

Dxers Unlimited Middle of the Week April 19



By Arnie Coro

Hola amigos radioaficionados...welcome to this middle of the week edition of Dxers Unlimited, coming to you when Cuban amateur radio operators are getting ready to celebrate the upcoming 50th anniversary of the Federacion de Radioaficionados de Cuba, the national organization that now has reached the figure of ten thousand members all over the Cuban archipelago

Our national amateur radio day is celebrated every 24th of February remembering the day that Radio Rebelde went on the air coinciding with the day of the year 1895, when the Cuban second war of independence began under the leadership of our national hero Jose Marti.

I am Arnaldo, Arnie Coro, radio amateur CO2KK and here is now our next news item ... This past weekend a national amateur radio contest took place to celebrate the victory of Cuba over the 1961 invasion that was organized by the US CIA...

The contest was included into the many nationwide activities related to the 50th anniversary of the national amateur radio association, by the way I was among those who way back in 1966 got together to create our country's new amateur radio organization that drew from the heritage of the Radio Club de Cuba , founded in 1929, after the amateur radio hobby picked up especially in Havana, Camaguey and

Santiago de Cuba cities , but that a development that also included several smaller towns like Caibarien, and a sugar mill site by the name of Tuinicu, that was made world famous by the mill's American engineer , Frank Jones that assembled his ham radio station at the remote location of then Las Villas province in central Cuba.

Recently the Cuban Federation of Radio Amateurs held its eighth national convention . Among the topics discussed were the need to continue training amateur radio operators on how to set up emergency communications links, with special emphasis made in providing more training to help develop the required skills for operating on CW Morse Code Radiotelegraphy... the most simple and reliable communications mode for amateur radio without any doubts....More about the future of ham radio in Cuba and in the world in a few seconds, after a short break for a station ID...

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Si amigos, this is Radio Havana Cuba, Cuban contest operators are regularly taking part in the world's most relevant contest on all transmission modes. I have heard several of them doing well while using low power 100 Watts radios and even 5 Watts QRP stations...

But usually my weekend schedule is tied with with both work and family related activities so it is only possible to monitor the contest activities late in the evening , something I do on the 160, 80 and 40 meter bands, also including 20 meters when it is open at night .

By the way for those of you not familiar with ham radio contests, by agreement between all amateur radio organizations that organize contests the WARC bands, 30, 17 and 12 meters are not used for contesting, leaving those activities to the 160, 80, 40, 20, 15 and 10 meter bands....

Now item four, here at the middle of the week edition of Dxers Unlimited... The Antenna Topics Section of the show provides both beginners and experts with ideas on how to set up antennas, even when local conditions make impossible to install full size ones.

Today I will tell you about the ultra simple British designed tunable wire or coaxial cable loop, that amateur radio operator G4FON made popular a number of years ago...

The first version is made using PVC plastic insulated household wire, of the type used for home wiring circuits... In my experimental version I used number 14 PVC insulated wire with a total length of 6 meters....

The antenna takes the form of a diamond shaped loop with each side or 1.5 meters length. At the top of the loop, I inserted a split stator variable capacitor of a maximum capacity of 100 picofarads, because that was the one I had at hand, but you can use a smaller one with a maximum capacity of 50 picofarads...

The connection to the 50 ohms coaxial cable transmission line used to feed the antenna is made by using a toroid ring of enough diameter so that it can accommodate two turns of the antenna wire, and between two and three turns of the coupling loop that connects to the coaxial cable download. This version of the G4FON loop tunes very sharply, so its main use is as an amateur station transmitting and receiving antenna for the 20 meters ham band.

Once tuned to 14060 kiloHertz , achieving a setting of minimum standing wave ratio, it is possible to operate the station at 14070 without retouching the antenna tuning capacitor.... Again amigos, this is the barebones version of a very simple wire loop antenna that can be built rapidly and set up for operation in just a few minutes.

To keep the loop's diamond shaped, I used two lengths of white thick wall PVC pipe , leaving the vertical one longer so that the antenna may be set up by hanging it from the ceiling if indoors or from an insulated mast or a tree outdoors. I also tested this version of the G4FON loop on the 14060 kiloHertz QRP operators favorite spot, and compared how it worked by switching between the loop and a half way dipole...

It was a very rewarding experience to see that the wire loop when placed outdoors at about 2 meters above the reinforced concrete roof of my home worked very well ..

Switching back and forth between the half wave dipole and the wire loop proved that the simple antenna is good enough to provide many two way contacts... I also tried it as a short wave listening antenna, by retuning it to the the 19 meters or 15 megaHertz international short wave broadcast band and it provided very good reception.

The only inconvenience for the operator while using this type of tuneable loop is that you must retune the variable capacitor every time a frequency change is required... At the G4FON website, there is more information about his two versions of the diamond tuned loops....the URL is www.g4fon.net.... again go to www.g4fon.net to learn more about this unusual antenna, and also download the CW Morse Code training program that is available at that website.

Experimenting with the magnetic loop antennas is very interesting, but there are two warnings that must be taken into account. First never use a magnetic loop antenna with a transmitter power of more than 10 Watts if the antenna is indoors... And second be aware that due to the way it works, a magnetic loop antenna develops and extremely high voltage across the tuning capacitor , that requires using extremely well insulated air spaced variable capacitors or the very expensive vacuum variable capacitors...

A magnetic loop antenna must be used with the aid of a standing wave ratio meter, and retuned every time you shift in frequency by more than a few kiloHertz. In general the larger diameter loops will require less capacitance for tuning them, but they will be more difficult to handle from a mechanical point of view. I have seen several very expensive magnetic loops equipped with remote tuning controls, and even with an auto-tune feature that provides automatic adjustment for minimum standing wave ratio, and that also automatically stops the transmission of the standing wave ratio exceeds a certain pre-set value, usually adjusted to be not to exceed a two to one SWR.

Si amigos , magnetic loops antennas make possible to operate an amateur radio station at sites where other types or antennas are banned or impossible to install....

See you all the the weekend edition of Dxers Unlimited amigos... send your signal reports and comments about this and other or our station's programs to inforhc at enet dot cu, or VIA AIR MAIL to Arnie Coro, Radio Havana Cuba, Havana , Cuba

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