



Bulletin



July 2018

From the Pres

Thank you for electing me to serve as President for the new club year. I am honored, and will work diligently to fill the shoes of ND4V and all of those who served in this position before him.

The IARU HF World Championship begins Saturday, July 14 for 24 hours, and will have two SEDXC members, John K4BAI and Charles NF4A, among those serving as judges for the event.

Jeff, K1ZN, long-serving treasurer of SEDXC and noted author (Nifty E-Z Guide to Adventures in DXing) will present the program at our July 19, 2018 meeting. Jeff serves on the Board of Directors of IOTA, Ltd. Founded in 1964 by Geoff Watts, a leading British SWL, and administered by RSGB until 2017, IOTA, Ltd. Is now a stand-alone and self-administered organization. Its primary goal is to promote radio contacts with amateurs located in over 1000 island groups around the world. Ideal, by-the-way, for less than optimum propagation that we are all facing at present, as well as for those "at the top" with few ATNOs remaining to chase.

73 es gud DX,

Dick K5TF

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Veep's Report

This Month's Meeting

Date/Time: **Thursday July 19th** @ 7:30 PM
Location: Rich Auditorium, Piedmont Hospital
Details at www.sedxc.org

Program Title: **Life Beyond DXCC—Chasing IOTA**
Speaker: **Jeff K1ZN**



Been a long time since working the last ATNO? Rig getting lonely not being used such that you are wondering if a yard sale is in order? Chasing "new ones" that are islands provides operating fun almost daily. For those that like to measure success by the numbers, there are significant awards offered by Islands on the Air (IOTA). Jeff will bring us up to date on the IOTA program and give his reasons why, as a avid DXer, he is active in chasing IOTA contacts.



Islands On The Air



<https://www.iota-world.org/>

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Treasurer's Journal

Checkbook Balance as of June 30, 2018: \$10,808.

Here is the proposed budget to be voted upon at the July meeting.

Holiday Party	\$1,000
Picnic	250
IT/Web	75
Certificates	100
Mailing	30
Hamfest Tables	100
Insurance	200

73,

Jeff K1ZN ❖

Announcements

None at this time.

This space intentionally left blank waiting for YOUR article—editor.

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SEDXC Webpage: www.sedxc.org

SEDXC Chat Room: details on webpage

SEDXC Reflector: details on webpage

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Around the Shack

Hal N4GG



An Old Dog Checks Out a New Trick – FT8

FT8 has been all the rage for over a year, so I recently decided to give it a try. I had a specific reason too – getting a few more dB out of my station in pursuit of 6 meter DXCC. I've been licensed for 57 years, but I'm still just a kid with a soldering iron at heart. I try new things. You?

My experience with digital modes started with the original digital mode – Morse code. Or in technical jargon: OOK (On-Off keying). Samuel Morse came up with it in 1844. W2NPT taught it to me and it remains my favorite operating mode. As you can see by the date, Morse's code predates radio, which began around 1900. It was devised as a way to get the alphabet down a single telegraph wire. Telegraph schemes before Morse included having a wire for each letter of the alphabet (!) and having several wires that ran electro-magnets on the far end; the magnets being next to a compass and swinging the needle to point to a letter. Morse made telegraphy practical. Telegraphy is a French word by the way: *tele* (distance) *graphie* (writing). Distance writing!

By 1966 I was deep into RTTY, including a basement full of Teletype machines along with home-brew vacuum tube TNCs (terminal node controllers – the circuit that changes RTTY tones into a drive signal for a Teletype machine). TNCs by the way convert two-tone RTTY back to OOK. You might ask if one tone is “on,” why we need a second tone for “off,” given that no signal or tone for “off” would work fine - like Morse code. It's because the “off” state is more certain if it's assigned a tone rather than simply being a lack of signal and represented by just the noise in the channel.

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Around the Shack (cont.)

I mention all this because it's why I have investigated, but not tried, "new" digital modes until this year. The TNC has been replaced by a computer, and while computers will now copy Morse's code, the rest is the same as when I first discovered it. RTTY has moved from a 850 cycle shift to smaller shifts and higher baud rates, but it's still just frequency shift keying converted to OOK. Many digital modes now use multiple tones (sometimes shifted in frequency and sometimes in phase) but it's all variations on a common theme. Been there, done that in 1966.

Then, along came JT65 and FT8. Those and several other modes are derivative of astrophysics work Joe Taylor, K1JT has pursued over the course of his career. Using forward error correction and a slew of other digital processing techniques, these new modes will copy signals below the threshold of what the human ear can hear, and that's both interesting and valuable. FT8 is, in my estimation, worth about 6 dB improvement over the human ear. So I tried it – in fact I've made about 1,000 FT8 QSOs at this point and given it a "fair shake." I just worked same rare DX too – the Wake Island DXpedition was easy to work on FT8. My impressions of FT8 at this point are mixed.

Getting rolling:

- It's easy to get started. The WJST-X software is a free download. On modern radios like the IC-7300, the interface is just a USB cable from the radio to the computer. Older radios may need two connections between the computer sound card and the rig.
- You can start without reading the instructions. Just play with it. After a few hundred QSOs I broke down and read the help files, which helped a lot! Talk to an "old hand" for operating tips. How to operate is out of the scope of this article.

Impressions:

- There is about 6 dB to be gained over CW, which is a big deal when working DX, particularly on 6 meters, EME, etc.
- This was supposed to be a "weak signal" mode (not a low power mode) with power limited to only what's needed. It's not happening. You can tune to any of the established FT8 frequencies on any band and hear S9 and louder signals. It's not being used as a weak signal mode by many operators.
- An FT8 QSO takes one minute when all goes well. That's great for putting a new DXCC entity in the log but feels like it takes forever when you are working on HF with S9 signals both ways. That QSO could take 10 seconds on CW or SSB. It's easy to tire of local, strong signal QSOs. There is no rag-chewing. Call signs, grid squares and signal reports get exchanged – that's it.
- The one-minute QSO time is too slow for medium to fast QSB when signals are weak. I have started many 6 meter QSOs never to finish because the signals faded out in less than a minute. The same on 160 meters. If you begin a QSO 2 dB above the FT8 noise floor QSB could easily take the signals to 1 dB below the noise floor in less than a minute - and then there is no QSO. Under some conditions CW is a better weak signal mode than FT8 because it's faster.
- The mode is good for filling in states and grid squares. I never bothered to get WAS on 30, 17 and 12 meters. I am using FT8 now for that and my totals are quickly getting to 50.
- Just about everyone on FT8 is using LOTW.
- The agreed-to FT8 frequencies are getting overloaded. 20 or more FT8 QSOs will fit in the bandwidth of one SSB QSO, but there are thousands of FT8 signals on the air. More "watering hole" FT8 frequencies are needed now, and will come about over time. This has just happened on 6M. 50.313 was "the" FT8 frequency – it is now, by gentleman's agreement, the domestic FT8 frequency with 50.323 reserved for inter-continental QSOs. There is plenty of room on 6M to spread out. But on 40M? I foresee spectrum competition trouble ahead. I strongly support using VFOs rather than locking down on "set" frequencies in the future. There is no need for set frequencies other than to make it even easier for the computers to find each other. Many people disagree. Point and click is now a popular operating "technique."

- The automated nature of the QSOs doesn't feel like ham radio to me. You click on the call sign of a CQ and the computers do the rest. I can easily catch up on email or read QST while my computer is making nearly all of each QSO for me. The software is set up to go to standby at the end of a QSO, so you do need to click your mouse, once, to start another contact. BUT, the FT8 software code is open source and sure enough, there is a version floating around where a smart programmer removed the standby-at-end-of-QSO feature in the code. Know what that means? You can hit CQ once and come back a month later to see how many QSOs your computer has made – with no interaction with you at all. This is ham radio?
- A DXpedition mode exists as does a contesting mode. The FT8 software is being revised about once every two months at this point. This past week's VHF contest saw a handful of stations in contest mode and the rest not. They are not compatible if there is no operator intervention, and FT8 operators as a rule don't intervene with the computer doing the operating. This is wrong on two levels. In DXpedition mode one station can work many at a time. Or should I say one DX computer can work many other computers at a time?
- Logging software is struggling to catch up. Several popular logging programs are no longer supported by their authors and require burdensome workarounds to log FT8 QSOs. Integrating contest FT8 QSOs made on FT8 software (WJST-X) into everyday logging software can be okay or terrible trouble depending on which software you are using. This will shake out over time – it's all still new and being tweaked and tweaked again.

So, in summary:

- It's fine for chasing grid squares and states, and for weak signal work under some conditions.
- It's so automatic you are barely involved.
- It's wildly popular which has lead to QRM problems that are going to get much worse.

Do I recommend it? Yes. It's fun to try new things and it will help me finish WAS on the WARC bands and 6 meter DXCC. Meanwhile, I know quite a few hams that have tried it for a few months and gave it up. In the true sense – it's not operating a radio so much as it's operating a computer, and the novelty of that is, for me, ancient history. Also, while I am not a long-winded rag-chewer, I enjoy getting more than a grid square out of a QSO.

Hal N4GG❖

DXpedition Funding Requests

None at this time.