Abstracts

A Signal-to-Noise Enhancer Using Two MSSW Filters and its Application to Noise Reduction in DBS Reception

T. Nomoto and Y. Matsushita. "A Signal-to-Noise Enhancer Using Two MSSW Filters and its Application to Noise Reduction in DBS Reception." 1993 Transactions on Microwave Theory and Techniques 41.7 (Aug. 1993 [T-MTT]): 1316-1322.

This paper describes the design and development of a new type of MSW signal-to-noise enhancer which consists of a microwave circuit using two MSSW filters, one of which operates as a frequency selective power limiter. It also describes the first application of such an enhancer to DBS reception. Compared with a conventional enhancer, the threshold level and the limiting action level of this enhancer are 13 dB and 27 dB lower, respectively, and the slope from the former to the latter is much steeper. As a result, the enhancer makes it possible to achieve 20-dB lower-power operation (below +10 dBm) of periphery driving circuits. In DBS reception below the FM threshold, the enhancer improves the S/N of the video signal by 2 to 8 dB.

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