



Signals From The Point

Official Newsletter of the Caribbean Contesting Consortium
Editor: W0CG

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Ancient Photo Looking North

Aerial photo of the first three houses at Coral Cliff, 1970. That's Signal Point on the left (west). You can see the original John Thompson tower, which we now use for the WARC bands and to support 160 TX.



Signal Point, 1970

Welcome to New Member David Splitt, KE3VV

Please join me in welcoming David, KE3VV, to CCC membership. As you will see from study of his QRZ.com photo below, he has already been to Signal Point. This is from one of the N1ZZ/Florida ARRL SSB Contest operations. Dave came to us highly recommended by Dan, N1ZZ, and we are very glad he has decided to support PJ2T's activities going forward. You can say "Hi" to him at davidsplitt@starpower.net.



Fiber Project Completed July 19

The crew finally arrived at 2:00 PM on Monday afternoon, July 18, four and a half days past their confirmed appointment. Work resumed at 9 AM the following morning, and by about 11:00 Tuesday we were connected. I immediately ran a speed test before letting the crew depart, with the astonishing result shown below of about 150 MBPS download and 20 up.



Initial fiber speedtest at the new router connected by an Ethernet cable.

Needless to say, this will dramatically improve life at Signal Point in many ways. Not only is the connection lightning fast, but it will be vastly more reliable than the old DSL, and is much less susceptible to storm outages and errors by poorly trained technicians. The first month's billing for the fiber connection has arrived, and it is \$25.72/month more than for our former slow and intermittent DSL. We will now begin a conversation among the group about improving our remoting capabilities, addressed in a separate section of this newsletter.

Thanks you are in order here. First, a giant thanks to the membership of CCC for providing dues dollars for the Station Support Fund. My airfare for this trip was astronomical – in excess of \$1700 round trip from Idaho. The officers and directors authorized me a 50% subsidy on that travel cost per the CCC rule that work

trips are reimbursed at 50% of airfare and car rental costs. Thanks also to SM4KYN, who sent in a \$100 gift to help defer my out of pocket cost. I'm also hoping for a contribution from our next door neighbor because I installed his conduit and fiber and configured his new router and reconnected his security cameras, saving him a trip from Chicago.

A thank you also to CCC member K5LD. Walter made a contribution of \$300 in March which I immediately applied to the cost of materials for the underground fiber conduit. Mike (next door) paid half of the roughly \$835 cost of the buried conduit. Walter's gift covered much of CCC's half of that cost. Other gifts from the CCC membership at renewal time in May also helped support the costs of installing this wonderful new connectivity. Included among those was N7WA's generous double annual dues payment.

Why Now?

It would not be unreasonable to ask why we did not simply wait until the October contest season rather than making this costly trip in the middle of July. The main reason was that all of the other houses in the neighborhood had been converted to fiber except ours and Maley's next door, and the utility company threatened to turn off the last of the copper DSL connectivity at the end of July, stating that we might not be able to get fiber after that. Also, we had not had DSL connectivity at Signal Point since April 11, except for brief random moments, leaving the QTH with no security system connection and no surveillance cameras. Thus, I reluctantly made the journey in order to get this done at this highly opportune moment.

A third reason for making the trip is that we positively needed to be certain that the new fiber installation would be physically secure. All a sophisticated thief would need to do is find and cut the fiber to a house, and they would then be free to break in and carry off assets with security systems and surveillance cameras disabled. The utility company installed the fiber drops to the other houses, and these installations are sloppy and vulnerable. At the Moran pool house, for example, the fiber enters the house at waist height and is not protected by any type of conduit, making it very, very easy to cut. At Signal Point, our line is protected by high conduit at the utility pole across the road, then plunges underground, totally invisible and un-cuttable from there on. It goes under the road, under our wall, into our 265 foot long buried conduit, and then to the optical modem in the bedroom without being visible or reachable ANYwhere. Additionally, there are so many buried cables and radial wires that we did not dare let

the utility company into the backyard with excavation equipment. This project was best done by ourselves so that it would be permanent, secure, and correct.

The photo from March shows where the conduit splits, one branch to Signal Point and the other to the Maley house.



The 50 mm conduit from the road splits here and reduces to two 25 mm branches to the houses. March, before burial.

Following is a photo of the fiber conduit where it runs under the sidewalk and to the house. This was a very, very challenging trick to run the pipe under the sidewalk.



Fiber conduit under the back sidewalk (March 2022)

Tell Me More Fiber Stuff

The conduit had been in place since late March, awaiting installation of the drop to the house. When the crew finally arrived on Monday, July 18 after many phone calls, texts, messages, and application of political pressure and anger from above, they arrived in force. Initially there were five vehicles and nine personnel: a mix of supervisors, an excavation subcontractor, an overhead line contractor, and two fiber optic specialized technicians. It was instant pandemonium as I tried to be everywhere at once and show them what I wanted to be done. We had a major

argument about how to pull in the fiber, and I ended up aggressively picking up the reel and carrying it from the house to the road, two technicians in tow. They finally assented to go along with my method and later admitted that it was a superior outcome. One of the guys asked me if I was a professional at this. Nice compliment.

Concurrently there were two guys cutting a slot in the pavement with a concrete saw, one guy nursing the generator for that saw, two more digging trenches along the road, two more measuring out fiber in the correct lengths, and two others going up the poles to connect the fibers at the splitter box. I had previously greased the installation by drilling through our wall at the road and digging the fiber access ditch, so they readily agreed to use my route. The photo shows my giant 16 inch masonry bit buried in the concrete wall.



It's through: the bit cut a hole through the 10 inch wall and concrete footer, July 13, 2022.



Some of the gaggle of people and vehicles that arrived all at once to install the fiber July 18, 2022.



Beginning the cut through the pavement

Here below is the fiber itself. It is three parts, molded together like a very tough form of zip cord. Two are individual fibers inside multiple layers of tough sheathing, and the third is a strong and stiff sheathed steel cable.



The fiber, made in China of course.

While others dug ditches, cut the road, and ran conduit up the utility poles, Uli and I and three of the technicians pulled in the fiber into the conduit from the front road wall to the house. Uli at the wall coated the fiber and pull rope with lots of olive oil, and another couple of guys fed the fiber and the follow rope into the conduit. I pulled from the house. This was five minutes of terror, the culmination of months of work, but finally the fiber emerged at the house through 260 feet of buried conduit, and I started breathing again, soaked in sweat and filthy but very relieved. We reverse-pulled the pull rope back to its origin, then repeated the process to pull a second fiber to Mike's house.



Sorting out the fiber and three pull ropes inside our front wall



Laying out the fiber to the distant pole, which has the optical splitter box, to be sure we had the proper length before making a cut.



Routing the orange conduit containing two fibers up the utility pole.

I then put the fiber in its protective copper water tubing and ran it through the hole I had drilled last week, and into the house. Whew. The technicians then went inside, terminated the fiber (very tricky), and installed a passive termination box and the optical router box on the wall behind the bedroom lamp table. At this point their workday ended, but they left the router behind in a box and I went ahead and installed and configured it.

Astonishingly, the two technicians were true to their promise and showed up Tuesday morning at 9:00 to finish the job, installing the drop into Mike’s house, connecting at the top of the pole at the splitter box, and calling in the connection orders to central control. Within about two hours the connections came to life. These guys were astonished when I gave each a nice cash tip, and they then furnished their names and personal cell numbers in case we had problems in the future.

The default accounts in the neighborhood are all for 30 MB download and about 3 MB upload. I expected that for ours also. You can imagine my astonishment when I ran the initial speed test and measured 150 x 20 MB! It turns out that our account defaulted to “Internet Essentials Plus,” which comes with 150 x 20 speed and full IP telephone service, unlimited. This is a great package, only about \$25 more/month than we have been paying, so we will keep it as is. Speeds of up to 500MB are available, depending on what we are willing to pay, so we will hash this out over time among the CCC group.

The first day speed tests quickly reminded us that our in-shack IP switch is a 10 MB unit. That switch connects all of the PCs on the operating desk to our Ethernet. This thing was built in the 1930s by George Westinghouse. We will replace this legacy bottleneck switch in October so that all of the cabled PCs in the shack will be as fast as those connected wirelessly. This will be easy and not terribly expensive, around \$300, as you will see later. That switch is now on order.

Thank you to Gene, KB7Q, who used an Anydesk link I set up to configure the new router to support the remote, and I was able to easily configure that router so as to bring all our cameras back online. The security system is also connected and once again successfully communicating with the monitoring station in Willemstad. Gene and Jeff made a few QSOs on the remote, inaugurating the fiber connection.

I watched with great fascination Tuesday morning as the technician prepped and terminated one end of the fiber. This is a high skill activity requiring very specialized tools and cleaning chemicals. I was astonished when the fiber itself was finally revealed under all of the layers of sheathing because it is not much bigger than #24 wire, very tiny but really powerful! It now brings the world into Signal Point.

IARU Radiosport Contest Report

By sheer coincidence of the calendar, DL8OBQ was on site concurrent with the dates imposed on us by the utility company for the fiber project. He was there to support the Youth DX Adventure, but went early enough to be able to run the IARU Radiosport contest, signing PJ2HQ. In the SSB single op high power category he did us proud with 1778 QSOs, shown below. Congrats Uli!

BAND	CW	SSB	ITU	HQ	POINTS	AVG
160	0	0	0	0	0	0.00
80	0	1	0	1	1	1.00
40	0	142	18	15	600	4.23
20	0	651	29	27	3079	4.73
15	0	784	25	30	3750	4.78
10	0	200	11	13	942	4.71
TOTAL	0	1778	83	86	8372	4.71
FINAL SCORE: 1 414 868						

PJ2HQ (DL8OBQ op.) result in IARU Radiosport 2022



Uli Thielke, DL8OBQ

Youth Trip Report

Uli, DL8OBQ made his way to Curacao on July 7 for his fourth hosting trip for the Youth DX Adventure. Uli generously has donated his time, patience, and kindness four times to take care of the young operators and their chaperones at PJ2T.



PJ2Y QSL Card

See

<https://indexa.org/documents/newsitems/INDEXA-PressRelease-YDXA.pdf> for the full INDEXA press release explaining the youth activity at Signal Point.

The trip was a magnificent success, and I was lucky enough to be on site to witness it while I was working on the fiber connectivity and other projects. As you see below, they put 7,782 QSOs in the PJ2Y log, exceeding the prior youth trip record by some 1100 contacts.

Total Contacts by Band and Mode:					
Band	CW	Phone	Dig	Total	%
80	0	54	0	54	1
40	85	958	0	1,043	13
20	45	3,462	0	3,507	43
17	35	1	0	36	0
15	266	3,057	0	3,323	40
10	0	250	0	250	3
Total	431	7,782	0	8,213	100

Total Contacts by State \ Prov:		
State	Total	%

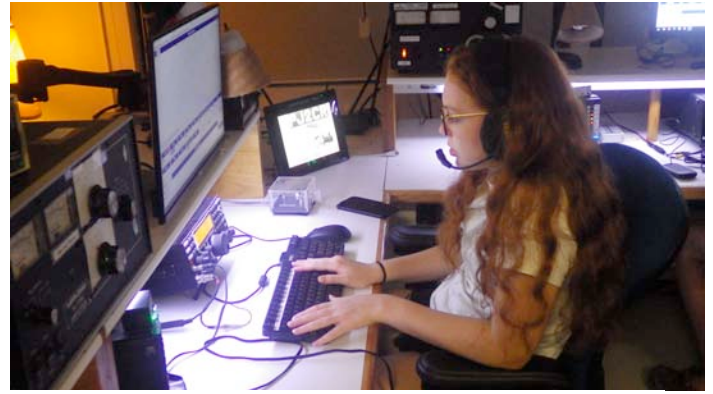
Log summary for PJ2Y, July, 2022

The young ops were Brennan Long (K6BFL), Candace Scott (KE8MMS), and TJ Hardin (KO4FFA). Hailing from Colorado, Ohio, and Georgia, they were the lucky recipients of the sponsored trip to Curacao to experience what it is like on the DX side.



K6BFL, KE8MMS, KO4FFA

The three youth were accompanied by six chaperones. These youth operators were VERY fast learners, requiring nearly zero learning curve on the antenna switching system, and all three were quickly using all of the PJ2T antennas to excellent advantage. Most of you heard their excellent on the air technique, and they all could stand with the best of the contest ops we have had at PJ2T over the years. Brennan is a very proficient CW operator.



Candace Scott (KE8MMS) expertly handling pileups on 40 meter SSB.



Three stations running fast and hard.



TJ Hardin (KO4FFA) at Station 1 with Candace in the background.

Thank you to the members of CCC for helping support these super young operators. We donated access to the QTH and stations for their trip. YDXA was kind enough to cover the cost of electricity used (\$300). The overall group needs to do some work on logistics such as meal planning and shopping, and we were surprised that there was one more person on the trip than we initially had sleeping space for, but it all worked out.

If you don't mind corny and over-theatricized radio-announcer-guy style, here's a relevant interview.

Live interview <https://soundcloud.com/ham-talk-live/episode-301-youth-dx-adventure-2022>

Thanks again to long time CCC member DL8OBQ, and all credit to Jim Storms (AB8YK) and Don Dubon (N6JRL), founders of this program. (You will recognize Jim's call as General Chairman of the Dayton Hamvention 2023.)



Brennan Long (K6BFL) having a total blast experiencing pileups on the DX side on 10 meters.

Signal Point Water Heater – Final

You will recall last month's report about shipment of the backup water heater to Curacao. It's now on the island, but it did not go smoothly. Turns out that Menard's shipping system completely failed to put my

name and the destination of Curacao on their shipping label. Thus, when it arrived at AMCAR freight in Miami it was placed into “unknown freight” holding. By the time I made inquiry and they found and shipped it to the island it was too late for it to arrive for my pickup. In fact, I missed it by one day. If not for Menard’s bonehead error all would have come out the way I planned it.

But the bottom line was good. The cost of the water heater, shipped to Miami by Menard’s, was \$389.00. Shipping and duty and tax and all other charges for the ocean freight added to \$316.18, totaling \$705.18. The retail price of that identical unit in Curacao’s Kooyman store, including sales tax, is \$1107.77, a savings of slightly over \$400. It pays to be your own importer.

The cargo company on the island has kindly agreed to hold the unit at no charge until I can pick it up in mid-October.

Europe Beverage Extended

As you have read in earlier issues, we lost access to the real estate upon which the feedpoint and the first 200 or so feet of the Europe Beverage has resided for 19 years. The reconstruction of that part of the antenna in March saved the day by moving it to safe non-hotel ground, but resulted in its being shortened by 160 feet. On July 14 Geoff made up the kit to add that missing length and installed it. This required a trip to the far end of the Europe Beverage, removal of the resistive termination and crow’s foot ground, installation of 160 feet of additional wire, and then re-installation of the resistor and ground system in a new location. That translated to three hours of very hot, difficult work.



Relocated Europe Beverage termination, July 14, 2022

This strange looking creature in the photo is the relocated resistor and ground radial connection. We now have nine radials of 32 feet each and expect that antenna to serve for many years, now restored to its

original 1000 foot length and entirely safe from the bulldozers.

Hotel Construction Site Report

The project seems to have reached an intermediate milestone of sorts and then stopped. That milestone was removal of the last of the dirt fill from the giant pile across the road, as mentioned in the last newsletter. All that remains now is a much smaller pile of mostly useless concrete chunks laced with rusty rebar, below.



Not much left of the debris mountain

For a couple days afterward the three machines worked on cutting in the new road about halfway between us and the hotel, then mysteriously stopped. The site went quiet and nothing was happening when I left on July 21. I am seeing zero nearby dirt work activity on our westward-looking security camera. When they do resume, things will be much quieter at PJ2T because they have finished essentially all of the dirt work at this east end of their property.

It is now being said that construction of the first hotel building will not begin until the end of 2022. We shall see.

CQWW SSB Contest Update

Our team for CQWW is now fully staffed. We are W0CG, W3ACO+Melissa, DL8OBQ, VE4GV, NN3W, KL2A, ND8L, N6GQ+Julia, W4IPC, N4RV, and JH4RHC. Outsiders were only invited to this team after multiple solicitations to CCC members. That said, CCC members are welcome to sign on, but would have to stay off site because all the beds are now spoken for. Dorothy and I will be on site for this one, and we will be using the Moran pool house, plus we have rented the “Garden Home” in the backyard next door for one overflow operator.

CQWW CW Contest Team Complete

Our CW team is now complete, including W0CG, W8WTS, K9DR, VE3CX, VE3JM+XYL, VE3EY+XYL, W9NJY, N7IR, NA2U, and KY7M. We will hoist a maple leaf flag in the shack alongside the flag of the State of Arizona!

W8WTS End of Month Balance

At the end of July the balance in the Station Support fund was \$7738.89.

ARRL Club Grant Application News

Awaiting news on a decision by ARRL and the committees.

CCC Plans for Expanded Remoting: IMPORTANT

A “thanks again” to Gene, KB7Q, who taught us Remoting 101 and established our first capability for remote operation years ago. He has been an extremely patient mentor to all of us, and most generous with his time. Our remoting has been at best an informal and sporadic activity because of our slow and unreliable Internet connection.

Now that problem is solved thanks to the fiber, and we are moving with all possible speed toward achieving the capability to be able to solidly and reliably run an unattended remote station at Signal Point that would be available 24/7/365. We still need to deal with the regulators, but that is not an overwhelming worry, and while we do that, we can proceed with the engineering design and implementation.

These principles will govern this remoting initiative.

- Remote operation of PJ2T will be available to members only.
- Members who use the remote will contribute somehow to help finance that capability, as in the past, details up for discussion. That way those who do not remote will not be burdened by any of the cost.
- We will establish capability for the remote operator to select from every single one of our 18 transmit antennas, and each of the two permanent Beverages.
- The W9NJY Ridge remote antenna switch box will be modified so that when you click on “Ridge Tribander” or “Ridge 80 Inv Vee” that box will automatically make the correct selection, transparent to the remote operator,

and will turn on the triplexer fans when the tribander is selected. This is already fully designed.

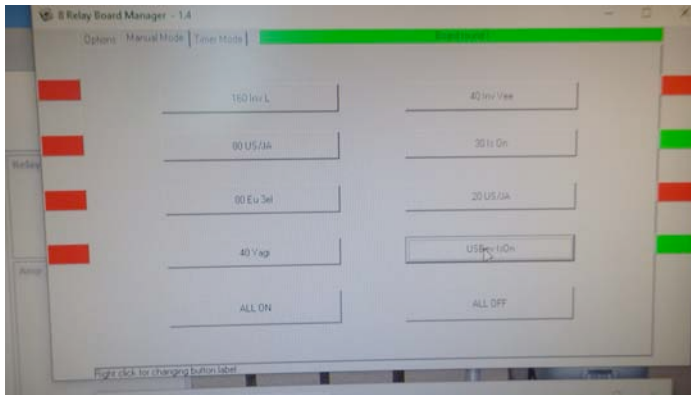
- The remote station will not have the capability to mix antennas – that is to say, to beam Europe and US concurrently. But all 18 transmit antennas will be available one at a time and easily selectable.
- We will be able to add that above capability in the future if it appears really to be needed.
- The remote station will run 500 watts thanks to the loan of his KPA-500 from K8ND. (But see news about remote amps elsewhere in this newsletter.)
- The enhanced remote station (a K3) will be completely independent of the PJ2T contest station, no longer shared with the Station 4 position and Station 4 resources.
- There will be no need to “convert” Station 4 to remote operation and then convert it back afterward.
- The remote station equipment will reside on the wall on elevated shelves above and to the right of Station 1. One will need a stepstool to reach the top shelf. This will make it accessible for maintenance but otherwise will keep it totally out of the way of normal PJ2T contesting and maintenance. It will be cooled by automatically controlled supplemental fans.
- We will attain this dedicated remoting capability without needing to do any modifications whatsoever to the existing antenna switching system, which serves us extremely well as it is.
- We will design, build, and install an antenna switching system for the remote in a way that will enable us to change the actual remoting equipment independently. For example, today’s K3 remote station could tomorrow become an Icom station, no problem.
- KB7Q has discovered and successfully tested a way for us to access the remote radio without needing the RRC boxes and their accompanying difficult configuration. RCFORB: Radio Control Framework Online Remote Base. I have been making DX QSOs from Idaho using Gene’s technique. He’s presently experimenting at home with a remotd K3.
- We’ll implement the project in stages, starting with physical relocation of the remote station in the shack; next implementation of remote AC power turn-on; next selection from three antennas using the KAT-500 antenna tuner; followed finally by remote selection of all TX

antennas, then the Beverages. This is a ton of work to do on the island.

Much work is already done. The design for PJ2T expanded remoting is complete. About 90% of the parts have been obtained. We have successfully tested remote capability to key 18 relays to select our 18 different antennas plus two Beverages. The photo shows a sample prototype of what the remote operator will see – click on a button on screen and you will get that antenna.

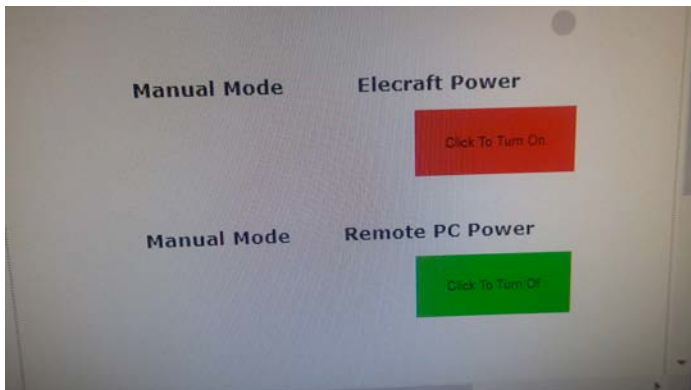


CCC K3 and our new remote computer at KB7Q for prototyping.



Prototype antenna selection pushbuttons

We have also successfully set up the capability to turn on the Curacao remote station power from anywhere via a web URL, and to monitor and reboot the remote PC from anywhere if necessary. See the following photo.

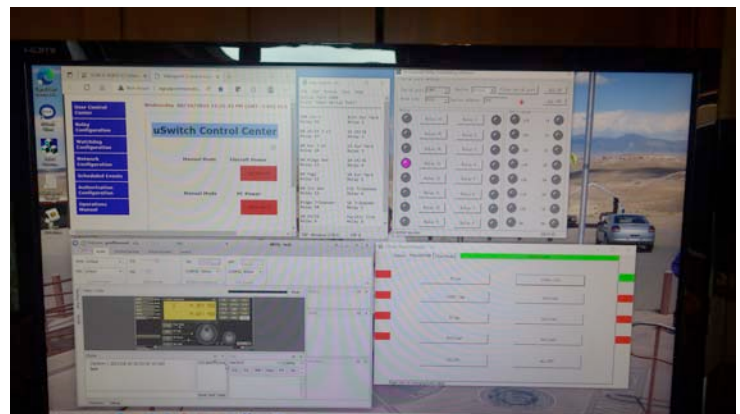


The browser buttons the remote op will use to turn on remote station power and, if needed, reboot the PC in Curacao.

All of this is already working in prototype between Montana and Idaho. I will be going to Ohio on August 19 and will continue fabricating the home brew parts of our remoting system there. Here's the prototype (next column) running at Gene's in Bozeman. This is our repaired (Thanks N7IR) K3 and our new refurbished Dell PC that will support the enhanced remote station.

There are many different ways to achieve this remoting. The design we'll be implementing uses lots of home brew components to keep costs down, and to accommodate our somewhat unique situation at PJ2T. The design is highly modular, consisting primarily of a 1 x 18 antenna selector box, 18 individual remote controllable SPDT antenna relays, a remote controlled 12 VDC USB relay module, and IP remote controllable AC power switching. Any one of these modules can be modified and/or upgraded in the future without having to change the rest of the system as technologies change.

Just before press time, here's the latest screen shot of the prototype remote control front end.



Remote control screen in prototype at W0CG/7

The top left window enables turn on and off of the power to the Elecraft and PC at the remote station. This is an IP device that you will reach from your browser. I set it up through no-ip so that the DDNS

system keeps it working as the Curacao IP address changes, which it does frequently.

Bottom left is a software rendering of the remote radio in RCFORB. If you have a K3 or K3-0 you will still be able to use that actual hardware as your remoting end. RCFORB integrates nicely with N1MM+.

The other three windows are used to select antennas – these will appear on your Anydesk link to the remote PC and provide the capability to select from all of our TX and Beverage antennas. These are USB relay switches, and their software control software all works fine, but looks a bit clunky. We hope to be able to write our own Python software to make antenna selection look a bit prettier as time goes by, but this is not an immediate need. The functionality is there now.

Updates to follow as we progress with this.

Major News on Funding the Enhanced Remote

CCC member Dave, N7NR, having participated in our first attempt at team remote contesting from PJ2T last December in the 10 Meter Contest, is very interested in remoting in for that contest again this year and hopefully some other contests. Dave has donated \$500 toward this project, and has offered another \$500 as a challenge grant. That is to say, he will match dollar for dollar up to another \$500 for anything that is donated by other members. If you'd like to help, you can PayPal to me at gHoward@kent.edu, I'll pass that data on to Dave, and it will be matched. And please understand that this is completely voluntary.

Additionally, and this is a real doozie, Dave has said that if our new fiber internet remote setup proves to work as well as we expect, he should be able to send us a 1.5KW amplifier for the remote station and place it at PJ2T on long-term loan! Needless to say, this would be a significant boost to our ability to contest remotely.



How else can you help the enhanced remoting project? There are several still unfulfilled needs for the project. What's in your junk box??

- We need an Astron SS-30-AP or similar switching power supply.
- Need something like a DX Engineering DXE-RLS-2 RX antenna relay, SPDT, with female F connectors so that we can remotely select one or the other of our two main Beverages.
- Need two additional Magic T 72 ohm splitters in connection with the above.
- We need 56 Amphenol PL-259s, non-crimp. That's a lot. If we were to buy these at Mouser, that's \$456.46. What's in your surplus box at home? If each of our members were to toss in two PL-259s we would be there.
- We will eventually need to make up 37 coax jumper cables, PL-259s on both ends, exact lengths yet to be determined. 18 of these will likely be about 6 inches in length, the rest longer. This is very labor intensive. Is anyone a volunteer to fabricate some of these once we know the lengths? The CQWW CW guys could bring them down in November.

If you have any Amphenol PL-259s, new or used, that you can toss into the enhanced remoting project, please drop 'em in a padded envelope to me at:

Geoff Howard
1984 Trares Road
Mogadore, OH 44260 .

PLEASE WAIT until August 23 so that I will be sure to be there to receive them.

Stay tuned for progress reports on the enhanced remoting project and resource progress.

Health Report on US/JA Tower

On July 16/17 I power brushed and then primed and epoxy finish-coated from the top plate down to the 60 foot level. I'll continue this process to the bottom, but the problems are not severe, so this falls under the heading of routine maintenance. In the fall we also need to open up the weatherproofing and inspect all six airborne guy attachment points and all six airborne deadends. A couple of these are showing signs of corrosion through the tape.

And a reminder that the Europe tower continues to be in stellar condition, with everything new in 2018, and a

new coat of finish epoxy put on the entire tower last contest season.

The aluminum John Thompson tower is 100% good now that the sarcophagus has been installed.

CCC Year 23 Membership Dues

As of mid-August all have made dues payments except for two active members, one of whom is two years in arrears. THANK YOU to everyone who has provided the support that keeps us alive in the PJ2T enterprise. Having the youth on site heightens the collective sense of pride that I hope we all feel in establishing and maintaining this station.

VE3CX Tower Project Underway

Tom said "I have a cat in my yard." Naturally, I thought... But the photo shows a whole different kind of cat.



At the new VE3CX QTH: Tower Construction

This is work on the base for Trylon 64 footer, the first tower at his new QTH. Tom got married and moved house, and is now finding time to get to the things in life that matter most. This is in Gorham, ON, up in the really frozen-solid country near Thunder Bay. Tom will be with us for CQWW CW to get warmed up.

AL-1200(3) Repaired

Our AL-1200(3) blew up in the midst of WI9WI's WPX CW effort at the end of May. Murphy struck hard. Jim had been receiving reports of hum on the signal, and about that same time he started to smell smoke. He shut down the amp and pressed on bravely at low power.

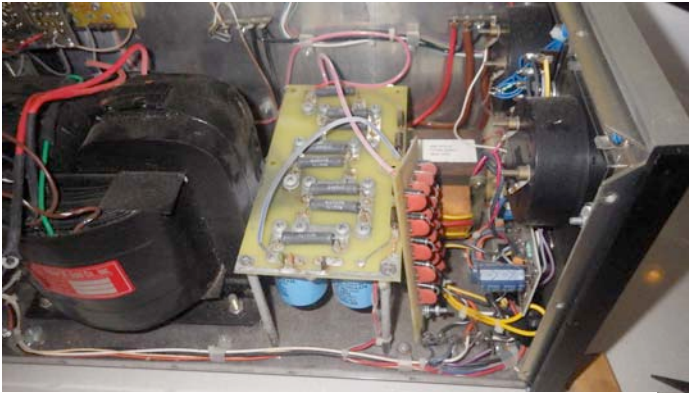
We bought that amp in 2009. It was new enough that it had the more recent small form factor Cornell Dublier 270 uf x 450 volt screw terminal electrolytics. In 2016 I had managed to find exact replacements for these at Mouser and put eight of them in inventory against just such a contingency as this. They were expensive at around \$150, but I was happy that they were even available.

Since the fiber crew was delayed by 4+ days, I had time to dig into this amp and found the expected failure in the HV power supply. This is about as blown as an electrolytic can get. Not only was the cap blown to bits, but the underside of the HV board was badly charred black.



My EE degree is good for something because I was able to quickly discern that this cap might be bad

Our experience has been that the eight 50K equalizing resistors across these caps fail more often than the caps themselves. But that did not happen this time. I physically removed all eight electrolytics, and all the resistors checked good. Rather than take a chance on the remaining electrolytics I decided to install the eight entirely new and known good caps from stock. One of the other capacitors looked suspect, so it went in the trash and the remaining six are now in stock, labeled to only use in extreme emergency. After putting in the new capacitors, replacing the blown line fuses, and putting in a new step-start resistor, that amp is working fine. We used it in hard service at Station 1 for a couple of days with no problems.



AL-1200(3) HV board, July 17, 2022

We do have quite a few replacement electrolytics in inventory, and these have more headroom at 500 volts each, but they have solder terminals, which will make them a bit tricky to replace in the future. N7IR is much more proficient at this than I.

Upon returning to Idaho I was lucky to find exact replacement screw terminal caps at Newark Electronics and ordered 16 of them to supplement the solder tab caps that are presently in stock at Signal Point. Those arrived in Idaho on August 3, and I will put them in stock on the island in October.

This episode with AL-1200(3) vigorously underlines why we prefer AL-1200s. Thus far we have been able to repair every single Ameritron failure on site. Such would surely not be the case with sophisticated modern amps with microchips and fancy control and monitoring circuitry. To keep these amps alive over the long term, we *must* find a couple more spare 3CX1200A7 tubes, long out of production. Can you help me find these?

2022 Northwest DX Convention, by N7WA

The Northwest DX Convention isn't a big event like Dayton or Visalia, but it's still a lot of fun. Not quite as overwhelming as the bigger events, it was the first NW DX Convention since 2019 and I WAS GOING come hell or high water.

Being a member of the sponsoring Club, the Spokane DX Club, I knew Geoff was going to be there. As a result, and probably for the first time, there were going to be two representatives of the Caribbean Contesting Consortium in attendance. As I packed, I remembered the nice shirt I received when I joined the CCC. It hadn't been worn since I received it. I even had to cut off the tag!



Photo: W0CG and N7WA at the PNW DX Convention, August 7, 2022, Spokane, WA

I took along a couple of spare 20th anniversary glasses and donated those as door prizes.

It's difficult for me to get out for a full weekend and this was a special treat. I hope Geoff enjoyed getting caught up as much as I did. Some of the technical programs dove-tailed with some of Geoff's ideas on enhancing the PJ2T remote experience. Heck, I even got to say hello to Dorothy as she passed on by. It was good to see you both.

K3(5) Repaired by N7IR (!)

This radio failed on W19WI during the WPX CW contest. Jim hauled it back to Wisconsin, then shipped it on to N7IR in Chandler, AZ for diagnosis and likely shipment to the Elecraft factory for repair.

Instead, wizard Gary managed to do the repair on his home workbench! Gary is the PJ2T Station Equipment Lead and a physicist in his former life at Arizona State University. We are very, very lucky to have his talent as part of CCC. He has now shipped that radio to KB7Q for remoting experiments (Thanks Gary!), and Gene will send it on to me to take to Curacao. Here's an excerpt from Gary's E-mail about the fix.

When I checked this K3 I found that the low power amplifier (LPA) would only put out 2.5 Watts, independent of the setting of the PWR control. Further testing revealed that both output devices on the LPA were inoperative. The root cause of the failure was an overheated surface-mount resistor in the 100 Watt amplifier feedback circuit. It had gotten so hot that the solder melted on one terminal and the resistor popped into a vertical position. This is known in the trade as "tomb-stoning". I learned a new phrase. Fortunately

neither output transistor in the 100 Watt amplifier was damaged.

I replaced both failed transistors in the LPA and put gate protection diodes on the new ones. I updated the feedback network resistors in the 100 Watt amplifier with the values and types specified by Keith, the Elecraft K3 repair tech. I have one more pair of LPA output transistors and a reasonable stock of the resistors needed to update the 100 Watt amp. I calibrated the 5 and 50 Watt amplifier transmit gain and all is now well with SN 4829.

Eventually I will be able to update all of the 100 Watt amplifiers in our K3 transceivers to the more rugged configuration of the feedback circuit. Our newest radios SN 8079 and 8323 both have the mod already and SN 8714 most likely has it also.

We have no way of determining under what circumstances SN 4829 was damaged since Jim discovered the problem after the fact. I know it was working when I left Curacao after the ARRL DX CW contest. However, when I received the radio for repair it was in VOX mode instead of PTT. We should never use VOX when driving one of the non-Elecraft amplifiers. VOX is not only hard on the amp relays, it can allow "kick-back" from the amp into the K3 because of poor T-R timing. According to Elecraft that is the primary cause of LPA3 failures when driving an external amplifier at less than 12 Watts output, i.e. with the LPA amp alone. The gate protection diode modification to the LPA was their answer to solving this issue.

Important Usage Guidance for the K3s

N7IR made these important operational recommendations in connection with the repair to K3(5). I will attach printed copies of these to each transceiver as a reminder. We are very careful to implement the correct cabling and WinKeyer parameters, but it's up to the ops to stay in PTT mode and to keep the drive up.

1) Always use PTT in all modes. This is easy to set up in NIMM using the configuration menu. Gene and I chose the parameters in the WinKeyer tab of the NIMM configuration menu carefully so that even our slowest amplifiers would be able to follow the T-R timing without any problem. Even FT8 can be set up to use the WinKeyer for PTT through NIMM and WSJT-X. The canned SSB contest messages from the K3 DVR or NIMM audio files will also use the WinKeyer PTT. A live mic can be used with PTT and a

foot switch by putting a Y connector on the PTT input of the K3 and hooking the WinKeyer PTT and foot switch in parallel.

2) Do not drive any external amplifier with less than 12 Watts until I am able to update all of our K3 transceivers with the LPA gate protection diodes. SN 4829, 8079 and 8323 are the current exceptions that have already been updated. This restriction should not be a hardship since most users will want to use more than 500 Watts anyway.

KY7M Visit to W0CG/7

Space and time did not permit me to include this in the July newsletter. Dorothy and I were privileged to have NCJ Editor KY7M and Debby visit with us at our condo in Idaho for three nights in late June. They were to be in the area for a wedding in Spokane, so they came early and we hung out.

This was their first time in Coeur d'Alene, and we had a great time showing off our town in the good weather time of the year, brief as it is. Characteristically, Lee was pretty busy with NCJ duties. Here he is wrapping up the Hamvention story for digital release in NCJ.



Celebrity sighting: KY7M at my work desk at home in North Idaho.



Prior page: Dorothy, Debby, and Lee after a touristy boat ride around Lake Coeur d Alene.

CCC Polo Shirt Order Shipped

My Idaho embroiderer came through when promised, and I mailed the new shirts on August 3. Here's that outgoing stack just before we headed for the post office.



The shirts will go out right after lunch....

Another CCC Tailtwister

Here's Jim Fenstermaker (K9JF) with the T-2X rotator and control box he donated to CCC at the Pacific Northwest DX Convention. Jim says the rotor needs a rebuild, but this is a valuable addition to our inventory. When the time is right I'll ship it to Norm's in Birmingham for rebuild and installation of a quick disconnect.

With this and recent rotor donations by N7IR and VE4GV we are in good shape. Parts for these are more and more difficult to find, so we need to do our best to get this latest one rebuilt before too much longer.



K9JF with his donated T-2X rotor, Spokane, Washington, August 7, 2022.

Jim is an honorary vice president of ARRL after many years of service to the league, and recently became my nearby neighbor after a move to Post Falls, Idaho.

Interesting RBN Stats Web Site

See <https://rbn.telegraphy.de/activity/PJ2T> for a fascinating compilation of our historic activity. Enter your own callsign for the same. Thanks NG7M via the Arizona Outlaws mail reflector.

New IP Switch Bought

The PJ2T shack computers are all supported by an old 10 MB IP switch that used to be excellent for our needs but is now a major bottleneck with our new fiber speeds. Even though we measure 153 MB at the fiber router, we only get 6 MB at the shack machines.

To eliminate that bottleneck we have ordered a Cisco CBS-250-24T-4G 1 GB smart IP switch. This will be connected to the same internal LAN (192.168.1.1) as the Sercomm fiber router, and will support the shack computers and the new enhanced remoting. Everything will be very fast. K8ND is transporting the switch in September, and I'll install it in October.



Cisco Business CBS-250-24T-4G 1 GB IP switch

Europe 80 Three Element Loop Repaired

The reflector element of the three element Europe delta loop was broken when I arrived on the island. Repair would not require taking it down, but I somehow had to get a hand on the hanging end of the broken wire that was tangled by the wind high in one of the backyard trees.

Thanks to careful and patient maneuvering, help from very tall DL8OBQ, a stepladder, and use of a 20 foot light aluminum arm extender with a hook on the end, we were finally able to get the broken wire free of the trees and into position for repair. I put in about eight feet of new wire at the southeast corner, replacing the weakened and drawn old copper adjacent to the break.

