

W2AEW Videos

- #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...
- #43: Analog Oscilloscope Basics: Making a Frequency Measurement
- #44: Frequency measurement using Delaying Timebase on Analog Oscilloscope

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- #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: QRP SSB contact on 40m from Hamfest of RVRC, June 2012
- #51: Basic Spectrum Analyzer Do's and Dont's...
- #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
- #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
- #68: Oscilloscope Probe Ground lead length affects on signal quality
- #69: Basics of Analog Oscilloscope Bandwidth
- #70: Digital Oscilloscope Bandwidth Measurement - direct and using risetime
- #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

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- #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

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- #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
- #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

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- #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
- #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

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- #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