

Index of “Ask Dr. Know-It-All” Articles

June 11, 2025

“Ask Dr. Know-It-All” was a series of articles published sporadically in *The FARS Relay*, the monthly newsletter of the Foothills Amateur Radio Society. The newsletter issues are archived at <https://www.fars.k6ya.org/relay>. 25 articles were published from April 2003 to December 2011. Five more articles were written but never published. Some articles were expanded into presentations, archived at <https://www.fars.k6ya.org/docs/k6oik>. The newsletter discontinued publication in 2015. An index of the articles is given here.

Number	Topic	Date	Published
1.	J-Pole Antennas, Part 1: Design Principles	Apr 2003	✓
2.	Recharging Batteries Using a Solar Panel, Diode, and Resistor	May 2003	✓
3.	J-Pole Antennas, Part 2: Design Dimensions	Jun 2003	✓
4.	Ways to Generate and Detect Morse Code; and the Properties of Different Kinds of Solder	Aug 2003	✓
5.	The Meanings of “ <i>i</i> ”	Sep 2003	✓
6.	Calculating the Capacitance between the Earth and the Ionosphere	Oct 2003	✓
7.	Electromagnetic Waves that Aren’t Transverse	Apr 2004	✓
8.	Electromagnetics or Electrodynamics	Feb 2005	✓
9.	A Power Flow Paradox Courtesy of the Poynting Vector	Mar 2005	✓
10.	Tricks for Loading and Matching Short Verticals	Apr 2005	✓
11.	Misunderstandings About Amplifier Output Impedance and the Conjugate Match Became “Conjugate Match Myths,” <i>Pacificon</i> , Oct 2011	Apr 2005	Unpublished Draft
12.	Discone Antennas: History, Design, and Impedance	Feb 2006	✓
13.	RF Exposure Safety Near a Transmitting Microwave Dish Antenna	Mar 2006	✓
14.	Preventing RF in the Shack	Apr 2006	✓
15.	V Antennas: Impedance Formula	July 2006	Unpublished Draft
16.	Math Functions on the Smith Chart, Part 1: Tangent and Cotangent	Oct 2006	✓
17.	Math Functions on the Smith Chart, Part 2: Sine and Cosine	Nov 2006	✓
18.	Math Functions on the Smith Chart, Part 3: Squares and Square Roots	Dec 2006	✓
19.	Math Functions on the Smith Chart, Part 4: Multiplication and Division	Feb 2007	✓
20.	Determining Satellite Receiver Noise Figure	Apr 2007	✓

21.	Impedance Match Network Design as a Game on the Smith Chart	Nov 2009	✓
22.	Smart Meters for Electric Power Metering Became "Smart Meters and Electric Power Measurement," <i>FARS Relay</i> , Apr 2010. Also in Palo Alto Amateur Radio Association newsletter <i>PAARAgaphs</i> , Jun, Jul, Oct 2010.	Feb 2010	Unpublished Draft
23.	Discone Antenna Design Revisited	Mar 2010	✓
24.	Component HDTV Systems: Big Screen Performance on a Budget	May 2010	✓
25.	Transmission Line Loss: Terminology, Formulas, Graphs Became "Facts About SWR, Reflected Power, and Power Transfer on Real Transmission Lines with Loss," <i>Pacificon</i> Oct 2010	Aug 2010	✓
26.	Book Review: <i>The ARRL Guide to Antenna Tuners</i>	Apr 2011	✓
27.	The Effect of Common Mode Current on SWR Meter Accuracy	Dec 2011	✓
28.	Finding Old Amateur Radio Magazines and Literature Online Became "Amateur Radio Resources that Save Space," Jul 2016, updated Feb 2022	Jan 2012	✓
29.	Five Untruths About Coax	Feb 2019	Unpublished Draft
30.	Off Center Fed Dipole Antennas: Impedance Formula	Mar 2019	Unpublished Draft