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Antenna tuner for Icom IC-7000 and dipole antennas?

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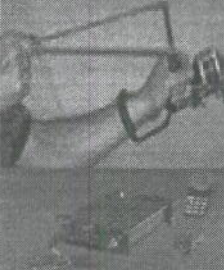
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RADIO

04-03-2011 12:02 AM #1

WSDLD
Ham Member

Join Date: Jan 2011
Posts: 11

Antenna tuner for Icom IC-7000 and dipole antennas?

So I'm pretty new to ham radio. I got my tech in Jan. and my general in Feb. So far I've only been active on 2m and 70cm repeaters.

My 10 yr wedding anniversary is April 21st and my wife is getting me my first HF radio. I wanted a mobile HF radio (live in Louisiana and you never know when you need to evacuate) even though it will pretty much always be a base station. So I've decided on the Icom IC-7000.

Knowing the radio is coming at the end of the month I've started work on what I'm going to do about an antenna/s. This is turning into a bigger issue then I thought as my back yard is literally covered in oak trees. I thought and hoped I could maybe put up a G5RV through all the trees, but I'm having a hard time getting the height and maintaining an inverted V.

The more I research the G5RV I realized I'm going to need an



antenna tuner for the Icom IC-7000. At first glance I thought the Better RF 7000 Tune Control was what I needed but the more I read I don't think this is actually an antenna tuner at all but is just what it says it is an "tune controller", I'm guess it interfaces with an actual antenna tuner?

So here I am. Would love to get some advice, suggestions and education on things. First up is a recommendation for an antenna tuner for the Icom IC-7000.

Second question would be do you need an antenna tuner if you decide to go with a single dipole antenna for a specific band? My thought being that maybe I will not be able to go with an all band dipole like the G5RV due to its physical dimensions and requirements but I'll just have to settle on a particular band like the 20m since the length is something I think I'd have an easier time making work in my yard.

Thanks in advance for any guidance or suggestions offered. I've been reading everything I can today online as well as working out measurements in the yard and through trees and reading the antenna section again in the AARL Handbook for Radio Communications.

Seems I always end up less confident and with more questions the more I dig into things. Starting to wonder if I'm over complicating and over thinking everything or maybe I'm just way in over my head.

Regards,
Dane - W5DLD

04-03-2011 12:25 AM #2

VE6JKV Ⓢ
Ham Member

Join Date: Jul 2007
Location: Calgary Alberta
Canada
Posts: 64



I used the Tune Control with my 7000 when I had a screwdriver antenna in my vehicle. It simply puts the radio into transmit mode in rtty mode, and lowers the power to about 10 watts or so. That won't help in your situation. You need an antenna tuner, just as you figured. There are manual and automatic tuners. The simplest to use is an autotuner, and there was a model of LDG brand that was made specifically for the 7000, but it seems to out of production. You could use an LDG AT 100Pro with your 7000, that should do the job nicely. If you want to use an amplifier later, you'll need to upgrade to a tuner that can handle more power, but that would be down the road a way.

Hope this helps

Jim

04-03-2011 12:43 AM



KE5MC 
Subscriber

#3

Join Date: Aug 2008
Location: Grapevine, TX
Posts: 343



Dane,

I started with a Kenwood TS2000, but am currently very happen with the swap to the 7000. Overall I think a good choice.

LDG has two auto tuners for the 7000. I purchased the IT-100 which has a very simple front panel, but works very well with the tuner connector on the back of the radio. It worked so well that I sold it to a friend and upgraded to the AT-100ProII which has more 'buttons' and LED display for SWR and PWR.

From the tuner out the window to a Balun Design 1:1 current balun. I just looked at his web page and it is closed for order so he can work on reducing the order backlog. His balun's are well made and his workmanship is excellent. The coax from the tuner to the balun is less that 6 feet to keep the coax SWR loses to a minimum.

The last piece is a DX Engineering dipole for \$50 plus shipping. I don't think I could have shopped around and got the piece parts for less. Copper weld antenna wire and 300 ohm ladder line with all the needed insulators and stainless steel hardware.

I too have many trees on a small lot. Dipole is only at 22' strung at the bottom of the tree canopy. Dipole is suspended at three points on pulleys allowing me to bring it down to work on and then easily raise it back up.

It is not the highest or flattest antenna, but it works! Could it be better... You bet it could, but it works for me on the small little piece of ground I co-own with the bank.

Look forward to hearing you on the air.

KE5VYU, Mike

The road goes on forever and the party never ends...☺

04-03-2011 01:13 AM

#4

K7FE 
Administrator

Join Date: Jan 2000
 Posts: 2,954



Dane,
 You do not need a tuner for a single band dipole, so build one and get on the air while you are deciding what to do next. 40 and 20 meter bands are usually active and would be a good place to start.

Consider a "fan" dipole. It will cover multiple bands and does not need a tuner either. Trees are your friend. Hang your antennas as high as conveniently possible. Even when mounted low they will work.....just not as well.

73,
 Terry

Terry Graves, K7FE
 Chief Editor, QRZ.COM

"Some people call CW a MODE but in reality it is an autonomous LANGUAGE."

04-03-2011 01:33 AM

#5

W5DLD 
Ham Member

Join Date: Jan 2011
 Posts: 11



Mike,

Is your dipole for a specific band or is it multiband? Everything you have told me has already made me feel a little better. I can get the apex of a dipole to about 25' using one of the lower branches under the oak tree. The G5RV is suppose to have a 35' ladder feed line hanging straight down it seems which to me means you need to get your apex to at least 35' if not higher. My

other issue with using a G5RV at 102' is find clearance for the two 51' legs. I can do it but then it becomes more of a sloped inverted V. Of course there is the feed line height issue at 25' also to contend with.

That's why I am kind of thinking to just go with a dipole for a specific band but then I worry just how much thats going to limit me. Sure I dream about making contacts around the world but honestly at this point I'd be happy to just make HF DX contacts within the US. Maybe try doing something like working all the cont. US states or something.

If I go with a single band I'm just not sure which. What has the best odds. I know I've read 10m is not it, it seems everything I've read indicates that its very dependent on solar activity although I've also read that its a good time for that band as the solar activity cycle is picking up.

Seems I hear people talk a lot about 20m, but I'm just not real sure.

I know a lot of traffic nets and stuff seem to happen on the 80m, and that has intrigued me but shesh an 80m dipole would mean I'm back to a G5RV length, actually I think it would be greater which well that leads me to even more questions but I'm not going to go into that now, brain already hurts enough from stressing about all of this.

Trying to avoid guesses and trials and tribulations as much as possible to keep my new hobby expenses in check for now. Like everyone I suppose I'm just trying to get the most bang for the buck.

Thanks for all the info and help!

W5DLD, Dane

Last edited by W5DLD; 04-03-2011 at 01:40 AM.

04-03-2011 01:40 AM

#6

W5DLD 
Ham Member

Join Date: Jan 2011
Posts: 11



Thank you for the info Terry! Going to spend some time reading about fan dipoles tonight now that you've mentioned it.

You're all doing at least one thing for me at least, lowering my stress level. :-) I was getting so frustrated out there today fighting to try to figure out various ways to get dipoles up in that mess. Darn tempted to go rent one of those lifts and get me a

chainsaw to clear out some of the higher branches to allow me to pass wires through cleanly and while I was up there try to get a pulley system in place so I can get a higher apex.

Frustration and stress level was through the roof I think. Too worried I was going to have this amazing radio and still no way to do HF.

Things are already getting better thanks to all the advice.

04-03-2011 03:54 AM

#7

K7FE 
Administrator

Join Date: Jan 2000
Posts: 2,954



Dane,
When you install your pulley system, be sure to "screw" things to your tree. Wrapping them around the trunk or branch will choke the tree as it grows and the tree may break at that restricted point. I saw a living pine tree trunk as large as my waist break where a cable had been wrapped around it.

Since one of your goals is to use your transceiver mobile, visit this site for some tips:
http://www.cvarc.org/tech/antenna_my...enna_myths.pdf]]

Be sure to look at Alan, K0BG's terrific site.

73,
Terry

Terry Graves, K7FE
Chief Editor, QRZ.COM

"Some people call CW a MODE but in reality it is an autonomous LANGUAGE."

04-03-2011 03:57 AM

KG6WOU 
XML Subscriber

Join Date: Nov 2004
Posts: 2,952

#8



LDG tuners are great, I own three of them.

I recommend you avoid their model-specific units and buy a Z-11, AT-100pro or AT-200pro. They will work with any radio, so when you upgrade the tuner does not get changed.

I use mine with dipoles to smooth out the band edges, even with the fan dipoles.

As pointed out, with resonant dipoles, you don't have to have a tuner.

You pays your money and takes your chances: The contents of this posting are personal opinions. Persons trying to find motive, plot, logic, truth or beauty will be punished severely under law.

04-03-2011 11:35 AM



NOAZZ
Platinum Subscriber

#9

Join Date: Jan 2008
Location: In Missouri Ozark Mountains
Posts: 1,946



You do have another option for a antenna a vertical will set you up for several bands with a small foot print. You can get them that use radials and those that do not (the best do use radials) several cover from 10-80m and others for just a few bands some will even cover 160m. All of these are coax fed and many tune so well just a small tuner will work there are several used LGG AT-7000's for sale one right now associatedradio.com. I have had one for my IC-7000 for over 4 yrs that tuner works well and all you do is push the tune button on the radio.

73 de Fred N0AZZ

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04-03-2011 12:44 PM

#10

W8UEG 
XML Subscriber

Join Date: Jan 2008
Posts: 899



 Originally Posted by **K7FE** 




*Dane,
You do not need a tuner for a single band dipole, so build one and get on the air while you are deciding what to do next. 40 and 20 meter bands are usually active and would be a good place to start.*

Consider a "fan" dipole. It will cover multiple bands and does not need a tuner either. Trees are your friend. Hang your antennas as high as conveniently possible. Even when mounted low they will work.....just not as well.

*73,
Terry*

This is exactly what I suggest. You will be able to work the states/world on 20. A 40/20 fan dipole would be a great choice and should work well on 40/20/15 without a tuner. Get the center feed-point as high as possible, keep the ends as high as possible but don't worry about the height at the ends, most of the signal will be generated from the first half of each leg. If your having trouble getting the distance needed for a 40 meter dipole try to get half the leg as straight as possible (that's only about 15 or 20 ft per side) then bend the rest of the leg or drop it straight down to fit on your property. If your bending or dropping it down cut the dipole 10% longer then 468/MHz and then trim for best SWR at design frequency. Below are a couple of examples of an infinite number of ways to make a bent dipole fit in a limmited space.

 Attached Images

-  bent-dipole.gif (1.7 KB, 32 views)
-  bent-dipole-1.gif (1.6 KB, 32 views)
-  bent-dipole-3.gif (1.6 KB, 32 views)

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