



Bulletin



October 2018

From the Pres



Dick K5TF

Last month I attended the SEDCO W4DXCC Convention in Pigeon Forge, TN and had a grand weekend. The SouthEastern DX and Contesting Organization (SEDCO), currently headed by Dave Anderson K4SV, has held the annual September event known as W4DXCC, since 2005.

Among the over 200 attendees was Bernie McClenny W3UR, owner and editor of The Daily DX/The Weekly DX, who will join us via Skype for our October 18th meeting. He will provide an update on what we can expect from the top of the list of most needed entities. Also present at W4DXCC was Tom Harrell N4XP of our club who was co-leader of the recent Baker Island expedition. Tom will present the Baker Island 2018 program at our November 16th meeting.

Continued on page 2

October Meeting

Date/Time: **Thursday October 18th @ 7:30 PM**
Location: Rich Auditorium, Piedmont Hospital
Details at www.sedxc.org

Program Title: **Top Twenty Most Wanted Future Plans**



Speaker: **Bernie W3UR**

Bernie, W3UR, publisher of The Daily DX, and The Weekly DX, will join us via Skype to bring us up to date on near-future plans of activities from the Top Twenty Most Needed DX entities.



SEDXC Holiday Party will be Thursday December 13th at the 57th Fighter Group in Atlanta. Full details are at <http://www.sedxc.org> and click-on the December Meeting link. **Please sign up by November 30th.**

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If you haven't attended W4DXCC before, consider putting it on your 2019 calendar.

Also, I urge you to put the 2018 SEDXC Holiday Party on your calendar. It will be a Southern BBQ Buffet Dinner held at the 57th Fighter Squadron Restaurant on Thursday December 13th. Go to our website, sedxc.org, for details and on-line registration, now.

73 es gud DX,

Dick K5TF❖

Treasurer's Journal

Checkbook Balance as of September 30, 2018:
\$11,306.

73,

Jeff K1ZN❖

Announcements

Fall hamfest season is upon us.

- October 20: Chattanooga, <http://w4am.net/hamfest-chattanooga-2017-summary/>
- November 3: Stone Mountain, <http://stonemountainhamfest.com>

HamJam 2018 will be on November 10, <http://www.hamjam.info>.

Adventures in Dxing: Worked All ITU Zones Program



Jeff K1ZN

I have spoken to the Southeastern DX Club about the

Island on the Air Program and its exciting challenges. I now wish to introduce you to another program that offers similar challenges – the Worked All ITU Zones Program, sponsored and supported by the Radio Society of Great Britain. This award acknowledges the International Telecommunications Union and is based upon its delineation of the “zones of the world.” I first became interested in the ITU award during the 1990's and worked the basic or classic award. The Classic Worked ITU Zones award requires QSO's with amateur radio stations in at least 70 of the 75 ITU broadcasting zones. These contacts may be mixed band and mode.

Later, I began collecting ITU zones on each of the HF and WARC bands and applied for the 5BITU and WARC ITU Zones awards. There are several levels of this award.

For example, the 5 Band Worked ITU Zones award requires a requisite number of zones, using all 5 bands, 3.5, 7, 14, 21 and 28 MHz, with each station in a designated ITU zone per band. There are 3 levels of award: (1) 5BWITUZ Supreme 350 zones; (2) 5BWITUZ Class 1 300 zones, with a minimum of 50 on each band; (3) 5BWITUZ Class 2 200 zones, with a minimum of 30 on each band. The WARC 5BITU awards for work on 17M, 12M, and 30M can qualify for: (1) 5BWITUZ (WARC) Supreme 210 zones; (2) 5BWITUZ (WARC) Class 1 195 zones; and (3) 5BWITUZ (WARC) Class 2 120 zones, with a minimum of 30 on each band.

And the one that I am now chasing, the 160M – Top Band Award. If you have earned a Classic or 5 Band award and have worked either 20, 40 or 60 ITU Zones on the 1.8 MHz band, you can achieve Top Band endorsement certificates. So, the Worked All ITU Zones Program offers quite a bit of paper-chasing opportunity.

Check out:

http://www.rsgbshop.org/acatalog/PDF/Worked_ITU_Zones_Award_Information.pdf

See you on the bands, cheerio!

Jeff K1ZN❖

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SEDXC Webpage: www.sedxc.org

SEDXC Chat Room: details on webpage

SEDXC Reflector: details on webpage

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My Story



Wey K8EAB

I remember asking my Dad what those funny numbers were in the rear window of our neighbor's old blue Plymouth station wagon. The numbers **W8VII** were in red reflective tape. Dad said, "Why don't you ask him?"

When I saw our neighbor in town, I asked him what those letters meant. He said, "I'm a Ham Radio operator and those are my FCC call letters." He asked if I'd like to come to his house to see his station equipment, and I accepted. I had read about Ham Radio in the Hardy Boys' books and in Boys' Life magazine, and I was fascinated by the idea that you could communicate with someone hundreds or thousands of miles away without wires.

I found myself knocking on the door of William (Bill) Fearnley-W8VII a day or two later. Bill ushered me into his "shack" and I was confronted with an entire wall of electronic equipment. A Harvey-Wells Bandmaster transmitter, a Hammarlund HQ-129 receiver, a J-38 telegraph key on a wooden base, an Electro-Voice microphone, and several other boxes and rows of switches, wires, and stuff. There was a strange smell that Bill told me came from the hot tubes inside the transmitter and receiver. An entire wall was covered with postcards that had letters and numbers that represented other Ham Radio operators' call signs.

Bill found an unoccupied frequency and called "CQ For A Demonstration QSO." I had no idea what he was talking about and suddenly I found myself telling someone many miles away my name, my age, and other info about who I was. This person was very nice and told me I could learn to be a Ham. **I was excited to say the least** ...

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Around the Shack
by N4GG



“Line-Flatteners” – Little Known – Very Handy

Dipoles for the bands covering a wide frequency range can be problematic – that would be 80M and 10M.

Let’s look at an 80 meter dipole, resonant at 3650 KHz (Figure 1). The bandwidth between the 2:1 SWR points is 140 KHz - not very good. The lower 2:1 SWR point is at 3600 KHz making it nearly useless for the CW part of the band. The upper 2:1 SWR frequency is 3740 KHz – useful for the lower part of the phone band but not the upper part where most of the 75 meter phone rag chewing takes place. The antenna could be made longer for CW, or shorter for rag chewing, but you only get to pick one of the three antennas, none of which fill the bill if you are interested in the whole band. An antenna tuner can help somewhat, but notice the dipole with a 3650 center frequency has a 7:1 SWR at 4.0 MHz. That’s stretching any antenna tuner and losses in the tuner as well as the transmission line go up as SWR goes up. Note this discussion is for a typical 75 ohm dipole at 60 feet, fed with 50 ohm coax. Feeding it that way is not ideal but that’s how most of us do it most of the time.

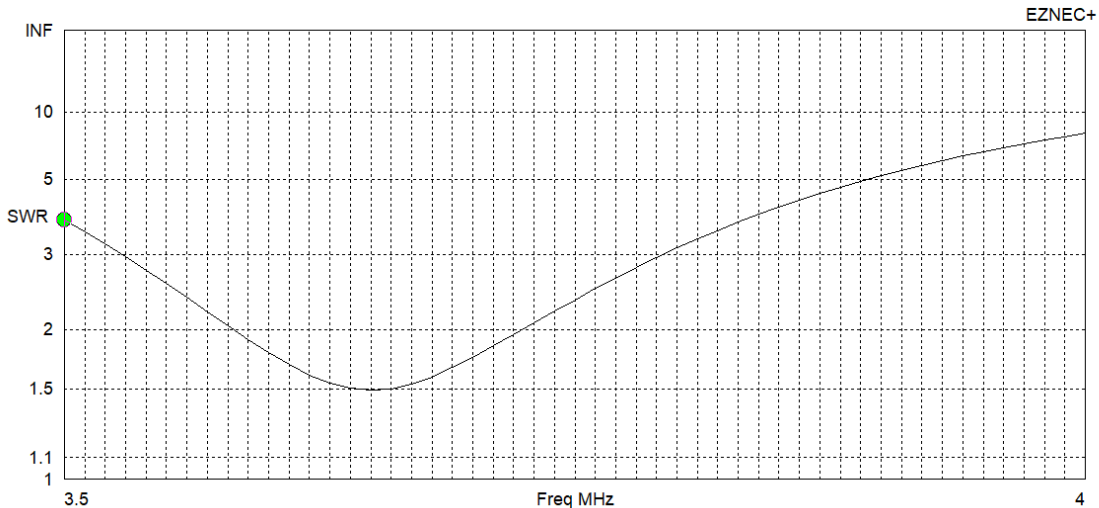


Figure 1
Typical 80 Meter Dipole (No Line-Flattener)
2:1 SWR 3.60 MHz to 3.74 MHz = 140 KHz

There are lots of methods for broadening the response of an 80 meter dipole – you can find several in the ARRL Antenna Book and the ARRL Handbook. All involve changes and the addition of parts or wires to the dipole itself – which adds complexity and reduces the reliability of the antenna. Here is a technique – the “Line-Flattener” - which will broaden a dipole’s frequency response without any changes to the antenna – only the coax feedline changes and the coax feedline was going to be there anyway.

Figure 2 shows a “line-flattener.” It is made up of one wavelength of 50 ohm coax, followed by a quarter wavelength of 75 ohm coax, followed by any length of 50 ohm coax - the last piece being whatever is needed to get back to the shack.

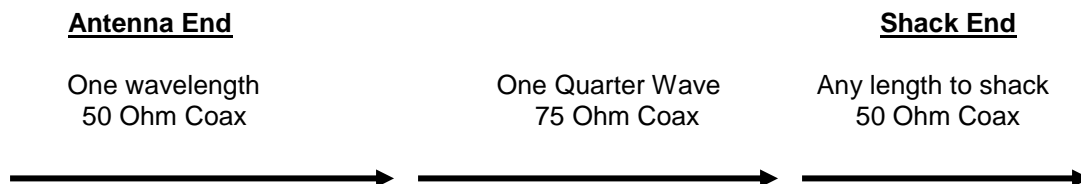


Figure 2
A “Line Flattener”

The SWR for the same dipole, with a line-flattener added, is shown in Figure 3. The 2:1 SWR has gone from 140 KHz to 380 KHz. It has more than doubled. The lower 2:1 SWR point is at 3500 KHz and the antenna covers the entire CW and digital portions of the band with ease. The upper 2:1 SWR point is now 3870 KHz. If you are willing to work into a 5:1 SWR then you are good-to-go from 3.5 to 4.0 MHz, although 5:1 SWR will still require an antenna tuner if you want to work from one edge of 80 meters to the other.

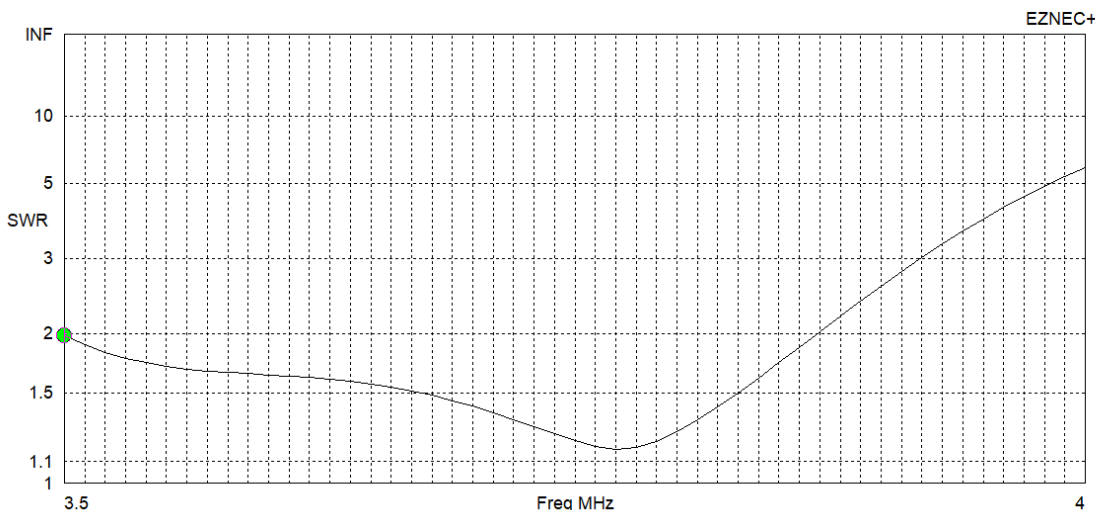


Figure 3
80 Meter Dipole with Line-Flattener.
2:1 SWR 3.5 MHz to 3.87 MHz = 370 KHz!

As mentioned in a few presentations I have given lately, the 5:1 SWR at 4 MHz will appear “better” at the shack if the coax has any loss. Figure 4 shows the same antenna and coax arrangement with 1 dB/100 feet loss added into the transmission line model. 1 dB/100 feet is not an unrealistic number. The antenna with a line-flattener and a small amount of loss in the coax covers the entire 80 meter band, end-to-end, with an SWR below 2:1 (Figure 4).

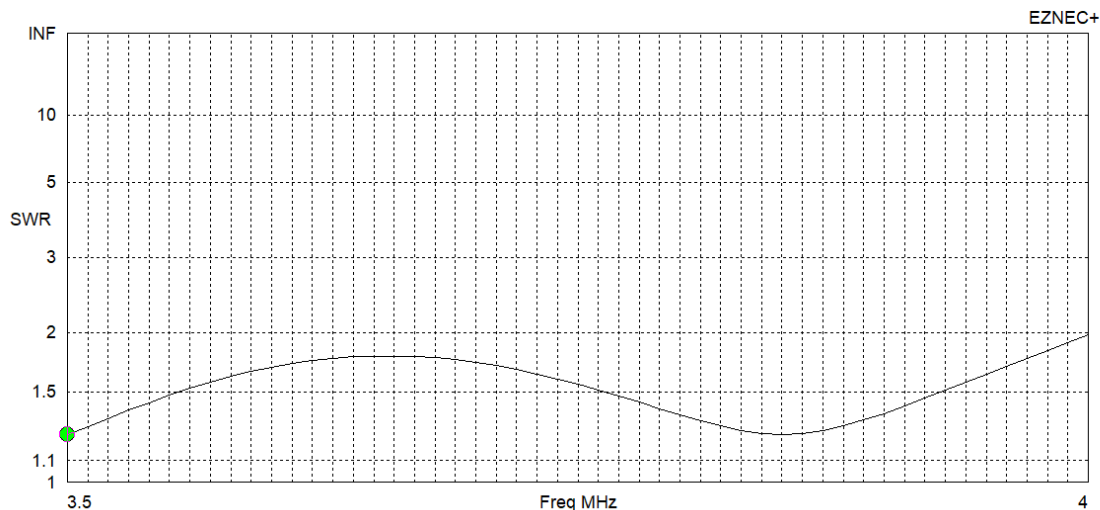


Figure 4
50 Ohm Fed Dipole with Line-Fattener and 1 dB/100 ft. loss in the feedline.
SWR is below 2:1 across the entire 80 meter band.

Let's calculate the lengths for coax needed for an 80 meter line-flattener. We need to remember to include the velocity factor for coax, which is 0.84 for RG8/X (50 ohm coax) and 0.66 for RG59B/U (75 ohm coax).

The one wavelength of RG8/X coax will be:

$$983/3.650 = 269 \text{ feet} \times 0.84 = 226 \text{ feet}$$

The one-quarter wavelength of RG59B/U coax will be:

$$245/3.650 = 67.1 \text{ feet} \times 0.66 = 44 \text{ feet}$$

The total length for the line-flattener is 270 feet. That's long – most of us don't need that much transmission line from the antenna to the shack. You can coil up the extra length as necessary. On higher frequencies the lengths get shorter. On 10 meters the coax matching sections will be quite short –the one wavelength section will be 29 feet and the quarter wave section will be 5.7 feet – easily managed and you will likely need additional coax to reach the shack. You can, of course, use a line-flattener on any band.

Try a line-flattener on your next dipole. You will be pleasantly surprised.

Next month we will talk about “asynchronous transformers.” These are a convenient way of moving back and forth between 75 ohms and 50 ohms using only coax.

73,

Hal N4GG ❖

My Story (cont. from p.3)

Bill signed off with this person who was miles away, and then he turned to me and said, "Would you like to become a Ham?" By now you know I said "Yes!" enthusiastically. Bill said I should ask my parents for permission, and when I did later that day, they said I could but that my school grades couldn't suffer. I promised they would not, and then I began going to Bill's house every week to learn Morse code. We started with the letters E, I, S, and H ... then T, M, O, etc.

At the same time, I used my paper route money to subscribe to QST and ordered the ARRL's Novice License guide, along with other books on How To Become An Amateur Radio Operator. I also bought a J-38 key and a Bud code practice oscillator to help me learn to send Morse code.

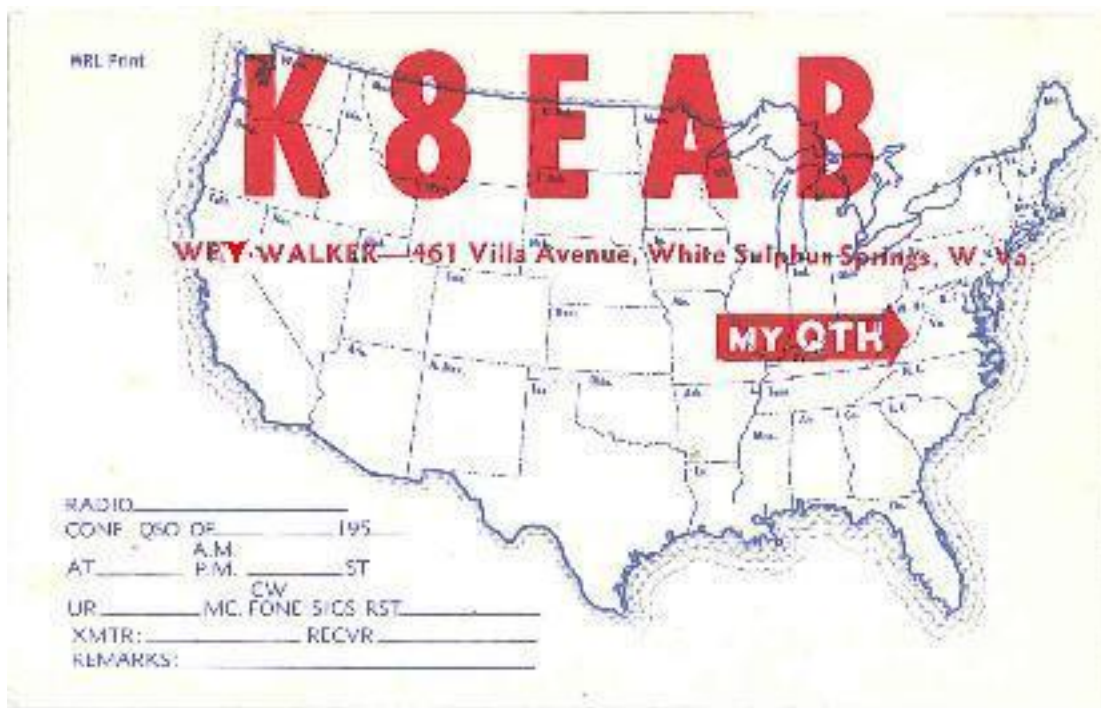
After several months of practice, Bill told me I needed to start listening to Morse code over the airwaves. He loaned me a converted ARC-5 military surplus receiver. I read in QST that the ARRL's ham station (W1AW) transmitted Morse code practice sessions and I had the ARC-5 tuned for them on 40 Meters. Then I heard very slow Morse code ... QST QST QST DE W1AW W1AW W1AW. They gave the QST issue and pages for that evening's practice session several times and I managed to copy it. Then the actual code practice transmission ... I was nervous and thought I was doing badly, but when the 5 WPM text concluded, I ran to our living room with my copy paper in my hands. I found the QST issue, turned to the pages, and discovered I had copied more than 50% correctly! I can still remember smiling and saying to myself, "I can do this ... I'm going to be a Ham Radio operator!"

For my birthday in October 1956, my parents gave me a Hallicrafters SX-99. Now my listening horizon was greatly expanded. Just after Christmas, Bill gave me the Novice exam. I remember his looking over the test and saying he thought I had passed. Now I used more paper route money to send off for a World Radio Laboratories Globe Scout 65-B transmitter. It arrived and I practiced tuning and sending into a 75-Watt light bulb dummy antenna. I had a 3.706 Kc crystal that Bill had given me so I could get on the air when my "ticket" arrived. My antenna was a 5-band trap dipole up about 30 feet. It was fed with 72-Ohm line. My T/R switch was a DPDT knife switch fastened to the side of my Ham Shack desk.



On Monday, February 13, 1957, my Novice License was in the mail. I received call-sign KN8EAB. I was 14 years, 3 months, and 13 days old!

I could hardly wait for Bill to get home from work so we could have my first QSO ... I proudly logged the contact in my ARRL logbook. When my WRL QSL cards arrived, I gave one to Bill (writing in an "N" between the "K" and the "8").



In October of 1957, my parents took me to Roanoke, VA to take the General Class License examination. I passed the test, but it wasn't until the mid-1980's that I took the Advanced and Extra tests. You still needed to pass the 20 WPM code test to make Extra in those days.

To be continued next month....

73,

Wey K8EAB ❖

DXpedition Funding Requests

None at this time--Editor