



SETTING UP A 2 METER STATION (THAT WORKS) AT HOME

By Pete Rimmel -- N8PR



There are many ways to set up a home station for 2 Meters

You can use an HT with a fixed or portable antenna

**You can use a mobile transceiver with a
fixed antenna**

**You can set up an all mode base station which will
operate SSB, CW, Digital and also FM with splits
for getting into repeaters – using a fixed antenna.**

What kind of antennas can you use at home?

**Verticals -- Ground plane antennas,
J-poles, Your HT antenna**

Dipoles (vertical for repeater use)

Directional antennas:

**Yagis or Dishes or arrays of directional
antennas.**

**Remember the antenna is the most
Important part of your station !**

**Before we talk about other antennas
lets talk about how to make your
handi-talkie work better:**



Simple Dipole Antenna

Rotate it 90 degrees

Now it is a Vertical
Half Wave Dipole

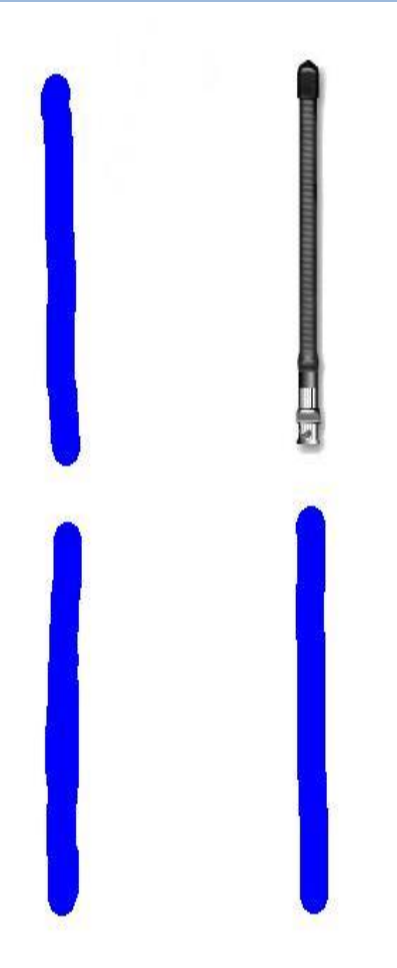


How about that !

Your Rubber Duckie can be Half of the Dipole... just clip on a $\frac{1}{4}$ wave long wire to the ground side of the BNC and you have a more effective antenna !

For 2 meters this wire is about 19 $\frac{1}{2}$ inches long.

That will work for 440 as well – or clip on a 6" wire as on the right.

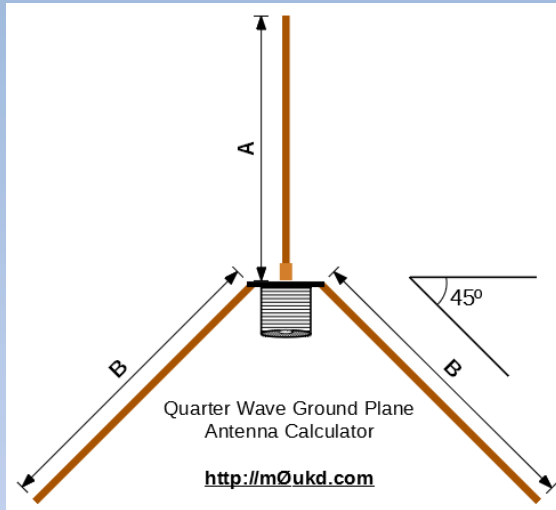


If there is time, we will let you make a "Stinger" for your HT, tonight

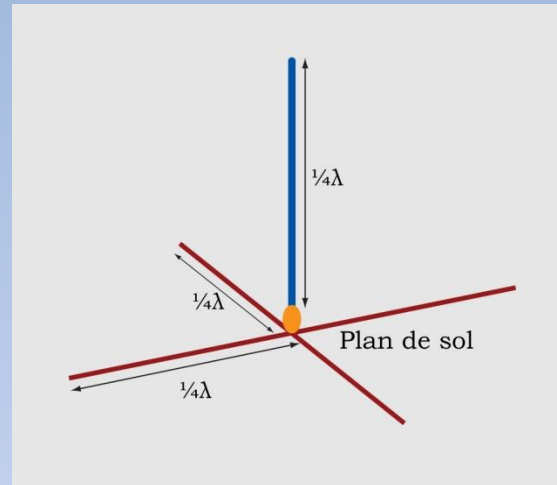
If you only have an HT you can still put up a more effective antenna, feed it with quality coaxial cable (RG-8X, RG-58, etc) and then use a jumper like this one to attach it to the antenna output of your HT



Verticals – usually $\frac{1}{4}$ wave high with a counterpoise



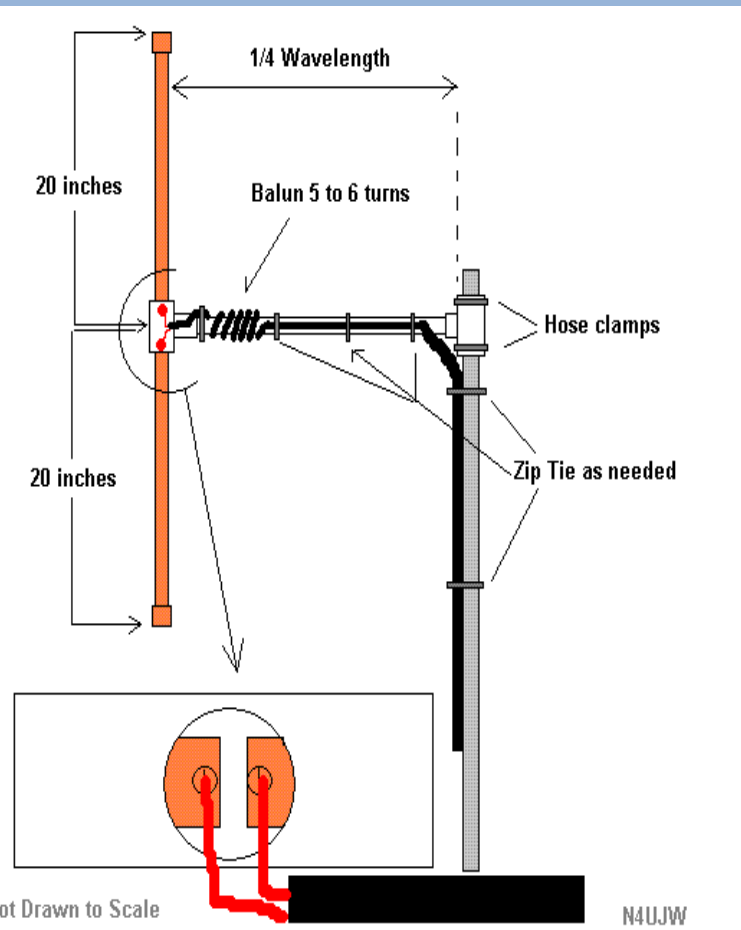
Ground plane antennas
– sloping radials
-- 50 Ohm feed impedance
RG213 – RG-58 – RG-8X



Flat radials
-- 72 Ohm Feed impedance
RG-11 -- RG-59



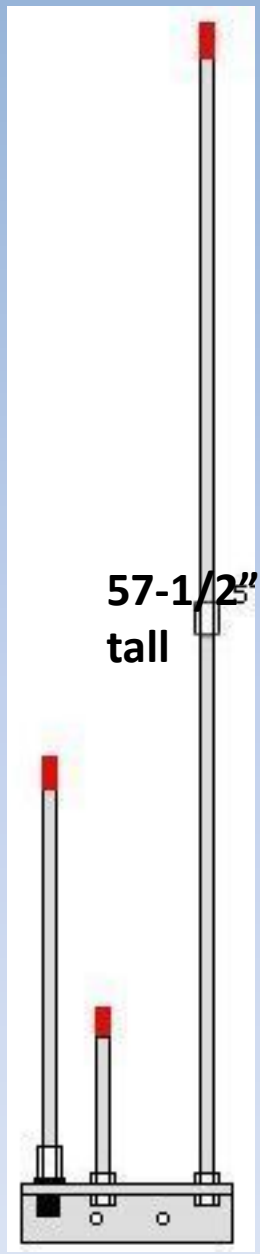
Magnetic Mount on any magnetic surface
Auto Roof, Refrigerator,
Round Pie Tin etc.



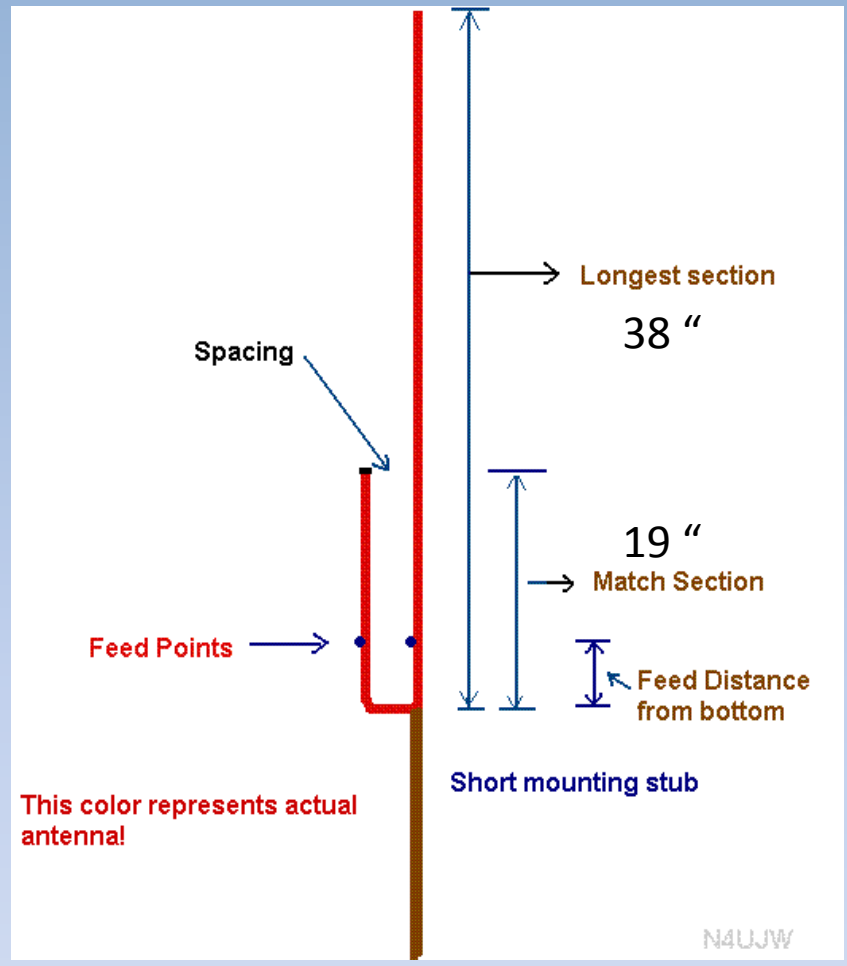
Vertical 1/2 wave dipole – 40" tall

Be sure to run the feed line at 90 degrees to the antenna for at least 1/4 wave

Can be taped to a window



**2M/440MHz
J Pole**

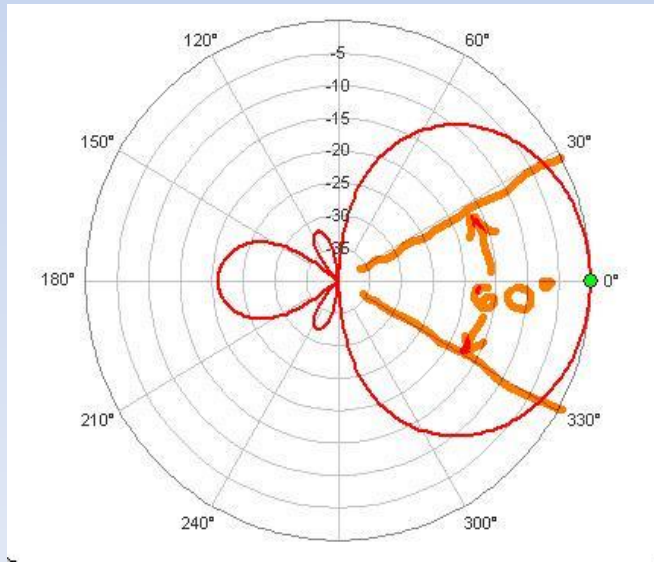


J Pole Vertical
Can be made from wire or copper tubing

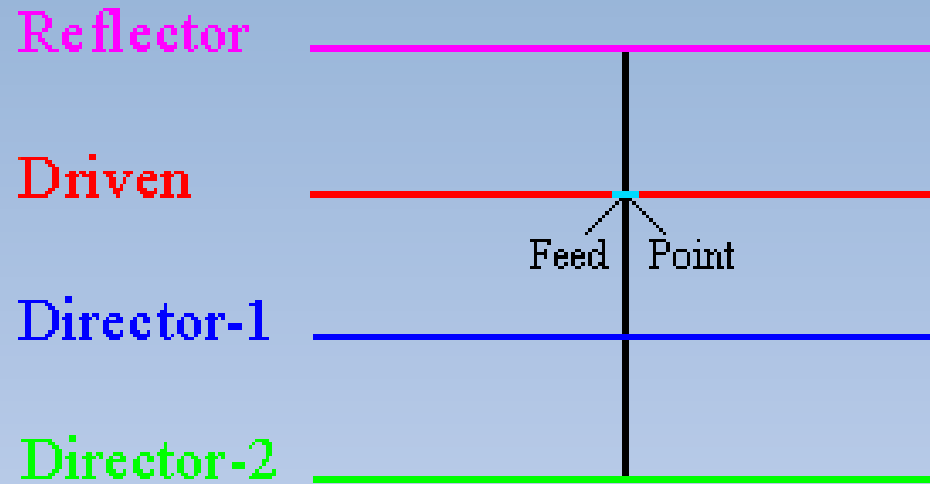


**This 5 element “Elk”
Antenna can be hand
held or mounted vertically
into a cardboard box**

**An 11 element Yagi is
easy to mount on
your Tower when you
get one**



**Directional antennas
have peaks and nulls**

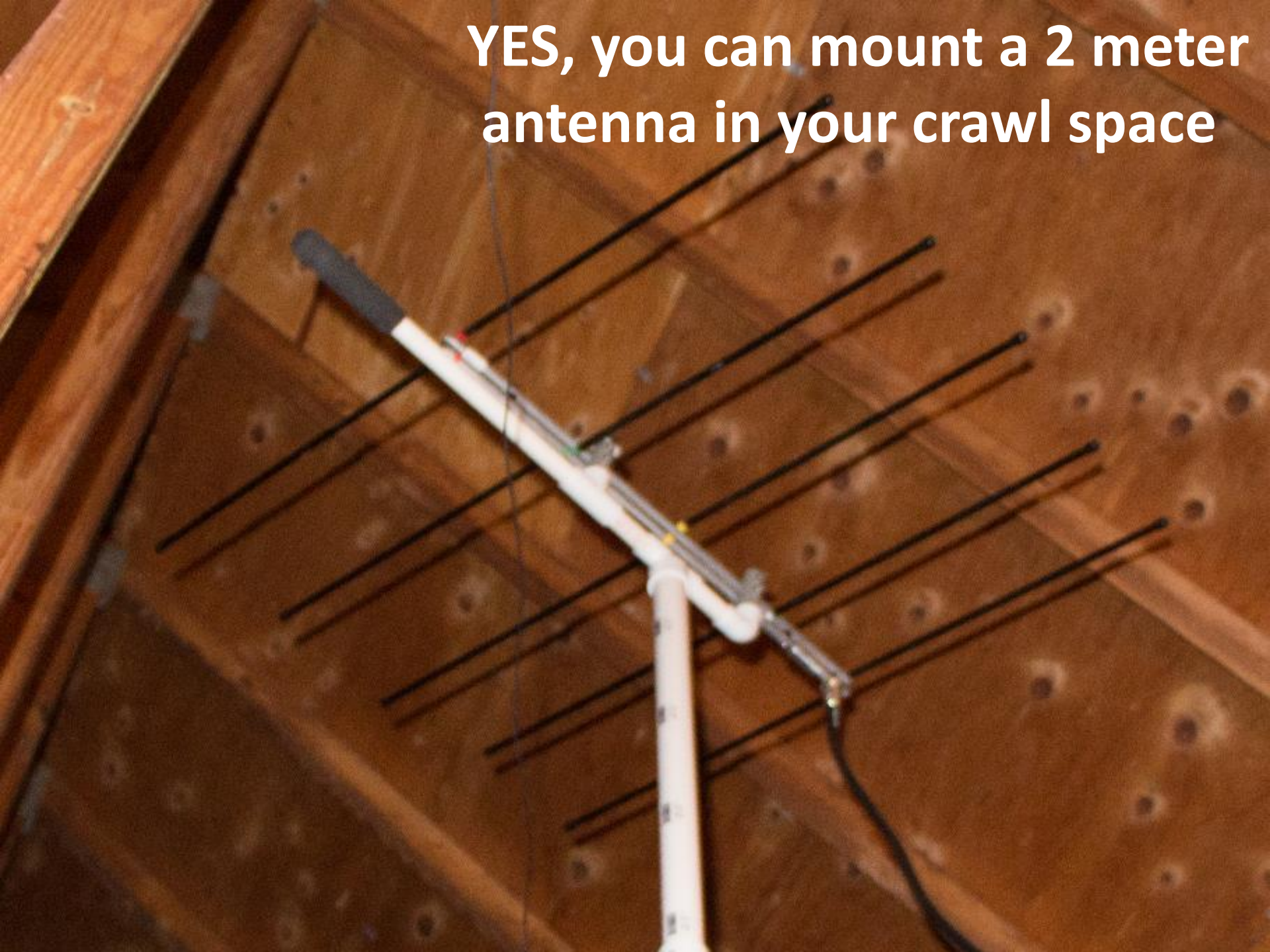


4 element yagi is easy to build and feed directly with 50 ohm coax.

The center of the boom has no element and makes for easy mounting.

Look on DCARC.CLUB to find out how to build this antenna

YES, you can mount a 2 meter antenna in your crawl space





OR you can go really big if you have the room !

Now that you have figured out how to launch your signal into the airwaves,

Let's talk about the radio and what you need in your shack.

In addition to the antenna, you need a radio

And a source to power the radio.

Maybe you want a power/SWR meter, too

You will need some coax cable and coax jumpers

In addition to using your HT with an adaptor to connect it to your chosen antenna, there are two types of radios that are commonly used on 2 meters in a ham shack:

The Mobile Radio and the Multi-Mode desktop radio

The typical mobile radio is small and usually will only operate on VHF/UHF FM frequencies.

The All Mode Desktop can operate on SSB, CW, Digital and FM and can be used for talking to repeaters as well as other mode operations which we will not discuss here.

Mobile 2 meter or 2M/440 radios



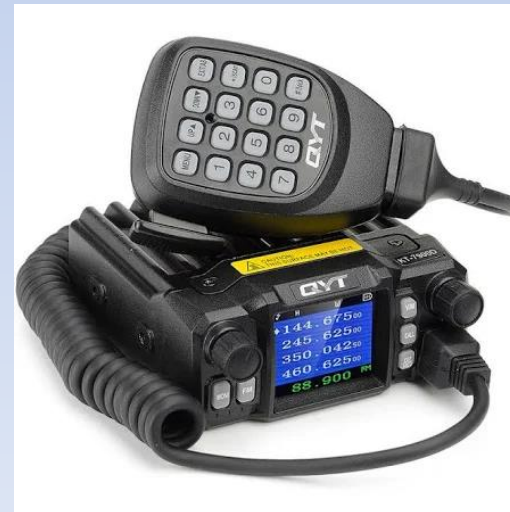
**Yaesu FTM 3100 - 65 Watts
2 M FM \$126.00**



**Icom IC-2730 - 50 Watts
Removable faceplate + crossband Satellite
2M and 440 – 2 receivers \$312.00**



**Kenwood TM-281A - 65 watts
2 M FM \$131.00**



**QYT KT-7900D
Mini Mobile
Transceiver
Quad Band
144/220/350
/440 MHZ
25 watts
\$80.00**

“Base” station Desktop multi-mode radios HF + 6 & Meters (+440)



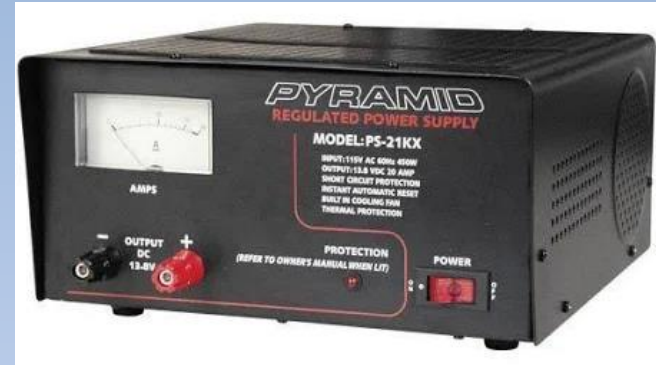
Icom 7100 160M – 440 MHz
All Mode 100 Watts \$925.00



Yaesu FT-991A 160M – 440 MHz
All Mode 100 Watts \$1183.00



**MFJ Switching 25 Amp w. power poles
\$89.00**



**Pyramid Switching 20 Amp
\$70.00**



**← Astron Linear 20 Amp PS
\$160.00**

SWR/Power Meters



[Diamond Antenna SX200](#)
[SWR meter, 1.8-200MHz,](#)
[5/20/200W, \\$89.00](#)

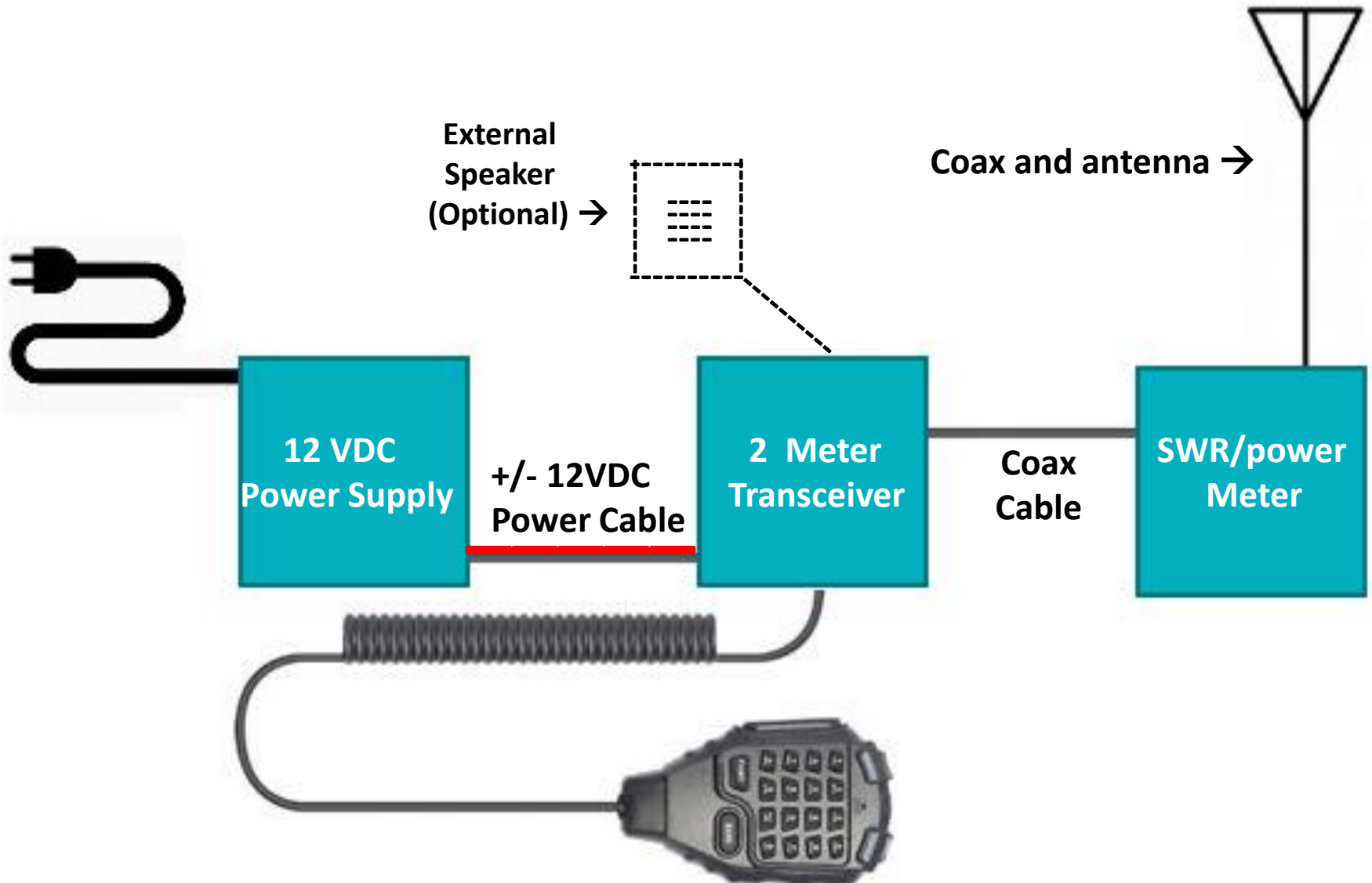


[Daiwa CN-501H Daiwa SWR Meter,](#)
[1.8-150MHz, 10/150/1500W \\$99.00](#)

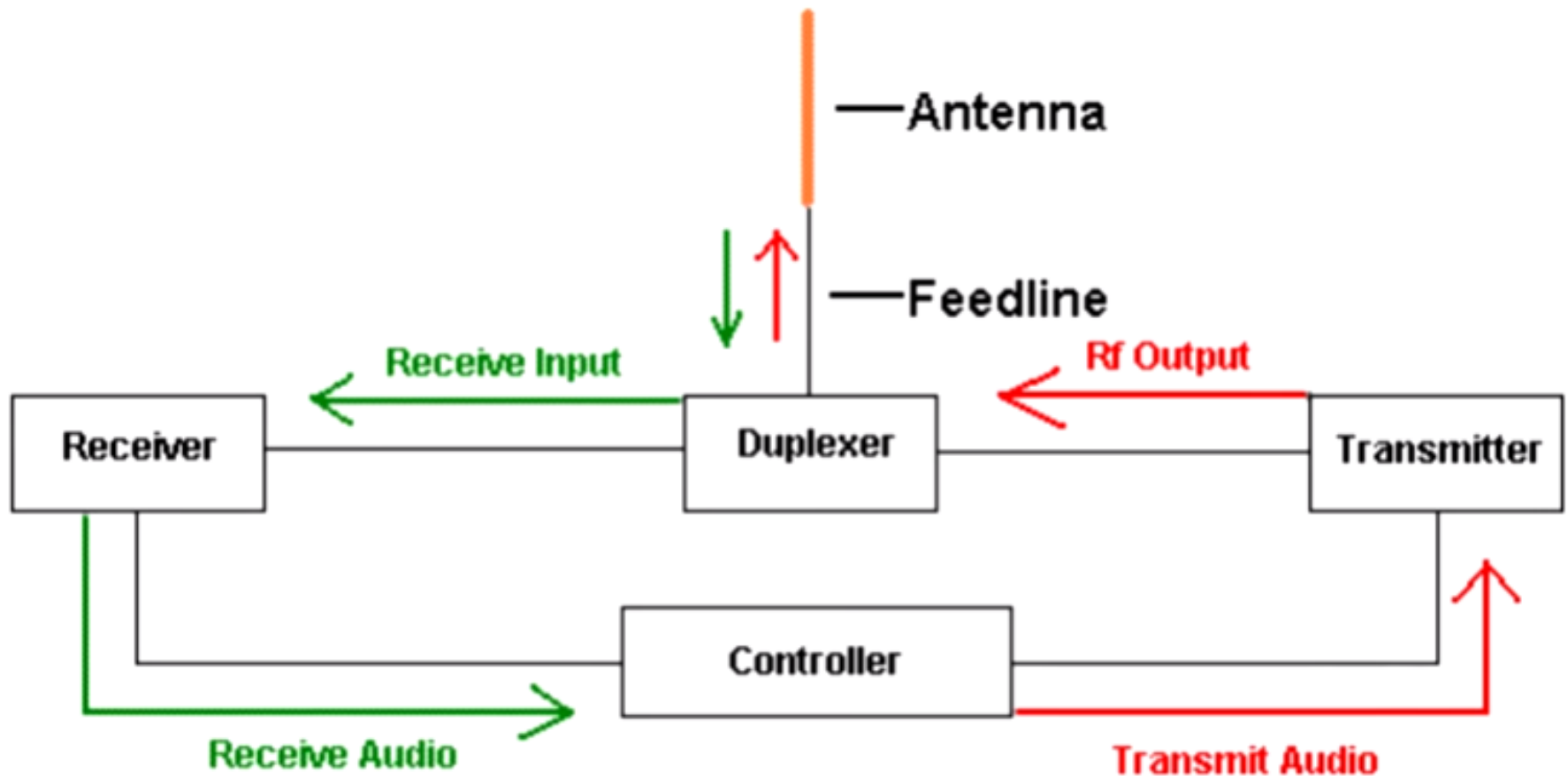
How do we hook all this stuff up??



It really is easy !



We talk to repeaters... What is in a repeater?



Now we will put together a station,

We can make you a “Stinger” for your HT

and we will answer any questions you have...

Thanks for your attention.

73 !

