

Northwest Indiana DX CLUB

Volume 11, Issue 11

November 2023

President's Corner

Hello,

I hope everyone is doing well. It was suggested that we have an article where members recount their past and beginnings in the hobby. If you would like to do this, please send me your information and I will use one each month.

73

John W3ML

Good DXing!

"Working the World from the Black Hole"

NWI DX Club Website

<http://nwidxclub.weebly.com/>



Don't forget Steve Mollman is our QSL Card Checker.

DXCC Card Checking is available by appointment and may be available at meetings. E-Mail kd9hl@arrl.net for an appointment or to make other arrangements.

<i>Northwest Indiana DX Club Officers and Staff</i>			
President	W3ML	John Poindexter	w3ml.ohn@gmail.com
Vice President	W9KTP	Jerry Hess	jerryhess@Frontier.com
Newsletter Editor	W3ML	John Poindexter	w3ml.ohn@gmail.com
W9NWI Trustee	KD9HL	Steve Mollman	kd9hl@ARRL.net
Webmaster	W9YOU	John Reardon	kd9ron@ARRL.net
ARRL Card Checker	KD9HL	Steve Mollman	kd9hl@ARRL.net

Reminder, the NWIDX Club has a club call W9NWI.

The call is available to members for use during contests, special events, Field Day, etc. To schedule dates for its use, contact the trustee, Steve Mollman – KD9HL. kd9hl@arrrl.net

QSL cards are available.

Notice:

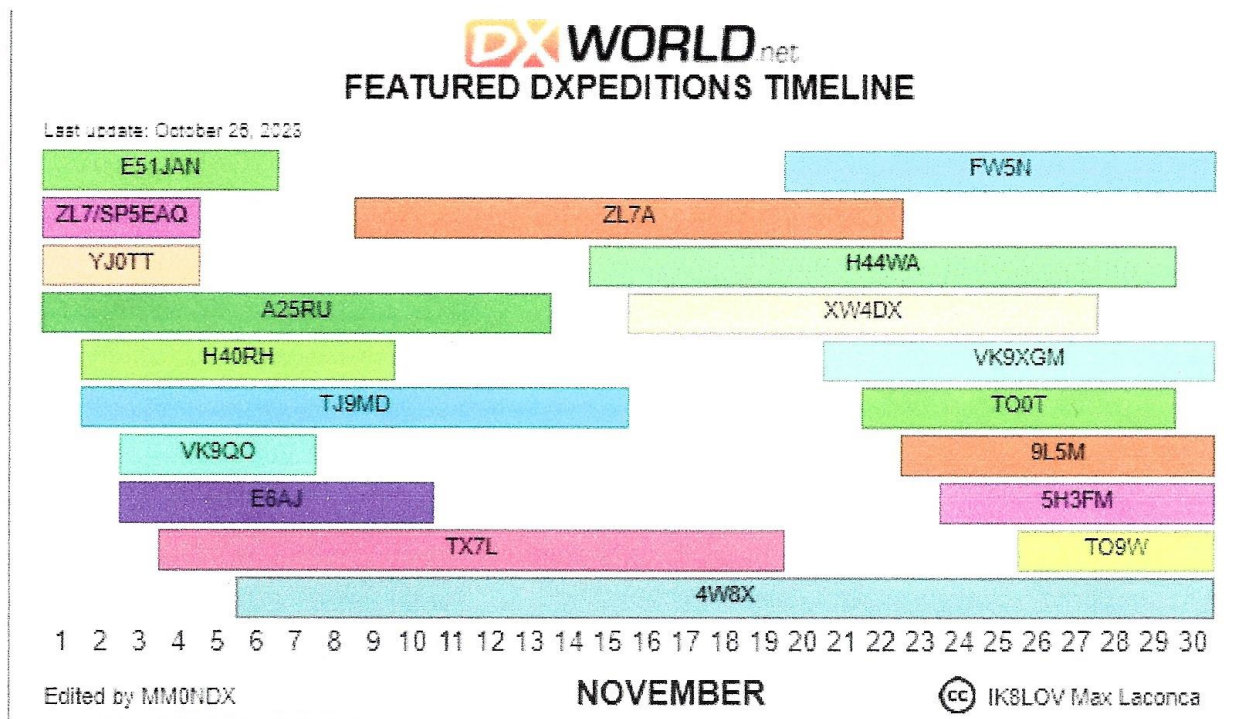
Articles in the Northwest Indiana DX Club Newsletter (except for those separately copyrighted) may be reprinted, provided proper credit is given.

Member DXCC Scorecard

A Reminder

We will be listing the membership's ARRL DXCC standings in the January issue of the newsletter. If you have worked any new entities since the last listing and haven't yet submitted them to the ARRL please do so early enough so they can be counted. Currently the ARRL is taking up to five weeks to process card applications with LOTW applications taking up to two weeks.

QSL Cards-Steve Mollman, KD9HL is our Official ARRL DXCC Card Checker. Contact Steve for card checking. You may email him at KD9HL@arrl.net for card checking details, if you desire to go that route. Logbook of the World-To submit LOTW credits on-line, click the Awards tab, and in the "Your LoTW ARRL DXCC Accounts" section on the left side of the Logbook Awards page, select the DXCC Award Account for which you intend to submit an application. Select the Award Account Menu on the left side and then select Application.



Question of the Month

(The correct answer is at the end of the Newsletter)

The recent ZD9W expedition to Tristan da Cunha had how many members?

- A. One
- B. Three
- C. Five
- D. Ten

<Ω>

RESULTS

FUTURE PRESENTATION

TOPICS SURVEY

1. HOW'S DX (ZOOM) – BERNIE, W3UR – 6 VOTES
2. PROPAGATION/CLIMATE CHANGE – CARL, K9LA – 5 VOTES
3. POWER LINE NOISE REDUCTION – REMC/NIPSCO – 4 VOTES
4. MOON BOUNCE – DAVE, K9FN – 3 VOTES
5. RICK RODERICK, K5UR, ARRL PRESIDENT, LONG TIME DXER, MIXED 340/371 (ZOOM) – 2 VOTES
6. TOWER SAFTEY – REMC/NIPSCO – 1 VOTE
7. DAILY WEATHER – WSBT, WNDU – 1 VOTE
8. BROADCAST STATION ENINGEER – WNDU, WSBT – 1 VOTE

In addition to the above topics, Tom, W8FIB, sent a link to K8ZT's website that has numerous topics we also can chose from. Thanks Tom.

https://docs.google.com/spreadsheets/d/e/2PACX-1vQgcu0BwQV2jpyk0h0_BB-1mIOxTQzLCRZJIQMjgVVG2Hz58_HjjaP9FFhAL1fQsUtBp8EYTCrOUFlw/pubhtml

Surge Protectors

By KD9HL

A surge protector is a device designed to protect your electronic devices from voltage spikes and power surges which can potentially damage or shorten the lifespan of your equipment. When looking for a surge protector, consider the following factors:

1. **Joule Rating:** This indicates the amount of energy the surge protector can absorb before it needs to be replaced. Higher joule ratings offer better protection.
2. **Clamping Voltage:** This is the voltage at which the surge protector begins to divert excess voltage to the grounding wire. Lower clamping voltage is better.
3. **Number of Outlets:** Make sure the surge protector has enough outlets to accommodate all your devices.
4. **Features:** Some surge protectors come with additional features like USB charging ports, Ethernet protection, EMI/RFI Protection and more.
5. **Brand Reputation:** Look for reputable brands known for producing reliable surge protectors. Some popular surge protector brands are:

A: **APC (American Power Conversion):** APC is a well-known brand that offers a variety of surge protectors suitable for different needs.

B: **Belkin:** Belkin is another reputable brand that offers a range of surge protectors with various features.

C: **Tripp Lite:** Tripp Lite is known for its high-quality surge protectors and power management solutions.

D: **CyberPower:** CyberPower surge protectors are known for their durability and performance.

E: **Furman:** Furman specializes in power management products, including surge protectors, for audio/video equipment.

F: **ESP Next Gen:** A non-MOV surge protector considered the “Gold Standard”.



Belkin MOV Power Strip Surge Protector

MOV Surge Protectors-MOVs are designed to absorb transient voltage spikes and divert them away from sensitive electronic components. Over time, MOVs may degrade, especially after experiencing multiple surges. If you're unsure about the MOV's condition or if it has been exposed to a significant surge, it's often safer to replace it with a new one. Some authorities recommend replacing a MOV type surge suppressor after three years' service.

Testing a MOV is important to ensure its functionality, especially if it has been exposed to a voltage surge. Here are some ways to test a MOV:

1. Visual Inspection:

- Check for any visible signs of damage such as discoloration, cracks, or a burned smell.
- If there are visible signs of damage, it's likely that the MOV needs to be replaced.

2. Use a Multimeter:

- Set your multimeter to the resistance or continuity mode.
- Place the multimeter probes across the MOV terminals.
- In a normal state, an MOV should have very high resistance. If the multimeter reads a low resistance or beeps, the MOV may be shorted and needs replacement.

3. Voltage Testing:

- If you have a variable power supply, gradually increase the voltage across the MOV.

- Monitor the voltage and current flowing through the MOV.
- Typically, the MOV should remain in a high-resistance state until the voltage exceeds its specified clamping voltage.
- At the clamping voltage, the MOV should conduct, allowing current to pass through and diverting the excess voltage.

4. **Clamping Voltage Check:**

- Measure the clamping voltage of the MOV using a transient voltage suppressor tester or a high-voltage pulse generator.
- Compare the measured clamping voltage with the manufacturer's specifications. If it exceeds the specified limit, the MOV may be compromised.

5. **Replace if Necessary:**

- If the MOV fails any of the tests or shows signs of damage, it's advisable to replace it.
- Ensure that the replacement MOV has similar or better specifications compared to the original one.

Always follow safety precautions when working with electrical components and voltages.

Many surge protectors for AC power products use LED diagnostics to visually indicate when an SPD is no longer functional. Typically, an LED diagnostic light will be continually illuminated if the device is functional and providing protection. An unlit diagnostic light indicates the device needs replacing.

Unfortunately, the LED standards are not uniform. Some use a Green LED and others use a Red LED. For example, with Phillips surge protectors, the red protection light indicates that your surge protector is providing surge protection for your equipment. If the red light is out, it means that the surge protector has been damaged by a severe surge and a new one should be purchased.

ESP Surge Protectors. ESP surge protectors are considered to be the “Gold Standard” surge protector. There is an inherent downside to relying on a MOV as the main source of protection in a surge protector. These components have a limited life, and their performance degrades substantially over time. Even with small surges passing through it, the performance of an MOV will decrease over time, allowing more of the surge energy to pass through to the connected equipment. Eventually the MOV will completely fail, usually with little or no indication from the surge protector, as it continues to operate normally. This means that all surges will simply be passed through to connected devices.



ESP Next Gen Surge Protector/Noise Filter/Power Monitor

ESP is a solution to this common problem. The design insures the lowest let-through energy after a surge/transient event, with consistent performance that won't degrade over time. MOVs are used in the design, but they are used in conjunction with a gas tube, a capacitor bank, an iron core inductor, and an avalanche diode array. The gas tube draws destructive residual energy away from the MOV, allowing it to handle surges without sacrificing performance or longevity. The rest of the components further reduce the remaining surge energy to the lowest level possible, protecting the connected equipment.

ESP also has circuitry to protect connected equipment from other damaging power anomalies. sag/under-voltage events account for 31% of all power anomalies. Generally, these events are caused by HVAC systems or other appliances/systems switching on and off, overloaded circuits, or local power grid problems. When these events occur, they can be followed by surges and brown-outs, caused by multiple pieces of equipment being powered up simultaneously.

The ESP technology combines inrush current limiting with zero-cross voltage turn-on, and offers a substantial improvement over other surge protectors that may provide basic inrush current protection.

This circuitry prevents connected equipment from generating damaging transients following a power outage or line voltage sag. These "self-induced" transients can harm the device itself or other devices on the same circuit. This also helps by preventing momentary brown-outs or voltage sags caused by multiple loads/devices on circuits powering up after a power outage or voltage line sag.

Cost. A MOV type surge protector cost from about \$10.00 up. Price is dependent upon features, manufacturer and vendor.

A ESP surge protector cost new will be about \$115.00 and up. Pricing is dependent upon features, voltage and ampere rating. Used ESP protectors are readily available on eBay for about \$28.00 and up. Again, eBay pricing is dependent upon features and vendor. The used ones are usually “pull-outs” from copier trade-ins. Since the manufacturer provides a “lifetime” warranty, a used unit should be okay.

(Since a MOV unit should be replaced every three years or so, over several years an ESP unit would be most cost effective i.e., cheaper)

Check Amazon for pricing.

< Ω >

The Art and Skill of Radio-Telegraphy <https://www.qsl.net/w9aml/documents/TheArtandSkillofRadioTelegraphy.pdf>

Solar maximum could hit us harder and sooner than we thought. How dangerous will the sun's chaotic peak be?

<https://www.livescience.com/space/the-sun/solar-maximum-could-hit-us-harder-and-sooner-than-we-thought-how-dangerous-will-the-suns-chaotic-peak-be>



80 METER BEAM REPAIR AT 190 FEET



WW1WW-Woody Beckford of Salisbury, NH repairing his 80 Meter beam on a 200-foot tower. One end of the ladder is rigged to the tower while the other is guyed to the tower. The tower climber has a safety harness that is attached to a cable which in turn is fastened to the tower.

Apparently the effort was successful as WW1WW is frequently heard on the air.

<Ω>

Question of the Month Answer:

The recent ZD9W expedition to Tristan da Cunha had how many members?

Answer: A. One member.

YL2GM-Yuris Petersons was the solo participant in the Tristan da Cunha DXpedition.



Yuris is well known for his many DXpeditions (many solo) to places such as Iran, Nepal, Equatorial Africa, Annabon Island, Bangladesh and other locales His visit to Tristan da Cunha lasted from September 29,2023 to October 22, 2023.

The equipment usedon Tristan da Cunha:

TRX:

- 1x Yaesu FT-710
- 2x SunSDR2 Pro

PA:1x SPE Expert 1.3K-FA

Antennas:

- Vertical with LBS matching unit for 160m-30m bands
- Spiderbeam for 20m-10m bands
- 5 element yagi for 6m
- DX-commander vertical
- EFHW
- BOG for receiving

<Ω>

Bill South N4SV put together this Excel spreadsheet, compiled from several sources, of CQ zones and countries/call signs in them.

CQ DXCC Zones and Countries and Callsigns							
Zone 1	Northwestern Zone of North America						
	Calls	Countries					
	KL	Alaska					
	VY1	Yukon					
	VE8	Northwest territories					
	VY0	Nunavut Territories west of 102 degrees (Includes the islands of Victoria, Banks, Melville, and Prince Patrick)					
Zone 2	Northeastern Zone of North America						
	Calls	Countries					
	VO2	Labrador					
	VE2	Quebec, north of the 50th parallel, and Nunavut Territories east of 102 degrees (Includes the islands of King Christian, King William. Prince of Wales, Somerset, Bathurst, Devon, Ellesmere, Baffin and the Melville and Boothia Peninsulas, excluding Akimiski Island, Bear Islands and East Pen					

		Island in Hudson Bay)					
Zone 3	Western Zone of North America						
	Calls	Countries					
	VE7	British Columbia					
	W6	California					
	W7	Arizona, Idaho, Nevada, Oregon, Utah, and Washington					
Zone 4	Central Zone of North America						
	Calls	Countries					
	VE3	Ontario					
	VE4	Manitoba					
	VE5	Saskatchewan					
	VE6	Alberta					
	VY0	Akimiski Island, and Bear Islands, and Fox Island and East Pen					
		Island in Hudson Bay					
	W7	Montana, Wyoming					
	W0	Colorado, Kansas, Nebraska, South Dakota, North Dakota,					
		Minnesota, Iowa, Missouri					
	W8	Except West Virginia					
	W9	Wisconsin, Illinois, Indiana					
	W5	New Mexico, Texas, Oklahoma, Arkansas, Louisiana, Mississippi					
	W4	Alabama, Tennessee, and Kentucky					

Zone 5	Eastern Zone of North America						
	Calls	Countries					
	4U1UN	UN HQ New York					
	CY9	St. Paul Island					

	CY0	Sable Island				
	FP	St. Pierre Miquelon				
	VE1	Nova Scotia				
	VE9	New Brunswick				
	VY2	Prince Edward Island				
	W1	Vermont, Maine, New Hampshire, Massachusetts, Connecticut,				
		Rhode Island				
	W2	New York, New Jersey				
	W3	Pennsylvania, Maryland, Delaware, Washington D.C.				
	W4	states of Florida, Georgia, South Carolina, North Carolina, Virginia				
	W8	West Virginia				
Zone 6	Southern Zone of North America					
	Calls	Countries				
	XE	Mexico				
	XF4	Revilla Gigedo				
Zone 7	Central American Zone					
	Calls	Countries				
	FO	Clipperton				
	HK0	San Andres Island				
	HP	Panama				
	HR	Honduras				
	TG	Guatemala				
	TI	Costa Rica				
	TI9	Cocos Island				
	V3	Belize				
	YN	Nicaragua				
	YS	El Salvador				

Zone 8	West Indies Zone						
	Calls	Countries					
	C6	Bahamas					
	CO	Cuba					
	FG	Guadeloupe					
	FJ	St. Barts					
	FM	Martinique					
	FS	Saint Martin					
	HH	Haiti					
	HI	Dominican Republic					
	J3	Grenada					
	J6	St. Lucia					
	J7	Dominica					
	J8	St. Vincent					
	KG4	Guantanamo Base					
	KP1	Navassa Island					
	KP2	US Virgin Islands					
	KP4	Puerto Rico					
	KP5	Desecheo Island					
	PJ5	Eustatius					

	PJ6	Saba					
	PJ7	Sint Maarten					
	V2	Antigua and Barbuda					
	V4	St. Kitts and Nevis					
	VP2E	Anguilla					
	VP2M	Montserrat					
	VP2V	British Virgin Islands					
	VP5	Turks and Caicos Islands					
	YV0	Aves Island					
	ZF	Cayman Islands					
	6Y	Jamaica					
	8P	Barbados					
Zone 9	Northern Zone of South America						
	Calls	Countries					
	FY	French Guyana					
	HK	Colombia					
	HK0	Malpelo Island					
	PJ2	Curacao					
	PJ4	Bonaire					
	PZ	Surinam					

	YV	Venezuela					
	8R	Guiana					
	P4	Aruba					
	9Y	Trinidad and Tobago Islands					
Zone 10	Western Zone of South America						
	Calls	Countries					
	CP	Bolivia					
	HC	Ecuador					
	HC8	Galapagos Island					

	OA	Peru					
Zone 11	Central Zone of South America						
	Calls	Countries					
	PY	Brazil					
	PY0	Fernando de Noronha					
	PY0	St. Peter and Paul Rocks					
	PY0	Trinidad Martin Vaz,					
	ZP	Paraguay					
Zone 12	Southwest Zone of South America						
	Calls	Countries					
	CE	Chile					
	CE0	Easter Island					
	CE0	Juan Fernandez Island					
	CE0	San Felix Island					
	3Y	Peter Island and some Antarctic stations					
Zone 13	Southeast Zone of South America						
	Calls	Countries					
	CX	Uruguay					
	LU	Argentina					
	VP8	Falklands					
	VP8	South Georgia					
	VP8	South Orkney					
	VP8	South Shetlands					
	VP8	South Sandwich and some Antarctic stations					

Zone 14	Western Zone of Europe						
	Calls	Countries					
	C3	Andorra					
	CT	Portugal					
	CU	Azores Islands					
	DL	Germany					
	EA	Spain					
	EA6	Balearic Island					
	EI	Ireland					
	F	France					
	G	England					
	GD	Isle of Man					
	GI	Northern Ireland					
	GJ	Jersey					
	GM	Scotland					
	GU	Guernsey					
	GW	Wales					
	HB	Switzerland					
	HB0	Liechtenstein					
	LA	Norway					
	LX	Luxembourg					
	ON	Belgium					



	OY	Faroe Island				
	OZ	Denmark				
	PA	Netherlands				
	SM	Sweden				
	ZB	Gibraltar				
	3A	Monaco				
	4U1ITU	ITU, Geneva				

Zone 15	Central European Zone					
	Calls	Countries				
	E7	Bosnia Herzegovina				
	ES	Estonia				
	HA	Hungary				
	HV	Vatican				
	I	Italy				
	ISO	Sardinia				



	LY	Lithuania					
	OE	Austria					
	OH	Finland					
	OH0	Aland Island					
	OJ0	Market Reef					
	OK	Czech Rep.					
	OM	Slovakia					
	S5	Slovenia					
	SP	Poland					
	T7	San Marino					
	TK	Corsica					
	UA2	Kaliningrad					
	RA2	Kaliningrad					
	UB2-UI2	Kaliningrad					
	YL	Lativa					
	YU	Serbia					
	YU6	Kosovo					
	ZA	Albania					
	Z3	Macedonia					
	Z6	Kosovo					
	1A0	Sovereign Military Order of Malta					
	40	Montenegro					
	9A	Croatia					
	9H	Malta					

--	--	--	--	--	--	--	--

Zone 16	Eastern Zone of Europe						
	Calls	Countries					
	EW	Belarus					
	ER	Moldova					
	UA1	Ukraine					
	UA2	Ukraine	(except for RA2 and UA2-UI2)				
	UA3	Ukraine					
	UA4	Ukraine					
	UA5	Ukraine					
	UA6	Ukraine					
	UA7	Ukraine					
	UA9	Ukraine	(S, T, W)				
	UR	Ukraine					
	R1MV	Malyj Vysotskij					
Zone 17	Western Zone of Siberia						
	Calls	Countries					
	EX	Kirgizstan					
	EY	Tajikistan					
	EZ	Turkmenistan					
	R1I	Russia					
	UA8	Russia					
	UA9	Russia					
	UK	Uzbekistan					
	UN	Kazakhstan					

Zone 18	Central Siberian Zone						
	Calls	Countries					
	UA8, 9	Russia					
	UA0	Russia	(A, B, H, O, R, S, T, U, V, W)				
Zone 19	Eastern Siberian Zone						
	Calls	Countries					
	UA0	Russia	(C, D, F, I, J, K, L, Q, X, Z)				

Zone 20	Balkan Zone						
	Calls	Countries					
	E4	Palestine					
	JY	Jordan					
	LZ	Bulgaria					
	OD	Lebanon					
	SV	Greece					
	SV/A	Mt. Athos					
	SV5	Dodecanese					
	SV9	Crete					
	TA	Turkey					

	YK	Syria					
	YO	Romania					
	ZC4	UK Sovern Bases					
	4X	Israel					
	5B	Cyprus					
Zone 21	Southwestern Zone of Asia						
	Calls	Countries					
	A4	Oman					
	A6	UAE					
	A7	Qatar					
	A9	Bahrain					
	AP	Pakistan					
	EK	Armenia					
	EP	Iran					
	HZ	Saudi Arabia					
	YA	Afghanistan					
	YI	Iraq					
	4J	Azerbaijan					
	4L	Georgia					
	7O	Kuwait					
	9K	Kuwait					
Zone 22	Southern Zone of Asia						
	Calls	Countries					

	A5	Bhutan					
	S2	Bangladesh					
	VU	India					
	VU	Lakshadweep Island					
	4S	Sri Lanka					
	8Q	Maldives					

	9N	Nepal					
Zone 23	Central Zone of Asia						
	Calls	Countries					
	JT	Mongolia					
	UA0Y	NeiMenggu					
	BY3G-L	NeiMenggu					
	BY9G-L	GanSu					
	BY9M-R	NingXia					
	BY9S-Z	QingHai					
	BY0	QingHai					
Zone 24	Eastern Zone of Asia						
	Calls	Countries					
	BV9P	Pratas Is					
	BV	Taiwan					
	BY1	TianJin					
	BY2	TianJin					
	BY3A-F	TianJin					
	BY3M-R	HeBei					
	BY3S-X	ShanXi					
	BY4	ShaanXi					
	BY5	ShaanXi					
	BY6	ShaanXi					
	BY7	ShaanXi					
	BY8	ShaanXi					
	BY9A-F	ShaanXi					
	VR	Hong Kong					
	XX	Macau					

Zone 25	Japanese Zone						
	Calls	Countries					
	HL	South Korea					
	JA	Japan					
	P5	North Korea					
Zone 26	Southeastern Zone of Asia						

	Calls	Countries					
	3W	Vietnam					
	E2	Thailand					
	VU	Andaman and Nicobar Islands					
	XU	Cambodia					
	XW	Laos					
	XZ	Myanmar					
	1S/9M0	Spratly Islands					
Zone 27	Philippine Zone						
	Calls	Countries					
	BS7	Scarborough Reef					
	DU	Philippines					
	JD1	Minami Torishima					
	JD1	Ogasawara					
	T8	Palau					
	KH2	Guam					
	KH0	Mariana Is					
	V6	Fed. States of Micronesia					
Zone 28	Indonesian Zone						
	Calls	Countries					
	H4	Solomon Is					

	P2	Papua New Guinea				
	V8	Brunei				
	YB	Indonesia				
	4W	East Timor				
	9M	West and East Malaysia				
	9V	Singapore				
Zone 29	Western Zone of Australia					
	Calls	Countries				
	VK6	Western Australia				
	VK8	Northern Territory				
	VK9X	Christmas Is				
	VK9C	Cocos-Keeling Is				
Zone 30	Eastern Zone of Australia					
	Calls	Countries				
	FK/C	Chesterfield Is				
	VK1	Capital Territory				
	VK2	New South Wales				
	VK3	Victoria				

	VK4	Queensland				
	VK5	South Australia				
	VK7	Tasmania				
	VK9L	Lord Howe Is				
	VK9M	Mellish Reef				
	VK9	Willis Is				
	VK0M	Macquarie Is				

Zone 31	Central Pacific Zone						
	Calls	Countries					
	C2	Nauru					
	FO	Marquesas					
	KH1	Baker Howland Is					
	KH3	Johnson Is					
	KH4	Midway Is					
	KH5K	Kingman Reef					
	KH5	Palmyra Jarvis					
	KH6	Hawaii					
	KH7K	Kure					
	KH9	Wake Is					
	T2	Tuvalu					
	T30	Western Kiribati					
	T31	Central Kiribati					
	T32	Eastern Kiribati					
	T33	Bananba Is					
	V7	Marshall Is					
	ZK3	Tokelau					
Zone 32	New Zealand Zone						
	Calls	Countries					
	A3	Tonga					
	E5	North and South Cook Is					
	FK	New Caledonia					
	FO	French Polynesia and Austral Is					
	FW	Wallis Is					
	H40	Temotu					
	KH8	American Samoa					
	KH8S	Swains					
	VH9N	Norfolk Is					

	VP6	Pitcairn and Ducie				
--	------------	--------------------	--	--	--	--

	YJ	Vanuatu				
	ZK2	Niue Is				
	ZL	New Zealand				
	ZL7	Chatham Is				
	ZL8	Kermadec Is				
	ZL9	Auckland and Campbell Is				
	3D2	Fiji, Rotuma, and Conway Reef				
	5W	Western Samoa				
Zone 33	Northwestern Zone of Africa					
	Calls	Countries				
	CN	Morocco				
	CT3	Madeira Is				
	EA8	Canary Is				
	EA9	Ceuta and/or Melilla				
	IG9	Pelagic Is				
	IH9	Pantelleria Is				
	S0	Western Sahara				
	3V	Tunisia				
	7X	Algeria				
Zone 34	Northeastern Zone of Africa					
	Calls	Countries				
	ST	Sudan				
	SU	Egypt				
	Z8	South Sudan				

	5A	Libya					
Zone 35	Central Zone of Africa						
	Calls	Countries					
	C5	The Gambia					
	D4	Cape Verde Is					
	EL	Liberia					
	J5	Guinea Bissau					
	TU	Cote d'Ivoire					
	TY	Benin					
	TZ	Mali					
	XT	Burkina Faso					
	3X	Guinea					
	5N	Nigeria					

	5T	Mauritania					
	5U	Niger					
	5V	Togo					
	6W	Senegal					
	9G	Ghana					
	9L	Sierra Leone					
Zone 36	Equatorial Zone of Africa						
	Calls	Countries					
	D2	Angola					

	S9	Sao Tome Principe				
	TJ	Cameroon				
	TL	Central African Rep				
	ZD8	Ascension Is				
	3C	Equatorial Guinea				
	3C0	Annobon Is				
	9J	Zambia				
	9Q	Democratic Rep. of Congo				
	9U	Burundi				
	9X	Rwanda				
Zone 37	Eastern Zone of Africa					
	Calls	Countries				
	C9	Mozambique				
	ET	Ethiopia				
	E3	Eritrea				
	J2	Djibouti				
	T5	Somalia				
	5H	Tanzania				
	5X	Uganda				
	5Z	Kenya				
	70	Socotra and Abd al Kuri islands only				
	7Q	Malawi				
Zone 38	South African Zone					
	Calls	Countries				
	A2	Botswana				

	V5	Namibia				
	ZD9	Tristan da Cunha Gough Is				
	Z2	Zimbabwe				
	ZS	South Africa				

	ZS8	Marion Is					
	3DA	Swaziland (Kingdom of Eswatini)					
	3Y	Bouvet Is					
	7P	Lesotho					
Zone 39	Madagascar Zone						
	Calls	Countries					
	D6	Comoros					
	FH	Mayotte					
	FR	Reunion					
	FT-G	Glorioso					
	FT-J&E	Juan de Nova and Europa					
	FT-T	Tromelin					
	FT-W	Crozet Is					
	FT-X	Kerguelen Is					
	FT-Z	Amsterdam St. Paul Is					
	S7	Seychelles					
	VK0	Heard Is					
	VQ9	Chagos					
	3B6/7	Agalega St. Brandon Is					
	3B8	Mautitius Is					
	3B9	Rodriguez Is					
	5R	Madagascar					
Zone 40	North Atlantic Zone						

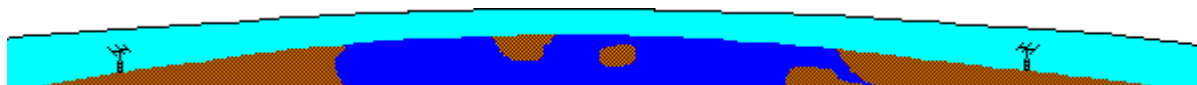
	Calls	Countries					
	<i>JW</i>	Svalbard					
	<i>JX</i>	Jan Mayen					
	<i>OX</i>	Greenland					
	<i>RI1FJ</i>	Franz Josef Land					
	<i>TF</i>	Iceand					

FOR SALE ITEMS

If you have ham items for sale, email me a list along with prices and contact information. I will put it in the next newsletter.

Let me know when an item is no longer for sale so I can remove it.
For Sale items will be removed from the newsletter after 3 months.

I want to thank those that have been sending in articles for the newsletter. All items are appreciated.



Until Next Time,
73

John

W3ML

President Northwest Indiana DX Club

<http://nwidxcub.weebly.com/>



DX

