent units capable of being attached to the computer for giving directions and instructions, and units for displaying the processed information. Display of information is either done by means of a monitor screen or by means of a printer the information being printed on a strip of paper. The model MCT-1 is designed primarily to train a person in the functions of a microcomputer and to understand the various operations of microprocessors, on which this microcomputer is based. With the help of this model one can learn microcomputer programming and identify the steps therefor, learn methods of detecting flaws and mistakes, learn steps to be taken in executing programmes and the roles of steps like INPUT-READ and OUTPUT-WRITE, MEMORY READ and WRITE, WRITING SOFTWARE and VERIFYING RESULTS. It tells a programmer how he should prepare not only his programme, but how to feed it into the computer for executing it. But even though it does all this, model MCT-1 does not compute like a computer does and cannot be put to uses to which computers are put.

5. It is necessary to attach great weight to the opinion of experts like the Department of Electronics and they have unequivocally pronounced that model MCT-1 is not a computer assessable under Item 33DD.6. The learned Counsel for the department said that even though this is a computer trainer, it is a computer, and the manufacturers themselves in their illustrated booklet call it a microcomputer-a microprocessor-based microcomputer. She said she did not agree with the argument of the learned Counsel that because the price was Rs. 18,000/- or so, it could not be a computer. She read from the KIRK-OTHMER ENCYCLOPAEDIA OF CHEMICAL TECHNOLOGY a passage which said that a microprocessor chip was sold in quantity for about \$ 10 in 1978. She says that this

would indicate that the price of microprocessor chips had been coming down steadily over the years and that the price of Rs. 18,000/- for this model MCT-1 is not such a surprising one. She also read from certain authorities like TOP POCKET COMPUTER DICTIONARY, DICTIONARY OF DATA PROCESSING (Maynard) containing articles on microcomputers, microprocessors and so on.

7. We will, however, have to find our own way in this problem. We can do no better than take a look at the printed sheets containing an illustration of this model. As we know, computers normally use the binary codes of two digits 0 and 1. This model, however, uses an octal code of the numerics 0 to 7. This is the reason why the learned Counsel said that the numerics 8 and 9 cannot be written or used on this machine. But that is only to be expected since the two numerics are absent. The argument loses sight of the fact that every machine has its own code and that most computers use a binary code, while this microprocessor-based microcomputer uses the octal code. This octal code, according to the description on the printed leaflet, contains the numeric keys through which programmes, data, are entered, one after the other in octal code; that the model executes a programme can be seen from the explanation for key G which explains "when this key is pressed, your programme will be executed from memory location as indicated by HI and LO address display". The machine has another key (key T) which when pressed after a programmed HALT, allows the computer to execute the programme following the HALT Instruction. Depression of key I "allows the computer to execute one Instruction at a time.

Repeated pressings will allow the computer to execute Instructions, as they appear in programme flow". There is a display for Address Display used in the memory location transferred data. And very importantly, there is a decimal counter display for any of the functions switched on by the counter switch, these being: 8. The illustrated literature tells us that there are test signals provided for MEMORY READ, HALT ACKNOWLEDGE, STACK READ, STACK WRITE, INPUT READ, OUTPUT WRITE, INTERRUPT ACKNOWLEDGE, INPUT, HOLD, INT and so on.

9. The paper repeats at different places that the machine can execute programmes. It may be true that the programme may be done only by limited

numeric keys of the keyboard and, therefore, the programming will not be as wide in range as a programme fed in by an external unit; but this machine in spite of its limitations provides facilities for writing software, debugging, interrupt programmes; and entry of programmes is made through an economically designed keyboard and controls, which act as an integrated input device through which programmes are entered, checked and executed. Evidently, since the model is to be used largely for training, it does not need high-value peripherals that frequently go with professional commercial and other computers such as card or paper tape reader or punch, magnetic tape handler or line printer, video screen reader floppy. But it is useful to remember that peripheral equipments are not the computer itself, and that the computer is distinct from its peripherals. The computer is the machine that does the work of receiving, computing, storing, processing, reading, logic application of information etc. etc. The peripherals are only aids to the people who use the computer to put in programmes and to obtain the result of the processing by the main or chief machine, the computer or computing machine.

10. To understand generally what a computer is, we reproduce the ENCYCLOPAEDIA BRITANNICA article on computer fundamentals: The basic functions of any digital computer are (1) input, (2) storage, (3) control, (4) processing, and (5) output. A computer receives data in the form of binary codes of 1s and 0s and stores them on tapes, disks, drums, cores, or other media. The computer has properties similar to those of an adding machine; it can add, subtract, multiply, divide, and list; but in addition it can make decisions-i.e., select on the basis of stored instructions. This stored-programme concept and the memory capability are the two primary characteristics differentiating the computer from a high-speed calculator. The control function involves following instructions precisely as stored the computer must be instructed (programmed) for every step. The output of the computer takes many forms. Generally, it is printed, put on cards or tape, stored in memory, displayed on a cathode-ray tube, or communicated to other remote devices. The nanosecond ($1/1,000,000,000$ second) computing speed, the random-access information retrieval (any bit of data from among billions of numbers and characters may be almost instantly retrieved), and the stored sequential or adaptive instructions (programme steps) represent the differences between the computer and the calculator; these differences are of

tremendous importance. A simplified sketch (Figure 2) can illustrate the basic functions. The control units are used to interface or synchronize the varying speeds of numerous input and output units to those of the central processing (arithmetic and logic) unit. The processor must also translate the relatively simple language used by the programmer into the more detailed computer-code form used internally by the computer.

The programming can be completed by people other than those skilled in management or engineering. Problem discoverers, analyzers, and solvers who fully understand computer capability need not necessarily know the intricacies of computer operation or programming. Several of the most important steps in computer usage are those of operations analysis.

A computer system or an electronic data-processing system is physically a collection of electromechanical and electronic components and devices assembled in metal cases (modules) and cabinets. These contain switching and communications components such as transistors, diodes, capacitors, resistors, and integrated circuits, all combined into various types of circuitry, together with memory systems, power supplies, delay lines, and various types of magnetic media such as tapes and wires for carrying and transforming data and information, as coded, into instructions and computations.

paper tape Control Processing arithmetic manual key board | metric and logic optical scanner Storage 11. The figure reproduced above schematically shows what are the parts and units of a computer system. The heart of the system is the processing, arithmetic and logic and the storage; and the others are adjuncts and auxiliaries to the main frame.

12. There seems to have been some misunderstanding in the mind of the department that because this microcomputer is based on a microprocessor, it should be assessed under Item 33DD. A microprocessor is only the semiconductor chip that carries the resistance, transistors, circuits and so on. Its greatest advantage is that because of its small size, the speed of operation is greatly accelerated since the distance required for the electrical pulse to travel is drastically reduced. The employment of this microprocessor silicon chip has

enabled not only high speed to be achieved but has reduced the size of the machines as well as their cost. But it would not do to say that the microprocessor is the microcomputer, and that the cost of the microprocessor is the cost of the microcomputer. Computers may have a number of silicon chips which will enhance their application and range, but their cost may or may not thereby be affected.

13. Computers have been put to various uses and the variety of their application is getting larger and larger, and the speed with which they can do highly complex jobs is truly bewildering. The computers can aid design and they can also aid manufacture, and are widely used, therefore, in industries. They are used in typesetting by printers and publishers; they can read and forecast the weather, they can predict wind currents and a host of works that would not be possible to list here. But each work requires different kinds of computers and most of them specialise in one job or another. The computer that a printer uses in his printing shop will not be much good in aiding design and manufacture in a machine-making factory. And while one computer will be highly sophisticated, another, which does not need to do complex processings, will be relatively simple. Inputs can be by a dedicated keyboard and it is enough for the purpose that the computer is designed.

14. The manufacturers have not told us in detail how a trainer learns about software writing, debugging, monitoring machine cycles, involved in executing programmes; but it is evident, if the trainer is to learn all these steps, the microcomputer model MCT-1 has all that the trainer needs to see and read in order to understand that his programme has been successfully executed. He cannot do so unless there is an intelligible output following the input and processing, logical application etc. etc., which the trainer can follow. In fact, it is not easy to understand how the various operations of the microprocessor while executing programmes can be understood unless the machine does what a computer or a microcomputer can do. It is instructive to read their Block Diagram which shows CPU, ROM, RAM, COUNTER DISPLAY ELECTRONICS, MACHINE STEP, two or three LOGIC UNITS, DATA DISPLAY, ADDRESS DISPLAY, I/O Connector, all the requisites for a computer, though perhaps, as in this case, a computer with a limited range and application.

15. In their hard-hitting letter dated 15.2.1982 in reply to the notice of review under Section 36(2) of the Central Excises and Salt Act issued by the Government of India, M/s. Allied Computers attack the department unsparingly. Unfortunately, the letter though well phrased does not throw much light on the problem. They do say that the MCT-1 cannot be operated by programmers, as it does not know any type or programming like any commercial computer; which may all be quite correct. But it is good enough for a trainer or a learner, and imparts to them the basic principles of a microprocessor. They say that the MCT-1 cannot be used for data acquisition or industrial automation which are the main applications of commercial computers; but the department did not say that the model was a commercial computer or that it was a business or scientific computer. Its limited range alone will not allow its application to these highly specialised fields; but it is good enough to teach microprocessor functions to a beginner and no machine can do that unless it is a computer. It is like a model internal combustion engine which though lacking in several supplementary devices and attachments is nevertheless an engine if it enables a trainee to understand how an internal combustion engine functions, the cycles of turnings and the events at each stroke of the piston, and the function of the ports, inlet/outlet etc. etc. The principle of internal combustion can still be seen and under-stood by a trainer who is given a 4-cylinder engine to study. After the initial lessons, he may graduate on to more powerful, bigger, higher rated 8-cylinder engines; but whether higher rated or low rated, whether less powerful or more powerful, the first engine on which he trains is no less an internal combustion engine than the engines which he eventually makes, manufactures or operates.

16. The letter dated 15.2.1982 writes that the MCT-1 is a highly scaled-down version, designed to explain only the basic principle operations of microprocessors. They say it cannot replace a commercial computer and they are, perhaps, right. That would not stop its being a computer, a highly scaled-down computer. It cannot operate on computer languages like ALGOL, FORTRAN, COBOL; but that is not surprising. A computer can take only what it is designed for; no computer can do everything.

17. At page 5 of the letter they say the MCT-1 cannot be expanded, unlike other commercial computers which must have a built-in memory capability of almost

equal amount. However, at the Block DIAGRAM, we see a block for Memory Expansion Scheme. If this means something different, we are not told by the manufacturers.

18. The government is right in saying that the Appellate Collector was in error in saying that model MCT-1 is not assessable under Item 33DD of the Central Excise Tariff which covers computers (including central processing units and peripheral devices) all sorts. Since the item covers computers all sorts, it will be able to cover this. The department is directed to assess the machines under this heading and take all other necessary actions. However, the penalty is set aside.(M. Santhanam) 19. I have carefully gone through the orders passed by my learned brother, Sh. H.R. Syiem, Member (T). I regret that I am not able to agree with his findings for the following reasons: Item 33DD refers to "Computer (including Central Processing Units and peripheral devices) all sorts". It is well known that to attract Central Excise Duty, the goods must be known as such in Trade parlance. When the Legislature has used the words "Computers all sorts", it is reasonable to conclude that the leviability of duty would be attracted only on such goods which are "computers" that come into the main stream of the trade. In this background, we have to find out whether the product in question could be considered as a computer.

20. The computer has been defined in the Dictionary of Electronics by S.W. Amous as follows: An equipment which accepts information, carries out specified mathematical and/or logical specifications upon it and supplies the required answers. Computers are sometimes called Data-Processing Equipment.

Computer is a device that receives, processes and presents information.

Time Chart of Computer Technology, from 1945-1970 reveals that the technology has progressed from computer questions to Micro Processors. In 1970, a Micro Processor has been classified as 4 bit, 8 bit, 16 bit or bit sliced. The major components of micro processors are: (ii) Control Unit Comprising of the Programme counter (PC).

Instruction Relay (IR).

Digital Computer where Control Processor Unit (CPU) is a Micro Processor". Difference between Micro Processor and Micro Computer though very small and a mini computer may sometimes be thought of as a large micro computer and a micro computer may occasionally look like a small mini computer. The Tribunal has to come to the conclusion on the basis of the nature of the goods without attaching much importance to the product being called "Micro Computer Trainer" by the appellants in their Brochure. This Trainer is a Micro Processor and is intended to highlight various operations of Micro Processor like executing the programmes down to machine cycles.

21. The object of this Micro Processor is to impart knowledge which is essential for designing programmeable process controls, signal processing telecommunication equipment, measuring instruments etc. This unit only provides the facilities to write soft ware, debug, interrupt programme, acquire computing concepts and peripheral interfacing through sequence of events associated with programme execution.

22. The learned Counsel for the appellants rightly urged that in order to be a computer, it should have (i) Key Board; (ii) Video; (iii) Printing Facility; (iv) Control Processor which accepts commands, performs mathematical functions and stores the results. In other words, it is an information media which would display the results on a video screen. The appellants have also indicated in their letter to the Superintendent on 24.1.1979 that this machine is intended to highlight various activities of micro processor while executing the programme. In reply to the show cause notice, they have pointed out that term "Computer" is a generic word and is useful for sales promotion only.

This machine has nothing to do with "computer" at all. The machine cannot even add, subtract, multiply or divide numericals 8 & 9 which are the fundamental tasks of a computer. Peripheral devices like teleprinting, floppy disc controllers, paper tape punch etc., aid the utility of the main computer. None of the attachment can be directly attached to this machine. There is no facility of programming through disc The Appellate Collector has also adverted to the definition of Electronics Computer and has stated that this machine is intended to highlight only

some basic elements of arithmetic unit and control unit and it is mainly used to impart necessary training to the students seeking knowledge about a computer.

23. In my view, the machine cannot be considered to be a computer for the following reasons: (i) It does not have peripheral facility for recording external/internal actions. The Key Board in the Micro Computer Trainer is very primitive and has limited functions; (ii) The machine operates on the principle of the Micro Processing.

In other words, the operation of the machine is designed according to the coding in the chip. This operational limitation restricts the scope of the machine. In other words, it is only for purpose of imparting knowledge of the mechanism of a computer to a student; (iii) This machine cannot be used as a computer in the commercial sense. There is no Video for display or printing which could record the output; (iv) The machine cannot execute major processing like word processing, business data, market fluctuations etc., which a computer normally performs; (v) It must be remembered that this machine though it contains some of the features of a computing system, cannot perform all the tasks which a computer could normally perform. The use of the machine is very limited and the responses are also very restricted. The Brochure issued by the party indicates that it provides a thorough insight into the working of a micro processor. Beyond that, it is incapable of delivering the goods which a computer is normally expected to accomplish; and (vi) The machine cannot be considered as a peripheral equipment which is usually associated with the input or output or leading stores of the computer e.g. card reader printers and display units.

24. It is significant to note that the matter was referred by the Asstt. Collector to the Director of Electronics for his views in the matter. I notice that the matter has been disposed of by the Asstt.

Collector even without advertng to the communication of the Department of Electronics. The Deptt. has compared the Office Machine and a Computer. It was rightly suggested as follows: Computers are general purpose reprogrammable automatic data processing machines which are externally programmable through media other than Key Board.

All these have been considered as essential to make a product as computer. In these days when there is substantial progress in Technology and Science, more so in the concept of computers as a revolutionary invention for development and advancement of knowledge, a Micro Computer Trainer can hardly be equated as a computer itself. The limited facility provided by this machine has to be borne in mind before it is assessed to duty. Under these circumstances, I am of the view that machine is not classifiable as computer under Item 33DD. It is rightly classifiable under TI 68.

I agree with my learned brother that the penalty is not justified. Dated 25th Feb. 1987 25. Following the finding of the Hon'ble President, we hold that the goods are classifiable under TI 68 and not under TI 33D. Penalty set aside. Appeal disposed of accordingly. Consequential reliefs to follow.

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