The DX HUNTER

JANUARY 17

MDXA CLUB INFO

MEETINGS: 2nd SATURDAY OF EACH MONTH 7:30 AM @ GOLDEN CORRAL HWY 49 GULFPORT

MDXA WEBSITE: MDXA.org

Net Frequency: 147.375 Tuesday @ 8:00 PM

Editor E-mail: KE4MBP@GMAIL.COM

"More than a Club – We are Friends"

CLUB NEWS

MDXA HOLIDAY DINNER

Was held on Saturday, December 10th at McElroy's in Biloxi. We introduced the Club Officers for 2017 and gave out the MDXA Awards. We had a great evening of fellowship, good food and good friends.

Club Officers for 2017 are:

Bob Farve	President
Howard Thickman	Vice President
Bill Breeden	Secretary
Megin Murphy	Treasurer
Gary Smith	Member-at-Large
Howard Thickman	Field Day Chair
Vic West	Awards Committee Chair
Bill Breeden	DX Committee Chair and QSL Manager
Sue West	Audit Committee Chair

See pictures of the event on the last page of ***Your Newsletter.***

THE OCF DIPOLE

Ron Bertrand VK2DQ

Want to build a simple, efficient, multiband antenna?

One of the best and inexpensive multiband antennas is the off-centre-fed (OCF) dipole. (Note: We use one at Field Day)

These are wonderfully simple antennas that permit multiband operation with little or no tuning. The OCF dipole does require a **balun**. In fact the only difficult part of an OCF dipole is the balun and I will be explaining how the balun works and also how you can make your own.

We shall see how many choose to either use a 4:1 or 6:1 balun for an OCF dipole. I Use an OCF dipole with a 4:1 balun and find it works very well and the 4:1 balun is a bit smaller, lighter and cheaper to construct than a 6:1. However for those want to construct a 6:1 balun I will explain how that can be done as well.

Before we get going let's try and understand what the OCF dipole is all about. It all started

OCF's are a descendant of the Windom. A standard horizontal dipole is fed at a position other than the centre. The objective being to find an impedance on the antenna that can provide a reasonably good match to the transmitter across multiple bands which are even harmonically related, such as, 80, 40, 20, 10 and 6 metres.

The idea of feeding an antenna off centre is not new but for some, at least at first, it appears odd. A half wave antenna is a resonant antenna irrespective of where it is fed.

How far off centre?

The exact position off centre seems to vary somewhat and would seem to be a matter of debate. The length of the dipole is based on the standard length equation **Length (in metres) = 300 ÷ F(MHz) x 0.5 x 0.96.** Windom gave his offset (from centre) as L x 0.14 or (14%). The true OCF dipole must use coaxial or parallel transmission line to eliminate feeder radiation.

Two popular amateur handbooks gives the offset as L x 0.167 or 16.7%. I have also seen designs with an offset of L x 0.174 or (17.4%). There seems to be a bit of variation doesn't there? The objective of these offsets is to strike a spot on the antenna off-centre that has an impedance of around 300 Ohms resistive. If this *sweet spot* can be found then a 4:1 or 6:1 balun can be used to provide a match close to 50 Ohms.

Middle ground is very close to 33.3% from one end. In other words the best place to start is to place the feedpoint 1/3rd of the antenna length from one end. I stick to these dimensions as its easy and very close to ideal and we have a 1/3 – 2/3 antenna. Dimensions of an OCF dipole for 80 metres. The impedance one third of the way from the end should be between 200 and 400 Ohms and of course resistive. Once up you can test measure the SWR on 80 metres and adjust the length by adding or subtracting to both sides. You are adjusting for minimum SWR *not* 1:1 SWR.

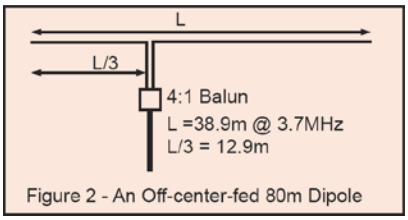

Figure 2 - An Off-center-fed 80m Dipole

Performance of an OCF

The OCF dipole is a good non compromise antenna on its even harmonics. I have heard arguments about how it compares to a conventional dipole. Is it better in terms of antenna gain or radiation pattern compared to a conventional dipole? Well the OCF is a halfwave dipole on the lowest band of operation. Our OCF dipole on 80 metres will work as well and have *exactly* the same characteristic as any dipole on 80 metres On the higher harmonics the OCF will become a progressively longer antenna. On 40 metres our OCF will be a full wavelength. On 20 metres two wavelengths and on 10 metres it will be a full four wavelengths. The longer an antenna becomes the more lobes it will have. The left side of shows a centre fed two wavelength dipole and its radiation pattern. There are more pronounced lobes on this antenna but it is still essentially bidirectional. There are four main lobes.

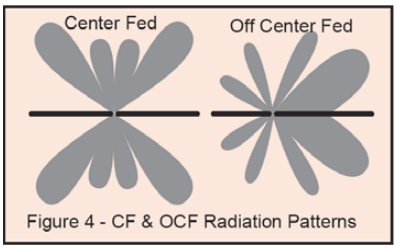

Figure 4 - CF & OCF Radiation Patterns

The same antenna at double the frequency would be four wavelengths. More minor lobes will appear in the centre and the four major lobes will drop down closer to the line of the antenna. In other words the antenna becomes increasingly directional towards the ends. Though this is somewhat exaggerated in the diagram. When we feed such an antenna off centre there is a tendency for the radiation patter to become stronger towards the *long* side of the antenna. The longer the antenna the more pronounced is the towards-one-end directivity.

So theoretically our OCF antenna will become slightly directional towards the longer end. However due to other reflections this may not be at all obvious to the user. Essentially an OCF is no better than a centre fed dipole. The advantage of the OCF is easier lower loss multiband operation on the even harmonics. The losses are lower because the lower overall SWR means less feedline loss. This antenna is resonant on its harmonics. An SWR is acceptable up to 2.5:1 on typical coaxial runs. Typically though this antenna will achieve an SWR of between 1.5:1 and 2:1 on most bands and this is great – even 2.5:1 is good but you will need an ATU depending on the type of rig you use. Older radio's with output tuning will handle this SWR.

ANNOUNCED DX OPERATIONS

January					
2017 Jan01	2017 Jan07	Qatar	A70X	M0OXO	By a team fm Al Safliyah I (IOTA AS-088); HF; SSB CW digital
2017 Jan02	2017 Jan11	Maldives	8Q7AZ	DL8AZ	By DL8AZ fm Meeru I (IOTA AS-013, MJ64uk); 40-10m; SSB
2017 Jan03	2017 Jan15	Laos	XW4XR	LotW	By AA4XR fm Vientiane; 80-10m; CW RTTY JT65; QSL also OK via E21EIC
2017 Jan04	2017 Jan22	Micronesia	V63		By JA3ARJ as V63ARJ, JH3LSS as V63LSS, JA3AVO JH3PBL W7AYA likewise fm Pohnpei; 160-6m; CW SSB digital
2017 Jan06	2017 Jan16	Laos	XW4ZW	LotW	By K4ZW fm Vientiane; focus on low bands; QSL also OK via K1SE (see link at call sign for details)
2017 Jan08	2017 Jan25	Bonaire	PJ4B	PA8A Direct	By PA8A; 40-40m; 100w; end-fed; holiday style operation; include US$2 (no IRCs) SAE w/ QSL request
2017 Jan11	2017 Jan25	Cyprus SBA	ZC4SB	G0GSB Direct	By G0GSB fm the Akrotiri area; mainly 80 40 20m; SSB CW; 100w; dipoles; include US$3 SAE w/ QSL request
2017 Jan11	2017 Feb06	North Cook Is	E51AMF	LotW	By K7ADD fm Manihiki Atoll (IOTA OC-014); 160-10m; CW SSB RTTY; 1.5kw; verticals and wires near salt water; QSL also OK via K7ADD direct, Club Log, eQSL
2017 Jan12	2017 Jan19	Palau	T88WM	JQ6FQI	By JQ6FQI fm IOTA OC-009; HF
2017 Jan14	2017 Jan22	Cayman Is	ZF2PG	LotW	By K8PGJ; QRV for NAQP; QSL also OK via K8PGJ
2017 Jan20	2017 Feb23	Vanuatu	YJ	See Info	By JH2BNL as YJ0AA, JI2UAY as YJ0FM, JA2NQG as YJ0WW (all requested); 160-10m; CW SSB FM RTTY; 2 500w stns 1 200w stn; Inverted L, dipoles, CrankIR, HB9CV; QSL LoTW for YJ0AA, others via home_calls
2017 Jan20	2017 Mar03	Guinea Bissau	J5UAP	LotW	By HA3AUI; 20-10m, other bands on request; CW; 100w; Spiderbeam; QSL also OK via HA3AUI direct
2017 Jan20	2017 Mar03	Senegal	6W2SC	LotW	By HA3AUI; 20-10m, other bands on request; CW; 500/100w; Spiderbeam; QSL also OK via HA3AUI direct
2017 Jan22	2017 Feb02	Ivory Coast	TU5MH	LotW	By DF3FS DJ7JC DJ9RR DL8JJ; 80-10m; CW RTTY SSB; 1kw; verticals, arrays; QSL also OK via DJ5BWD (Buro or direct) and Club Log

2017 Jan25	2017 Feb01	Dominican Republic	HI1UD	LotW	By HI3MPC HI3TT HI3CC HI3RWP HI8RD HI8K HI8C HI3Y HI3MRV HI8EES fm Beata I (IOTA NA-122, FK47fn); all bands; CW SSB; QSL also OK via Club Log (preferred) or W2CCW direct (w/ $US2 SAE)

Happy New Year to all

CONTESTING NEWS

Kid's Day Contest	1800Z-2359Z, Jan 7
ARRL RTTY Roundup	1800Z, Jan 7 to 2400Z, Jan 8
North American QSO Party, CW	1800Z, Jan 14 to 0559Z, Jan 15
North American QSO Party, SSB	1800Z, Jan 21 to 0559Z, Jan 22
ARRL January VHF Contest	1900Z, Jan 21 to 0359Z, Jan 23
CQ 160-Meter Contest, CW	2200Z, Jan 27 to 2200Z, Jan 29
Montana QSO Party	0000Z-2400Z, Jan 28

If you have info or articles you would like in the Newsletter, e-mail them to me and I will get them published.

K1AR CONTESTING HINT

I'm sure you recall the technique entered during a contest when you are "looking for multipliers?" As you tune up and down the bands, don't forget to call ANY needed station -- even if he's not a new multiplier. But it is easy to get into multiplier mode and skip calling the easily workable stations. The extra effort could mean an additional 20-30 QSOs in your log!