THE PATENTS ACT 1977

IN THE MATTER of Patent Application
No 8910179 by Tomioka, Makoto

REASONS FOR INTERIM DECISION

Application 8910179 was filed on 5 September 1988 under the terms of section 89 of the Act claiming priority from a Japanese patent application dated 4 September 1987. The application was subsequently published under the number WO89/02132 A1 on 9 March 1989. During the course of substantive examination objection was raised that the invention claimed in certain of the claims then on file was not new as required by section 1(1)(a) in the light of Japanese patent application 53-73026A, a verified translation of which had been requested, and supplied, under Rule 113(3). The applicant contested the objection but as the examiner was not persuaded to withdraw, the matter came before me at a hearing on 17 February 1992 when Mr R P Maury of Marks and Clerk appeared on behalf of the applicant.

When the hearing was appointed there were 18 claims on file, including independent claims to a data code and to apparatus for reading a data code. Immediately prior to the hearing however, new claims 1 to 11 were filed and, during the hearing, amendments were agreed to these new claims which in my view overcame the outstanding section 1(1)(a) objection. However, at the hearing Mr Maury also argued in support of a claim, now claim 12, in exactly the form of claim 1 as filed on 6 January 1992 and against which an objection under section 1(1)(a) of the Act was outstanding. He indicated that he wished to maintain this claim together with a number of other claims, now claims 13 to 15, dependent upon it. At the hearing I decided that while claim 14 was new having regard to Japanese patent application 53-73026A which was published on 29 June 1978 and which therefore forms part of the state of the art by virtue of section 2(2), claims 12, 13 and 15 were not and I am now setting out the reasons for those decisions.

Claims 12 to 15 read :-

"12. A data code comprising at least one unit, the or each unit being divided into regions having similar dimensions, the areas of the regions combining to constitute the area of the unit or units, and one such unit having at least four such regions, each region corresponding to a different column of binary notation commencing with the lowest order column and thereafter the successive columns, the same region of the code always being representative of the same binary column in one-to-one correspondence, and each unit having a particular arrangement of shaded regions so that the code represents directly a particular binary number.

13. A data code as claimed in claim 12 in which the or each unit with at least four regions comprises a square having four regions, each of which regions comprising a square.

14. A data code as claimed in claim 12 in which each region comprises any one of a non-square rectangle, circle or triangle.

15. A data code as claimed in claim 12, 13 or 14 in which the numeric value of each region is printed thereon."

The present application concerns a data code in which characters, such as decimal digits, alpha-numeric or Japanese characters, are encoded on the page by a unit divided into four or more regions which are selectively shaded to represent a desired digit or character. The regions of each unit represent respective columns of binary notation, by which is meant that successive regions represent successive binary digits which in turn represent numbers equal to successively increasing powers of the number 2. In an embodiment, the units are square and are each divided into four square regions representing the numbers 1, 2, 4 and 8 respectively. These numbers may be printed on their respective regions and shading one, or a combination, of the regions in a unit represents the constituent binary digits of a number equal to the sum of the numbers corresponding to the shaded regions. The use of four regions corresponding to the numbers 1, 2, 4 and 8 gives sixteen possible permutations

representing hexadecimal notation. More than four regions are used to represent alpha-numeric or other characters which require a larger number of permutations.

In the specification of the cited Japanese application, numerous embodiments are shown each having a unit containing regions which are selectively shaded to represent a character in accordance with different coding schemes. One embodiment shows (in Figure 7) square units each divided into four, square regions on which respective ones of the numbers 1, 2, 4 and 8 are printed. The verified translation of the specification indicates that the decimal digits 1 to 9 are represented by shading one, or a combination, of the square regions in a unit so that the sum of the numbers corresponding to the shaded regions equals the digit to be represented.

Claim 12 of the present application requires there to be at least one code unit divided into at least four regions of similar dimensions, the areas of the regions combining to constitute the area of the unit, and each unit having a particular arrangement of shaded regions to represent a particular number. It is I think clear that Figure 7, and also Figures 8 and 9, of the cited specification show such a code unit. Beyond this however, Mr Maury sought to persuade me that the invention claimed in claim 12 is not disclosed in the cited specification.

To this end Mr Maury submitted that the cited specification does not disclose an arrangement where each region of a code unit corresponds to a different column of binary notation. As I understood him, his argument on this point was essentially that the allocation of the numbers 1, 2, 4 and 8 to the various regions of a code unit in Figure 7 in the cited specification was arbitrary or even accidental and did not of itself disclose the systematic use of a binary notation in which successive regions of a code unit represented numbers given by a sequence representing successively increasing powers of 2, or columns of binary notation as it is expressed in the present specification. Nor in his submission, did the cited specification disclose that the same region of the code was always representative of the same binary column. Thus, the code units in the cited specification did not represent binary numbers as required by claim 12.

I am unable to accept these submissions. Although it was of course not possible to take

expert evidence, it seems to me quite clear that the use of a binary notation or code in the form of binary columns or digits representing increasing powers of the number 2, and in particular the sequence 1, 2, 4 and 8, had been so long established and was so well known in the coding art at the priority date of the present application that the mere presence of this set of numbers in the specification would have led the skilled person, which I take to be the person skilled in the art of coding, immediately and automatically to assume that binary notation or coding was being used. And in that context I think the skilled person would also automatically have assumed that a given region of the code unit disclosed in the cited Japanese specification always represented the same power of the number 2, or the same column of binary notation to use the language of the present specification. Indeed, in my view those skilled in the art would have considered it unusual if a given region did not always represent the same power of 2 since special measures would then be needed to keep track of the changes in order properly to decode the data. The fact that other, non-binary coding schemes are shown in the cited specification is not I think relevant because the presence of these other schemes would not have stopped the skilled person from appreciating that the numbers 1, 2, 4, 8 were a sequence representing binary notation or code. Nor do I think that the fact that the code units in the cited specification are shown representing decimal digits is relevant because that is what binary and other codes ordinarily do, as indeed they do in the present specification.

Thus I consider that the cited Japanese specification includes a clear and specific disclosure of a code in which each region of a code unit corresponds to a different and respective power of 2 or column of binary notation, and in which corresponding regions of different code units represent the same power of 2 or column of binary notation. It therefore follows that the code units in the cited specification represent a binary number or a binary coded number or character in exactly the same way as do those in the present specification. Consequently, I believe that claim 12 is disclosed by, and is therefore not new having regard to, the cited Japanese specification.

Claim 13 simply adds to claim 12 the requirement that each coded unit comprises a square having four regions, each of which regions is a square. And claim 15 adds the requirement that the numeric value of each region is printed on the region. All these features are clearly

disclosed in the cited Japanese specification and I therefore find that the inventions claimed in claims 13 and 15 are also not new having regard to the cited Japanese specification.

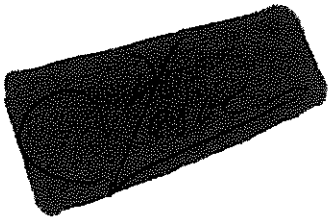
Claim 14 on the other hand, requires that each region is a non-square rectangle, a circle or a triangle, none of which is disclosed in the cited Japanese specification. Claim 14 is therefore new having regard to the cited Japanese specification.

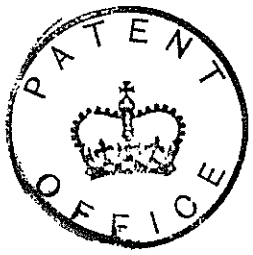
In summary therefore, I find that claims 12, 13 and 15 are not new having regard to the disclosure of Japanese patent application 53-73026A which was published on 29 June 1978 and which therefore forms part of the state of the art by virtue of section 2(2). Before refusing the application under section 18(3), I am prepared to give the applicant an opportunity to amend the specification to overcome this finding. Given that the period during which an appeal against my interim decision may be lodged is six weeks from the date of the decision, and that as a result the period for putting the application in order is extended until the end of that period by virtue of section 20(2), it is I think sensible to allow the applicant until the end of that period in which to submit amendments.

As my decision was communicated to Mr Maury at the conclusion of the hearing, the six weeks period allowed for appeal, and for amendment, runs from the date of the hearing, namely from 17 February 1992. If no satisfactory amendment is submitted in that period, I shall refuse to allow the application to proceed.

I would however observe that if any amendment were to include the deletion of claim 12, then this would seem at least to raise the question of whether the claims would then relate to a single invention or group of inventions so linked as to form a single inventive concept as required by section 14(5)(d). This will need to be resolved before the application can be regarded as being in order for grant but, as it was not addressed at the hearing, I shall not go into it at this stage.

Dated the 4 day of MARCH 1992.





D M HASELDEN
Principal Examiner, acting for the Comptroller.

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