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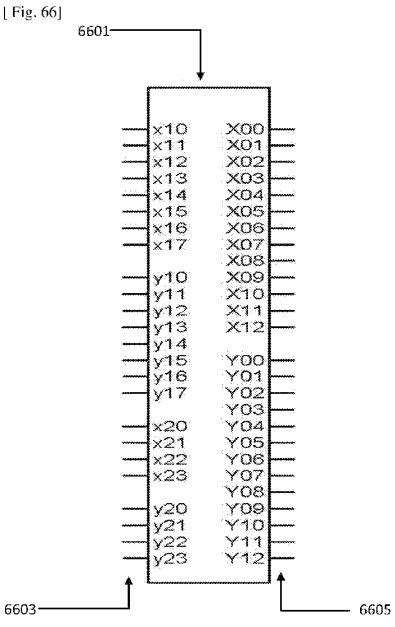
(54) Title: METHODS OF MULTIPLYING BINARY STRINGS AND MULTIPLIER CIRCUITS IMPLEMENTING THE SAME

[Fig. 66]



(57) Abstract: A multiplier circuit for multiplying two numbers in which at least one number is represented by two binary strings, proposed to be called "substrings". The combined value of the substrings is the represented number. This allows many combinations of different pairs of substrings to represent the same value. The multiplier circuit expands the numbers into partial products that are each in the form of two binary strings. The partial products are added up after treatments select a pair of binary strings to represent each partial product, so that the partial products add up without any carry-overs. Thus, here is no propagation delay and the multiplication product can be speedily calculated.