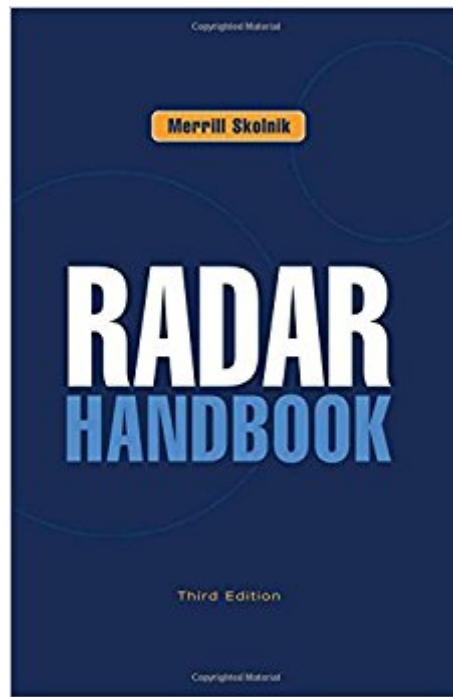


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# Radar Handbook, Third Edition





## Synopsis

The Industry Standard in Radar Technology\_Now Updated with All the Advances and Trends of the Past 17 Years Turn to the Third Edition of Radar Handbook for state-of-the-art coverage of the entire field of radar technology\_from fundamentals to the newest applications. With contributions by 30 world experts, this resource examines methods for predicting radar range and explores radar subsystems such as receivers, transmitters, antennas, data processing, ECCM, and pulse compression. This radar handbook also explains the target cross sectionâ |radar echoes from ground and seaâ |and all radar systems, including MTI, AMTI, pulse doppler, and others. Using SI units, the Third Edition of Radar Handbook features: Unsurpassed guidance on radar fundamentals, theory, and applications Hundreds of examples and illustrations New to this edition: new chapters on radar digital signal processing, radar in air traffic control, ground penetrating radar, fighter aircraft radar, and civil marine radar; 22 thoroughly revised chapters; 17 new contributors Inside This Cutting-Edge Radar Guide â ¢ MTI Radar â ¢ Pulse Doppler Radar â ¢ Multifunctional Radar Systems for Fighter Aircraft â ¢ Radar Receivers â ¢ Automatic Detection, Tracking, and Sensor Integration â ¢ Pulse Compression Radar â ¢ Radar Transmitters â ¢ Reflector Antennas â ¢ Phased Array Radar Antennas â ¢ Radar Cross Section â ¢ Sea Clutter â ¢ Ground Echo â ¢ Space-Based Radar â ¢ Meteorological Radar â ¢ HF Over-the-Horizon Radar â ¢ Ground Penetrating Radar â ¢ Civil Marine Radar â ¢ Bistatic Radar â ¢ Radar Digital Signal Processing â ¢ And More!

## Book Information

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## Customer Reviews

I've owned Skolnik's "Radar Handbook" 2nd ed. for several years, and there are many copies of the 1st ed. in the area. I bought this new edition soon after it came out. In some respects it has been updated. However, in several areas I have found the earlier versions more helpful. Descriptions of recent developments have been added, but some of the material that has made the Radar Handbook a good reference has been taken out. Two examples: The first ed. has 13 figures devoted to atmospheric absorption loss as a function of frequency, distance, and target altitude. They were reduced to 7 figures in the 2nd ed. In the 3rd ed. I could find no mention of atmospheric absorption. However, it discusses the propagation program AREPS. The chapters on pulse doppler radar have about the same number of figures in the three editions. However, in the 3rd ed. fewer of the figures are for reference, and more are just to illustrate concepts. The four figures in the 2nd ed. that let you determine SNR for nonfluctuating (Marcum) or fluctuating (Swerling) targets were all replaced in the 3rd ed. with the approximation formulas due to Barton. That would be a good trade, except that eq. (4.25) has a serious typo: in the numerator,  $K_m^{-1}(P_d, 2n_e)$  should be  $K_m^{-1}(P_{fa}, 2N_{pdi})$ . My recommendation is that if you work on radar design, you should own this book. However, if you have a previous edition, you should not give it away.

If you are a Radar engineer, then you already have one or more versions of this book on your shelf. I can't imagine doing my job without it. The question becomes whether or not you should go through the trouble of asking your company to buy it for you or just use the volume you have. I think most of the chapters are the same but I know that Chapter 8, Pulse Compression Radar, has been upgraded. Ducoff's description of stretch processing is concise and relevant to modern Radars. I convinced my company to buy it based on that reason alone.

Anyone serious about radar engineering should own one of the editions of this book. I would recommend skipping the "Introduction to RADAR systems" text and going straight for this one if at all possible.

Great book, but it tends to leave you just short of being very applicable. Use it as a concept understanding reference only.

Extremely informative and well laid out.

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