MFJ 929 Antenna Tuner product review
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I was in search of a good low power, 100 watt, antenna tuner to be used with various wire and mobile antennas. My first attempt was to purchase an LDG Z11 PRO. These little tuners are very popular. But are they any good?

The tuning range of the LDG is 6 to 1000 ohms from 6 to 160 meters. More on the frequency range later.

To find out if you have a good tuner you need a tuner to compare it to. So the LDG tuner will be used for a reference.

Both the MFJ and LDG tuners are simple LC networks that makes them very limited to begin with. The challenge was to couple a shortened 75 and 160 meter dipole. The LDG tuner could not do this task on either band. It was very limited in what it could do and when it was pretty much at its limit, it was struggling to make the match any better than 1.5 to 1 SWR. Another problem with the LDG tuner was, when an antenna is 50 ohms and 0 J (this is where an antenna is at its resonant frequency) the tuner tried to add some capacitance and inductance. This actually made the SWR higher.

Enter the MFJ 929 tuner. The tuning range of the 929 is 6 to 1600 ohms. This little tuner is rated at 200 watts SSB and 150 watts CW and is advertised to operate from 10 to 160 meters. It has a nice little LCD that gives you a lot of useful information. Some of the things it tells you is: forward and reflected power, frequency readout, SWR, capacitance, inductance and numerous menu items for making changes to how the tuner works. The power consumption of the tuner is less than 800 mills when tuning. The tuner can be used with any HF radio at power levels equal to or less than 200 watts SSB and 150 watts CW. A minimum of 2 watts is needed for the tuner to auto tune. The tuner has a two position antenna switch built in. There are also numerous cables that can be purchased as an option to have your radio control the tuner.

If you do not use the optional cable, the tuner is still easy to use. Once the coax cables are connected from the antenna to the tuner and the tuner to the radio, this is all you have to do. Send a carrier from the radio (RTTY, CW, AM or FM) and the tuner tunes. Once the tuner finds its match, it stops. You are ready to go. If you use the optional cable that connects between the radio and the tuner, all you have to do is push the tuner button on the radio, the radio changes from the SSB mode to a low power output CW output level, the tuner tunes and when it finds its match the rig goes back into whatever mode you were in.

The tuner, by default, will try to find a match of 1.5 to 1 or less. Most of the time it will stop tuning when the SWR is very close to 1:1. This can be changed in the setup procedure. You can tell it to stop only when the SWR goes lower than 1.2 to 1 or even 1:1. If you change this setting to 1:1, if the tuner can't make that match it may give up trying and you will have a high SWR. At that point you just reset the SWR level up a notch or two, maybe try 1.3:1 SWR. This is a nice variable feature that I found very useful.

How did the tuner work? I now tried this tuner on the 75 and 160 meter shortened dipole. It matched the entire band without any trouble. I went from 3.5 to 4.0 mhz. Easy job for the 929. It worked just a well on the 160 meter band. Next I set the tuner to stop at an SWR of less than 1.2:1. Again it worked great on both bands and was able to bring the

SWR down to 1:1 anywhere in the two bands. I even tried to tune the antenna on 30 meters. It worked. I also tried other bands and it worked. I am not suggesting you to use a non resonant antenna on other bands and expect an efficient system. I just wanted to see how the tuner handled complex impedances.

I tried to match a 50 ohm dummy load with both tuners. This would fool the tuner into thinking it was trying to match a resonant antenna. The LDG tuner fumbled. It tried to add capacitance and inductance. The final result was a high SWR. It just could not tell itself to go to bypass. Now I tried the same test with the MFJ 929. It knew what to do. It added zero capacitance and zero inductance. The final SWR was 1:1.

Next I put the tuner in a remote location. I put the tuner in my primary station that is located on the second floor. I hooked the shortened dipole to the tuner. I hooked a length of coax to the input side of the tuner that runs down to my shop in the basement. I hooked that coax to my Kenwood TS 850SAT. I keyed the Kenwood and the tuner sensed the RF and made a match. I did this from the bottom of the 80 meter band to the top of the band. I also did this test on the 160 meter band. The 929 worked great in the remote location. While the tuner was in the primary station it was supplied its DC voltage from a power supply on the second floor. If you put this tuner where there is no DC power source, you can inject DC into the coax from your primary station and it will power the MFJ remotely. There is a decoupling device built into the 929 but you have to either buy or build the DC injecting devise for your primary station. You could actually put this tuner in a weatherproof enclosure on top of your tower and run it remotely.

As mentioned earlier in the review, the frequency range of the MFJ 929 is 10 to 160 meters. I called MFJ and they said the tuner will work on 6 meters but it is not very efficient and is not recommended. You will find this true in most other tuners as well.

With a tuning range of 6 to 1600 ohms, by adding a 4:1 balun you can increase this range to 6400 ohms. If this range is not broad enough to match your antenna, you may want to look at the MFJ 991B. The tuning range of this tuner, in the 150 watt mode, is 6 to 3200 ohms. By adding a 4:1 balun to this unit you can increase its range to 12,800 ohms.

There are more features to the MFJ 929 tuner that I have not covered in this article. To find out more, go to MFJ's web page, search for, "MFJ-929" and download the manual.

Other automatic tuners that MFJ make are model numbers 925, 991B, 928, 993B, 994B and their 1500 watt model number MFJ 998.

See you on the bands,
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