Topics Listed Numerically

#1: QRP check-in to NorCars net from RVRC Hamfest June 19, 2010
#2: Tektronix delayed timebase operation
#3: TenTec 1254 Receiver Signal Path walkthrough
#4: Oscilloscope view of TenTec 1254 IF and detected output on Shortwave signal
#5: My ESR Meter project from 2006
#6: Infrequent Glitch capture on an Oscilloscope
#7: Monitor your Ham Radio transmitter with an oscilloscope
#8: Two-tone test of SSB transmitter output
#9: Basic 1X and 10X Oscilloscope Probe tutorial
#10: AC / DC Coupling on an Oscilloscope
#11: Tektronix Oscilloscope Triggering controls and their usage
#12: Use Real-Time Spectrum Analysis to Characterize a transmitter key-up
#13: D-104 Microphone amplifier / Equalizer for Ham Radio
#14: Tektronix MDO4000 Spectrum Analyzer quick comparison to entry level analyzer
#15: Ham radio Band-scope pan-adapter using Tek MDO4000 as a spectrum analyzer
#16: How to use the Oscilloscope to accurate capture 2 signals of different frequencies
#17: Using Analog scope to view two signals of wildly different frequencies
#18: Use Oscilloscope with delayed time base to measure a RF Power detector
#19: How to get a stable scope display with two signals very close in frequency
#20: Quick 5 minute Tektronix Mixed Domain Oscilloscope MDO4000 Demo
#21: Using MDO4000 to capture 802.11 traffic and export for analysis using RSAVu
#22: Spectrum Analyzer Basics / Tutorial, and the Tektronix 1401A
#23: Tektronix 1401A Spectrum Analyzer quick demo
#24: Transient EMI Debug using Tektronix MDO4000 Mixed Domain Oscilloscope
#25: Analog Oscilloscope bandwidth considerations
#26: Answering viewer questions, and Digital Oscilloscope Considerations
#27: Board level EMI Debug with a Real Time Spectrum Analyzer
#28: My QRP "go kit" backpack with IC-703+ ham radio
#29: Adding a S-meter to TenTec 1254 Shortwave Receiver
#30: Part II: Finishing the S-Meter on the Ten Tec 1254 Shortwave Receiver
#31: Analog oscilloscope ALT, CHOP, ADD, INVERT vertical controls
#32: Quick test of completed DDS-60 from AMQRP/NJQRP
#33: Oscilloscope AUTO Triggering explained
#34: Installation of upgraded microcontroller in the TenTec 1254 Receiver
#35: Using the ADD/INVERT mode on an analog scope to view differential voltages
#36: Function Generator issues appearing as a triggering problem
#37: Use a scope to measure the length and impedance of coax
#38: Analyze Hot Wheel Radar gun with a Real Time Spectrum Analyzer
#39: Function Generator debug and repair - Leader LG-1311
#40: Analog Oscilloscope's rear panel auxiliary inputs and outputs
#41: Use Oscilloscope Z-axis input to create "marker" on waveform
#42: Composite Video on an Analog Oscilloscope using XYZ - Lab tour...
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#44: Frequency measurement using Delaying Timebase on Analog Oscilloscope
#45: Sweep Generator Basics and Receiver Alignment
#46: Basics of amplitude and distortion measurements on a scope and spectrum analyzer
#47: Basics of Zero-Span operation of a Spectrum Analyzer
#48: Basics of Lissajous Patterns on an Oscilloscope
#49: Simple Component Tester using Oscilloscope - Octopus Curve Tracer
#50: ORP SSB contact on 40m from Hamfest of RVRC, June 2012
#51: Basic Spectrum Analyzer Do's and Don'ts...
#52: Tutorial / Basics of a Dip Meter
#53: Real Time Spectrum Analysis of low frequency/audio signals
#54: Back to Basics Tutorial: Voltage / Current in capacitors and inductors
#55: Back to Basics: Tutorial on LC Resonant Circuits
#56: Basics of Capacitor & Inductor self-resonance, parasitics, etc. – Tutorial
#57: Setting up variable double-pulse using Tek AFG
#58: How to zero-beat WWV to check or adjust a Frequency Counter's accuracy

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#59: Basics of a Square Wave signal's harmonic content
#60: Basics of Phase Locked Loop Circuits and Frequency Synthesis
#61: Basics of RF Samplers, Sampling-Tees, RF-taps, etc.
#62: Basics of Tracking Generators and 1/4 wavelength coaxial stub filters
#63: JOTA: Jamboree on the Air at OMARC/InfoAge October 2012
#64: How to measure speed with a counter/timer
#65: Basics of using FFT on an oscilloscope
#66: How to make a rise-time measurement on an oscilloscope
#67: Basics of Common Emitter Amplifier Gain and Frequency Response with Measurements
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#69: Basics of Analog Oscilloscope Bandwidth
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#71: Proper PSK31 Audio Level setup with a scope, RF power meter, and ALC indicator
#72: Simple Station Monitor for Ham Radio using an Oscilloscope
#73: 70's Vintage Function / Sweep Generator review / teardown
#74: Basics of Differential Probes for Oscilloscopes and their applications: a tutorial
#75: Basics of Opamp circuits - a tutorial on how to understand most Opamp circuits
#76: Debug Transient EMI signal with a Mixed Domain Oscilloscope MDO4000 Tektronix
#77: Op Amp Peak Detector Tutorial, with peak detector basics
#78: Use an Arduino to draw pictures on an oscilloscope using XY mode
#79: Op Amp Power Supply Considerations: split, single, virtual ground, etc. - a tutorial
#80: MFJ Cub 40m QRP CW Transceiver circuit walk-thru and review, plus bandsweep, ham radio MFJ-9340
#81: Heathkit HW-9 QRP CW Transceiver Circuit Walk-Through - Ham Amateur Radio Schematic
#82: How to use a Diode as a Switch / Diodes as Switches / Basics of Diode Switches
#83: Basics of RF Mixers in Radio Receivers / Mixer Tutorial / Frequency Conversion
#84: Basics of Ferrite Beads: Filters, EMI Suppression, Parasitic oscillation suppression / Tutorial
#85: Basics of R2R Resistor Networks Digital Analog Conversion, Tutorial DAC Thevenin Superposition
#86: Improved NTSC video to Oscilloscope converter circuit / scope video monitor hack
#87: Schmitt Trigger Oscillator / Tutorial / 74AC14 Inverter / squarewave generator
#88: Cheap and simple TDR using an oscilloscope and 74AC14 Schmitt Trigger Inverter
#89: Video Tour of my Lab and Workbench - Oscilloscopes and meters and power supplies, oh my!
#90: Measure Capacitors and Inductors with an Oscilloscope and some basic parts
#91: Basic RF Attenuators - Design, Construction, Testing - PI and T style - A Tutorial
#92: Cool Product: The Moteino - an Arduino clone + RFM12B wireless interface - low cost
#93: RS232 and SPI bus waveforms, bus decodes and RF activity on the Moteino using Tek MDO4000
#94: RMS Voltage for Sine and square waves, and why your DMM might not work right!
#95: W2AEW Channel Trailer video
#96: Tutorial on Digital Oscilloscope sample rate, record length and data processing
#97: Low Power (QRP) Ham Radio contact at the 2013 RVRC Hamfest in NJ
#98: Surface mount IC soldering demonstration with SO-8 packaged device
#99: Drag Soldering of an SSOP IC Package demonstration
#100: Capacitor self-resonance measured with an oscilloscope and signal generator - how to tutorial
#101: How to measure FM Frequency Deviation without special equipment using Carrier / Bessel Null
#102: How to desolder or unsolder components using solder wick and vacuum tools
#103: Ham Radio on vacation - Long Beach Island with Icom IC-703+ NJ (NA-111), 10mo after Sandy
#104: Circuit tutorial: sawtooth generator w/ current sources, diode switches, hysteresis comparator
#105: More Circuit Fun: Simple 3 transistor sawtooth generator / oscillator
#106: Measuring low-pass filters in a Ham Radio HF Packer Amp for Amateur HF Bands
#107: Adjusting the MOSFET drain current in the HF Packer V4 Amplifier (ham radio)
#108: Adding a CW-SSB Mode switch to the HF Packer V4 Amplifier (ham radio)
#109: How to: Fluke 87 multimeter fuse replacement, DMM True RMS
#110: Circuit Fun: Flexible Ramp Generator to create frequency sweeps using 555 timer and op amps
#111: How to make a high performance oscilloscope probe socket
#112: Use an Oscilloscope and Signal Generator help tune an HF Antenna, measure complex impedance
#113: Basics of Transistor bias point and the class of amplifier operation
#114: Tutorial: Common Emitter, Common Collector, and Common Base Transistor amplifiers
#115: How to replace the meter movement in a Simpson 260 multimeter VOM
#116: Repair Log, Part 1: Yaesu FT-7800 Dual Band FM Transceiver, no VHF output
#117: Repair Log, Part 2: Yaesu FT-7800 Dual Band FM Transceiver, fixed 2m tx problem
#118: Basics of PIN diodes and their use in RF switch applications

(compilation courtesy of Dino KL0S)
W2AEW Videos (November 29, 2017)

#119: Basics of Resolution Bandwidth and Video Bandwidth in a Spectrum Analyzer (RBW VBW)

#120: How to Install Anderson Powerpole connectors

#121: Basics of SCRs and some circuit fun - device and circuit tutorial

#122: Electronic Circuit Construction Techniques: review of some prototype circuit building methods

#123: Build a crystal oscillator from schematic thru prototype construction and testing – DIY

#124: How to install an RJ45 connector on a CAT5 Ethernet network Patch Cable - DIY Repair

#125: Tektronix MDO4000B Enhancements - RF specs, Signal Analysis and WLAN WiFi Example

#126: Repair Log, Part 1: Icom IC-706MKIIIG Damage assessment and connector repair – DIY

#127: Repair Log, Part 2: Icom IC-706MKIIIG flex circuit replacement - DIY repair

#128: How to install optional filters in an Icom IC706MKIIIG and measure them with an FFT

#129: How to cut circuit board PCB material - a couple of favorite methods I use...

#130: PIN Diode 3rd order Intermodulation Distortion (IMD) vs. bias current - how to measure

#131: How to test transistors - NPN and PNP bipolar junction transistors, BJTs

#132: How to test MOSFETs with a DMM - a few methods...

#133: Ham Radio call sign history, and my QSL card quest - W2AEW and 2AEW

#134: Teardown of failed power supply - bad capacitor

#135: Measure Capacitor ESR with an Oscilloscope and Function Generator

#136: What is a dB, dBm, dBu, dBc, etc. on a Spectrum Analyzer?

#137: Why your Function Generator's output voltage reading can be wrong

#138: How to Measure Output Impedance

#139: How to make a WLAN Channel Power Meas on a Tektronix MDO4000

#140: Basics of an Op Amp Summing Amplifier

#141: What is an Eye Pattern on an Oscilloscope - A Tutorial

#142: Basics of High Voltage Probes and how to use them

#143: Transmission Line Terminations for Digital and RF signals - Intro/Tutorial

#144: Use Arduino Uno to create spinning XY graphic on an Oscilloscope

#145: Unboxing the Tektronix MDO3000 Oscilloscope

#146: 10X Probe Compensation on a Tektronix MDO3000 Oscilloscope

#147: Basics of Varactor Diodes | Voltage Controlled Oscillator VCO Example

#148: Software Defined Radio kit | Tutorial | Build | Test | Softrock Lite II

#149: How to solder a leadless ceramic surface mount package | LCC | CLCC

#150: How to measure an HF Bandpass filter response with the MDO3000

#151: How to wind a toroid inductor | A quick tutorial

#152: Completed Softrock Ensemble II SDR Receiver kit | On air checkout

#153: How to tune up a Kenwood TS-830S hybrid rig / transceiver | TS-520 TS-530 TS-820

#154: Softrock Ensemble II SDR Rx circuit review | description | test

#155: Circuit Fun: Auto-ranging Analog Voltmeter for a variable power supply

#156: Hamfest! Highlights of the 2014 RVRC Hamfest in Piscataway NJ

#157: Circuit fun: Automatic audio leveling circuit | audio compressor | for scanning receiver

#158: Directional Coupler Basics & how to sweep SWR of an antenna | Return Loss | VSWR

#159: How to measure FM frequency deviation with a spectrum analyzer

#160: Oscilloscope Basics, and how they can be used in the hamshack | tutorial

#161: Circuit Fun: a simple RF detector / demodulator probe for DMM or scope

#162: How to measure coax velocity factor VF and impedance Z

#163: Automatic Volume Level Control circuit demonstration | scanner

#164: More XY Oscilloscope graphics, VintageTEK and how projects evolve

#165: Why RF circuits need shielding - or how NOT to build a Theremin! (tnx 4 the title Ben!)

#166: How to wind a trifilar toroid transformer for a diode ring mixer

#167: How a Diode Ring Mixer works | Mixer operation theory and measurement

#168: How to coil coax, wire, rope, etc. to be free of kinks, twists and knots

#169: Embedded WLAN module testing with the MDO4000B and SignalVu-PC

#170: Basics of IQ Signals and IQ modulation & demodulation - A tutorial

#171: IQ Signals Part II: AM and FM phasor diagrams, SSB phasing method

#172: Basics of Op Amp Gain Bandwidth Product and Slew Rate Limit

#173: Introduction to RTL-SDR low cost software defined radio receivers

#174: Using a mixer to listen to HF, shortwave, ham, etc. on RTL-SDR dongle

#175: Filter functions in an HF Upconverter used with RTL-SDR Dongle Receiver

#176: Uniden / President HR2510 10m transceiver repair - won't transmit

#177: Kenwood Dual-Band TM-D710 repair, bad filter, design issue

#178: Build, test, use the RF Noise Source on the Ham-It-Up RTL-SDR Upconverter

(compilation courtesy of Dino KL0S)
#179: How to make a peak to peak voltage measurement on a scope
#180: How to assemble of the Elecraft PX3 Panadapter kit
#181: Basics of an RF Comb Generator - a tutorial
#182: VHF Transmitter key-up analysis with a Tektronix RSA306
#183: Why diodes are used around relay coils: Back to Basics on flyback or snubber diodes
#184: How to calibrate an analog oscilloscope
#185: Back to Basics: Bipolar Transistor bias circuits and Beta dependence
#186: Circuit Fun: Control an RC Servo with an adjustable DC voltage
#187: Circuit Walkthrough: A single cell LED light supporting Ears to Our World
#188: Mini review / demo: GP-5/SSB Shortwave, AM/FM and SSB portable receiver
#189: Programming & using memories in the GP-5/SSB shortwave receiver
#190: Back to Basics: Transistor Current Sources and Mirrors
#191: Beware of test equipment loading effects!! Learn from my error!
#192: Preview of next Back to Basics video on the diff-amp, long-tailed pair
#193: Back to Basics: the differential amplifier, aka long-tailed pair, diff-pair
#194: What is ammeter burden voltage, and why you should care
#195: RF Diplexer Basics: Tutorial, construction and tuning
#196: How a Directional Coupler in an SWR meter works
#197: Simple V-I curve tracer using an oscilloscope and function generator
#198: Basics of a Vbe Multiplier: what it is, how it works & where it is used
#199: Measuring coil inductance and IF transformer resonant frequency
#200: T/R Switch w/ PIN Diodes and Lumped Element Quarter-wavelength transmission line
#201: Basics of Reverse Recovery Time in a Diode
#202: Basics of using FFT on a Tektronix TDS2000 Oscilloscope
#203: Schmitt Trigger Oscillator revisited | TDR | Measure Capacitors and Inductors
#204: Basics of Tunnel Diodes and their applications
#205: Amateur Radio Field Day 2015 at Guglielmo Marconi Memorial Park
#206: Importance of 10X Probe Compensation with your Oscilloscope
#207: Basics of a Cascode Amplifier and the Miller Effect
#208: Visualizing RF Standing Waves on Transmission Lines
#209: Basics of Phase Dots on Transformer Windings
#210: Drake 2B Introduction and visual assessment
#211: TSG4106A RF signal generator unboxing and mini feature review
#212: Re-capping the Drake 2B Receiver
#213: Drake 2B final repairs, bench test, on-air listening
#214: Drake 2B Alignment
#215: Basics of Crossover Distortion using LM358 op amp as an example
#216: Back to Basics: 555 based monostable multivibrator | 555 tutorial
#217: Hamfest Find: Homemade Pi-Network Antenna Tuner / Transmatch
#218: Hamfest Find: Video Distribution Amplifier - 50 vs. 75 ohm BNC Connectors
#219: Back to Basics: Introduction to Field Effect Transistors JFET MOSFET
#220: Drake 2B Serendipity - with N2CQR - the reason I got the 2B
#221: The Bird 43 Directional Wattmeter: Overview and how-to use
#222: Installing a Peak Reading kit into a Bird 43 Wattmeter
#223: Basics of the Gilbert Cell | Analog Multiplier | Mixer | Modulator
#224: AM & DSB-SC Modulation with a Gilbert Cell
#225: Introduction to the Project Diana 70th Anniversary Special Event
#226: Project Diana 70th Anniversary Special Event | Moonbounce | EME
#227: Vintage Tech: Fluke 881A Differential Voltmeter Introduction
#228: Radio Fun: Michigan Mighty Mite CW transmitter and a low pass filter
#229: American Morse Equipment KK1 morse code key assembly
#230: How to install a BNC connector on RG-58 coax
#231: Circuit Fun: Stairstep generator using 555 and op amps
#232: More Circuit Fun: Simple transistor curve tracer using Stairstep generator circuit
#233: Back to Basics: How to use the 3 terminals of a lab power supply | split supply | floating supplies
#234: Basics of Near Field RF Probes | E-Field & H-Field | How-to use
#235: Basics of Analog Panel Meters | Analog Meter Movements
#236: Using a Current Shunt with a Panel Meter / Ammeter scale change
#237: 4 Wire Resistance Measurement | Kelvin connection
#238: Oscilloscope Vertical Position and Offset explained
#239: Repair of Kenwood TH-F6A radio’s Push to Talk switch
#240: Repair of Yaesu FT-817 with SSB CW AM Transmit Problem
#241: Field Day 2016 - Low Power operating from a historic Marconi site
#242: How to use an oscilloscope on antique radios | NJARC
#243: Mini-review & test of a variable audio bandpass filter from SOTABeams
#244: Short vacation video: beach, bay, family, dog, ham radio
#245: Old Tech: The Wadley Loop Superhet Receiver - Yaesu FRG-7 Example
#246: How to operate / tune the Yaesu FRG-7 Frog-7 Receiver
#247: Circuit Fun: 5 Transistor ESR Meter circuit by EEVBlog user Jay Diddy B
#248: Tune Bandpass Cavity Filter using Return Loss w Directional Coupler
#249: Using DeOxit to clean/restore dirty switch contacts in a Kenwood SM-220
#250: Kenwood SM-220 Station Monitor Demo / Overview
#251: Using RSA306 to capture & analyze frequency hopping signals | Bluetooth example
#252: Acquisition & Analysis control in a Real-Time Spectrum Analyzer
#253: How to capture & analyze WiFi WLAN signals off-the-air with an RSA | RSA306B 802.11
#254: Review: Iso-Tip SolderPro 90 Butane Soldering Iron and hot-air rework / reflow tool
#255: Vintage Tech: Book review "ABC of Electricity" from 1889 endorsed by Edison
#256: Capacitor types, characteristics, and applications
#257: Power Supply Decoupling & Filtering: why we use multiple caps in different locations
#258: Repair Log: Yaesu FT-736R re-cap of internal power supply | replace electrolytic capacitors
#259 Repair Log: Yaesu FT-736R S-meter backlight bulb replacement
#260: RF Diode Mixer LO Drive Level & Conversion Loss | 1dB Compression | Distortion
#261: Status Update | Frequently Asked Questions | Thanks!
#262: IQ Modulator Basics: Operation, measurements, impairments
#263: Using a VNA to sweep an RF Dummy Load | Tektronix TTR506A Vector Network Analyzer
#264: RF Fun: Visualize antenna tuner operation on Smith Chart, SWR & more with VNA
#265: Vintage Tech: Checking out an RF Millivoltmeter - Boonton 92C
#266: Repair Log: Tektronix 465B Trigger control repair / replacement | oscilloscope repair
#267: Quick Tip: Making IC & Transistor part numbers easy to read
#268: How to operate a ZM-2 Z-Match Antenna Tuner kit by Emtech
#269: Repair Log: Yaesu FT-1000D Receiver Repair | dead rx, loss of sensitivity
#270: Tune a Duplexer with a Spectrum Analyzer + Tracking Gen or VNA
#271: Ham Radio Quickie: Yaesu FT-817 PowerPole Adapter
#272: Vintage Tech: Sencore TC162 Tube Tester: How to use, tips and peek inside
#273: Common Emitter Amplifier Design Tips & Shortcuts

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**Oscilloscopes**

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**Composite Video on Analog Oscilloscopes**

#42: Composite Video on an Analog Oscilloscope using XYZ - Lab tour...
#86: Improved NTSC video to Oscilloscope converter circuit / scope video monitor hack

**MD3000/MD4000**

#125: Tektronix MDO4000B Enhancements - RF specs, Signal Analysis and WLAN WiFi Example
#145: Unboxing the Tektronix MDO3000 Oscilloscope
#146: 10X Probe Compensation on a Tektronix MDO3000 Oscilloscope
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#206: Importance of 10X Probe Compensation with your Oscilloscope

**Spectrum Analyzers**

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#234: Basics of Near Field RF Probes | E-Field & H-Field | How-to use
#237: 4 Wire Resistance Measurement | Kelvin connection
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#251: Using RSA306 to capture & analyze frequency hopping signals | Bluetooth example
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#99: Drag Soldering of an SSOP IC Package demonstration
#102: How to desolder or unsolder components using solder wick and vacuum tools
#120: How to Install Anderson Powerpole connectors
#122: Electronic Circuit Construction Techniques: review of some prototype circuit building methods
#123: Build a crystal oscillator from schematic thru prototype construction and testing – DIY
#124: How to install an RJ45 connector on a CAT5 Ethernet network Patch Cable - DIY Repair
#129: How to cut circuit board PCB material - a couple of favorite methods I use...
#149: How to solder a leadless ceramic surface mount package | LCC | CLCC
#151: How to wind a toroid inductor | A quick tutorial
#165: Why RF circuits need shielding - or how NOT to build a Theremin! (tnx 4 the title Ben!)
#254: Review: Iso-Tip SolderPro 90 Butane Soldering Iron and hot-air rework / reflow tool
#257: Power Supply Decoupling & Filtering: why we use multiple caps in different locations

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#55: Back to Basics: Tutorial on LC Resonant Circuits
#56: Basics of Capacitor & Inductor self-resonance, parasitics, etc. – Tutorial
#59: Basics of a Square Wave signal's harmonic content
#60: Basics of Phase Locked Loop Circuits and Frequency Synthesis
#83: Basics of RF Mixers in Radio Receivers / Mixer Tutorial / Frequency Conversion
#84: Basics of Ferrite Beads: Filters, EMI Suppression, Parasitic oscillation suppression / Tutorial
#85: Basics of R2R Resistor Networks Digital Analog Conversion, Tutorial DAC Thevenin Superposition

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#87: Schmitt Trigger Oscillator / Tutorial / 74AC14 Inverter / squarewave generator
#91: Basic RF Attenuators - Design, Construction, Testing - PI and T style - A Tutorial
#100: Capacitor self-resonance measured with an oscilloscope and signal generator - how to tutorial
#104: Circuit tutorial: sawtooth generator w/ current sources, diode switches, hysteresis comparator
#110: Circuit Fun: Flexible Ramp Generator to create frequency sweeps using 555 timer and op amps
#121: Basics of SCRs and some circuit fun - device and circuit tutorial
#136: What is a dB, dBm, dBu, dBC, etc. on a Spectrum Analyzer?
#143: Transmission Line Terminations for Digital and RF signals - Intro/Tutorial
#183: Why diodes are used around relay coils: Back to Basics on flyback or snubber diodes
#195: RF Diplexer Basics: Tutorial, construction and tuning
#207: Basics of a Cascode Amplifier and the Miller Effect
#208: Visualizing RF Standing Waves on Transmission Lines
#209: Basics of Phase Dots on Transformer Windings
#215: Basics of Crossover Distortion using LM358 op amp as an example
#216: Back to Basics: 555 based monostable multivibrator | 555 tutorial
#219: Back to Basics: Introduction to Field Effect Transistors JFET MOSFET
#223: Basics of the Gilbert Cell | Analog Multiplier | Mixer | Modulator
#224: AM & DSB-SC Modulation with a Gilbert Cell
#256: Capacitor types, characteristics, and applications
#257: Power Supply Decoupling & Filtering: why we use multiple caps in different locations
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#273: Common Emitter Amplifier Design Tips & Shortcuts

Differential Amplifiers
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#193: Back to Basics: the differential amplifier, aka long-tailed pair, diff-pair

Diodes
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#167: How a Diode Ring Mixer works | Mixer operation theory and measurement
#201: Basics of Reverse Recovery Time in a Diode
#204: Basics of Tunnel Diodes and their applications

PIN Diode RF Switching
#118: Basics of PIN diodes and their use in RF switch applications
#130: PIN Diode 3rd order Intermodulation Distortion (IMD) vs. bias current - how to measure
#200: T/R Switch w/ PIN Diodes and Lumped Element Quarter-wavelength transmission line

Directional Couplers
#158: Directional Coupler Basics & how to sweep SWR of an antenna | Return Loss | VSWR
#196: How a Directional Coupler in an SWR meter works
#208: Visualizing RF Standing Waves on Transmission Lines
#248: Tune Bandpass Cavity Filter using Return Loss w Directional Coupler

Op-Amps
#75: Basics of Opamp circuits - a tutorial on how to understand most Opamp circuits
#77: Op Amp Peak Detector Tutorial, with peak detector basics
#79: Op Amp Power Supply Considerations: split, single, virtual ground, etc. - a tutorial
#140: Basics of an Op Amp Summing Amplifier
#172: Basics of Op Amp Gain Bandwidth Product and Slew Rate Limit
#215: Basics of Crossover Distortion using LM358 op amp as an example

Transistors
#67: Basics of Common Emitter Amplifier Gain and Frequency Response with Measurements
#113: Basics of Transistor bias point and the class of amplifier operation

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#114: Tutorial: Common Emitter, Common Collector, and Common Base Transistor amplifiers
#185: Back to Basics: Bipolar Transistor bias circuits and Beta dependence
#190: Back to Basics: Transistor Current Sources and Mirrors
#191: Beware of test equipment loading effects!! Learn from my error!
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#187: Circuit Walkthrough: A single cell LED light supporting Ears to Our World
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Ham Radio operation, Equipment and Radio Repair
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#117: Repair Log, Part 2: Yaesu FT-7800 Dual Band FM Transceiver, fixed 2m tx problem
#126: Repair Log, Part 1: Icom IC-706MKIIG Damage assessment and connector repair – DIY
#127: Repair Log, Part 2: Icom IC-706MKIIG flex circuit replacement - DIY repair
#134: Teardown of failed power supply - bad capacitor
#177: Kenwood Dual-Band TM-D710 repair, bad filter, design issue
#176: Uniden / President HR2510 10m transceiver repair - won't transmit
#210: Drake 2B Introduction and visual assessment
#212: Re-capping the Drake 2B Receiver
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#239: Repair of Kenwood TH-F6A radio's Push to Talk switch
#240: Repair of Yaesu FT-817 with SSB CW AM Transmit Problem
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#249: Using DeOxit to clean/restore dirty switch contacts in a Kenwood SM-220
#254: Review: Iso-Tip SolderPro 90 Butane Soldering Iron and hot-air rework / reflow tool
#258: Repair Log: Yaesu FT-736R re-cap of internal power supply | replace electrolytic capacitors
#259 Repair Log: Yaesu FT-736R S-meter backlight bulb replacement
#266: Repair Log: Tektronix 465B Trigger control repair / replacement | oscilloscope repair
#268: How to operate a ZM-2 Z-Match Antenna Tuner kit by Emtech
#269: Repair Log: Yaesu FT-1000D Receiver Repair | dead rx, loss of sensitivity
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Arduino
#78: Use an Arduino to draw pictures on an oscilloscope using XY mode
#92: Cool Product: The Moteino - an Arduino clone + RFM12B wireless interface - low cost
#93: RS232 and SPI bus waveforms, bus decodes and RF activity on the Moteino using Tek MDO4000
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SDR: Software Define Radio Topics

**I&Q Signals**
- #170: Basics of IQ Signals and IQ modulation & demodulation - A tutorial
- #171: IQ Signals Part II: AM and FM phasor diagrams, SSB phasing method

**RTL-SDR**
- #173: Introduction to RTL-SDR low cost software defined radio receivers
- #174: Using a mixer to listen to HF, shortwave, ham, etc. on RTL-SDR dongle
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- #178: Build, test, use the RF Noise Source on the Ham-It-Up RTL-SDR Upconverter

**Softrock SDR**
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- #154: Softrock Ensemble II SDR Rx circuit review | description | test

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**Drake 2B**
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- #213: Drake 2B final repairs, bench test, on-air listening
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- #220: Drake 2B Serendipity - with N2CQR - the reason I got the 2B

**CountyComm GP-5/SSB**
- #188: Mini review / demo: GP-5/SSB Shortwave, AM/FM and SSB portable receiver
- #189: Programming & using memories in the GP-5/SSB shortwave receiver

**Elecraft PX-3**
- #180: How to assemble of the Elecraft PX3 Panadapter kit

**Heathkit HW-9**
- #81: Heathkit HW-9 QRP CW Transceiver Circuit Walk-Through - Ham Amateur Radio Schematic

**HF Packer V4 Amplifier**
- #106: Measuring low-pass filters in a Ham Radio HF Packer Amp for Amateur HF Bands
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**Icom IC-706MkiIG**
- #127: Repair Log, Part 2: Icom IC-706MkiIG flex circuit replacement - DIY repair
- #128: How to install optional filters in an Icom IC706MkiIG and measure them with an FFT

**Kenwood TH-F6A**
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**Kenwood TM-D710**
- #177: Kenwood Dual-Band TM-D710 repair, bad filter, design issue

**MFJ9340**
- #80: MFJ Cub 40m QRP CW Transceiver circuit walk-thru and review, plus bandsweep, ham radio MFJ-9340

**Michigan Mighty Mite**
- #228: Radio Fun: Michigan Mighty Mite CW transmitter and a low pass filter

**TenTec 1254**
- #3: TenTec 1254 Receiver Signal Path walkthrough

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#4: Oscilloscope view of TenTec 1254 IF and detected output on Shortwave signal
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Uniden
#176: Uniden / President HR2510 10m transceiver repair - won't transmit

Yaesu FT-736R
#258: Repair Log: Yaesu FT-736R re-cap of internal power supply | replace electrolytic capacitors
#259 Repair Log: Yaesu FT-736R S-meter backlight bulb replacement

Yaesu FT-7800
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#117: Repair Log, Part 2: Yaesu FT-7800 Dual Band FM Transceiver, fixed 2m tx problem

Yaesu FT-817
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Yaesu FRG-7
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Yaesu FT-1000D
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Miscellaneous
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#97: Low Power (QRP) Ham Radio contact at the 2013 RVRC Hamfest in NJ
#103: Ham Radio on vacation - Long Beach Island with Icom IC-703+ NJ (NA-111), 10mo after Sandy
#133: Ham Radio call sign history, and my QSL card quest - W2AEW and 2AEW
#153: How to tune up a Kenwood TS-830S hybrid rig / transceiver | TS-520 TS-530 TS-820
#156: Hamfest! Highlights of the 2014 RVRC Hamfest in Piscataway NJ
#168: How to coil coax, wire, rope, etc. to be free of kinks, twists and knots
#205: Amateur Radio Field Day 2015 at Guglielmo Marconi Memorial Park
#217: Hamfest Find: Homemade Pi-Network Antenna Tuner / Transmatch
#218: Hamfest Find: Video Distribution Amplifier - 50 vs. 75 ohm BNC Connectors
#225: Introduction to the Project Diana 70th Anniversary Special Event
#226: Project Diana 70th Anniversary Special Event | Moonbounce | EME
#229: American Morse Equipment KK1 morse code key assembly
#230: How to install a BNC connector on RG-58 coax
#241: Field Day 2016 - Low Power operating from a historic Marconi site
#243: Mini-review & test of a variable audio bandpass filter from SOTABeans
#244: Short vacation video: beach, bay, family, dog, ham radio
#250: Kenwood SM-220 Station Monitor Demo / Overview
#254: Review: Iso-Tip SolderPro 90 Butane Soldering Iron and hot-air rework / reflow tool
#255: Vintage Tech: Book review "ABC of Electricity" from 1889 endorsed by Edison
#261: Status Update | Frequently Asked Questions | Thanks!
#267: Quick Tip: Making IC & Transistor part numbers easy to read
#268: How to operate a ZM-2 Z-Match Antenna Tuner kit by Emtech

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