Dxers Unlimited middle of the week edition for March 27

By Arnie Coro

Hi amigos radioaficionados... listening via short wave and also by means of our streaming audio from www.radiohc.cu. I am your host Arnie Coro,
radio amateur CO2KK now ready to start the weekend edition of your favorite radio hobby program...

Here is item one... As anyone permanently monitoring the HF bands, scanning from 3 to 30 megaHertz manually or with automatic signal analysis equipment will easily find out, the low solar activity continues to limit the chances of short wave propagation on frequencies above 20 megaHertz, some days the upper frequency limit goes down even further even during the best times of the day at any given location.
The exception comes when sporadic E layer openings move the maximum usable frequency up past the 25 megaHertz range.

Observations confirm that solar cycle 24 continues to show very weak activity as compared with any of the previous 5 solar cycles . My forecast calls for us to soon be witnessing the first zero sunspots day in a long time.

Item two: You have questions and I do my best to answer them... Yes amigos, every day the e'mail brings

in most interesting questions from listeners all around the world... Like for example the one sent by Herman from Guatemala City, City, who listens regularly to our 11760 kiloHertz omnidirectional antenna system.

Herman asks why it is almost impossible for him in Guatemala to pick up stations from other countries in the Americas besides Cuba, Argentina and Brazil

Well amigo Herman, a few months ago I answered a similar question , and this was more or less what I saiddof all, let me tell you that at this moment they are just a few stations on the air on the short wave bands with high enough power to be heard on a regular basis...
And to answer the other part of your question, I will be back in a few seconds after a short break for station ID. I am your host Arnie Coro in sunny Havana, Cuba...enjoying beautiful spring weather...
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This is Radio Havana Cuba, the name of the show is Dxers Unlimited, and yes amigos, we do QSL, we do send QSL cards to listeners that report our programs, and this is done absolutely free of charge... Now part two of the answer to amigo Herman who lives in Guatemala city and uses his ham radio transceiver to also enjoy short wave listening y.

Besides Radio Havana Cuba, that can be picked up, using a rather simple short wave receiving antenna, even while only using a portable radio's telescopic whip, you may be able also to pick up several stations from Brazil, as well as Argentina Peru and Bolivia., are also on the air, especially on the 60 49, 31 and 25 meters bands, but the stations are using low power and simple low cost antenna systems because they are intended to provide local or regional coverage.

When HF bands propagation conditions are good, you may pick up several of those low power stations from Peru, Bolivia , Ecuador , Colombia and Mexico... reception of those low power short wave broadcasts , mainly on the 60 and 49 meters band and also at times on 31 and 25meters.... this will usually take place very late in the evening your local time or just before local sunrise.

For both short wave listeners and amateur radio operators the installation of an adequate antenna for obtaining best results within the frequency range from 3.5 to 29.7 megaHertz is quite a challenge to say the least. City dwelllers, and especially those who live in apartment buildings face a great challenge when trying to listen or to operate on the 80 to 10 meters ham bands, because of the severe restrictions imposed nowadays regarding the installation of external antennas on any type of building and the ever present extremely high
local noise levels .

The rooftops of high rise apartment buildings are an ideal location for VHF, UHF and Microwave operation if you happen to be living at one of
the top floors, but are quite useless for that purpose if your apartment is located close to the ground requiring the installation of a very long
length of transmission line needed to reach a rooftop antenna and this , if you are fortunate to obtain permission to install it by the building
managers.

But, despite all those difficulties, I very often come across a ham radio operator that with a lot of ingenuity manages to operate, for
example, on the 20, 17 , 15 ,12 and 10 meters bands, using different types of compact antennas.

Do notice that mention the 12 and 10 meters HF bands because the size of antennas for those bands is small enough to make them fit across a balcony rail ... But 20 , 17 and 15 meters are certainly the

most popular DX bands when propagation conditions are let's say, normal or slightly above normal, and that is why people living in housing facilities with severe restrictions as regards to the installation of external antennas, try , in the first place to put up an antenna system that can be tuned to 20, 17 and 15 meters.

One of the regular Dxers Unlimited's listeners , who is also an avid ham radio operator asked about what could be done to install an antenna for the 20, 17 and 15 meters band that could fit into his apartment's balcony that measured from one end to the other roughly 5 meters or about sixteen and a half feet.

His already in use 10 meters half wave dipole brought some local contacts, and also some DX when the band is open, but as everyone now is fully aware, the 10 meter band openings via the F2 layer are going to become very rare indeed due to the lack of solar activity. Later , following my advice he has built a FAN DIPOLE that is of the same
overall length, and the results have been very good indeed, according to his latest e'mail.

So, here is what I advised him to do...

Of course that there is also the option of building a compact short dipole antenna using two easy to make loading coils and two end loading capacitive hats, that will make possible to operate on the 20, 17 and 15 meters bands with rather good efficiency, and also on the 30 meters band with somewhat reduced performance. You must use a balun or balanced to unbalanced one to one broadband transformer at the feedpoint of the antenna.

The antenna I suggested fits perfectly into a slightly less than 16 feet horizontal space, and when fed via a factory made or a homebrew one to one balun and using a wide range antenna tuner has proven to provide excellent performance. One good advantage of this antenna is that it can be installed in a couple of minutes when you want to operate or listen to the radio, and likewise it can be taken down and placed in storage at a corner of the balcony !!!

The good efficiency of this antenna design despite its short length, is due to the use of two carefully built high Q loading coils and the nice looking well designed end loading spiders, that act as effective end loading capacitive loads.

The two loading spiders are built using eight wires that are carefully soldered to a circle made of 6 millimeters or about a quarter of an inch copper tubing. Each leg of the antenna is just two and a quarter meters long and they end up connecting to the end loading spiders ... The center insulator supports a one to one balun transformer, and the
antenna is fed with a short length of RG213 or RG8X coaxial cable that connects it to the antenna tuner.

So far, all our experiments with this antenna have proven that it will work quite well with a simple antenna tuner, making possible to operate on the 20, 17 and 15 meters bands, as well as on the 12, 10 and 6 meters band too using an antenna tuner. The fact that the antenna is located inside a balcony, places some limitations as regards to both the overall coverage and also limits its use to power levels not to exceed 25 watts for safety reasons regarding the exposure to radio frequency energy.

If you want to learn more about this compact antenna system, especially designed for apartment dwellers, just drop me an e'mail to inforhc at enet dot cu, again inforhc at enet dot cu.

And now as always at the end of the show, here is Arnie Coro's Dxers Unlimited 's HF propagation update and forecast. Expect sporadic E openings to become more and mores frequent after the end of March and solar activity continues to be very low to low. The night time maximum useable frequency curve will

from now on exhibit its usual spring and summer upward swing that starts after sunset. Solar flux around 80 to 90. Please don't forget to send your signal reports and comments about this and other RHC programs to inforhc at enet dot cu ...

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Radio Habana Cuba