



Caribbean Contesting Consortium
Signal Point PJ2T

2011 Station Manager Report

Jeff Maass K8ND
6/10 - 5/11

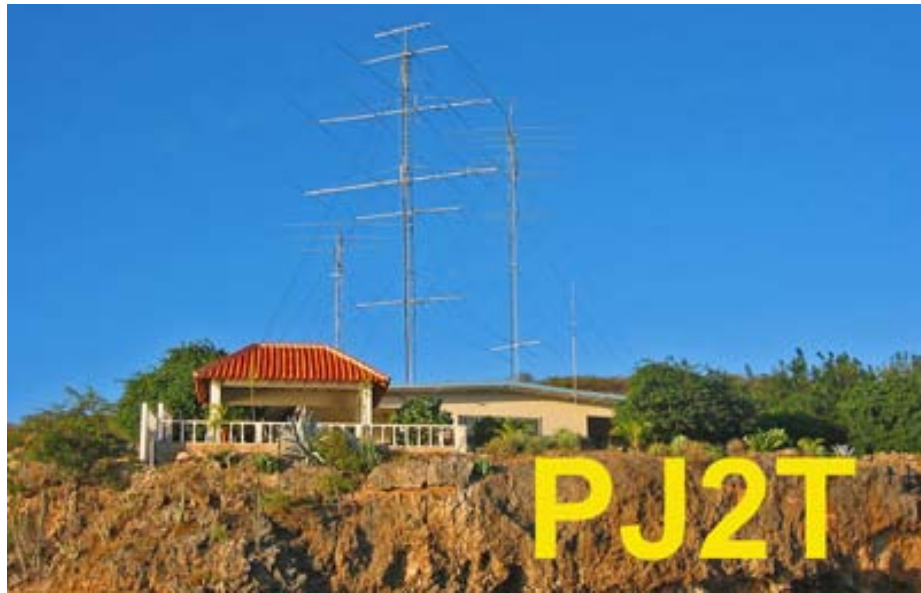




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Photos by Geoff Howard W0CG/PJ2DX, Jeff Maass K8ND, & Jim Galm W8WTS



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PJ2T Station Status Overview

The 2010-11 year at Signal Point was characterized by continuing mature change – a transition from older hardware to new and more standardized equipment is well underway and progressing nicely.

Once again, failures affecting contest operations were rare, and mostly in the form of the old computers acting their age. There were some abused radios and amplifiers, but these happened while the house/stations were being rented by non-members.

The lack of failures and our well-stocked spares shelves have allowed us to grow the Station Fund balance, making funds available for a much-needed complete upgrade of our computer hardware this coming year.

TRANSCEIVERS

We now have all three of our FT-2000 radios on the island, and they continue to get good reports from those who have used them. As the band gets better, they will provide us with high-quality 6-meter radios. The state of our working agreement is unknown at this time, and we do not know if we will be able to purchase more at the attractive price.

As they break, the FT-1000MP transceivers are being brought back to the USA for disposal.

The experiment with sealing unused radios in plastic bags with desiccants proved to be a success, although there was one case in which the bags accumulated condensate, overwhelming the desiccant. If sealed properly, the desiccant works and radio stays dry.





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AMPLIFIERS

The amplifiers at the station should be reliably capable of 1500W output for the 48 hours of a contest.

Moving toward the Ameritron AL-1200 amplifiers as our “standard” amplifier has proven to be a good one so far. The 3CX1200A7 tubes are holding up well, and the amplifiers have resisted succumbing to the abuse they have faced, primarily from the non-member renters of the shack. They require more power to drive to full-power than I would like (less heat stress on the driving transceiver is a Good Thing), but are the most cost-effective solution we have found.

The discontinuation of the 3CX1200A7 tube by Eimac (in favor of the 3Cx1200D7, which is not drop-in compatible) is of concern, but there are still NIB 3CX1200A7 tubes available for purchase, and we have a two spares (one new, one 80% good) already on our spares shelf. One more will be added in this coming year.

The Ten Tec Titan I (3CX800A7 x 2) and Titan III (4CX800A x 2) amplifiers, and the Cary LK-800 (3CPX800A7 x 2) amplifiers continue to perk along, with some maintenance when needed. Two Alpha 76CA amplifiers are also still in functional condition for backup use, with a number of spare 8874 tubes on the shelf.

It would be nice to add a kW 6-meter amplifier when possible to fully exploit that band, including for future moonbounce activity.





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COMPUTERS

The switch has begun to modern computers with modern operating systems at our station! We have begun to replace all of our aging “fleet” of corporate-surplus PCs running Windows 98 and Windows XP with new Dell PCs running the Windows 7 operating system. This will end our time spent swapping parts from one PC to another to make one working computer!

As of this time, we have purchased four new computers, which have been configured for use at PJ2T by Geoff W0CG in Idaho. We have plans/approval to purchase another two PCs, to serve as on-site spares. The first is in position at Station #1 (shown below).

The Dell PCs selected have small form-factor cases, which will make their transport to the island inside luggage easy. They are equipped with 3.2 GHz dual-core CPUs, with 3 GB of RAM, and 500 GB hard disks. Each of these new PCs will come equipped with gigabit network cards, which will allow us to upgrade out network throughput (once the ancient 10 megabit switch is replaced). The total cost of each PC, under \$400, makes paying duty (when required) relatively painless!



The use of new PCs means that the era of serial and parallel ports is over at PJ2T, as the newer PCs do not include them. I/O to and from devices will be by USB, using USB-to-serial adapters when necessary. The new computers will also support any size display we choose to deploy, ending the limited choices available with the older operating systems and PC hardware.



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TOWERS & ANTENNAS

The yagis are still in good shape following the major maintenance project of a few years ago. The painting approach for the towers has changed a bit this year, with less focus on painting each tower fully on a schedule, and more emphasis on inspecting the towers fully on a schedule and painting only when the inspection indicates a demonstrable need.

A top guy on the USA tower failed in September, one of the few that had yet to be re-worked. Geoff W0CG was on site when it failed, and replaced it in short order.



Some corrosion points that had been previously missed were discovered in places where the tower was covered by tape or hardware, including under the mounting hardware of the neighborhood TV dish. Geoff removed the dish, cleaned and re-painted the rust problem area, and re-mounted the TV dish with new hardware.

The ridge tower, with tribander and 80-meter dipole, continues to prove its value in contests. This year, the 80-meter antenna has been raised to place the feedpoint higher, and was modified to make it more permanent.





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TOWERS & ANTENNAS (Cont'd)

The rusted pipe base of the 160-meter inverted-L was replaced by a new concrete base. Still to be replaced is the ancient RG-8X feedline to that antenna with new RG-213 coax.

After years of service, we have determined that the use of the Flag receiving antennas is no longer worth the time to set them up. The DX Engineering 4-square antenna provides the coverage previously provided by the Flags.

The DX Engineering 4-square preamp boxes at the base of each whip were found to have admitted bugs, dust, and salt, and the PC boards inside needed to be cleaned and repaired. Jim W8WTS took them home to Ohio to clean with his ultrasonic cleaner.

The six-meter yagi, long missing part of one element, was removed from the tower and rebuilt as a W5WVO yagi, lengthening the boom and changing the spacing on the elements to optimize the performance. It was then used in making the first ever 6-meter moonbounce (EME) QSO from Curacao between Jim PJ2/W8WTS and W7GJ in Montana! The yagi was, of course, weatherized to our usual standards before being re-installed atop the USA tower.



SECURITY

Sunset Waters Beach Resort (SWBR) is still, of course, shut down and further deteriorating. The new alarm system at Signal Point (installed last year) has continued to serve us well, and we have had no known cases of someone attempting to break into our house.



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LINE NOISE INTERFERENCE

The dry conditions on the island (and perhaps some of the vandalism following the closing of Sunset Waters) resulted in a serious buzz from one of the power poles near the hotel. This problem comes-and-goes depending on how dry conditions have been and other unknown factors.

Permanent resolution of this issue remains a very high priority in the coming year, as it has the potential to seriously impact our ability to score well in contests at any time!

PJ2T CW SKIMMER SERVER

Over the past year, we have assembled the hardware and software required to operate a CW Skimmer Server on the island, located away from the transmitters of PJ2T. This equipment is located at the VERONA club station PJ2A, and includes the ability to copy CW and post spots from 192 kHz on each of seven bands (160, 80, 40, 20, 15, 12, 10).

The spots from this facility may be accessed by using telnet directly to the Skimmer Server PC (exactly as to a PacketCluster node) from the contest software (Writelog, N1M, etc.) or on the web pages of the Reverse Beacon Network (RBN) at <http://www.reversebeacon.net/dxsd1.php?f=0&c=PJ2T&t=de>.

The hardware consists of two boxes: one a powerful quad-core PC, and the other housing the QS1R Software Defined Radio (SDR) and supporting hardware (power supply, preamps, router, etc.). The antenna is a horizontal active DX Engineering receiving antenna mounted halfway up on the VERONA tower.





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PJ2T CW SKIMMER SERVER (Cont'd)

We have experienced problems relating to the VERONA router and Internet Service Provider, making the connection fail periodically. We are hoping to replace the VERONA Linksys router when they no longer need it for their D-Star system at the PJ2A site: the router is already in the hands of PJ2BVU.

We also have noted that the PJ2T CW Skimmer Server is nearly deaf on 160 and 80 meters. This may be due to a mis-configuration of band jumpers in the interface box for the DX Engineering active antenna. This will be reviewed and corrected.

Jim W8WTS, Jean-Claude PJ2BVU, and Jeff K8ND are serving as SysOps. We are able to manage the Skimmer Server PC and receiver hardware using Windows Remote Desktop capability from our homes.

REVERSE BEACON NETWORK

welcome main dx spots skimmers downloads about contact us

Map Satellite Hybrid

North America Atlantic Ocean Europe Africa South America Indian Ocean Australia Pacific Ocean

POWERED BY Google

180m / 80m / 40m / 30m / 20m / 17m / 15m / 12m / 10m / 5m / 2m

world wide / zoom to US / zoom to Europe / zoom to North Atlantic

show/hide my last filters

showing spots for spotter call: PJ2T rows to show: 50

search spot by callsign

| de | dx | freq | cq/dx | snr | speed | time |
|------|-------|---------|-------|-------|--------|--------------|
| PJ2T | UT7UJ | 21013.0 | CQ | 27 dB | 33 wpm | 1316z 15 May |



In addition to the PJ2T CW Skimmer Server in Willemstad, we will continue to deploy CW Skimmers on-site at the PJ2T station during CW contests, using SDR-IQ receivers provided by K8ND and W8WTS. These can use the receiving antennas (Beverages and DX Engineering 4-Square) for much better performance on the low bands (160, 80, and 40) than can be expected from the Skimmer Server.



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PJ2T Station Changes and Improvements 2010-11

- July/August PJ2T CW Skimmer Server hardware purchased and assembled. Run from W8WTS in Ohio for test. Over 23000 spots were issued during WAE.
- September Switch replaced in 10m Stackmatch box.
Broken top guy wire on USA tower found by W0CG and replaced.
- October Purchased good spare 3CX1200A7 tube on eBay for \$950.
W8TK donated two more keyers (SuperKeyer II and Island Keyer II).
Purchased three new Heil/Yaesu headset adapters for stations.
W0CG reworked the antenna switching for Station 4.
Power wiring installed for new shack air conditioner.
New shack air conditioner installed!
Charred AC power plug on Titan III amplifier discovered & replaced by W0CG & K8LEE.
Maintenance on ridge tower 80m dipole.
Clean up around Europe Beverage
AL-1200 repaired by K6AM.
FT-2000 #3 transported to the stations.
- November Shack air conditioner compressor relocated further from roof overhand.
W8AV provided variable voltage power supply for use at PJ2T.
PJ2T CW Skimmer hardware testing completed in Ohio.
PJ2T CW Skimmer Server installed at VERONA HQ and begins operation.
PJ2T webcam extension cables installed to allow moving camera viewpoint.
N0YY replaced failed transformer in Titan III amplifier.



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PJ2T Station Changes and Improvements 2010-11 (Cont'd)

- January 6-meter 4.5-element yagi taken down from tower, converted to W5WVO optimized form for Moonbounce operation by PJ2/W8WTS.
- First 6-meter moonbounce (EME) JT65A QSO, between PJ2/W8WTS and W7GJ in Montana, using modified 5-element yagi on short mast, Armstrong rotor, and borrowed 6-meter amplifier.
- Modified 6-meter yagi re-installed atop USA tower.
- Wathour meter installed in utility room for recording shack air conditioner usage.
- W8WTS & K8ND repaired PC power supply at Station 3.
- DX Engineering 4-square whip antenna interface/preamp boxes brought back to Ohio to be ultrasonically cleaned and sealed by W8WTS.
- February K6AM published proposed PJ2T station rebuild plan.
- Base for 160m inverted-L antenna re-done with new concrete anchor replacing rusted mast piece.
- Ridge 80-meter dipole raised to put the feedpoint higher, and to make the installation more permanent. New balun (provided by WX0B) installed.
- March First new Windows 7 PC received and configured for test. 3.2 GHz, dual core, 3 GB RAM, 500GB hard disk, at a cost of less than \$400. Installed at Station 1.
- April Europe tower rust problem discovered at the point where the TV dish mounts to the tower. Removed, re-conditioned, and replaced by W0CG.
- LK-800 was left inoperative by visiting W6 group was repaired by W0CG. Intermittent In AC power plug replaced. Blower discovered dead due to broken power wire (repaired).
- W0CG fixed broken AL-1200 amplifier.
- IBS-1 band decoder selecting bandpass filters at Station 2 is failing. Purchased replacement, and will attempt to fix the current one. Two additional IBS-1 decoders have been located at a reasonable price, and will be placed on spares shelf.



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PJ2T House Improvements 2010-11

Although not directly related to the Station Committee, these enhancements to the house over the past year are listed here for convenience.

1. Monitored security system installed and activated;
2. Replaced Air conditioner, East bedroom;
3. Installed shack air conditioner, wiring, condensate drains, and watt-hour meter;
4. Replacement of broken tiles, kitchen and West bedroom;
5. Replace two broken knobs on East bedroom shower;
6. Replace broken glass top of small patio table;
7. New faucets;
8. New key sets and rehabilitation of old on-site key set;
9. Re-varnish the front gate and side entrance gate;
10. Replacement of two dead palm trees;
11. Addition of some new dishes and cooking utensils;
12. Replacement of burners in outside grill.





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Station Enhancement / Project Ideas for 2011-12

1. Continue replacing all old computers new Windows 7 PCs.
2. Add automated bandpass filter switching to Stations 3 and 4.
3. Add second LCD display to Stations 1 and 2 to provide additional display "real estate".
4. Add a 40-meter antenna for backup.
5. Buy another spare 3CX1200A7 tube for AL-1200 amps.
6. Replace 160-meter inverted-L feedline (RG-8X) with RG-213.
7. Re-locate the DX Engineering 4-Square bases to re-point the array correctly.
8. Add a new fixed-direction tribander, pointed at VK/ZL/South Pacific.
9. Replace ancient 10-MB/s network switch with "Gigabit" switch/router.
10. Assemble enhanced AC Power Transformer console / furniture.
(http://www.k8nd.com/Radio/PJ2T_AC_SYS.pdf)
11. Permanently resolve the line noise problems from nearby power poles. This will require work by Aqualectra.
12. Standardized voice keyer installation at each station.
13. Install equipment shelving over radios.
14. Permanently install K6AM "multiplier operator" switches at each station.
15. Install HV modifications on all three AL-1200 amplifiers. Install supplemental filament transformers in two newest AL-1200.
16. Install third tube socket and parasitic suppressor in LK-800 and add third tune.
17. Prepare comprehensive PowerPoint presentation on how to run the station.
18. Tower Projects / Maintenance
 - a) Continue painting schedule;
 - b) Maintain & re-coat the WARC antenna concrete base.



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