

Visual Teaching Aids ⑧A

4" x 6" component boards with components and show and tell items that should be passed around the class

Resistor Board – 1/8 thru 2 watt axial lead, wire wound, adjustable potentiometer

Capacitor Board – Axial capacitors .001 to .05 MFD, small value silver mica, dura Mica, ceramic disc capacitors. Axial electrolytic and large value screw terminal electrolytic capacitors, Variable capacitors (Slug tuned, compression type, etc.)

Inductor Board - Small value axial inductors, a coil of 14 gauge wire, Iron core chokes (toroidal and axial), and slug tuned coils

Visual Teaching Aids

Diode Board #1 – Small signal detector diodes (1N34/1N60 size), rectifier diodes (axial, stud mount, packaged bridge rectifier), light emitting diodes.

Diode Demonstration Board (2) - A nine volt Battery in series with an 800 ohm $\frac{1}{2}$ watt resistor and $\frac{3}{4}$ " spaced banana plugs. A rectifier diode 1N2004 or similar is placed on a dual banana plug that can be inserted in forward or reverse direction. The LED lights in the forward conducting position and is extinguished in the reverse conducting position.

Transistor Board - Small signal types, power types, stud mount types

Visual Teaching Aids

Integrated Circuit Board - dual inline types (4 and 8 pin), Computer micro-processors (Pentium processor or similar), MMIC (mini circuits) amplifiers

Relay Board – Different types of relays – open frame, sealed miniature, coaxial, reed relays

Meter board – Smaller panel meters (three or four on a board).

Visual Teaching Aids

Vacuum Tube Board – Subminiature, miniature, octal, smaller special types (like 955, 5675) or anything else in your junk box.

Quartz Crystal board – FT243, sealed type for PC Mounting, in glass housing so you can see the quartz element, what you can find at hamfest.

Visual Teaching Aids

Transformer Board- Small open frame, sealed and toroidal (from old junk switching power supply)

Transmission line board – short sections of twin lead, ladder line, RG8, RG 8X, RG58 or 59, Semi-rigid transmission line attached to the board.

RF Connector Board – Male and Female type N, SMA, BNC and UHF (PL259 and SO239)

Visual Teaching Aids

Transformer Board- Small open frame, sealed and toroidal (from old junk switching power supply)

Transmission line board – short sections of twin lead, ladder line, RG8, RG 8X, RG58 or 59, Semi-rigid transmission line attached to the board.

Other Visual Teaching Aids

Directional Wattmeter – Bird 43 or similar or
Diwa **CN180 cross needle type or similar.**

Dummy Load – Bird Termaline, Heathkit Antenna,
Or high power 30dB Attenuator

Antenna Analyzer – MFJ 259 or MFJ 269 or
similar with HF band dummy antenna (50 ohm metal
film resistor with small value inductor and capacitor
in Series

Other Visual Teaching Aids

Large Transmitting Tubes – 813, 4-400, 4CX250 or any other non working high power vacuum tube.

Small Yagi Antenna - 800-900 or 1800 to 2300 MHz cellular Yagi antenna to show size relationship between driven, reflector and director(s). Available cheap at hamfests.

Multimeter – Simpson 260, Triplett 630, or digital types from Harbor Freight, fluke and others.

Other Visual Teaching Aids

Manual Antenna Tuner – MFJ 930/940 series or similar. Remove the top cover and show components (tapped inductor, variable capacitors, RF transformer to match higher impedances Balun for connecting unbalanced lines to balanced line.)

Repeater directories – Show pocket version and larger print version

ARRL Handbook - Any year 2000 or later

Optional Show and Tell Demonstration Gear

A hand held radio (HT) - Any HT

Function Generator - To generate Sine, Square, Pulse and Ramp waveforms

Oscilloscope – To show waveforms from the function generator or voice from a microphone.

Other Visual Teaching Aids

Receiver Board – Ramsey kit AM (or AM/FM) receiver demo board to show super heterodyne circuit elements in a working receiver.

Student Handouts

ARRL Band Plan – Available in packs of 50 from ARRL for about \$5.

Why Join the ARRL Pamphlet - Free from ARRL

ARES Pamphlet – Free from ARRL

ARRL Publications Catalog - Free From ARRL

Others - Check ARRL Web Site