

# Digital Phasing to Increase Application Efficiency of the B-529 Antenna System

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**Abstract.** This article describes the proposals for practical achievements of the ideal signal-to-noise ratio in the receive path of the B-529 antenna system by means of digital phasing of four antennas of this system. A digital equisignal forming method of difference guidance signals from the sum signal from four antennas of the B-529 system is proposed. It is stressed that this method allows to increase twice a signal-to-noise ratio in the antenna guidance path in comparison with a traditional guidance method from sum and difference signals. It is reported that the results can be used when modernizing the B-529 antenna system through transferring its receive path and guidance path to digital processing of radio signals.

**Key words:** antenna system, cophased array, receiver, digital phasing, intermediate frequency, path-length difference, equisignal method, sum and difference signal