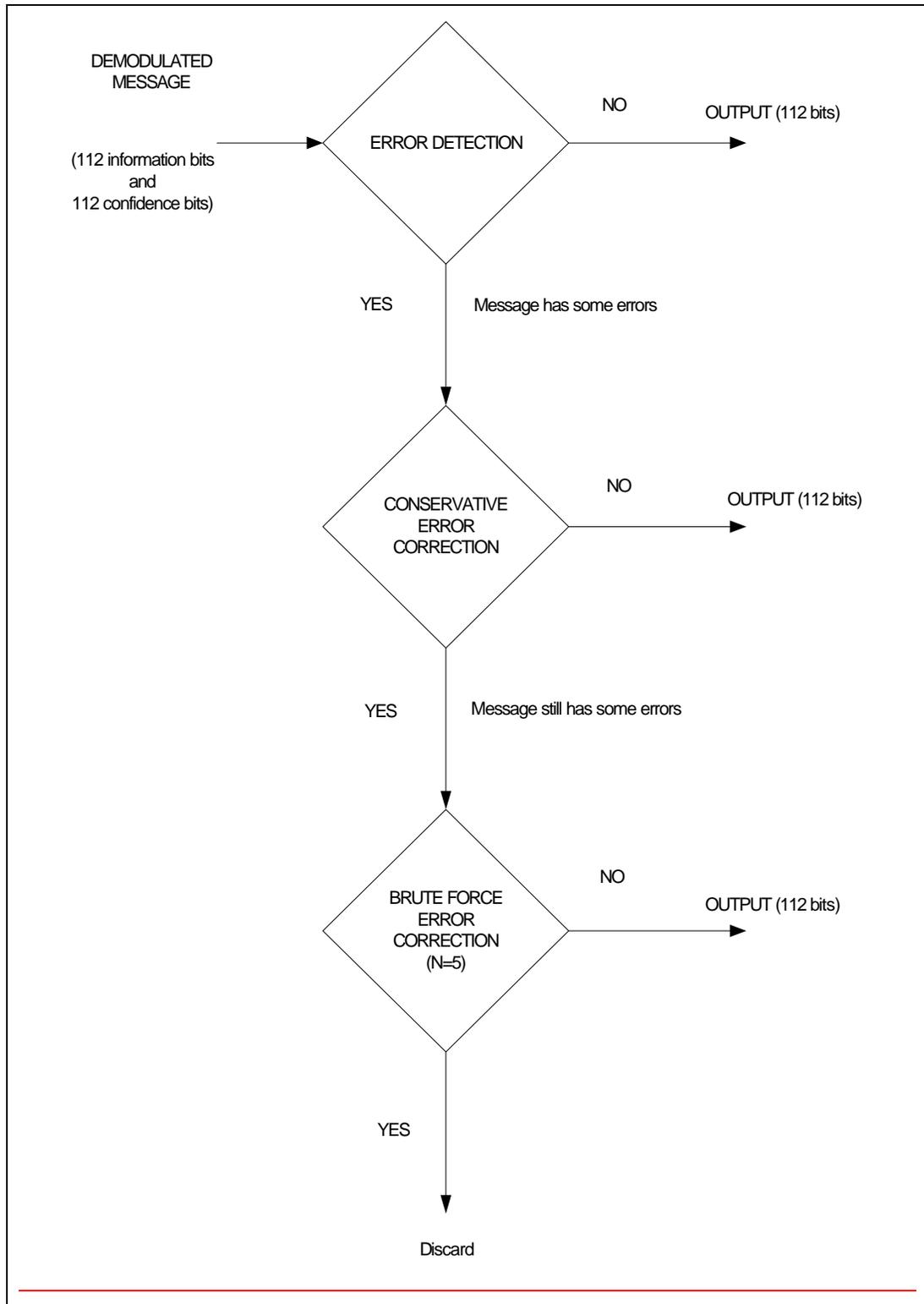


**Figure I-5: Whole Message Error Correction Example**

#### **I.4.3.4 Brute Force Error Correction Technique**

If the bit declaration algorithm has performed its function properly, all errors in Mode S data values will reside in bits declared low confidence. If this is true, a simple approach to error correction is to try all possible combination of low confidence bits, and accept the set that matches the error syndrome (provided only one success is discovered). For obvious reasons, this method has been named the Brute Force Technique. It is applicable to any method of data and confidence declaration, with or without amplitude, and. As illustrated in Figure I-6, Brute Force error correction is applied after the other techniques have failed.



**Figure I-6: Error Detection and Correction**