Supplemental Files – 2013 ARRL Handbook

Supplemental files are included on the CD-ROM. They include additional discussion, additional projects, full-size PC board etching patterns, program examples and other useful information. Most template packages are available as PDF files and you can open them by clicking the file name in the table below. All of these packages are available on this CD-ROM in the **Supplemental Files** directory. "OpSupp" refers to the PDF Operating Supplement.

Note: Some supplemental files are not in PDF format. Those are not linked below. You may find these in the CD-ROM **Supplemental Files** directory.

Chapter		Description	File Name
2	Electrical Fundamentals	Thermistors in Homebrew Projects by Bill Sabin, W0IYH, from Nov/Dec 2000 QEX	Thermistors in Homebrew Projects.pdf
3	Analog Basics	Large signal behavior of BJT and FET amps, from 2009 Handbook	Large-Signal Transistor Operation.pdf
		Spreadsheet to calculate and display freq response	Frequency Response Spreadsheet.xls
		Cathode ray tube theory, from 2009 Handbook	Cathode Ray Tubes.pdf
		LTSpice files for basic transistor circuits	LTSpice Simulation Files Chap 3 folder
4	Digital Basics	Project: interfacing to parallel port, from 2009 Handbook	Interfacing to the Parallel Port.pdf
		BASIC routines for parallel port interface	various – in Parallel Port Files folder
5	RF Techniques	Introductory Smith Chart discussion, from 2009 Handbook	Reflections on the Smith Chart.pdf
		LTSpice files for resistors, capacitors, inductors with parasitic components	LTSpice Simulation Files Chap 5 folder
		Tuned Networks from 2009 Handbook by Bill Sabin, W0IYH	Tuned Networks.pdf
6	Computer-Aided Circuit Design	"The Dangers of Simple Usage of Microwave Software" by Rohde and Hartnagel	Dangers of Simple Usage of Microwave Software.pdf
		A general paper on using simulation at RF by Ulrich Rohde, N1UL	Using Simulation at RF – Rohde.pdf
		Mathematical stability issues with RF simulations by Rohde and Lakhe	Mathematical stability problems in simulation programs.pdf
7	Power Supplies	12-V, 15 A power supply article by Ed Oscarson, WA1TWX, from Oct 1992 QST	12 V 15 A power supply article.pdf
		Feedback and update for the 12 V 15 A supply, Mar 1993 QST	Revisiting the 12 V Power Supply.pdf
		12-V, 15 A power supply PCB template	12 V 15 A power supply template.pdf
		13.8 V 5 A power supply PCB template	13.8 V 5 A power supply template.pdf
		28 V High Current Power Supply project from 2009 Handbook	28 V High Current Power Supply.pdf
		28 V High Current Power Supply PCB template	28 V power supply PCB template.pdf
		Dual Output Power Supply by VE3ERP, from Nov/Dec 2008 QEX	Dual Output Power Supply.pdf
		Four Output Bench Supply by Larry Cicchinelli, K3PTO, from July 2009 QST	Four Output Bench Supply article.pdf
		Four Output Bench Supply support files	Four Output Bench Supply.zip

		The Series Regulator Power Supply by Bill Sabin, W0IYH, from May 1991 QEX	Series Regulator Power Supply.pdf
		Series Regulator Power Supply PCB template	Series Regulator PCB template.pdf
		Micro M+ PV Charge Controller	Micro M+ PV Charge Controller.pdf
9	Oscillators and Synthesizers	Oscillator Design Example Optimized for Phase Noise and Power by Ulrich Rohde, N1UL	Optimized Oscillator Design - Rohde.pdf
		Nonlinear Approach to the Calculation of Oscillator Phase Noise by Ulrich Rohde, N1UL	Oscillator Phase Noise - Rohde.pdf
		LTSPICE files for G3UUR Swissroll section	various – in SwissRoll Files folder
		A Grounded-base Oscillator for VHF/UHF by Ulrich Rohde, N1UL	Novel Grounded Base Oscillator Design for VHF/UHF – Rohde.pdf
		A general paper on the design of crystal oscillators by Ulrich Rohde, N1UL	Some Thoughts On Crystal Oscillator Design – Rohde.pdf
10	Mixers, Modulators and Demodulators	Modern Receiver Mixers for High Dynamic Range by DeMaw and Collins, QST Jan 1981	Modern Receiver Mixers for High Dynamic Range.pdf
		Performance Capability Of Active Mixers by Ulrich Rohde, N1UL	Performance Capability Of Active Mixers.pdf
11	RF and AF Filters	High Performance Passive CW Filter project from 2009 Handbook	Passive CW Filter project.pdf
		High Performance, Low Cost 1.8 to 54 MHz Low Pass Filter article from Nov 2002 QST	High Performance Low Cost 1.8 to 54 MHz Low Pass Filter - K8CU.pdf
12	Receivers	Rock Bending Receiver PCB template	Rock Bending Receiver template.pdf
		10 GHz preamp PCB template	10 GHz preamp template.pdf
		Binaural Receiver project from 2009 Handbook	Binaural I-Q Receiver project.pdf
		Source files for 2 meter converter by Ulrich Rohde, N1UL. All files are OrCAD format – a free student-level version of OrCAD is available at **www.cadence.com/products/orcad/pages/downloads.aspx**	2 meter converter by N1UL.zip
13	Transmitters	Companion amplifier for T2 transmitter by Rick Campbell, KK7B, part 1, Feb 2009 QST	Solid State Power Amps - Part 1.pdf
		Companion amplifier for T2 transmitter by Rick Campbell, KK7B, part 2, Mar 2009 QST	Solid State Power Amps - Part 2.pdf
		The Tuna Tin 2 Today article from Mar 2000 QST	Tuna Tin 2 Today - W1RFI.pdf
14	Transceivers	RockMite transceiver project from 2009 Hbk	Rockmite Transceiver Project.pdf
		HEX file for Rockmite	Rockmite.hex
		Norcal Sierra transceiver project from 2009 Hbk	NorCal Sierra Transceiver Project.pdf
		Norcal Sierra PCB template and construction info	NorCal Sierra PCB and addl info.pdf
		Norcal Sierra parts sources spreadsheet	NorCal Sierra parts sources.pdf
		HBR-2000 article by VE7CA, March 2006 QST	HBR-2000 Transceiver.pdf
15	DSP & Software Radio Design	DSP projects from 2009 Handbook	DSP Projects.pdf
		files that accompany DSP Projects discussion	various – in DSP Project Files folder
		DSP sample calculations	DSP Sample Calculations.pdf
		files that accompany DSP Sample Calculations discussion	various – in DSP Sample Calculation Files folder

16	Digital Modes	Baudot/ITA2 codes	ITA2-CODES.pdf
		ASCII character set	ASCII-CHAR.pdf
		PSK31 varicode character set	Varicode Used by PSK31.pdf
		MFSK16 varicode character set	Varicode Used by MFSK16.pdf
		DominoEX varicode character set	Varicode Used by DominoEX.pdf
17	RF Power Amplifiers	144 MHz Amplifier Using the 3CX1200Z7 by Russ Miller, N7ART, from 2009 Handbook	144 MHz Amp.pdf
		4CX1600B HF amplifier project by George Daughters, K6GT	4CX1600B HF Amp.pdf
		Tuned (Resonant) Networks from 2009 Handbook (for use with MATCH.EXE)	Tuned Networks.pdf
		MATCH.EXE software (for use with Tuned (Resonant) Networks discussion)	various – in MATCH folder (Windows XP and earlier versions)
		250 W solid state amplifier files -- PCB artwork, parts lists, photos	various – in 250 W Solid State Amplifier folder
		3CX1500D7 HF amplifier files -- PCB layout, Pi-L values spreadsheet	various – in 3CX1500D7 Amplifier Project folder
20	Transmission Lines	Ferrite choke measurement by Jim Brown, K9YC	Measuring Ferrite Chokes.pdf
21	Antennas	K8SYL's 75 and 10-Meter Dipole by Sylvia Hutchinson, K8SYL, from Jul 2002 QST	K8SYL dipole.pdf
		An All-Copper 2 Meter J-Pole by Michael Hood, KD8JB, Antenna Compendium Vol 4	Copper J-pole.pdf
		WA5VJB's Cheap Yagi for LEO Satellites	Cheap Antennas - LEO Satellites.pdf
		Wire Quad for 40 Meters project from 2012 Handbook (N6BV)	Wire Quad for 40 Meters project.pdf
		Vertical Loop Antenna for 28 MHz project from 2012 Handbook	Vertical Loop Antenna for 28 MHz project.pdf
		Dual-Band Antenna for 146 and 446 MHz project from 2012 Handbook (K3MF)	Dual-Band Antenna for 146 and 446 MHz project.pdf
22	Component Data and References	BNC crimp-on installation guide	BNC Crimp-On.pdf
		N crimp-on installation guide	N Crimp-On.pdf
		Miniature lamp specifications	Miniature Lamp Guide.pdf
		TV deflection tube specifications	TV Deflection Tubes.pdf
		Properties of common thermoplastics	Thermoplastics.pdf
		Step attenuator construction details	Step attenuator.pdf
23	Construction Techniques	Surface Mount Technology Part 1 - April 1999 QST by Sam Ulbing, N4UAU	SMT by N4UAU - Part 1.pdf
		Surface Mount Technology Part 2 - May 1999 QST by Sam Ulbing, N4UAU	SMT by N4UAU - Part 2.pdf
		Surface Mount Technology Part 3 - June 1999 QST by Sam Ulbing, N4UAU	SMT by N4UAU - Part 3.pdf
		Surface Mount Technology Part 4 - July 1999 QST by Sam Ulbing, N4UAU	SMT by N4UAU - Part 4.pdf
		Deluxe Soldering Station from 2009 Handbook	Soldering Station.pdf
		A No-Special-Tools SMD Desoldering Technique by Wayne Yoshida, KH6WZ, Aug 2009	SMD Desoldering.pdf

24	Station Accessories	Trio of Computer Interfaces PCB template	Computer Interfaces template.pdf
		Support files for SWR Monitor by Larry Coyle, K1QW	Coyle - SWR Monitor Files.zip
		Tandem Match project from 2009 Handbook	Tandem Match.pdf
		Switched attenuator project from 2009 Handbook	Switched Attenuator.pdf
		Remote power controller project from 2009 Handbook	Remote Power Controller.pdf
		ID-O-Matic Station Identification Timer project from 2012 Handbook (N0XAS)	ID-O-Matic Station ID Timer project.pdf
		ID-O-Matic code and support files	various – in ID-O-Matic folder
25	Test Equipment & Measurements	(Gate-Dip Oscillator folder) N1AL GDO PCB artwork	GDO PCB Artwork.eml
		(Gate-Dip Oscillator folder) *QST* articles	A Modern GDO – the "Gate" Dip Oscillator – QST May 2003
			Add-Ons for Greater Dipper Versatility – QST Feb 1981.pdf
			The Art of Dipping – QST Jan 1974.pdf
			What Can You Do with a Dip Meter – QST May 2002.pdf
			What Can You Do with a Dip Meter [Feedback] – QST May 2002.pdf
		(Hybrid Combiners folder) *QST* article	Build a Return Loss Bridge – QST Sep 1997.pdf
		(Logic Probe folder) Supporting photos and graphics for Handbook project	
		(RF Power Meter folder) Supporting files for Kaune Handbook project	QS0111Kaune.zip
		(RF Voltmeter folder) *QST* and Handbook articles	Compensated RF Voltmeter - Mar/Apr 2001 QEX.pdf
			Compensated RF Voltmeter - 2011 Handbook.pdf
		(RF Sampler folder) RF Sampler Construction details	RF Sampler – Tech Corr for July 2011.pdf
		(RF Step Attenuator folder) *QST* article	RF Step Attenuator – Bramwell – QST June 1995.pdf
		(Tandem Match folder) *QST* articles	An Updated Tandem Match – KI6WX – QST Jul 1993.pdf
			Tandem Match Corrections – KI6WX – QST Jan 1988.pdf
			The Tandem Match – KI6WX – QST Jan 1987.pdf
		(Transistor Tester folder) PCB artwork and layout graphics for Handbook project	
		(Two-Tone Oscillator folder) PCB artwork and layout for Handbook project	ARRL Lab Two-Tone Oscillator.pdf
		Cathode ray tube theory, from 2009 Handbook	Cathode Ray Tubes.pdf
26	Troubleshooting and Maintenance	Dip meter sources	Dip Meter Sources.pdf
		Crystal controlled signal source PCB template	Xtal signal source template.pdf
		AF/RF signal injector template	Signal injector template.pdf
27	RF Interference	Simple Seeker project from 2009 Hbk	Simple Seeker.pdf
		Active Attenuator project from 2009 Hbk	Active Attenuator.pdf
		Active Attenuator PCB template	Active Attenuator template.pdf
		CEA self-help guide, "*What To Do if You Have an Electronic Interference Problem*"	What To Do if You Have an Electronic Interference Problem – CEA.pdf

		Adapting a Three Element Tape Measure Beam for Power Line Noise Hunting project by Jim Hanson, W1TRC, May 2007 QST	Tape Measure Beam for Power Line Hunting - W1TRC.pdf
		A Home-made Ultrasonic Power Line Arc Detector by W1TRC, April 2006 QST	A Home-made Ultrasonic Power Line Arc Detector - W1TRC.pdf
		Ultrasonic Arc Detector Update by Jim Hanson, W1TRC (Stray – June 2006 QST	Ultrasonic Arc Detector Update - W1TRC.pdf
		A Simple TRF Receiver for Tracking RFI by Rick Littlefield, K1BQT, March 2001 QST	A Simple TRF Receiver for Tracking RFI - K1BQT.pdf
28	Safety	Electric Current Abroad booklet from US Dept of Commerce	Electric Current Abroad.pdf
29	Assembling a Station	A list of vendors and resources for building remote HF stations by Rick Hilding, K6VVA	Remote Station Resources by K6VVA.pdf
OpSupp	Image Communications	Educational robot ATV setup details by Mark Spencer, WA8SME	various – in BOE-BOT Project folder