Northwest Indiana DX CLUB

Volume 5, Issue 12 December 2017

President's Corner

The next meeting will be sometime in February, most likely after the LaPorte hamfest.

I want to wish everyone a Merry Christmas and Happy New Year!

Hope everyone's holiday season is a wonderful and safe time for you and your family.

73

John W3ML

Good DXing!

Inside This Issue

1 President Speaks
2- Member News/DX News

Don't Forget

DXCC CARD CHECKING

Doctor Richard Lochner, K9QA is our Official ARRL DXCC Card Checker. Contact Rich to schedule an appointment for card checking.

You may email him at k9qa@arrl.net for details on how to mail your cards to him, if you desire to go that route.

NWI DX Club Website

http://nwidxclub.weebly.com/

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@arrl.net

QSL cards are available.

We support the LoTW.

NWIDX Club Logo

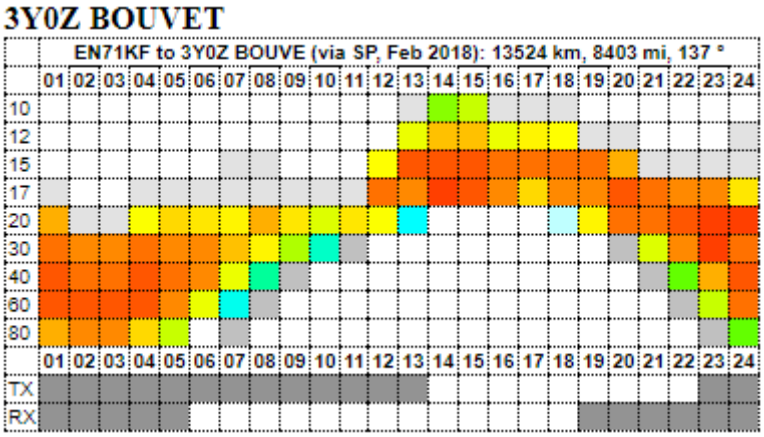
3YØZ Bouvet in Early 2018

Carl Luetzelschwab K9LA

If you're a DXer, the upcoming DXpedition to 3YØZ Bouvet in early 2018 is an important one to get worked and confirmed since it's currently #2 on the DXCC Most Wanted List at ClubLog (https://secure.clublog.org/loginform.php). It may be years before another operation takes place.

In addition to 3YØZ, there are many other DXpeditions to DXCC entities that you may need. How do you determine when the best time is for you to work them? You can roll your own propagation predictions or go to the web site of the DXpedition as many have propagation info.

Another way is to visit http://www.voacap.com/dx.html. This web site has VOACAP predictions for many DXpeditions, and is offered by Jari OH6BG, James HZ1JW and Juho OH8GLV. You input your 6-character grid square, and predictions to all the listed DXpeditions are calculated. As an example, here are the predictions for my location in EN71kf to 3YØZ.



The color coding is as follows:

The percentages, in simple terms, indicate the probability of making a QSO on the desired band at the desired time. For your best shot, concentrate on the yellow-orange-red blocks.

The predictions assume the DXpedition has a 3-ele Yagi at about 30 feet on 20m thru 10m and a quarter-wave vertical over good ground on the low bands. On your side, a 3-ele Yagi at about 60 feet and a quarter-wave vertical over good ground are assumed. The transmit power for both the DX station and you is 1.5 kW. Having a more modest station than the above assumptions means you may not in reality have any yellow-orange-red blocks, but the colors will still indicate the highest probabilities.

Finally, by hovering your cursor over any block gives the color-coded probability, the estimated monthly median signal power in dBW (add 30 to get to dBm) and the probability that the operating frequency is below the MUF (maximum useable frequency).

From Tom W8FIB

http://www.kc7hxc.us/links/rad io/Coax%20Calc/Coax%20Calculat or.html

For a given mismatch, how much power actually gets out of the antenna?

I always say I love ladder line (450 ohm) even though it makes a severe mismatch. Granted, an antenna tuner incurs some losses, but I'm willing t**o accept that.**

Plug in some numbers to see why.

Scott n7ji

Hello ALL -

The new year-long ARRL operating event has been announced!
http://www.arrl.org/news/announcing-the-arrl-international-grid-chase

73, Kermit W9XA

Handy Hint

Burying Radials

By Steve Mollman-KD9HL

A new vertical antenna has gone up and now comes the sometimes-onerous job of installing the radials. It is generally accepted that 60 quarter-wave radials are the most cost effective vs. performance installation. If you have an 80-meter antenna and one considers the job of burying approximately 2033 feet of wire the job becomes mind boggling. (1/4 wave @ 3.625 MHz = 33.89 ft. X 60=2033 ft.).

Most of us would probably grab a straight bladed spade and start cutting a slot in the lawn 8" at a time while feeding the radial wire into the ground. A mechanically inclined person with a welder may construct a plow to tow beyond a garden tractor. Both methods will work.

There is an easier way!

In the fall cut the grass as low as practicable. Then lay the radials flat on the surface. Anchor them periodically with homemade u-shaped pieces of stiff wire or fence staples. Be sure to put the wire down as low as possible. Over the winter and following spring two things will happen. First the grass will grow above the wire covering it. The second thing that will happen is the moisture from the winter rain and snow will allow the wire to sink into the ground. To be on the safe side, when you mow be sure that the mower blades are set to a height that will clear the wire. I usually set my mower blades at 3" which seems to be a good compromise for moisture retention, weed control, a nice manicured look and clearing any stray radial. After six months to a year the radials will have completely disappeared.

I have also used this method for burying coax.

Thanks to W8GZR (SK) for cluing me in on this tip over 50 years ago!

Some views on radial wire. I have found that galvanized steel wire corrodes after a few years while aluminum wire, while a great conductor, turns to white powder from interaction with the soil. Both become useless after time. My best luck has been with copper. Studies have shown that it doesn't make any difference as to whether it is insulated or not. Both seem to perform about the same. Hamfest bargain copper wire works well.

β 73's and good DX β

What Do You Think?

In awe of Contesters…

By Paul S. Ewing - N6PSE

My amateur radio activity primarily involves DXing and participating or organizing DXpeditions. I have dabbled in Contests over the years while mostly seeking new band/country contacts.

At times, I have been frustrated with the frequency of contests and the behavior of contesters on the bands. Many times, I have been trying to work a DX station only to have a contester plop down on top of the DX station and start calling CQ Test. I have often wondered if contesters and DXers could co-exist on the bands.

As time goes by, I have come to recognize the many contributions to amateur radio that the contester community makes and I also recognize the skill, stamina and knowledge that most contesters possess.

In fact, by and large the best Dxpedition operators are contesters. They can operate with great accuracy and a fast rate for many hours at a time. Their contesting skills are like a muscle that has been exercised and well developed. They can simply go faster and farther than many DXers that don't participate in contests. The best Dxpedition team are largely comprised of experienced and top contesters.

Whenever I have a complex technical challenge or a question about a logging program, I always look to the contesting community for help and I almost always get a multitude of well thought out and informative responses is short order.

If you look at "cutting edge" amateur radio gear, the vast majority of it has come from advances made by the contest community. They are constantly trying to find new, more efficient ways to operate and make rapid fire contacts.

So, I am grateful for contesters and the many contributions they have made to this great hobby.

What do you think?

Thank you to Paul Ewing-N6PSE for his kind permission to print this item. Paul is a noted DXpeditioner having operated from many rare and semi rare spots, including the South Sandwich Islands, Yemen, Myanmar, Eritrea and the South Georgia Islands. He can be reached at pauln6pse@gmail.com

An eBay® Vacuum De-Soldering Tool

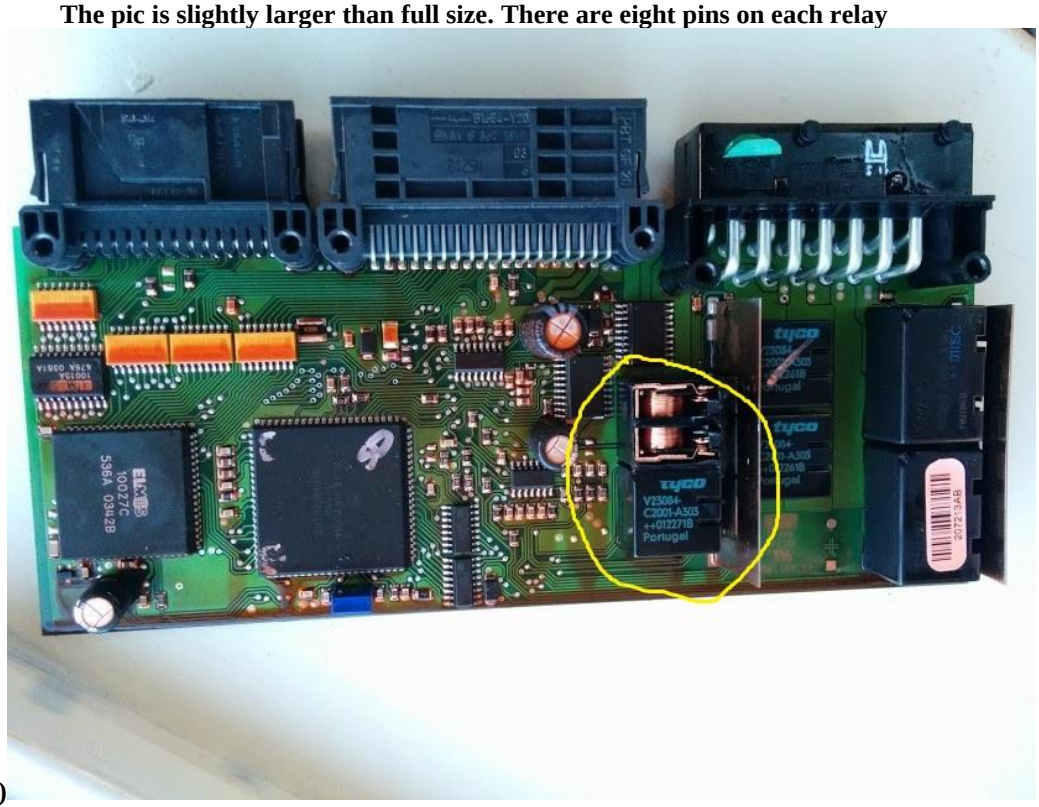
A REVIEW

By Steve Mollman-KD9HL

To many people, ham radio operators are automatically experts in the knowledge and repair of **ALL** things electronic. This being the case, I shouldn't have been surprised when a BMW 3 Series automobile body control module showed up at my door. This is the computer that controls many of the functions on the vehicle. This includes the key fob, door locks, windows, trunk lid, seat adjustments/memory, theft alarm, interior lights and windshield wipers. Fortunately, the owner is pretty sharp and with clues from the internet had made a good diagnosis of the problem so I wasn't embarrassed by my ignorance of the item. He was lacking in the proper tools to remove the faulty parts (two miniature mechanical relay sets) and install new ones. (New relays were under $5 each while a replacement module from BMW is $600 plus).

The BMW module is a compact double-sided circuit board with narrow traces and the usual components installed closely together. Both sides of the board were coated and sealed with a hard-green epoxy. The solder pads were smaller than what are usually seen, less than 1/16" in diameter.

The pic is slightly larger than full size. There are eight pins on each relay



(circled)

A quick look at the board determined that the de-soldering techniques of the past wouldn't work. The areas of contact were too small to use solder wicks or a suction bulb solder sucker. Those pads were miniscule compared to generous ones that were on the Heathkit projects we used to build. There was no way that a soldering iron and a solder sucker could simultaneously be placed on a solder pad. The solution seemed to be some type of de-soldering tool or vacuum de-soldering station.

After mulling over the situation, we studied various options including new vacuum de-soldering stations from various suppliers. We found that electric Vacuum De-soldering Rework Stations started at about $150 and went up from there. We then looked at eBay. Since we are not in the habit of repairing circuit boards and it might be a long time before we did another one, an economical alternative was desired. On eBay we found a domestic supplier who offered a small pencil type manual vacuum de-solderer for under $20 including shipping. An order was placed and it was delivered by US Mail in three days.

https://www.ebay.com/itm/40W-Compact-Grounded-Vacuum-Desoldering-Iron-120V-40-Watt-Solder-Sucker-Desolder/291790751500?_trkparms=aid%3D222007%26algo%3DSIM.MBE%26ao%3D2%26asc%3D41375%26meid%3Df74fc2cd3e8e4515af09ba9241ddd087%26pid%3D100005%26rk%3D3%26rkt%3D6%26mehot%3Dag%26sd%3D201685402781&_trksid=p2047675.c100005.m1851

The tool is lightweight, allowing single-handed de-soldering and vacuuming of connections, PC boards and components.

- Internal plunger pin automatically purges solder from tip with each use.
- Manual spring-loaded plunger
- 40W heating element
- Overall length 10.5" long
- The tip is hollow allowing it to be placed over component pins for de-soldering. The vacuum will draw the solder off the item.
- Country of manufacture – China
- 110-120 Volts AC
- Replaceable stainless-steel tip.
- A three-wire grounded plug for safety.

This item does not use an electric vacuum pump.

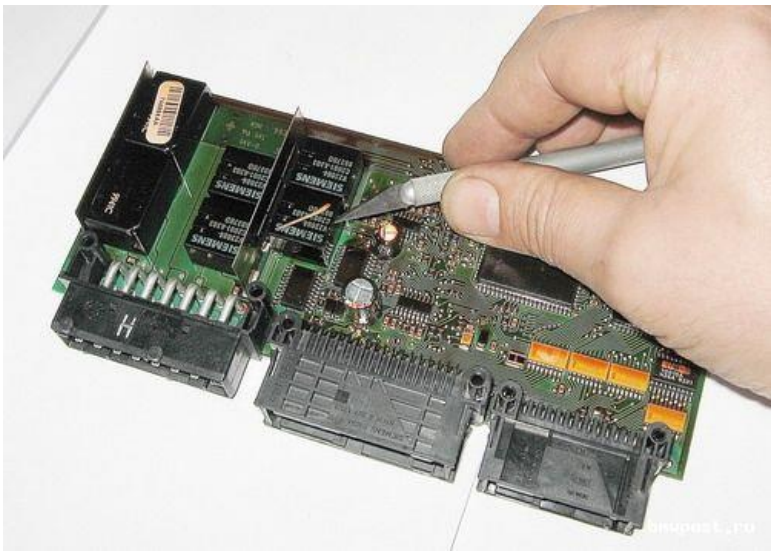
Operation is very simple.

1. Plug power cord into power outlet.
2. Allow the tool to warm up for at least 10 minutes.
3. Press the plunger for the vacuum until it clicks.
4. Place the tip of the nozzle against the solder with the tip orifice straddling the lead/solder pad to be unsoldered.

5. When the solder melts, press the button on the side of the handle that releases the plunger and the solder will be vacuumed out.

The stainless steel tip with center orifice

With the tool in hand, the process of removing the defective relays began. The first step was to remove the green epoxy from around the solder pads. First tried was acetone on a Q-tip. This had little effect but it was discovered that if acetone was kept on the spot for about 5 minutes, the epoxy would soften very slightly. Acetone evaporates quickly so this meant that the spot had to be continually swabbed. After the epoxy softened, an X-acto type craft knife was used to very carefully scrape the substance off the solder pads. Care had to be taken to avoid damaging the solder pads.



With the epoxy removed it was now time to de-solder each relay's pins. The tool was placed over a pin and it was quickly evident that the inside diameter of the tip orifice was larger than those tiny pads. The solution was a two-step process. Straddling the pin, the tool was slid to one side so that it butted up against the pin. The solder melted and the vacuum pulled it out. Then the tool was slid to the opposite side and the process repeated. This was done twice on each pin to make sure there was complete solder removal.

Some comments on the tool's performance. With some patience, care and adaptation the job was accomplished. It was an economical solution when compared to the price of an electric vacuum pump de-soldering tool.

There were concerns though. The first glitch was the aforementioned problem with the orifice size being larger than the solder pad. This shouldn't be an issue with most circuit boards as the BMW pads were the smallest I have ever seen. The second was that being a mechanical, single shot vacuum, the duration of the vacuum did not always seem sufficient to pull all of the solder off of the pad. This meant that sometimes it took two shots to make sure there was complete solder removal. Not a big problem, but it was a little awkward to hold the tool on the pad and reset the vacuum.

Because of those two minor concerns, we rate the tool at 4 stars on a 5-star scale. ❶ ❷❸❹⑤. A good tool for occasional repair work.

After the new relays were installed the module was plugged in to the BMW. With fingers crossed, the various functions were tried and amazingly they all worked! Big smiles all the way around!

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Free DX Book

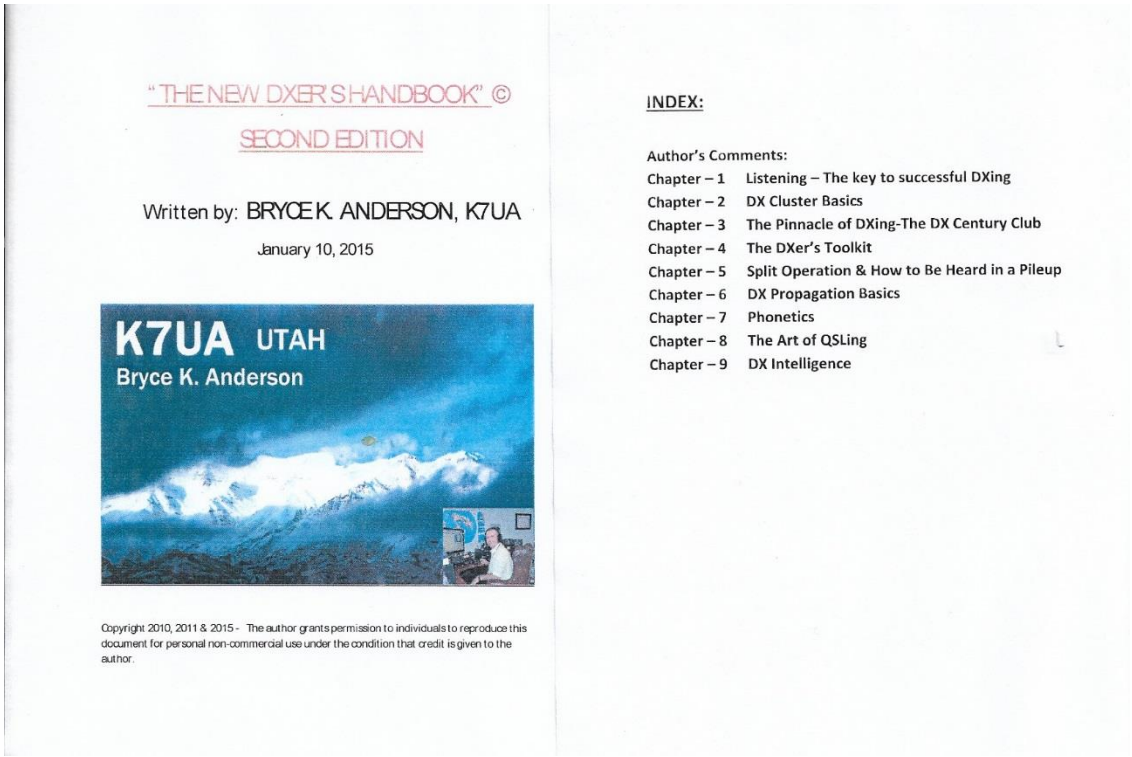
Because many of us have been chasing DX for decades, we often forget that some of the knowledge related to this pursuit might not be well understood by the newer amateur who is just getting started chasing DX.

K7UA has written a great handbook for the beginning DXer. He covers all topics related to DXing.
Although his handbook is targeted for beginners, there are a number of chapters that might be a good review.... even for the veteran Honor Roll DXer.

The book has nine chapters full of useful information for the pursuit of DX.

Bryce Anderson (K7UA)'s book is entitled "The New DXers Handbook". It is available as a free download at:

www.tinyurl.com/dxhandbook



"THE NEW DXER'S HANDBOOK" ©

SECOND EDITION

Written by: BRYCE K. ANDERSON, K7UA

January 10, 2015

K7UA UTAH
Bryce K. Anderson

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Whether you are a beginning DX'er, or a veteran, you are encouraged to take a look at K7UA's great handbook. Free is good!!

◄Ω►

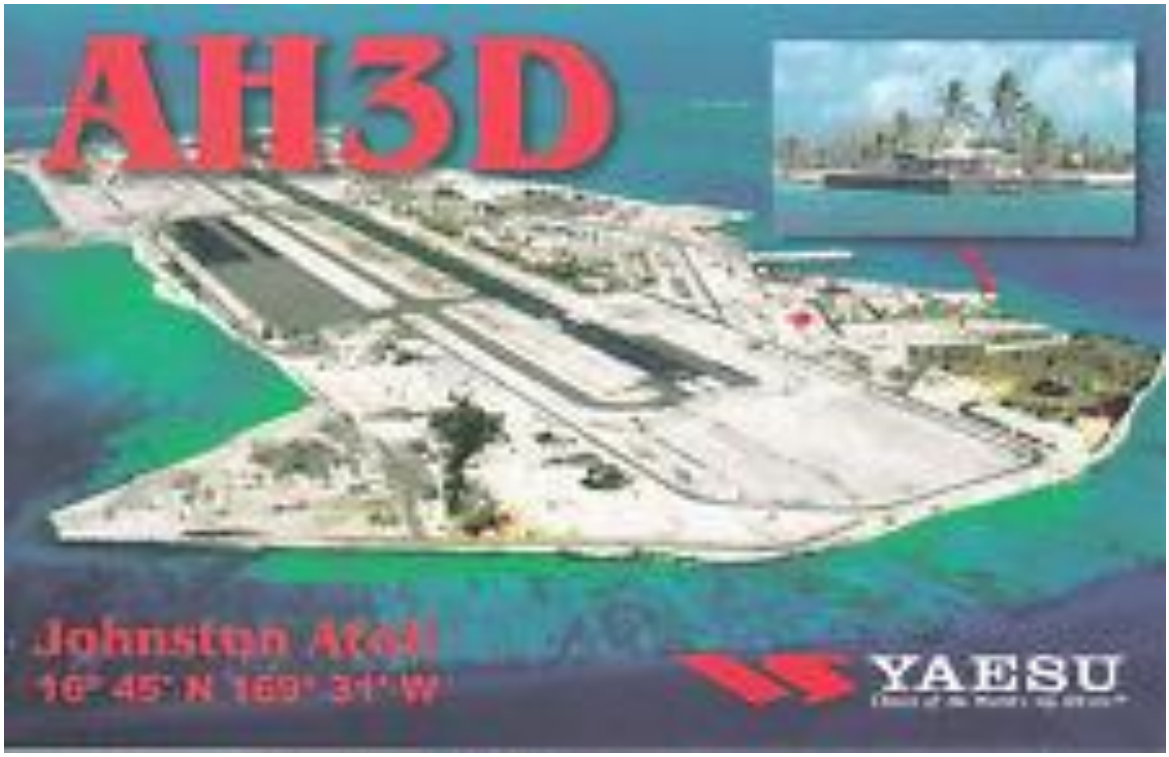
QSL Card of the Month

A collection of the old, the new, the rare, the exotic or just interesting QSL Cards

Johnston Atoll

KH3

ClubLog 2017: Most Wanted World Rank: #8
Most Wanted North America Rank: #19
CQ zone: 31 ITU Zone: 61
Continent: OC
Location: 16°44′13″N 169°31′26″W
Beam Headings from Northwestern Indiana: 278°/98° 5077 mi / 19781 mi



1989 and 1991

A Pacific Super Fund Site

Johnston Atoll, one of the most isolated atolls in the world, is located in the central Pacific Ocean, between the Hawaiian Islands and the Line Islands. The formation of Johnston Atoll began about 70 million years ago, when repeated submarine volcanic eruptions built up layer upon layer of basaltic lava from the floor of the ocean to its surface. Geologically, Johnston anchors the northern end of the Line Islands Ridge, although its coral reef biota resembles Hawaiʻi's marine fauna and flora.

Over millions of years, the island slowly eroded and subsided. As the island sank beneath the surface of the ocean, corals around its fringes continued to grow. Today, Johnston Atoll is a broad, shallow platform of about 50 square miles with four islands - Johnston, Sand, North, and East, and a marginal, emergent reef only on its northwest side.

The atoll has no indigenous inhabitants, although during the latter twentieth century there was an average of 1,100 U.S. military and civilian contractor personnel present at any given time. The central means of transport to the island was the airport which had a paved, military runway. The islands were wired with 13 outgoing and 10 incoming commercial telephone lines, a 60-channel submarine cable, 22 DSN circuits by satellite, an Auto din with standard remote terminal, a digital telephone switch, the Military Affiliated Radio System (MARS station), American Forces Radio & Television Service (AFRTS - Closed all "LIVE" broadcasting in 1976) a UHF/VHF air-ground radio, and a link to the Pacific Consolidated Telecommunications Network (PCTN) satellite. The atoll's economic activity was limited to providing services to U.S. military personnel and contractors located on the island. All food and manufactured goods were imported. The base had six 25 MW generators supplied by the base's support contractor. The runway facility was also available to commercial airlines for emergency landings (a fairly common event).

By the end of 2003 the U.S. government transferred jurisdiction of most of the atoll to the United States Fish and Wildlife Service. Most structures and living facilities (along with those used in the Johnston Atoll Chemical Agent Destruction System (JACADS) were removed and the runway was visually marked as closed. The emergent lands at Johnston Atoll are still managed by the U.S. Air Force, but when their administrative jurisdiction is terminated, they will be managed as a national wildlife refuge.

The atoll was used after World War II as a nuclear, chemical warfare, and biological warfare facility/test/storage site. At various times there were such items as World War I mustard gas, sarin, and various toxic biological substances located there. After the Vietnam War, the Agent Orange stocks were transferred to the atoll and stored there and eventually destroyed. In 1962 the failure of a nuclear armed Thor missile test resulted in the contamination of portions of the atoll with radioactive Plutonium. All of the chemical weapons once stored on Johnston Island were demilitarized and the agents incinerated with the process completed in 2000 followed by the destruction of legacy hazardous waste material associated with chemical weapon storage and cleanup.

KH3/KT6E-John Lee Operating from Johnston Atoll

The last ARRL DX Desk recognized operation was KH3/KT6E. John Lee, in 2003. In 2012, W7KFI, Susan Meckley, obtained permission from the Air Force to land on the atoll, but had not been able to get permission from the Fish and Wildlife Service. They declined her application because they "lacked funding to support her visit". She made the voyage anyhow and when her sailing vessel's auxiliary engine "failed" four miles from land fall at Johnson Atoll, she was forced to make a landing under International Maritime Law that allows a vessel 72 hours for "bunkering and refuge".

DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES

1 November 2011

Colonel Robyn M. Burk
611 ASG/CC
9480 Pease Ave Ste 123
JBER AK 99506

Ms. Susan Meckley
4 Sand Island Access Rd #14
Honolulu HI 96816

Dear Ms. Meckley

Pursuant to your request dated 25 July 2011, I am granting permission to land your vessel, the USSV DHARMA, at Johnston Atoll for a period of seven days in either November or December 2011.

One of the gravest threats to the Johnston Atoll ecosystem is the introduction of invasive plant and animal species. The United States Fish and Wildlife Service (USFWS) is currently spending a great deal of resources to eradicate an invasive species of ant and it would be detrimental to Johnston Atoll if something new were to be introduced. Invasive species are often introduced by people, aircraft and boats. As a result, the USFWS has implemented strict quarantine and wildlife disturbance restrictions. You must contact Dr. LeeAnn Woodward, USFWS within the next 30 days to be briefed on these restrictions. She can be reached at LeeAnn_Woodward@fws.gov, or by telephone at (808) 792-9562.

Below conditions must be strictly adhered to before accessing Johnston Atoll:

- Ship owners or Captains should ensure that ships and barges are free of rats, insects, seeds, and all other alien species prior to departing for Johnston Atoll. They should ensure that ant bait stations containing formicide and rodent bait stations containing rodenticide and traps have been placed on the ship and barge decks and holds throughout their voyage to Johnston Atoll as well as throughout the duration of the stay within the atoll.
- All persons walking on the terrestrial part of the atoll should have NEW or JOHNSTON DEDICATED clothing and soft gear (including all footwear and underwear).
- It is recommended that you freeze all clothing and soft gear for 48 hours (including both new and Johnston dedicated).

W7KFI-Susan Meckley

< 73's and Good DX >

Morse Code: A Staple in the Navy IW Toolkit

http://www.navy.mil/submit/display.asp?story_id=92864

Tom W8FIB sent in this link.

Radio Boulevard

Western Historic Radio Museum

Vintage Radio Communication Equipment Rebuilding & Restoration Articles,
Vintage Radio History and WHRM Radio Photo Galleries

1909 to 1969

http://radioblvd.com/

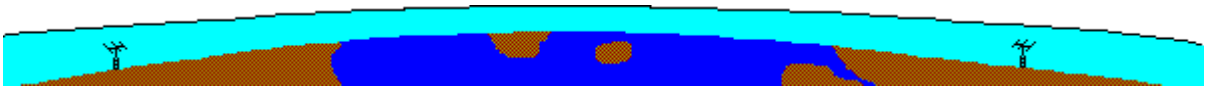
For Sale Items

```
> w9um
>
> Email
> w9um@arrl.net
>
> Comment
> Several items for sale: IC765 Mint contest radio w/250 cycle cw filter,
Ameritron 4 position coax switch, two 3kw tuners, Alpha 89 amp legal limit
amp and many other ham radios for vhf/uhf all working order. Two rotators,
Alliance Heavy Duty and Ham 4 with control boxes. I will entertain most
offers.
>
> Address
> 402 North Indiana St.
> Griffith, IN 46319
```

Contact John L Gianotti mailto:w9wy@sbcglobal.net

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

Don't forget to send in any information you would like to share with the Club members.



Until Next Time,
73
John
W3ML

http://nwidxclub.weebly.com/

THANKS
Thanks for visiting !

NW1DXC
W9NW1