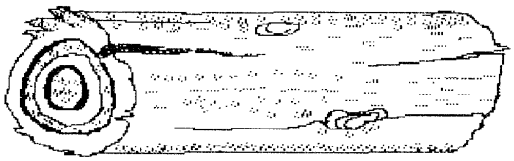
LOG

FOUNDED 1947



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CLUB'S W8VM SKCC #12111

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WEST PARK RADIOPS AMATEUR RADIO CLUB

WEST PARK NEWS *

*Subject to change

Monday night nets are on the NODXA's repeater at 8 p.m. Listen or check in. Join the fun. We thank the Northern Ohio DX Association for our use of their repeater, W8DXA, 147.36+ (107.2). Our meeting schedule is changing. Pay attention to our opportunities to announce meeting changes.

UPCOMING CONTESTS AND ACTIVITIES...

(sourced from WA7BNM and ARRL information)

Feb	3	10-10 Int. Winter Contest, SSB
Feb	10	CQ WW RTTY WPX Contest
Feb	17	ARRL Inter. DX Contest, CW
Feb	24	CQ 160-Meter Contest, SSB
Mar	2	ARRL Inter. DX Contest, SSB
Mar	9	Stew Perry Topband Challenge
Mar	16	BARTG HF RTTY Contest
Mar	23	North American SSB Sprint
Mar	30	CQ WW WPX Contest, SSB

LOOK FOR 6M OPENINGS IN THE FALL AND WINTER

WEST PARK RADIOPS MEETINGS & PROGRAMS FOR 2023*

Feb. 14 Lunch Meeting*
Golden Corral, Elyria
NOON

* Subject to Change, Including order of events, locations and times.

WORLD PREFIX LISTS HAVE THEM ALL…

http://rdxa.com/oldsite/NewsLetters/Ham_radio_prefixes_24Oct06.pdf

https://www.iw5edi.com/ham-radio/1150/iu-new-ham-radio-callsign-prefix-in-italy

The first list runs about 41 pages and leaves almost nothing to imagination.

DMR EXPLAINED...

(From Wikipedia®)

Digital mobile radio (DMR) is a digital radio standard for voice and data transmission in non-public radio networks. It was created by the European Telecommunications Standards Institute (ETSI), and is designed to be low-cost and easy to use. DMR, along with P25 phase II and NXDN are the main competitor technologies in achieving 6.25 kHz equivalent bandwidth using the proprietary AMBE+2 vocoder. DMR and P25 II both use two-slot TDMA in a 12.5 kHz channel, while NXDN uses discrete 6.25 kHz channels using frequency division and TETRA uses a four-slot TDMA in a 25 kHz channel.

The primary goal of the standard is to specify a digital system with low complexity, low cost and interoperability across brands, so radio communications purchasers are not locked into a proprietary solution. In practice, given the current limited scope of the DMR standard, many vendors have introduced proprietary features that make their product offerings non-interoperable with other brands. DMR is used on the amateur radio VHF and UHF bands, started by DMR-MARC around 2010.

The FCC officially approved the use of DMR by amateurs in 2014. In amateur spaces, Coordinated DMR Identification Numbers are assigned and managed by RadioID Inc. Their coordinated database can be uploaded to DMR radios in order to display the name, call sign, and location of other operators. Internet-linked systems such as the UK`s Largest Digital Radio Network DV Scotland Phoenix Network, BrandMeister network, TGIF, FreeDMR and several others (including several previously closed clusters which now connect to larger networks to wide area accessibility), allow users to communicate with other users around the world via connected repeaters.

The low-cost and increasing availability of internet-linked systems have led to a rise in DMR use on the amateur radio bands. The development of Raspberry Pi-based hotspots, often those using the Pi-Star software, has allowed users to connect their radios to one or more internet-linked systems at the same time. DMR hotspots are often based on the open source Multimode Digital Voice Modem, or MMDVM, hardware with firmware developed by Jonathan Naylor.

D-STAR STORY…

(From Wikipedia®)

D-STAR (Digital Smart Technologies for Amateur Radio) is a digital voice and data protocol specification for amateur radio. The system was developed in the late 1990s by the Japan Amateur Radio League and uses minimum-shift keying in its packet-based standard. There are other digital modes that have been adapted

for use by amateurs, but D-STAR was the first that was designed specifically for amateur radio.

Several advantages of using digital voice modes are that it uses less bandwidth than older analog voice modes such as amplitude modulation and frequency modulation. The quality of the data received is also better than an analog signal at the same signal strength, as long as the signal is above a minimum threshold and as long as there is no multipath propagation.

D-STAR compatible radios are available for HF, VHF, UHF, and microwave amateur radio bands. In addition to the over-the-air protocol, D-STAR also provides specifications for network connectivity, enabling D-STAR radios to be connected to the Internet or other networks, allowing streams of voice or packet data to be routed via amateur radio.

D-STAR compatible radios are manufactured by Icom, Kenwood, and FlexRadio Systems.

YAESU SYSTEM FUSION…

(From Wikipedia®)

In 2013, YAESU launched its own digital mode of operation for amateur radio: "System Fusion". Like other digital modes, Fusion utilize a narrower radio bandwidth. With System Fusion, special attention was paid to compatibility with analog FM radio. This was intended to simplify migration of the existing amateur radio repeaters from analog to digital technology.

In the early 2000s, minimum-shift keying (GMSK) technology emerged in the amateur radio market as the dominant digital mode. In 2013 Yaesu introduced "System Fusion," new technology utilizing C4FM 4-level FSK technology for transmitting digital voice data. The System Fusion communication protocol enables devices to analyze an incoming signal and automatically determine if it is using C4FM or conventional FM mode. System Fusion also enables data transfer at full rate with speeds reaching up to 9,600 bits per second.

Yaesu is the only company with System Fusion-enabled devices. ICOM, alongside the Japan Amateur Radio League has developed devices using the D-STAR protocol. Other brands use DMR, among other modes.

HF RADIO DIGITAL VOICE…

FROM https://freedv.org/

FreeDV is a Digital Voice mode for HF radio. You can run FreeDV using a free GUI application for Windows, Linux and OSX that allows any SSB radio to be used for low-bit-rate digital voice.

If you are a hardware or software developer, you can integrate FreeDV into your project using the LGPL-licensed FreeDV API.

FreeDV is being developed by an international team of radio amateurs working together on coding, design, user interface and testing. FreeDV is open source software, released under the GNU Lesser Public License version 2.1. The modems and Codec 2 speech codec used in FreeDV are also open source.

SLOW SCAN TV

VIEW https://www.youtube.com/watch?v=ogCwGhTpSbQ
AND https://hamsoft.ca/pages/mmsstv.php

This mode seems to be mostly overlooked. Often appearing on 20m around 14.320 MHz, SSTV can be decoded with MMSSTV which has been around for years. Users of SSTV should be aware of the time to transmit an image (8 seconds??) leaves the radio or amplifier keyed up that long. So make sure of how long the key-down time limit is for your equipment. A 100W PEP SSB signal limit is equivalent to 25W limit on SSTV.

160m BAND PROPAGATION AT TOP OF SOLAR CYCLE 25

For visible light, the earth's atmosphere scatters blue light more than red, so at sunset and sunrise the sun appears reddish. Also, the atmosphere acts like a lens, so that when the sun is scheduled to set, for example, the astronomical time for sunset does not match the visible sunset. The refraction causes the sun to appear setting a couple of minutes later. But what happens with radio waves and propagation? First, right now in the higher portion of solar cycle 25 the ionospheric air ionization is different than at lower portions of the cycle. Such effects mean that 160m is only a night time band if you want to work DX. Local contacts can still happen in daylight. Recent activity on 160m with FT8 has shown that after astronomical sunset the waterfall which was almost empty in daylight will start showing a growth of weak signals for a few minutes. Because FT8 is a weak signal communication mode, that means many more decodable signals appear after sunset. There should be a similar reversed effect near sunrise.

Lower in the sunspot cycle, during periods of sunspot minima, DX is easier to work on 160m.

If you want to read a serious number of technical discussions on 160m antennas, go to http://audiosystemsgroup.com/160MPacificon.pdf **.**

YOU ARE ALWAYS GUILTY OF SPEEDING…

While you are just sitting there reading this, the earth is rotating as part of the 24 hour day. The earth is about 25000 miles in circumference. At our latitude the mathematical cosine of our latitude in degrees (0.75) multiplied by 25000 divided by 24 hours gives about 781 mph of motion to the east, already. But the earth is orbiting the sun in one year, which works out to be about 66,600 mph. Then the solar system moves about 514,000 mph around the galaxy (the Milky Way). Then the galaxy is moving in the Local Group about 670,000 mph*. And oh, all these motions resemble continuous spirals if you could hang on somewhere way outside and watch for a long time.

***Internet sources provide varying answers here**

WSJT-X SETUP IN WINDOWS 11…

The following is a much-filtered composite discussion from WSJT-X reflectors on clarification to this story.

Assuming the PC<->rig is a USB/Serial connection

1. Device manager (does a new device for Mic and Speaker) pop-up when

you connect the rig. Make a note of which device and use it below for [number].

2. After doing the usual setting [WSJT-X Radio and Audio tabs]. In Audio tab select the Mic/Speaker corresponding to the Device above in 1.
- names might not be the same but you can figure it out. Like "USB Audio Device" / "USB Codec"

3. Go back to Win 11 Settings :
- In "Sound" - Make sure "System Sounds" go to different speaker/mic
- Check to make sure WSJT-X sound is the same as (2) above
- "Volume Mixer" Find WSJT-X - make sure the devices are correct per [number]. WSJT- devices are set to " ['number]- USB Audio Device." in Volume Mixer and WSJT-X
AND
When you hit "TUNE" in WSJT-X the levels are highlighted.
- "More Sound Setting" (last tab)
- Pick the Playback -> the device from (2).
Also note if there are other devices. Note that WSJT- devices are set to " [number]- USB Audio Device." in Volume Mixer and WSJT-X
- Turn OFF all Enhancements, Spatial Sounds etc.
- "Level" set to 0db
- Lastly make sure that
"Format" System->Sound->Properties->Format > is set to "16bit 44100 Hz (CD Quality)

NOTE: [DVD Quality does NOT WORK] Why?
"DVD Quality" contains other information for video and WSJT-X does not use video!

Extra: Dell computers need to have "WAV" services disabled.

FCC OPENS UP HF BANDS FOR WIDER DIGITAL...

(from ARRL 12/08/2023)

The Federal Communications Commission (FCC) published new rules adopted in November, 2023, that replace the symbol rate restrictions on the HF bands with a bandwidth limit of 2.8 kHz. The new rules go into effect January 8, 2024.

The bands and band segments affected by the rules change are those authorized for data transmission between 160 and 10 meters, exclusive of 60 meters where no change was made.

In adopting a bandwidth limit in place of the baud rate limit the FCC agreed with ARRL that some limitation is necessary because "without a baud rate or bandwidth limit, data stations using a large amount of spectrum for a single emission could do so to the detriment of simultaneous use by other stations using narrowband emission modes."

The FCC also requested comment on removing similar symbol rate restrictions in the rules governing 135.7 - 137.8 kHz (2200-meter band), 472 - 479 kHz (630-meter band), and the very high-frequency (VHF) and ultra-high frequency (UHF) bands.

THE DX SCENE…

(Courtesy of the NG3K website)

Call, Start Date,, End Date, DXCC Entity

ZD7Z,2024 Jan16,2024 Feb04,St Helena
FG,2024 Jan19,2024 Feb02,Guadeloupe
CN2DX,2024 Jan20,2024 Feb10,Morocco
YB9,2024 Jan22,2024 Feb01,Indonesia
8Q7WR,2024 Jan24,2024 Feb06,Maldives
7O2WX,2024 Jan25,2024 Feb12,Yemen
TG7,2024 Jan27,2024 Feb03,Guatemala
6W,2024 Jan27,2024 Feb04,Senegal
CT3,2024 Jan30,2024 Feb02,Madeira
VK9N,2024 Feb02,2024 Feb07,Norfolk Is
6W7,2024 Feb03,2024 Apr16,Senegal
DU3,2024 Feb04,2024 Feb09,Philippines
FY4JI,2024 Feb04,2024 Feb11,Reunion
YJ,2024 Feb04,2024 Feb11,Vanuatu
V26CV,2024 Feb06,2024 Feb20,Antigua & Barbuda
6W7,2024 Feb07,2024 Feb29,Senegal
4L,2024 Feb10,2024 Feb18,Georgia
CB0ZA,2024 Feb10,2024 Feb24,Juan Fernandez
H44MS,2024 Feb10,2024 Feb28,Solomon Is
OX,2024 Feb13,2024 Feb22,Greenland
8R7X,2024 Feb14,2024 Feb24,Guyana
V47JA,2024 Feb17,2024 Feb27,St Kitts & Nevis
5R,2024 Feb17,2024 Mar03,Madagascar
FW8,2024 Feb19,2024 Mar09,Wallis & Futuna
3B8,2024 Feb20,2024 Feb27,Mauritius
H40WA,2024 Feb22,2024 Mar07,Temotu
V4,2024 Feb25,2024 Mar04,St Kitts & Nevis
XU7GNY,2024 Feb26,2024 Mar15,Cambodia
VK9L,2024 Feb27,2024 Mar03,Lord Howe Is
NP2R,2024 Feb27,2024 Mar04,US Virgin Is
TY5C,2024 Mar01,2024 Mar31,Benin
PJ7AA,2024 Mar02,2024 Mar30,Sint Maarten
PJ2,2024 Mar03,2024 Mar11,Curacao
J38R,2024 Mar03,2024 Mar22,Grenada
J3,2024 Mar04,2024 Mar16,Grenada
5H3VJG,2024 Mar08,2024 Mar20,Tanzania
FK,2024 Mar10,2024 Mar19,New Caledonia
PJ2,2024 Mar11,2024 Mar27,Curacao
T32EU,2024 Mar12,2024 Mar27,East Kiribati
C6A,2024 Mar16,2024 Mar21,Bahamas
7P8EI,2024 Mar20,2024 Mar29,Lesotho
TO1Q,2024 Mar25,2024 Apr08,Guadeloupe
ZC4MK,2024 Mar26,2024 Apr01,Cyprus SBA
VQ5P,2024 Mar26,2024 Apr02,Turks & Caicos
TX5XG,2024 Mar27,2024 Apr03,Austral Is
TO4VV,2024 Mar29,2024 Mar31,Mayotte
TO4VV,2024 Apr05,2024 Apr07,Mayotte
TO4VV,2024 Apr12,2024 Apr14,Mayotte
JW8EKA,2024 Apr18,2024 Apr21,Svalbard
A52,2024 Apr18,2024 May08,Bhutan
FP,2024 Jul02,2024 Jul15,St Pierre & Miquelon

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(440) 234-4839

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Open

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WEST PARK RADIOPS ARC meets
Once a month
Time and Location To Be Announced

Dues are $15/yr. We welcome anyone interested in amateur radio to our activities. We operate Monday night nets on 147.36+ MHz (PL 107.2 Hz) at 8:00 p.m. Eastern.

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