DIGITAL TELEVISION RECEIVER WITH ADAPTIVE FILTER CIRCUITRY FOR SUPPRESSING NTSC CO-CHANNEL INTERFERENCE

Abstract of the Disclosure

Co-channel interference accompanying multiple-level symbols in a digital receiver, such as a digital television receiver, is suppressed by using a first comb filter to reduce the energy of the co-channel interference before data slicing. The first comb filter incidentally precodes the symbol decoding results generated by the data slicing. A second comb filter postcodes the precoded symbol decoding results from the data slicing to generate corrected symbol decoding results. The symbol precoding of the input symbol stream results from differential delay and first linear combination of the differentially delayed terms. The postcoding of the symbol stream recovered by data slicing results from second linear combination of the symbol stream with delayed result of the second linear combination, and is performed in accordance with a modular arithmetic. One of the first and second linear combinations is subtractive, and the other is additive. The results of the second linear combination are the corrected symbol decoding results.