Construction Plans for the Model J146/440

Dual Band (2 Meter/70 cm) Solid Aluminum J-Pole

Parts Needed

- Radio Shack # 21-961 3/8"-24/SO239 Mount (Mobile CB Antenna)
- Radio Shack # 15-826 TV Mast U-Bolt Clamp Assembly
- About 85 inches of 3/8" diameter Solid Aluminum Rod.
- 5 1/2 inch piece of strut angle Aluminum 1 1/2" X 1 1/2" X 3/16"
- 4 Stainless Jam Nuts 3/8-24 thread (or 3/8-16)

Tools Needed

- Drill Press with drill Bits up to 1/2".
- Tap & Die for 3/8-24 thread.
- Sander or file to de-burr the cut edges.
- 9/16 wrenches & a 3/4 wrench.
- Vice-grips
- Saw

Procedure

Make sure the piece of angle Aluminum is exactly 5 1/2 inches long. Drill two 1/4" holes on one side, centered to fit the U-Bolt for mounting. On the other surface of the angle, measure in 1/2", 1 7/8" and 5" in from left side and drill 1/4" pilot holes. Enlarge the first of the pilot holes to 1/2" for the antenna mount. Enlarge the second and third of the pilot holes to 11/32" then tap the holes with a 3/8-24 tap or 3/8-16.

Finish as required.

Cut a piece of the 3/8" Aluminum rod to about 20". Attach a vice-grip to one end. Using a 3/8-24 die cut in about 8 threads in the other end. Screw on the Coupling Nut that came with the SO239 Mount. Tighten as much as you can. Measure the rod & coupling nut & cut to exactly 19 1/4".

Cut a piece of the 3/8" Aluminum rod to about 60". Attach a vice-grip to one end. Using a 3/8-24 die cut in about 14 threads in the other end. If you don’t have jam nuts, cut enough threads for 2 nuts & the thickness of the angle bracket. Screw on one of the jam nuts & tighten as much as you can. Measure from the bottom of the nut and cut the rod to exactly 57 1/2". Remember the nut must be included in the measurement. Repeat for the 6 1/4" long 440 element. Put a small amount of grease on the threads. Screw the element into the threaded hole and tighten. Screw on the other nut and tighten it. Attach the 19 1/4" element in the 1/2" hole using the rest of the SO239 Mount.

Testing

Mount & test your new antenna. SWR should be < 1.2-1 at 146 MHz and <1.4-1 at 144 &148 MHz. SWR should be < 1.2-1 from 440 - 450 MHz.

Redundant Test

Remove the 57 1/2" element, there should be no change of 440 performance.

SWR on two meters will be high. Reinstall, then remove the 6 1/4" element. No change of the two meter performance should occur. SWR on 440 will not change much but the

performance will.

-

Alternative Method

If all this sounds like too much work, this antenna can be bought for a very reasonable price from Allen at **Arrow Antenna**.

73 Allen Lowe NØIMW Arrow146@aol.com

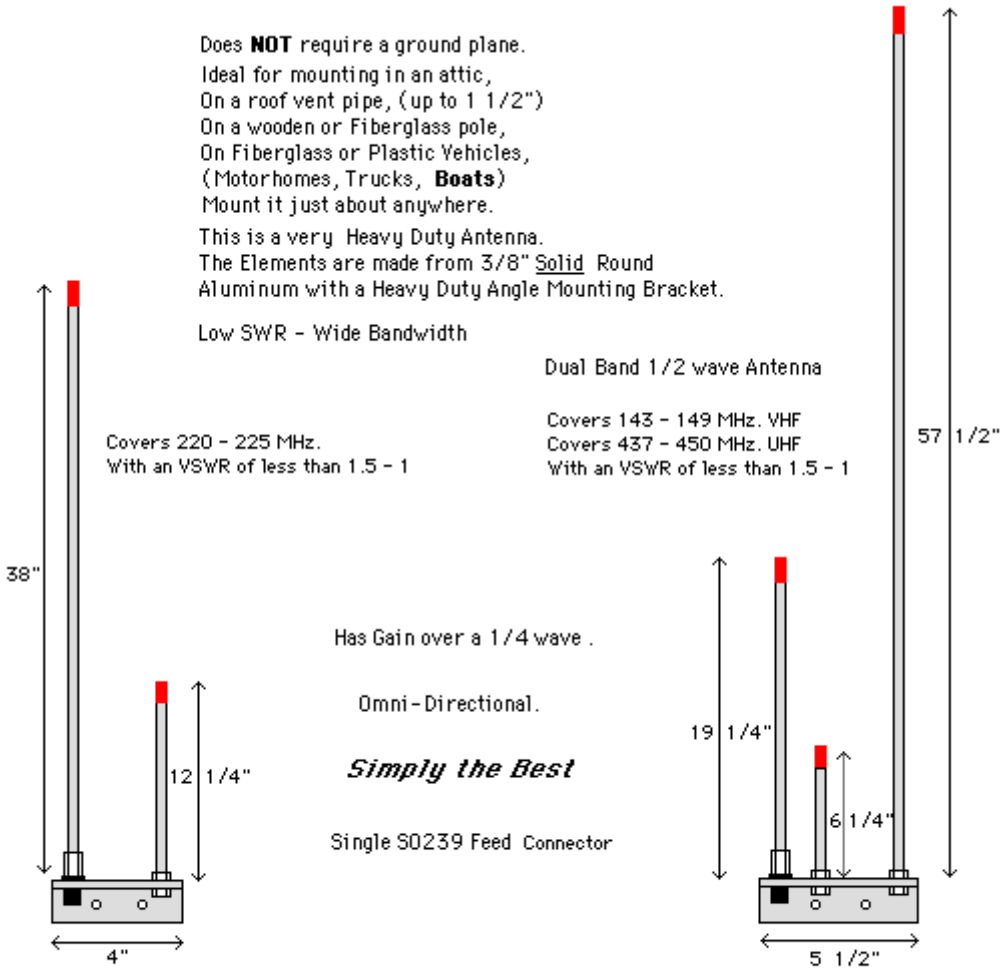
Arrow Antenna

1803 S. Greeley Hwy. # B

Cheyenne, WY 82007

Voice (307) 638-2369

Fax (307) 638-3521



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The CB-Whip HAM 'J' Antenna

from Dale Kubichek, N6JSX on September 4, 2012
View comments about this article!

The CB-Whip HAM 'J' Antenna

by N6JSX

This is my very successful 2m/440 'dual-band single-feed J' antenna design base from and made with a 102" CB whip. I've been using this J for more than 25yrs on my mobiles. Over the years through trial-n-error I modified my basic design to make it more effective and durable.

In general VHF/UHF "J" :

- has a low, almost flat angle of radiation, for maximum distance,
- no ground-plane or radials required,
- relatively easy and economical to make,
- very simple and durable!

The "J" is the BEST antenna for flat-lander's giving them the most transmitted signal distance possible. This is due to the exceptional low main lobe, nearly flat, angle of radiation of about 1-3° degrees. The more common antennas have much higher radiation angles that may be good for high-mountain top repeaters but will shorten flat-land transmitting distances. The 5/8 wave has ~3-6° degree radiation angle with the highest angle of ~4-9° is from a ¼ wave. These ¼ wave & 5/8 wave antennas require a good counterpoise for optimal omini-directional performance.

The "J" has approximately 3dBg of gain over a ¼ wave ground plane. Technically, the "J" antenna is an end-fed ½ wave antenna using a ¼ wave matching stub. In years past it was referred to as an "end-fed Zepp". The matching section acts as a matching transformer, the ½ wave radiator sees the ¼ wave matching section as an image of a false ground. In best terms, the "J" is a balanced ¼ wave matching stub feeding an unbalanced ½ wave load. The long element is ¾ wave with a ¼ wave matching element creating a tuned ½ wave active radiator that needs no counterpoise (ground plane/radials).

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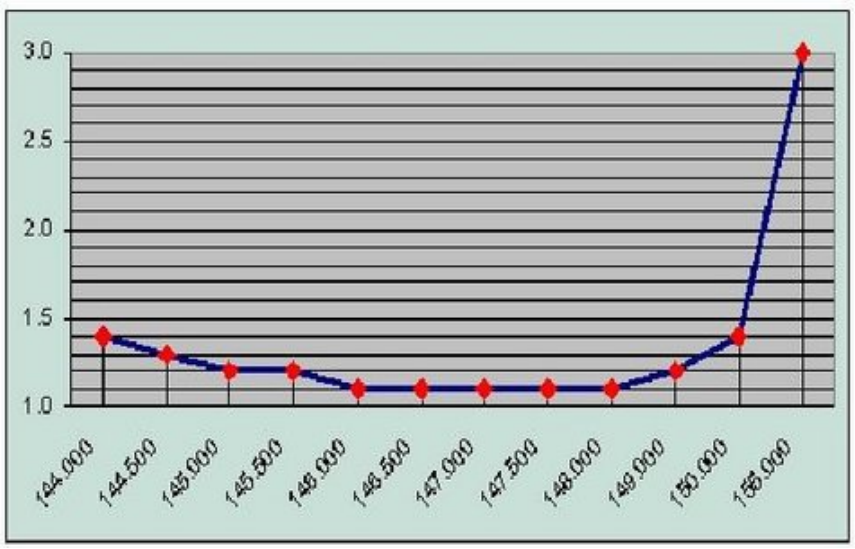
This design the dual-band single-feed J long element is 2.5 wave 445MHz (63.1") with a 2m matching element (19.25"), placing the taps for the best 2m VSWR, as seen in the graph plot. The 440 band is usable but barely (as most VSWR protected rigs will fold-back the RF-out to half power or less at >3.0:1) see graph plot. Over the years I've tried many changes to improve the 440 VSWR and still retain optimal 2m performance nothing seems to improve it. Plot data came from MFJ-269 Analyzer

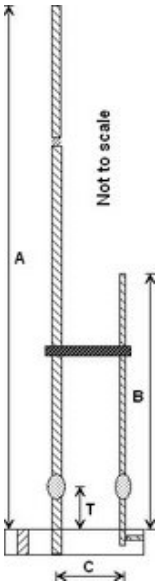
144 - 155 VSWR plot



420 - 470 VSWR plot

Mobile "J" parts: Radio Shack 102" Stainless-Steel CB whip R/S21-903 w/ 3/8"-24 bolt and; SO-239 connector
Terminal Lug, Thomas&Betts **L70-B2** or BTC0208-B2
#10 speed nuts (Lowes)
aluminum block 4"x 0.75"x 0.75"
#8-32 x ½" SS Allen insert (Lowes)
plastic spacer 2.5"x 5/8"x 3/8" (Lowes)
aluminum (SO-239) mounting plate 2"x2/5"x1/8"
RG-8X coax
Liquid Tape [electrical, black, Perfomix™ (eBay)
Penetrox™ (AES)
Stuff™ (AES)
RB14-6, ring crimp-lug (Lowes)

CB-whip J:



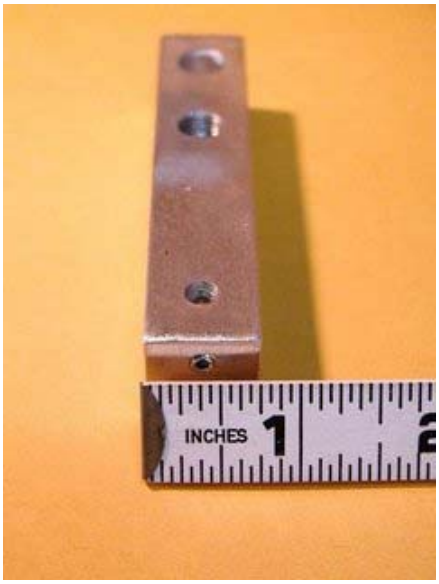
Dimensions:
A = 63.1” (2.5 wave 445MHz)
B = 19.25” (1/4 wave 146.000MHz)
C = 2.0”
T = 2.75” (1.0:1 VSWR 146.000MHz)

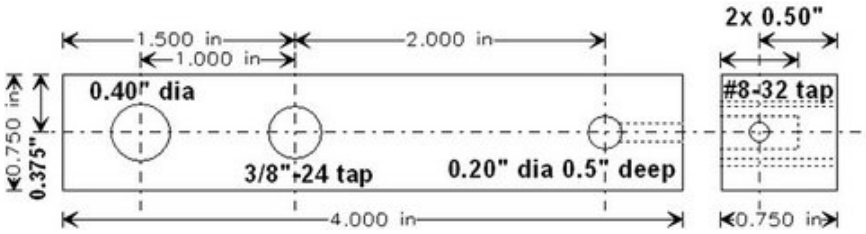
The 2m J long element is typically 57.5” but I found improved 440 band characteristics at 63.1” that is 2.5 wave at 445.000MHz.

Cut the 102” CB-whip to 63.1” (using the edge of a bench grinding wheel to notch the whip and then snapoff). I ground a nice 45° cone to this whip tip. With the remaining 102” top piece, measure 19.25” from the larger diameter (bottom), grind a notch and snap-off to make the matching element. I ground the larger diameter element end flat and put a 45° cone on the tip.

Mobile J base block:

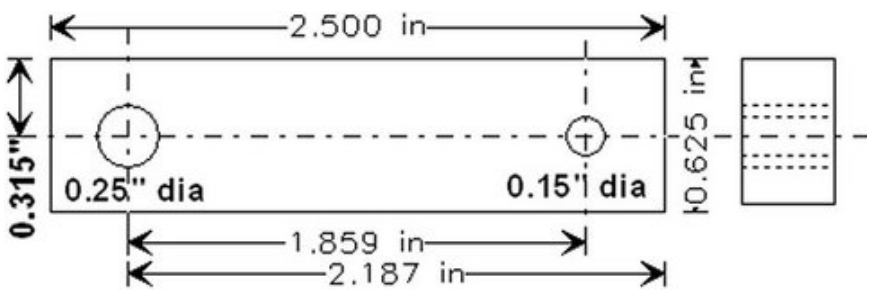
Mobile J base block is an aluminum ¾” SQ x 4” bar.

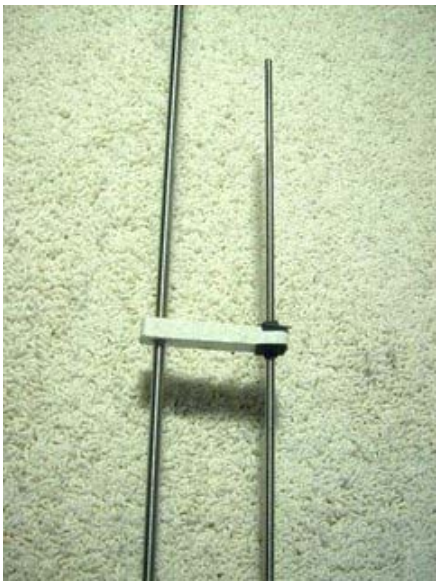




Cut and drill to the drawing. Drill-&-tap the 3/8”-24 hole for the new main whip bolt. The 0.20” hole is only drilled ½” deep for the matching element. On the end of the block drill-&-tap #8-32 for a ½” Allen insert to be the mechanical anchor trapping the matching element to the base block. The 0.40 dia. hole can be of any size and is for mobile mounting.

Spacer: plastic insulator that keeps the elements equidistant during the winds of mobile speed and renders mutual mechanical support for the matching element to the heavier main element:





Speed nuts trapping the spacer.

The insulating spacer is made form plastic decking planks. First, slice a ½" piece from the plank, place the piece upon a paper plate with a cup of water into a microwave oven and heat unto the water is boiling. Use either a thermometer (or the back of your hand) to ascertain if the plastic piece is warm vs. nominal room temperature. If it is warm to the touch the material it is RF conductive and should not be used as an antenna insulator. Try a different type of plastic deck planking. If the piece is near room temperature it is good for antenna use.

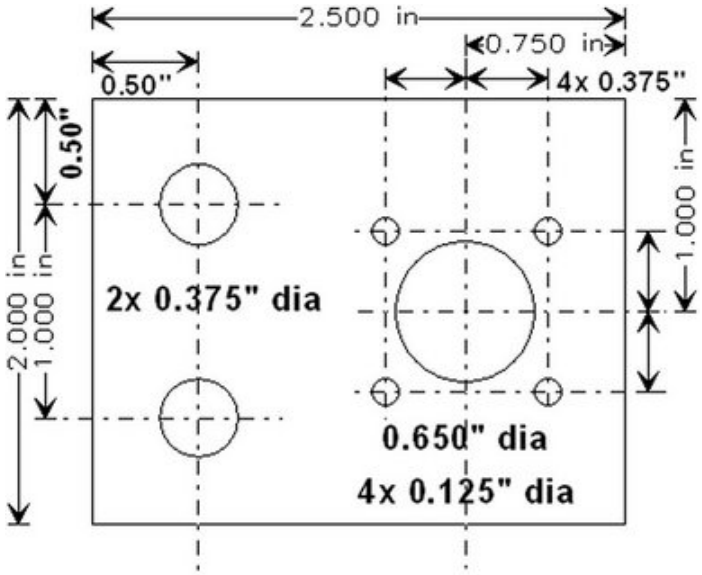
Slice off 3/8" (0.625") strips using a table saw, then cut to length and drill to the drawing dimensions. I use a metal de-burring tool to remove the rough plastic edges from the "new" spacer. The main element hole is over-sized to allow loose sliding. The small hole is drilled to the diameter of the matching element.

I had thread tap the matching element to use shoulder nuts to affix the spacer to the element but that was way too much work. My improved method is to use #10 speed nuts. One is inverted and slipped down the match element until it cannot slide any further. I use another speed nut (in the proper direction) to sandwich the spacer to the element. By nature of speed nuts cannot back up and off the element. The speed nuts have survived +80mph road winds - works great!

Old thread tapped method

New Speed Nut method

1/8” aluminum plate:



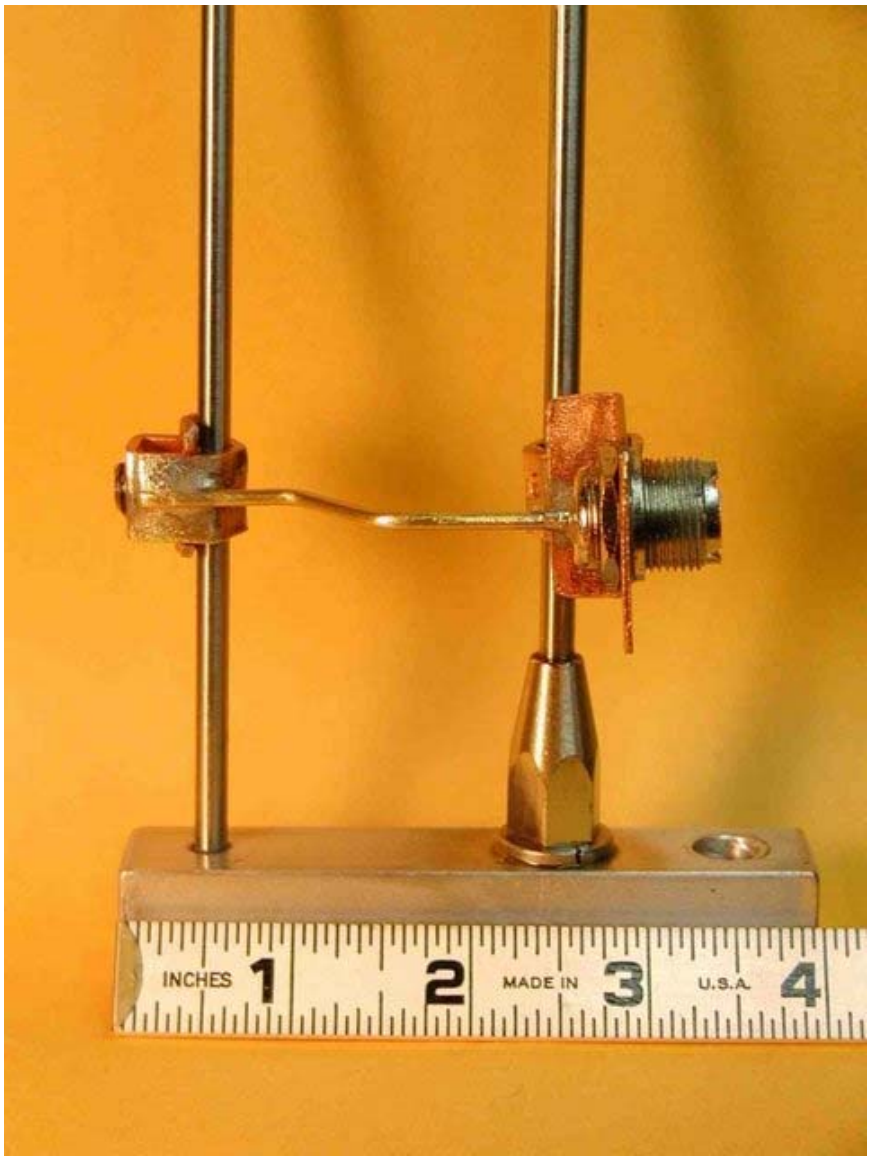
Old thread tapped method

Plate bracketed by the base block and SO-239 connector.

I use appropriately sized bolts/nuts (prefer Ny-lock nuts) to affix the SO-239 to the plate. On one of the four bolts I added a crimp ring-lug to solder the RG-8X coax braid.

Coax Taps:

I had created a coax tap method using brass brazing rod, copper SO-239 plate, and modified electrical terminal lugs, as seen in the picture below. But the flexing of the J whip elements, vehicle vibrations, and McDonalds over hangs as well as low hanging branches caused the brass rod-to-lug solder joint to break, often. This tap method may look pretty but has poor durability when used on flexible whip elements!



A far better and more durable method is the direct soldering of the coax-to-lug.

This method retains the flexibility of the whip elements. Notice the modification to the lugs in removing the eye-hole part of the lug tab. The coax is soldered directly to the lug. The coax center conductor is connected to the short matching element.

Front view of J coax lug taps

Rear view of coax taps & SO-239 connections

However, using coax posses a moisture/weather integrity problem. To reseal and keep the wires from oxidation/corrosion I used Liquid Tape by Perfomix™ as seen in the picture below. I applied two very liberal coats over two days. BEWARE in enclosed spaces - toxic fumes!

Liquid tape liberally applied

Note: the one tie wrap snugly affixing the coax to the bottom of the main element adding support to the coax and reducing wind flexing. This coax tap method may not be pretty but has been highly effective for over 20yrs while traveling from California to Wisconsin to Ohio and many points in between in all weather.

Tuning:

Before set all the bolts/nuts and apply liquid tape the J needs to be tuned for optimal performance. I highly recommend using very liberally apply Penetrox™ to ALL and EACH metal-to metal joint surface and screw threads. I have found in my +40yrs of HAM'ing that antenna metal joints/clamps/threads will eventually corrode to the point of locking threads into the metal especially with aluminum/copper and stainless-steel hardware. Penetrox™ is a **conductive** gray grease that inhibits metal-to-metal moisture corrosion/oxidation.

Pictured below is my VHF/UHF tuning 4' (wooden) red ladder, MFJ-269 with 10' of RG-8X coax, and the CB-J being tuned. A quick start dimension is set the terminal lug screw center at 2.75" from the base block. The MFJ-269 is showing 1.0:1 VSWR at 51 Ohms on 146.020MHz.

When doing the final mounting of the J onto the vehicle use a **non-conductive** moisture inhibitor (white grease) inside the PL-259-to-SO-239, called Stuff™. It fills all the voids within the connection inhibiting moisture and condensation from forming inside the connector – very good stuff to use!

My new CB-J 2m/440 single coax antenna mounted to my new Pathfinder.

Writer BIO: Dale Kubichek, BS/MS-EET, GROL/RADAR, N6JSX - Amateur Extra; first licensed in 1972. Served 10yrs USN, Vietnam Vet, FTG1 Gun/Missile systems & electronics instructor. Electronics Test/MFG/QA Engineer & Program Manager, in; aerospace - Hughes, Northrop, Rockwell, HawkerBeechcraft; commercial - Magellan, Mitsubishi, Emerson-Copeland; heavy construction - TEREX, Manitowoc Cranes, Magnetek; communications – Hughes, STM, RockwellCollins. Currently, a USAF SPO Sr. Engineer on UAV SIMs. Interests are in designing/testing antennas, RDF hunting/training, SAT OPs; published numerous articles in 73 Magazine, eHAM.net, WI Badger Smoke Signals, HamUniverse.com.
Owner of:
http://groups.yahoo.com/group/HAM-SATs ,
http://groups.yahoo.com/group/RDF-USA , and many more.

Member Comments:

This article has expired. No more comments may be added.

The CB-Whip HAM 'J' Antenna
by AE5QB on September 4, 2012 Mail this to a friend!
Nice machine work. If one doesn't have the ability to build it, he/she can pick one up for $40 here:

http://www.arrowantennas.com/osj/j-pole.html

Tom/AE5QB

RE: The CB-Whip HAM 'J' Antenna
by KE5JPP on September 4, 2012 Mail this to a friend!
Very nice work and great article. A real Ham who actually builds stuff!

Gene

RE: The CB-Whip HAM 'J' Antenna
by KE5JPP on September 4, 2012 Mail this to a friend!
Yes, there is a lot of stuff that can be argued about a J pole, especially in relation to gain and angle of radiations as well as feed line radiation. But this article should be appreciated for the construction of this antenna. The techniques employed can be adapted to building other antennas too.

Gene

The CB-Whip HAM 'J' Antenna
by N7TEE on September 4, 2012 Mail this to a friend!
Watch out for low large diameter branches as you may end up with no antenna and rack on the top of the car.

The CB-Whip HAM 'J' Antenna
by W5LZ on September 4, 2012 Mail this to a friend!
Can't say I've used a 'J'-pole mobile, but certainly have fixed. They do work on both 2 meters and 70 cm. Not the best in the world, but they work. I see no reason why it wouldn't work on a vehicle. The only 'tricky' part would be mounting it. Shouldn't be too difficult, just different.
- Paul

RE: The CB-Whip HAM 'J' Antenna
by W4OP on September 4, 2012 Mail this to a friend!
Being a machinest (by hobby) I too appreciate the construction portion. Nice ideas and execution.

I think the whole deal with J poles, VHF/UHF loops etc, is that because the builder can get a good VSWR, they feel the antenna must be working properly.

Details like feedline and mast radiation, pattern, takeoff angle etc are soon forgotten, or take a backseat.

So, not my choice, but I applaud the craftmanship.

Dale W4OP

RE: The CB-Whip HAM 'J' Antenna
by AB0RE on September 4, 2012 Mail this to a friend!
A J-Pole antenna made from a... ((GASP))... CB Whip? :-)

Thanks for the great how-to article.

RE: The CB-Whip HAM 'J' Antenna
by KT4WO on September 4, 2012 Mail this to a friend!
144-150Mhz under 1.5:1 SWR --- Can you say Dummy Load?

KT4WO

RE: The CB-Whip HAM 'J' Antenna
by KB1GMX on September 4, 2012 Mail this to a friend!

Great mechanical execution.

Dale, for the mobile use azimuth pattern may be a side issue due to mounting and a on a truck at that. Elevation pattern (takeoff angle] for 440 however is horrid and I've tested that on a range. Its mostly UP. Any 2M antenna on 440 suffers that unless it's been trapped or made to look like a colinear. The 2M antenna used on 440 is a good stopgap and still a lousy antenna. That's a range tested reality.

On 2M if the lengths are correct (never mind the stub for SWR) the antenna works about the same as any vertical dipole at that height and location. For 64 inches height a 5/8wave (~48 inch whip plus feedpoint) will do better. Or it can be fed with an L network and be only about 38 inches of whip for a vertical EFHW.

I run a 2M EFHW on the bed rail of the 2009 Tacoma I have as the 5/8 didn't want to work as well. The plastic bed and no nearby metal was not offset by the 68" long bed tie down rail as RF ground plane. The EFHW finds that to be an adequate counterpoise and it clears the garage door where the 5/8W and others tried didn't.

Gain is not everything if it's been knocked off the truck by an errant tree. Being in the antenna design I find that gain is less an issue over mounting, durability, and effective patterns as most radios have more than enough power and receiver sensitivity.

Allison

The CB-Whip HAM 'J' Antenna
by N2RRA on September 4, 2012 Mail this to a friend!
I love enginuity as well as hard work along with A+ for effort and imagination.

Bravo on all!!

Don't care what anyone says but great article and the fact you showed passion in your design it sure is a lot more than the nay Sayers have to offer and show for.

Good job and 73!

RE: The CB-Whip HAM 'J' Antenna
by K9MHZ on September 5, 2012 Mail this to a friend!
>>>>By W4OP on September 4, 2012
I think the whole deal with J poles, VHF/UHF loops etc, is that because the builder can get a good VSWR, they feel the antenna must be working properly.<<<<

Yeah, and if you need ruggedness, the J Pole isn't bad. They're so easy to make, so I don't understand why they get so much acclaim each time someone puts one in a magazine or on here. But if you want to build something that's solid that's good to backpack (obese hams backpacking.....LOL, that would be a sight), or go to a Field Day location, it's pretty indestructible. If you decouple the coax shield from radiating, you'll get some OK results. Kind of a C student in antennas.

I don't get this mobile setup at all, though. To be so locked into the "I build stuff" idea and end up with such mediocrity doesn't make a lot of sense. And it looks ridiculous on his vehicle.

RE: The CB-Whip HAM 'J' Antenna
by K8QV on September 5, 2012 Mail this to a friend!
Say what you will, it's a nice build and would look good on a whacker car.

The CB-Whip HAM 'J' Antenna
by WB6FQZ on September 5, 2012 Mail this to a friend!
Nice article Dale....VERY well presented. Js have been around for years and have stood the test of time. My dad ran them mobile for years in the 60s on 2 meters AM with Gonset "Gooney Birds". All the gang had them because they work! Anybody old enough to remember the "35" gang in the San Fernando Valley of So.Calif.? They were called that because they were on 145.35 Mhz. Oh and to the ham that is concerned with the safety of such an antenna, it looks very well engineered. I've had commercial antennas break off of my Jeep. If you're still worried.. don't get behind him!

The CB-Whip HAM 'J' Antenna
by WB6FQZ on September 5, 2012 Mail this to a friend!
Oh and Thanks Dale for your service to our country....
I too am a Vietnam vet...US Navy Seebees
Chuck.....WB6FQZ

RE: The CB-Whip HAM 'J' Antenna
by N1DVJ on September 5, 2012 Mail this to a friend!
Sometimes what you can pick up from an article is not so obvious. I like the idea of the screw taps being used as a variable attachment point to the whips. NEAT idea!

RE: The CB-Whip HAM 'J' Antenna
by K9MHZ on September 5, 2012 Mail this to a friend!
Yeah, but you've got a lot going on in those spots for some serious galvanic corrosion, especially in winter months with salt exposure. Arizona or indoor setup....agree.

The CB-Whip HAM 'J' Antenna
by K0IC on September 6, 2012 Mail this to a friend!
The only comment I have is to mount the antenna on a spring under the base. Radio Shack sells them too. The way trees and garages are around here that would make it a lasting antenna.

RE: The CB-Whip HAM 'J' Antenna
by KE7FD on September 6, 2012 Mail this to a friend!
Before I left the house this morning I sent a note off to the Articles Editor at eHam asking him to remove my earlier post. I was glad to see he acted quickly accordingly to my request. I feel that I was heavy handed and my comments were inappropriately harse when only a simple comment would have sufficed.

I would like to apologize to the author and the readers for my earlier post; I exceeded my intent and distracted attention away from what is an excellent submission. The author provided excellent material, photographs, data and construction details which make his article a pleasure to read. I do think that if anyone was going to build a j-pole, they should consider the N6JSX model; it is worthy of consideration and would do very well as a fixed or portable antenna. Again, I apologize to Mr. Kubichek for my earlier post.

Glen - KE7FD

The CB-Whip HAM 'J' Antenna
by K4YZ on September 7, 2012 Mail this to a friend!

Hello, Dale,

BRAVO for a job well done! Excellent peice, professionally done. I'm going to copy it and keep it in my folder of projects.

And THANK-YOU for your service in the Armed Forces. Your service is deeply appreciated!

Semper Fi & 73

Steve, K4YZ
GySgt USMC (ret'd)

The CB-Whip HAM 'J' Antenna
by K5QED on September 7, 2012 Mail this to a friend!
Just a comment on what appears to be a discrepancy in the dimensions.

You wrote:
"Slice off 3/8” (0.625”) strips using a table saw ..."

3/8" = 0.375"

I assume you meant 5/8", which is 0.625"

Nice article - may build one this winter.

Charles
K5QED

The CB-Whip HAM 'J' Antenna
by K0RGR on September 7, 2012 Mail this to a friend!
There was a similar design to this years ago that used a 102" CB whip - actually it could be 96" 10 meter whip just as easily. But, the long whip was not cut. Instead, the base of the J antenna slid onto the long whip, down to the point where it was about 63" from the top. Otherwise, it was very similar to this antenna, including the direct coax feed, which was important because the antenna would be flexible. As a result, you have a J that was quite tall - 11-13 feet off the ground at the top. This was a very effective VHF antenna!

You could still use the long whip on the band(s) it was designed to cover - just be careful not to transmit on it with your 2 meter rig connected to the top of the whip!

RE: The CB-Whip HAM 'J' Antenna
by N6JSX on September 7, 2012 Mail this to a friend!
MHZ:
"you've got a lot going on in those spots for some serious galvanic corrosion, especially in winter months with salt exposure"

Copper lugs on "stainless-steel" whips negates any galvanic action. Plus Penetrox helps mitigate oxidation/corrosion potentials maitinain good continuity. I sported this deisgn for 15yrs in Los Angeles then 20yrs WI/OH - no galvanic degredation, low tree branches, yes.

RE: The CB-Whip HAM 'J' Antenna
by K9MHZ on September 7, 2012 Mail this to a friend!
JSX, you're wrong.....

http://www.roymech.co.uk/Useful_Tables/Corrosion/Cor_bi_met.html

The CB-Whip HAM 'J' Antenna
by N0EQ on September 8, 2012 Mail this to a friend!
FWIW, your American flag is hanging incorrectly. Stars should be in the upper L corner...

I'm convinced that J-poles survive because we can build them and they seem mysterious and sexy. They are absolutely no different than any other half, 5/8 or any other fractional wavelength radiator. The stub is a simple matching device. We could match a half wave radiator with a J stub, gamma, L or C or any of a number of methods. We'd still have a simple vertical radiator.

But being men, we seem to dig the concept of nicely machined parts and gizmos. It's simply "cooler" to see and feel a tapped block of aluminum separating two elements than it is to see a single 5/8 with a base coil.

And of course, we, no matter how much we know better, justify it all by measuring SWR and hitting repeaters on mountaintops, then claiming "It works" and "I got great signal reports".

Nice machining job. But in the end, you've got a frankentenna with all that copper electrical connectors, mis-matched metal types, blobs of sealant etc. Which could all be eliminated by a simple vertical without all the attached bits of hardware, and perform equally satisfactory or better, yet not self destruct.

Good to see anyone building anything. Nothing personal. I just don't see a magic bullet here.

Craig 'Lumpy' Lemke

www.n0eq.com

RE: The CB-Whip HAM 'J' Antenna
by N1DVJ on September 8, 2012 Mail this to a friend!
Wow, I'm surprised no one caught the flag before that! You're right, the stars are upper right from the 'presenters' point of view, and seeing as it's against a wall...

The CB-Whip HAM 'J' Antenna
by K1CJS on September 11, 2012 Mail this to a friend!
This may be nice for a fixed antenna for your shack, but not as a mobile antenna. This antenna is too heavy and there are too many better choices for both performance and lightness out there already.

The CB-Whip HAM 'J' Antenna
by KD8GEH on September 27, 2012 Mail this to a friend!
Kubey,

Very nice article. This is my second attempt to comment. Evidently the moderator didnt know we were friends and deleted my last one HA!

Kudos on a well written article. Outstanding detail clearly defining the build. Parts easilly avaible (except the whip). Would be nice to see the pattern on 2 and 440 modeled. Anyone?

I was even tempted to build it for the heck of it, but your soo soo weak in your mobile ... when I hear you. :) LOL

Take care and 73,

Dave KD8GEH
IRLP Node 8921

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The CB-Whip HAM 'J' Antenna
by KE4ZHN on September 28, 2012 Mail this to a friend!
This is a nice build and all. But I dont see this thing surviving long in a mobile environment. A few whacks on some low tree limbs will destroy it or the mount its attached to. Im also not so sure about the J poles known feed line radiation issues. Perhaps a choke on the coax would help prevent the RF from radiating from the shield instead of the antenna itself? You have to give the man credit for building his own though! Something pretty rare today.

RE: The CB-Whip HAM 'J' Antenna
by N6JSX on October 2, 2012 Mail this to a friend!
ZHN: tell me what antenna/mount will survive low hanging tree limbs. How far can stretch to create a slam?

All the J dis'ers amaze me, I've been making/using J's (copper-pipe/CB-J) for ~30yrs and never experienced any of he negatives these arm-chair experts claim. Antenna Model programs are mathematical maybe's. I've asked a few of these Model programmers if they have built antennas based on their model then tested it to compare the model to real - most say it is too expensive. So preaching wisdom from models is highly suspect! Users of my J's rave about their operations and simplicity.

The only J that I found an issue with is the close spaced wires in TV twin/ladder-line designs. I found that either tune the coax (length) or use a Bazooka-sleeve balun-choke to obtain optimal VSWR.

If you want gain, consider a super J (1/2wave over 1/2wave). I regularly talked across Lake Michigan Manistee/Ludington (~80mi) at 50W. Or +60mi to Milwaukee/Sturgeon Bay/Oshkosh and even Upperland - Escanaba MI. The low angle of radiation is real.

The CB-Whip HAM 'J' Antenna
by KC2SMU on October 9, 2012 Mail this to a friend!
Very good article. I like your photos and drawings.

RE: The CB-Whip HAM 'J' Antenna
by K7DFA on October 9, 2012 Mail this to a friend!
I have to say that the people pointing out the inverted (American)flag at the top of the page are correct! The "field" of the flag is supposed to be in the upper left corner as you're facing the flag! That said, it's a relatively minor "gaffe" in a well written article.
I'm not personally going to rush right out and build it myself. I believe that Arrow antennas does it better than I can, and I've never had any "DIY" project that went below budget, so my mobile J-pole antenna is going to be a OSJ 146/440! I've just got to remember to make a suitable bracket, so that I can get the antenna below the roof-line of the carport before I back in to my parking space!!!

RE: The CB-Whip HAM 'J' Antenna
by K7DFA on October 9, 2012 Mail this to a friend!
Thomas,
Since when is a 1/2 wavelength antenna a "dummy load"?!?!
Just sayin' that's kind of a stretch, isn't it???