

the target T with respect to the small active candidate S and the second armature specifies the position of T with respect to the largest active candidate L.

Referring to FIG. 5, the encoding process may be reversed to reconstitute the original bit string 102 from encoded bit stream 110 without loss. In the example
5 discussed above with respect to Table 2, an encoded bit string of a target of 34 includes the following: (1) the target's SSR record "(6,2)"; (2) the first armature's SSR record "(1,1)"; (3) the second armature's SSR record "(2,2)"; (4) the main differential pair "(0,0)"; and (5) the counter "1".

The encoded bit string 110 includes a description of a series containing the
10 target value. The decoding process begins by receiving the encoded bit string (step 502) and computing the active candidates in the series defined by the target's SSR record (step 504). The set of active candidates includes the target, which is fully differentiated by the remaining values in the encoded bit string. In this example, the target's SSR record is (6,2), which defines a set of active candidates including the
15 following: 33, 34, 36, 40, and 48.

Using the first armature's SSR record and the second armature's SSR record, the good candidates may be determined from the set of active candidates by finding all active candidates having the same armature SSR records as the targets (step 506). In this example, only the value "34" has a first armature with an SSR record of (1,1)
20 and a second armature with an SSR record of (2,2). Thus, the target value is 34. For this example, the decoding process would end here; however, for large values, further decoding, such as the use of the main differential pair and the counter, is typically required.

When necessary, the target may be further differentiated from other good
25 candidates by calculating the differential pair for each of the good candidates (step 508). The counter can then be used to fully differentiate the target value from the set of good candidates having the same differential pair as the target (step 510). In this example, the differential pair for the single good candidate is (0,0) which matches the differential pair of the target. The counter specifies that the first matching good
30 candidate is the target (step 512). Thus, the target value is 34.