Abstracts

A Review of Current and Future Components for Electronic Warfare Receivers

J.H. Collins and P.M. Grant. "A Review of Current and Future Components for Electronic Warfare Receivers." 1981 Transactions on Microwave Theory and Techniques 29.5 (May 1981 [T-MTT] (Joint Special Issue on Surface-Acoustic-Wave Device Applications)): 395-403.

This paper addresses the role of conventional and new components in passive electronic warfare (EW) receivers. The various areas of EW are defined before restricting the discussion predominantly to the radar intercept problem at microwave frequencies. The operational parameters of conventional components are then reviewed including the multiplexer; crystal video, instantaneous frequency measurement (IFM), and scanning superheterodyne receivers. The significance of modularity, digital control, and hybrid combinations of components is highlighted. A brief description follows of the operational Cutlass EW equipment. New components based on surface-acoustic waves (SAW) and acoustooptic (AO) Bragg cells are then presented and their particular importance in channelized receivers, IFM's and microscan receivers noted. Finally, a number of conclusions are drawn covering likely trends in EW receivers and the need for continuing development of large-scale integrated (LSI) circuits for signal sorting and overall digital management.

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