



ACARC

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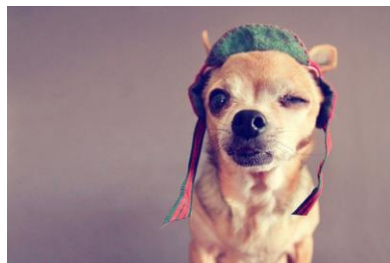
Azalea Coast
Amateur Radio Club
PO Box 4044
Wilmington, NC 28406

www.ac4rc.org

From The Club

The next meeting of the ACARC is 7:00 PM, Tuesday, August 15th at the Cape Fear Community College North Campus, in the McKeithan Center building (ask the guard in the lobby which room), located at 4500 Blue Clay Road in Wilmington. Talk-in on 147.180 +offset with a tone of 88.5 Hz.

Remember: Invite a new ham operator to the meeting. If they join the club they can either get free club membership for a year or a new Baofeng HT!



I am now an ACARC club member...for free!



Upcoming Important Events

Aug 12th

VE Testing 10:00AM
CFCC North Campus

Aug 15th

Monthly club meeting 7:00pm
CFCC North Campus

Every Monday

2 Meter Rag Chew, 9:00PM
147.18MHz, +0.600 offset, 88.5 tone
Norman (KI4YSY) is net control

Vacation Edition

by Jeff (W4BIX)

Yes, it's summer and vacation time. How many plan to operate while away on vacation? No you don't have your skyscraper-high tower with you or your 1.21 gigawatt flux capacitor (movie reference for those who don't know...). But, you can still operate just fine by making a few choice selections of equipment you bring along.

Radio: it's up to you but do you really want to lug the boat anchor up to the hotel room? Bring a compact light-weight radio with you (think Elecraft KX2 or KX3 size).

Antenna: I'm thinking a home-brewed balcony antenna. Just Google "amateur radio balcony antenna" and watch the ideas pop up. There are pre-fabs you can buy or have fun building your own. Also think loop antennas for use out on the balcony.

Are you flying? It may get a little tricky flying with a radio in your suitcase. I seriously doubt TSA will allow you to hand carry the radio on the aircraft with you. Packing it in your luggage will certainly trigger a hand inspection once they see the radio inside as your luggage goes through x-ray screening. Maybe tape a photocopy of your FCC license to the top of the radio so they'll see it when they pull the radio out of the suitcase. Just expect dog drool on it as they will probably have the bomb-sniffing canine give it the once over just in case.



Try FT8 Digital Mode Yet?

from the WSJT-X Website

WSJT-X Version 1.8.0 includes a new mode called FT8, developed by K9AN and K1JT. The mode name "FT8" stands for "Franke and Taylor, 8-FSK modulation". FT8 uses 15-second T/R sequences, provides 50% or better decoding probability down to -20 dB on an AWGN channel, and maintains good performance on Doppler-spread fading channels. An auto-sequencing facility includes an option to respond automatically to the first decoded reply to your CQ. **FT8 QSOs are 4 times faster than those made with JT65 or JT9.** FT8 is an excellent mode for HF DXing and for situations like multi-hop E_s on 6 meters, where deep QSB may make fast and reliable completion of QSOs desirable.

Some important characteristics of FT8:

- T/R sequence length: 15 s
- Message length: 75 bits + 12-bit CRC
- FEC code: LDPC(174,87)
- Modulation: 8-FSK, tone spacing 6.25 Hz
- Constant-envelope waveform
- Occupied bandwidth: 50 Hz
- Synchronization: 7x7 Costas arrays at start, middle, and end
- Transmission duration: $79 \cdot 1920 / 12000 = 12.64$ s
- Decoding threshold: -20 dB; several dB lower with AP decoding
- Multi-decoder finds and decodes all FT8 signals in passband
- Optional auto-sequencing and auto-reply to a CQ response
- Operational behavior similar to JT9, JT65

We plan to implement signal subtraction, two-pass decoding, and use of a priori (AP) information in the decoder. These features are not yet activated in v1.8.0.

We haven't yet finalized what the three extra bits in the message payload will be used for. Suggestions are welcome!

-- Joe, K1JT, for the WSJT Development Team

My FT8 Experience

by Jeff (W4BIX)

I “discovered” the existence of FT8 via the N3FJP email sent to subscribers to Scott and Kimberly Davis’s software. So I boldly went where no W4BIX has gone before.

Software is easy to download and install. Basically it’s an updated Beta version (1.8.0-rc1) of the commonly used WSJT-X software for (mainly) JT9 and JT65. Once installed it looks mostly the same as the 1.70 version with a couple small changes. You can now select the FT8 digital mode of operation. Suggestion – check the block just to the right of the Date/Time window...this will put the software in automatic mode.

When I broadcast a CQ and another station answers the call the software takes over and makes all transfer of information **automatic!** It’s hands off. Working JT9 or JT65 usually took 6 minutes to complete the QSO (from the initial CQ to the final exchange of 73’s). Using FT8 – the same exchange is complete in 1 minute 30 seconds. Each TX/RX segment is 15 seconds long...that’s it. Not the usual 60 seconds.

I will add a page at the end of this newsletter with a screenshot of a typical FT8 exchange.

Give it a shot!



Field Day 2017 Report

by Jack Jacobs (WD4OIN)

ACARC's field day for 2017 was a big success ! All that came out had a good time and good fellowship. We had at least 18 hams and could have been more. A lot of operators keep the radio going the whole time.

Our HF station did good while our 6 meter station didn't make any contacts. The magic was gone from the magic band.

What made this year’s FD was everyone pitching in and helping out. Things got off with a good start with a great TV interview on ch. 6 TV with Bill Jefferson K4BUX and Bill Morine N2COP about Field Day.

Pete WB3FYR, took care of the PR at the FD site with numerous explanation nations of what we were doing and why. Brad WD4FTR, took care of the hot dogs, baked beans and chips. Larry N4NXX took care of the cold drinks and sweets. Through Brad and Larry's efforts we never ran out of cold drinks and snacks on a very hot day. Great Job!

The 6 meter station was provided by Steve (AJ4JJ). Steve built the 3 element Quad used on 6 meters, provided the radio and generator to provide emergency power for the station. Though 6 meters didn't provide any contacts it wasn't from not trying. Steve and Rick K1IZ keep trying the whole time. Six meters was just closed down.

The HF station was the clubs Yaesu 450D and a simple $\frac{1}{4}$ wave vertical provided by WD4OIN with an emergency generator for power.

Joe W2KJ brought out his qrp rig and showed what can be done with 5 watts.

As with all events it's not over until the paper work is complete. Brad, WD4FTR is going to send in the paper work to the ARRL.

When it was time to tear down and put up the equipment we had plenty of help . FD was a big success because a lot of individuals pulled to gather to make it work.

On Monday night June 26 at 9:00PM the club will be starting our 2 meter club rag chew net up again. Norman KI4YSY will be the net control. I hope everyone will support the net and keep your 2 meter rig on when you are in the shack.

It's the beach season and we have a lot of visitors in town using the 2 meter repeaters.



FT8 Mode and LOTW

by Jeff (W4BIX)

When making entries to LOTW for your FT8 qso's there is a slight issue you need to be aware of. FT8 is not "officially" recognized yet in LOTW as a stand-alone mode of operation.

There are a few choices you can make.

1. In your logging software (I use N3FJP) you can enter the mode as DATA, then enter FT8 in one of the "other" remark blocks. LOTW will accept this.
2. You can open up TQSL, go to settings and map FT8 to the DATA mode. Then in your logging software enter FT8 as the mode of operation and TQSL will automatically log it as a data mode when uploaded to LOTW.

.....In TQSL, click on "File", then "Display or Modify Preferences", then click on the ADIF Modes tab, then click on "ADD" and map FT8 to Data.

Once LOTW adds FT8 as an official mode, you'll need to go back into TQSL and delete that custom mapping.

3. Wait until LOTW adds FT8 as a mode of operation and then manually upload all your FT8 qso's to LOTW.

Eclipse 2017

ARRL article suggested by Linwood Todd (NT4F)

Many Special Events Will Be on the Air to Mark the Total Solar Eclipse in August

Radio amateurs from several states will gather in southern Illinois on August 17-21 to operate special event station W9E, leading up to and during the 2017 solar eclipse on August 21. W9E, which will operate from Marion, Illinois, is one of several announced solar eclipse special events.

"This will be the first total eclipse on American soil since 1991, the first on the mainland United States since 1979, and the first to sweep across the entire country since 1918. It will be an event you do not want to miss!" the W9E announcement said. "The far southern tip of the state of Illinois is the only place viewers can see the totality of the eclipse."

W9E plans to operate on 80, 40, and 20 meters (and perhaps other bands, if conditions permit), on CW, SSB, and digital modes (JT65, JT9, and PSK31). All amateur operators visiting the area for the eclipse are invited to visit. A copy of your license and photo ID are required to operate. Amateur Radio license testing also will be offered during the event.

While the W9E special event is under way, organizers are planning a joint exercise with ARES® Illinois District 11 Emergency Coordinator W. Bruce Talley, WA9APQ, hoping not only to assist with local communication during the eclipse but to coordinate with other ARES groups as the eclipse travels from northwest to southeast.

"Our plan is to be proactive and ready to respond as needed," said Talley. "Local volunteers and those from outside the area are welcome to sign up in the database. We are especially interested if you are coming to the area to view the eclipse and know where you will be stationed."

Solar Eclipse QSO Party

The Solar Eclipse QSO Party (SEQP), sponsored by HamSCI, will take place on August 21, 1400 to 2200 UTC.

As the August 2017 QST article "The Solar Eclipse QSO Party -- Are You Ready?" explains, "The objective...is to flood the airwaves with contacts, all measured by the automated receiver networks of the Reverse Beacon Network, PSKReporter, and WSPRNet. When those observations are combined with the logs from individual stations, the result will be one of the largest ionospheric experiments ever performed."

Other Total Eclipse Special Events

The South Dakota's Black Hills Amateur Radio Club in South Dakota plans to operate special event K0E on the day of the eclipse, August 21, 1500-1930 UTC, from Harrison, Nebraska. Operation will be on 20 meters (14.260-14.280 MHz) and on VHF and UHF. Contact Bob Ewing, W0RE, for more information.

The Near Zero Sunlite, Great American Eclipse N0S special event will take place August 20-22, 1400-2200 UTC, in Crystal City, Missouri, sponsored by the Jefferson County Amateur Radio Club. Operation will be on or about 3.850, 7.250, and 14.300 MHz. QSL with SASE to Jim Berger, WA0FQK, 131 Ozark Dr., Crystal City, MO 63019.

K7E will be on the air for the Great American Total Solar Eclipse 2017 special event, August 21-22, 1500-0300 UTC, from Laramie, Wyoming, near the path of totality, on or about 7.183 and 14.256 MHz. QSL Perry Lehman, N7FST, 19828 N. 78th Ln., Glendale, AZ 85308.

The North East Wyoming Amateur Radio Association (NEWARA) will field special event W7S from historic downtown Gillette, Wyoming, August 19-21, 1200-0600 UTC, on or about 3.945, 7.265, and 14.265 MHz as well as on 147.360 MHz. QSL to Garth Crowe, WY7GC, P.O. Box 2208, Gillette, WY 82717.

The Lincoln County Amateur Radio Club (LCARC) will operate special event N7E, August 20-22, 1600-1900 UTC, from Newport, Oregon, on or about 3.820, 7.200, 14.245, and 28.350 MHz. Contact Michael Eastman, N7ONP.

Total Solar Eclipse special event N9E will be on the air on August 21, 1400-2000 UTC, from Hopkinsville, Kentucky, 7.180-7.190 MHz. Contact Peter Herman, KD9VV.

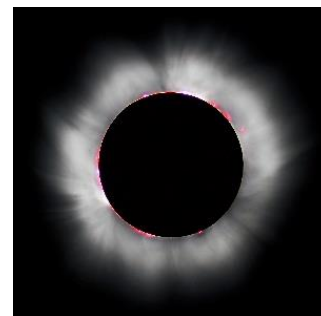
The Lewis and Clark Radio Club (LCRC) will operate special event K9HAM from Godfrey, Illinois, on August 21, 0900-1700 UTC, on or about 7.225 and 14.280 MHz. Contact the LCRC for more information.

In North Carolina, the Greater Gaston Amateur Radio Society (GGARS), will be on the air as N4S from Lexington, South Carolina, on August 21, 0000-1900 UTC, on or about 7.180 and 3.895 MHz. QSL to Robert Wells, W7CSA, QSL. Robert Wells, 409 Elizabeth St., Gastonia, NC 28054.

The Southern Illinois University Amateur Radio Club (SIUARC) will sponsor W9S, August 18-22, 0000-2359 UTC, from Fulton, Illinois, CW on 160 meters and all modes on 80 through 10, with a focus on the lower bands. Satellites and 6 meters are also possible. QSL to Martin A. Schuette, N9EAT, P.O. Box 29, Fulton, IL 61252.

Ole Virginia Hams Amateur Radio Club (OVHARC) will sponsor W4E from Lexington, South Carolina, on August 21, 1500-2015 UTC, on or about 3.810, 7.230, and 14.263 MHz and 146.52 MHz FM simplex. QSL to Terry Erlacher, KC4DV, 10855 Felicia Ct., Manassas, VA 20110.

This may not be a comprehensive listing. Search the ARRL Special Events Calendar for total eclipse special event operations.



ARRL Field Day Entry Form

Datestamp: 2017-07-18 06:12:22 PDT
Confirmation: 0ee1b4a19fae3e6d

Call Used: AC4RC GOTA Station Call: (none) ARRL/RAC Section: NC
Class: 2A

Participants: 10 Club/Group Name: Azalea Coast ARC

Power Source(s): Generator

Power Multiplier: 2X

Bonus Points:

100% Emergency power	200
Media Publicity	100
Public Location	100
Public Information Table	100
Site Visit by invited elected official	100
Site Visit by invited served agency official	100
Submitted via the Web	50
Safety officer	100
Total Bonus Points	850

Score Summary:

	CW	Digital	Phone	Total	
Total QSOs	0	0	66		
Total Points	0	0	66	66	Claimed Score = 132

Submitted by:

Julian Bradberry, WD4FTR
217 Yorkshire Lane
Wilmington, NC 28409
E-mail: jhb217@att.net

Comments:

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Band/Mode QSO Breakdown:

	CW		Digital		Phone	
	QSOs	Pwr (W)	QSOs	Pwr (W)	QSOs	Pwr (W)
160m						
80m						
40m					12	100
20m					54	100
15m						
10m						
6m						
2m						
1.25						
Other						
Satellite						
GOTA						
TOTAL	0		0		66	

19th Annual Ole Fashioned

CFARS SwapFest

Sponsored by the Cape Fear Amateur Radio Society
Fayetteville, North Carolina

Saturday

August 12, 2017

8:00am to 12:00 noon

**Cumberland County Shrine Club
7040 Ramsey St (US Hwy 401 N)**

**No Admission!! No Fee for Tables!!!
Please help us keep this event free
by placing a monetary contribution in
the donation box so we can cover the rent
on the building!!!**

Talk-in: K4MN Repeater 146.910 (-) CTCSS 100Hz

VE Test Session Walk-ins Only Registration 9:00am Testing 9:30am

**Information and Table Reservations: David KR4OE kr4oe@nc.rr.com
(910)624-1394**

**ARRL VE Testing: Pat N4UGH n4ughpat@aol.com
(910)425-5994**

**Set-up begins at 6:30am. If you need tables please call or email in
advance. On the morning of the Swapfest see David KR4OE for tables.**

**Table Reservations recommended.
*Tail Gating available -- also FREE!!!***

Sample FT8 Digital Mode Operation

This is a screenshot of a FT8 contact I made on July 16th using the WSJT-X beta software. On the right side is me calling CQ and N9AKR answering my CQ call. Yellow lines are me transmitting and red lines are the other station TX. In the UTC column is the time stamp of the transmissions. You can see that from my CQ call at 13:48:30 until the final "73" exchange at 13:50:00 the ENTIRE exchange only took 90 seconds....yep...90 seconds. Four times faster than the same JT9 or JT65 exchange.

When using the WSJT-X software, pay attention to the frequency suggestion with what band you select. FT8 operates 2 KHz lower than your usual JT9/JT65 selection. In the 40M band it's 7.074MHz. Yes...you'll still see FT8 transmissions at 7.076MHz but most of them are at the 2KHz lower frequency.

The screenshot displays the WSJT-X v1.8.0-rc1 software interface. The main window is titled "Band Activity" and "Rx Frequency". The "Band Activity" table shows a list of transmissions with columns for UTC, dB, DT, Freq, and Message. The "Rx Frequency" table shows received transmissions with columns for UTC, dB, DT, Freq, and Message. The control panel at the bottom shows the current frequency set to 7.074 000 MHz, the band set to 40m, and the mode set to FT8. The interface also shows a signal strength meter, a call log, and a status bar at the bottom indicating the current call and time.

UTC	dB	DT	Freq	Message
134745	-6	-0.0	596	~ CQ KD5FOY EM12
134745	2	0.5	1634	~ CQ KB2GCG FM29
134815	-2	-0.0	596	~ CQ KD5FOY EM12
134815	-12	0.5	1053	~ W3MKG AI3KS FM19
134815	0	0.5	1634	~ CQ KB2GCG FM29
134845	-13	0.5	1428	~ W4BIX N9AKR EN61
134845	-9	-0.0	597	~ CQ KD5FOY EM12
134845	-9	0.5	1054	~ W3MKG AI3KS R-14
134845	-7	0.5	1634	~ CQ KB2GCG FM29
134915	0	-0.0	1428	~ W4BIX N9AKR R+01
134915	-11	-0.0	595	~ CQ KD5FOY EM12
134915	-4	0.5	1054	~ W3MKG AI3KS 73
134915	-4	0.5	1634	~ CQ KB2GCG FM29
134945	0	0.4	1429	~ W4BIX N9AKR 73
134945	-13	-0.0	596	~ WA6PHR KD5FOY -14
134945	-2	0.5	1634	~ CQ KB2GCG FM29
135015	-10	-0.0	596	~ WA6PHR KD5FOY RRR

UTC	dB	DT	Freq	Message
134800	Tx		1427	~ CQ W4BIX EM94
134830	Tx		1427	~ CQ W4BIX EM94
134845	-13	0.5	1428	~ W4BIX N9AKR EN61
134900	Tx		1428	~ N9AKR W4BIX -13
134915	0	-0.0	1428	~ W4BIX N9AKR R+01
134930	Tx		1428	~ N9AKR W4BIX RRR
134945	0	0.4	1429	~ W4BIX N9AKR 73
135000	Tx		1429	~ N9AKR W4BIX 73