Buddies in the Caribbean
Saint Lucia DXpedition
December 7 to 13, 2015
David, J6/W2LNX

February 3, 2016

- what is a DXpedition? — Don, K6ZO

- about Saint Lucia

- preparing for digital modes operation

- traveling to Saint Lucia

- operating location

- antennas set up

- Saint Lucia DXpedition 7 team

- digital modes station and operation

- <mark>lessons</mark> learned

- some observations

goals

- go on a holiday style DXpedition

- learn more about Buddipole antennas

- learn more from experienced operators

- improve my HF digital modes operating skills

- work 100 DX contacts

- test and demonstrate FreeDV digital voice on HF

- make friends with local hams on Saint Lucia

- have fun

Saint Lucia

Saint Lucia

- travel: daily commercial flights

- drive: on the left

- capital: Castries 14°1′ N 60°59′ W

- languages: English, French, Saint Lucian Creole

- population (2014): 183,600

- currency: East Caribbean dollar, credit cards, US
  dollars

- time zone: Atlantic (UTC−4)

- weather: summer

- ham radio clubs

  - The J6 Portable Group

  - Saint Lucia Amateur Radio Club

Buddies in the Caribbean

- holiday style DXpeditions to Caribbean islands

- sponsored by Buddipole, Inc.

  - Budd, W3FF and Chris, W6HFP are trip leaders

- only Buddipole antennas are used

  - dipole, vertical and 2 element Yagi antennas

- travel on commercial flights

- two suitcases each less than 50 pounds

- portable radios with 100 watts or less RF power

- introduce hams to their first DXpedition

- share great accommodations costs

- wear summer clothing

- six months before

  - reserved flight on Delta airlines

  - sent to Budd, W3FF the Saint Lucia

    - amateur radio license application

    - Telecommunications Inspection Form for Customs Purposes

- one month before

  - set up digital modes station

  - set up Buddipole dipole for 20 m in house to test for RFI

  - developed fldigi macros

  - created LOTW certificates for W2LNX and J6/W2LNX

  - operated nearly every day

- luggage

  - roller suitcase carry-on for station equipment

  - personal carry-on

    - laptop computer

    - two rechargeable 10 Ah LiFePO4 batteries

  - large suitcase for clothing and extras

- have on hand

  - travel documents

  - ham radio license and Customs paperwork

    - copies in luggage

  - lithium metal battery <mark>rules and regulations</mark>

  - name, address and phone number of <mark>accommodations</mark>

Chateau Devaux

- one of the nicest ham radio locations in the Caribbean

- large four bedroom air conditioned villa

  - near cliffs 300 feet high facing Caribbean Sea

  - faces Europe, Africa and the United States

- coordinates: 14°06'24.8" N 60°56'02.1" W

- grid square: FK94MC

- summer weather with brief rain squalls from the sea

- hosts are Richard and Maran Deveaux

  - descendants from original island settlers

  - Richard was our license and Customs paperwork agent

  - Maran prepared several <mark>wonderful</mark> dinners for us

Chateau Devaux

villa (credit: K4ZGB)

Chateau Devaux

villa veranda

2 element 17 m Yagi on villa roof (credit: J68HF)

2 element 20 m Yagi on roof

Chris J68HF setting up 10 m 2 element Yagi

2 element 15 m Yagi (credit: W7DGP)

15 m dipole on top of nearby hill

- Bryan, J6/N8WD — SSB

- Budd, J68FF (W3FF) — SSB, CW

- Chris, J68HF (W6HFP) — SSB

- David, J6/W2LNX — PSK31, PSK63, JT65, DV

- Jack, J6/WB9OTX — SSB, JT65

- Larry, J6/W7DGP — SSB, CW, satellite

- Rick, J68RL (AA4W) — SSB, CW

- Tom, J6/K4ZGB — CW

- Joseph, KC3EYZ — QSL manager for J6/W2LNX

Bryan, J6/N8WD

Budd, J68FF

Chris, J68HF

Saint Lucia DXpedition 7 team

David, J6/W2LNX (credit: K4ZGB)

Jack, J6/WB9OTX (credit: K4ZGB)

Larry, J6/W7DGP (credit: K4ZGB)

Rick, J68RL

Tom, J6/K4ZGB

laptop of Tom, J6/K4ZGB

Bryan, J6/N8WD, Larry, J6/W7DGP, and Tom, J6/K4ZGB working a satellite

- ==number== of contacts: 5418[♦]

  - SSB: 2792

  - CW: 2440

  - digital modes: 172

  - DV: 6

  - satellite: 8

[♦]six operators reported

Radio equipment:

- Buddipole antenna system

- Creative Labs HS-720 headset — noise canceling mike

- LDG FT-Meter

- MFJ-26C dummy load

- MFJ-904H MFJ Deluxe Travel Tuner with bypass switch

- Powerwerx Precision Watt Meter and Analyzer

- Powerwerx SS-30DV 14 V power supply — switchable AC

- Radio Works T-4-400 line isolator

- West Mountain Radio RIGrunner 4004U with USB power

- Yaesu FT-857D transceiver

- Yaesu SCU-17 audio interface

- YouKits FG-01 antenna analyzer

First day:

- check and set AC voltage of power supply

- check local time zone

- <mark>check</mark> UTC time in fldigi log

- check Log all RX/TX text option of fldigi Text Capture menu

- change to local time zone

  - <mark>uncheck</mark> Automatically adjust clock for DST

- reboot Windows
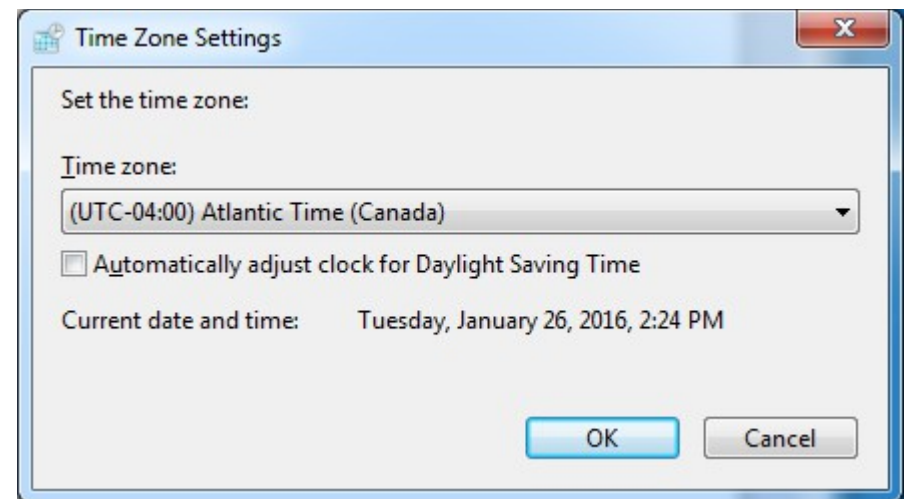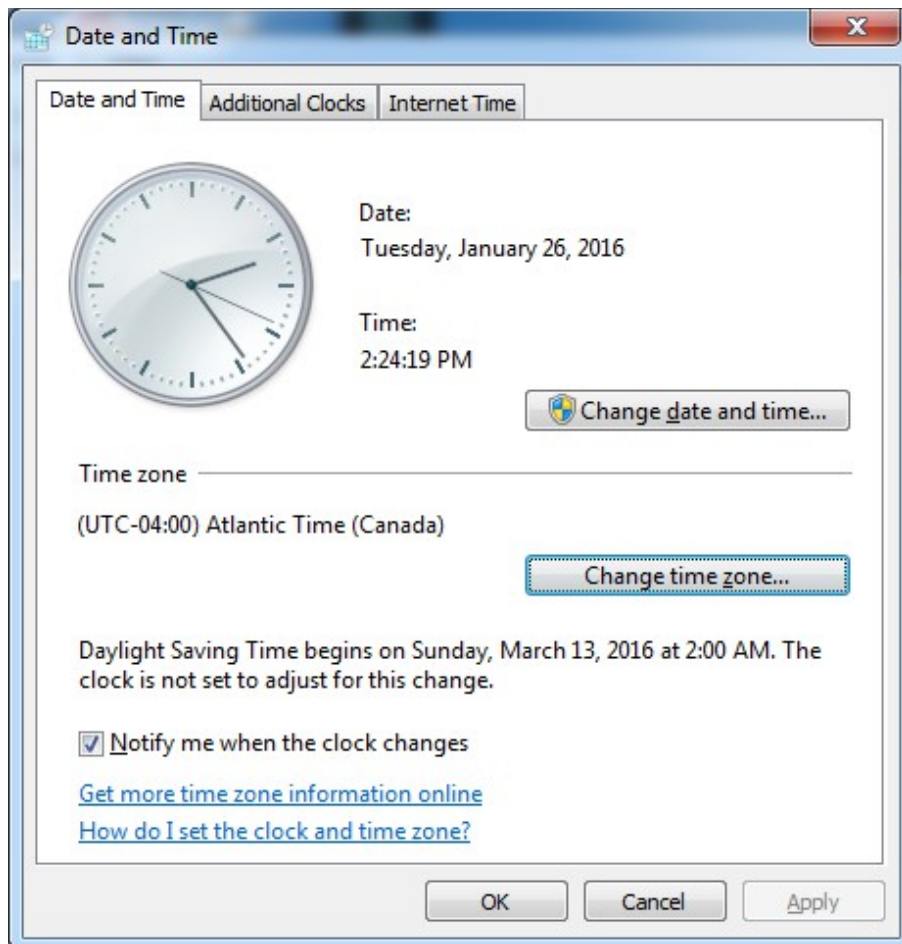
- add a clock for UTC
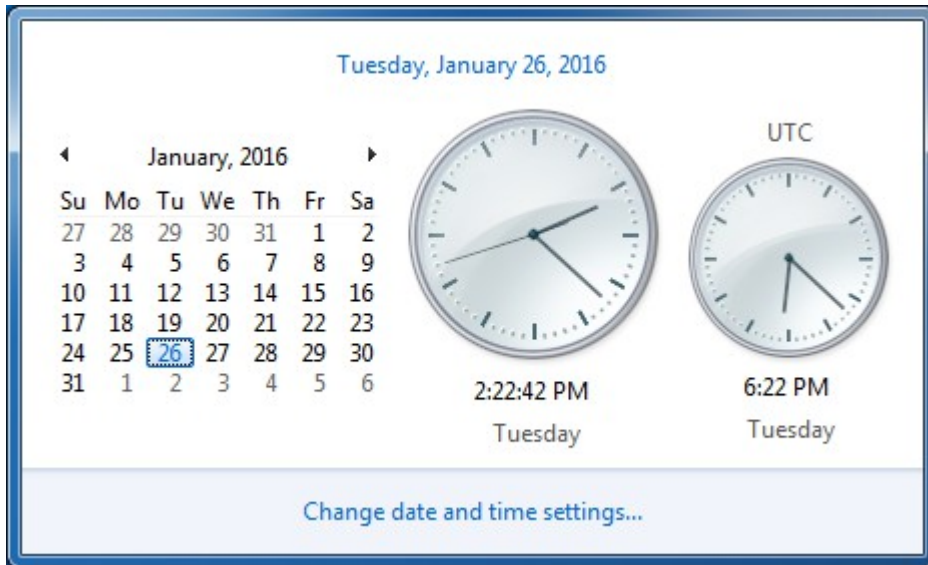
- <mark>check</mark> UTC time in fldigi log by logging a test callsign

Every day:

- reassemble station equipment

- check Kensington 12 V to laptop power adapter

- reconnect USB cables to USB hub using diagram

  - <mark>check</mark> Level of Microphone Properties of USB sound interface

- backup fldigi files to Dropbox and USB hard disk

- upload prior day's log to LOTW

- check digital modes station using a dummy antenna

- check if coax is <mark>connected</mark> to an antenna

- check if proper bandpass filter is connected

- check SWR and adjust SWR if necessary

daily operating position

digital modes station

digital modes station

digital modes station equipment

fldigi digital modes program
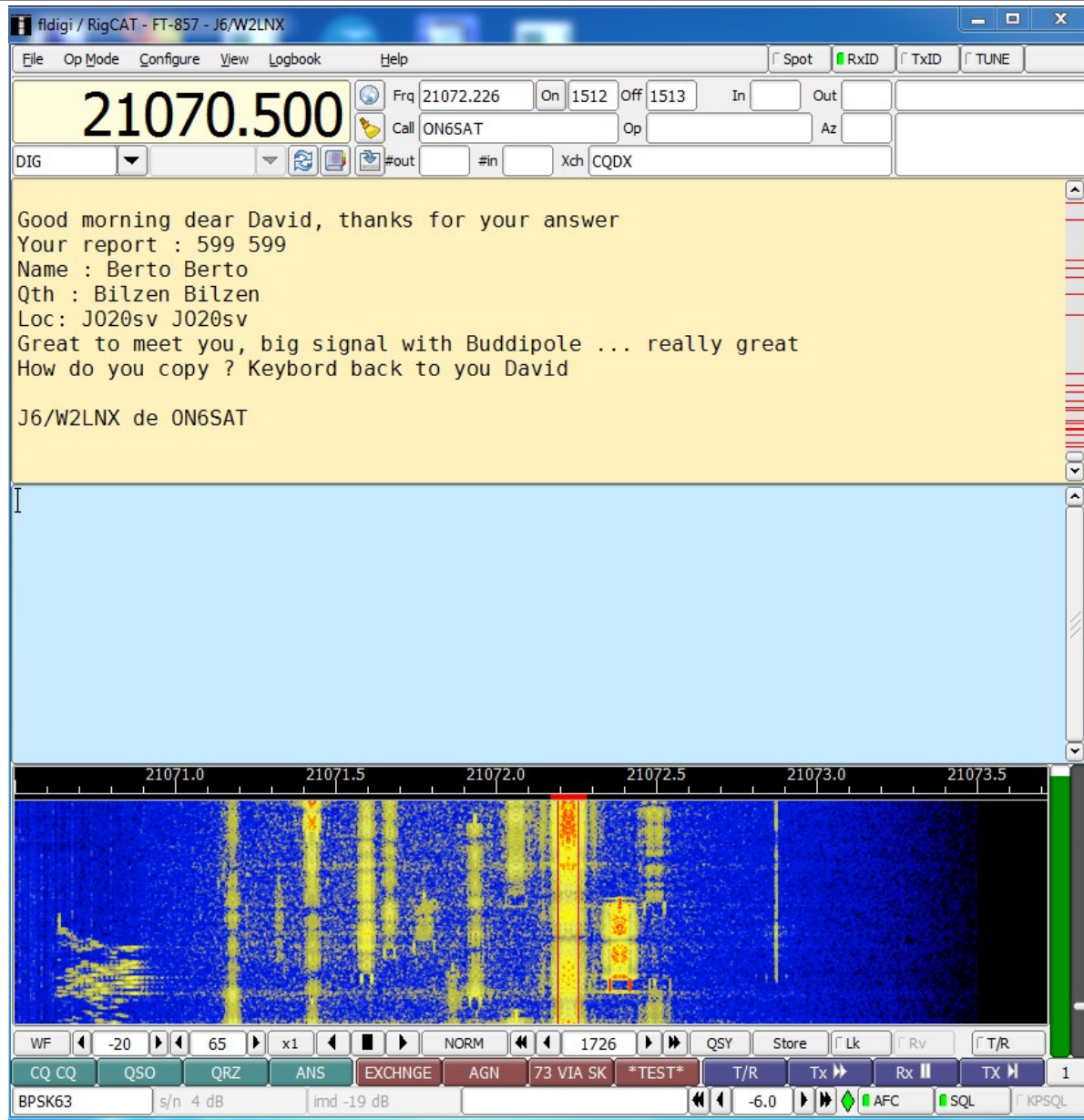
fldigi waterfall display

fldigi digital modes program

fldigi waterfall, signal browser and log windows

fldigi digital modes program
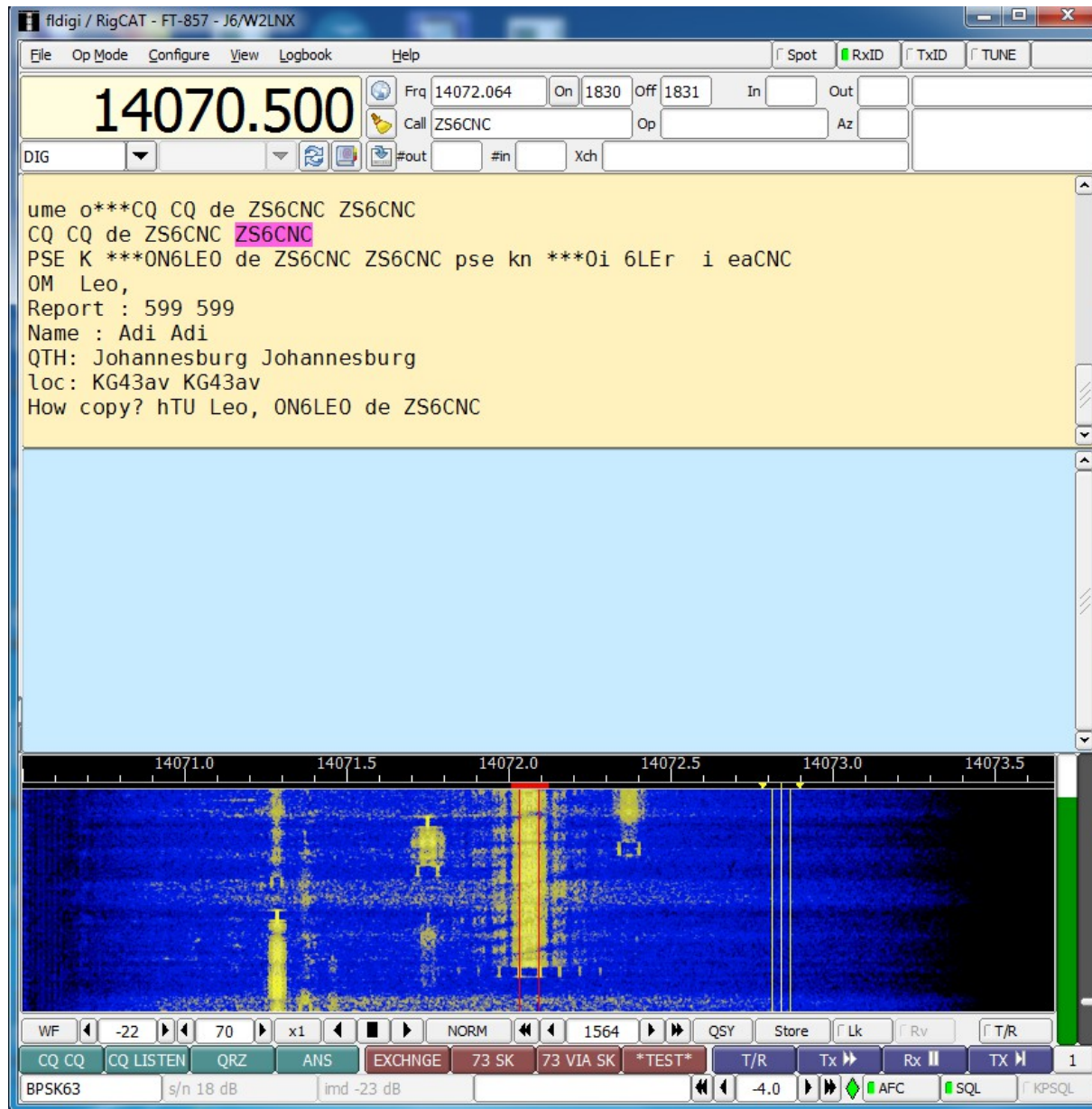
contact with ZS6CNC

Experiment was to receive a test message using a remote station:

- flmsg test message sent from QTH of Frans, J69DS

  - used Olivia 8-250

- message received in Boston by David, K3EDU via remote station AI4HH in South Carolina

  - used Virtual Audio Cable (VAC) between remote station Web page and fldigi

  - can use audio cable from line out to line in of the computer

- demonstrate multiple stations and multiple remote stations can be used receive emergency messages

flmsg test message

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fldigi - K3EDU

:fm:7 J62YOTA
:s1:15 David, J6/W2LNX
:mg:264 Greetings from QTH of Frans, J69DS and J62YOTA this month. We are having having a wonderful time using Buddipole@n#9¶ AyR`oU the Buddies in the Caribbean
DXpedition here in St. Lucia in grid FK94MC. The weather warm and sunny with an average temperature of 27 C.
[WRAP:chksum F733][WRAP:end]
... end

message received by David, KC3EDU

Demonstrated digital voice using FreeDV:

- used USB headset with noise canceling boom mike

- contacts made

  - 20 m: AA3GZ, K0PFX, N4DV, W4BCX

  - 15 m: N4DV, WW3A

- 2 element Yagi antennas used

- 20 watts of RF power before ALC triggered

- half bandwidth of SSB

- Chris, J68HF operated SSB with FreeDV by clicking Analog button

  - slight delay with keyboard space bar PTT

FreeDV digital voice
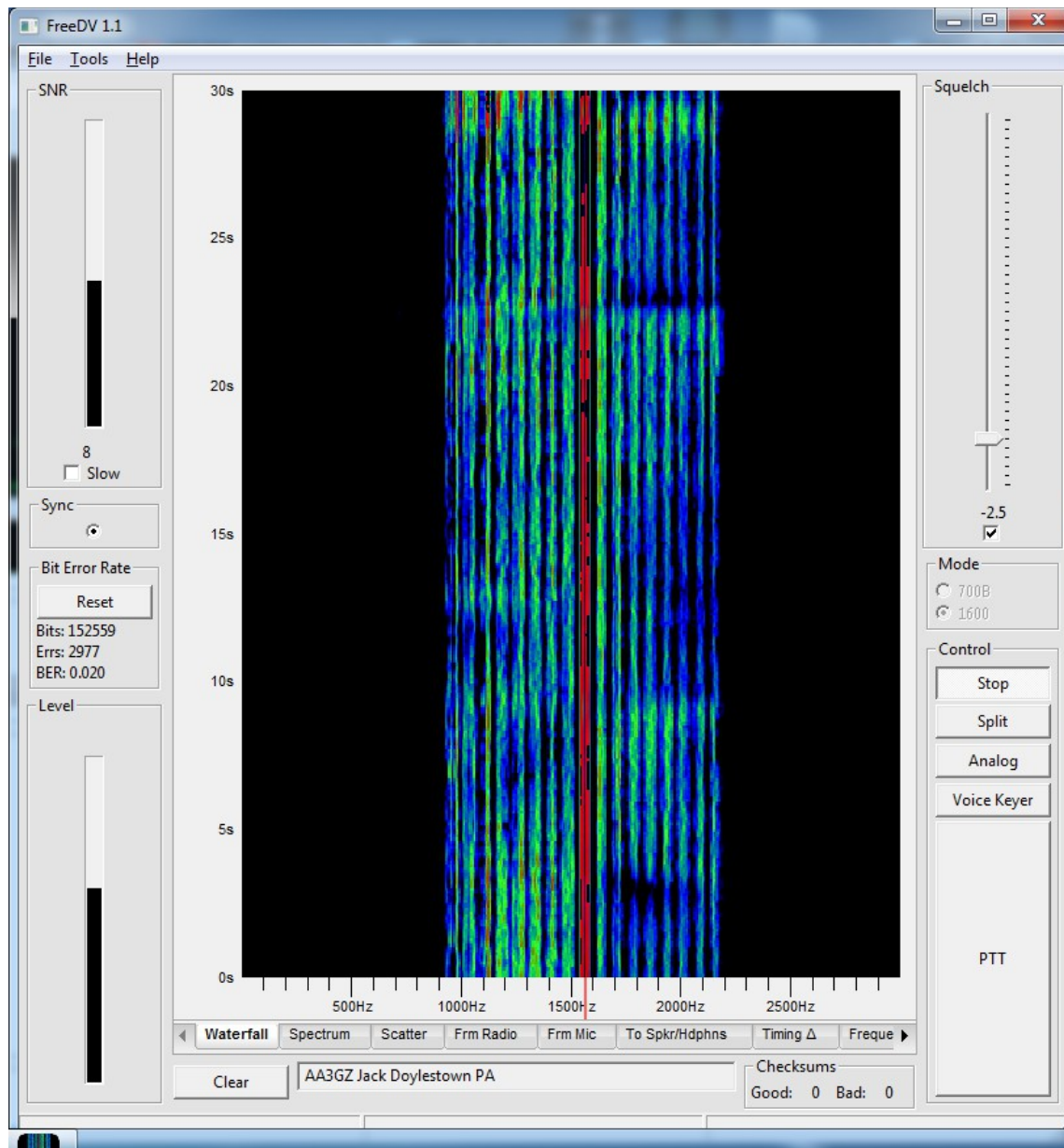
waterfall display — DXpedition contact with <mark>AA3GZ</mark> in PA

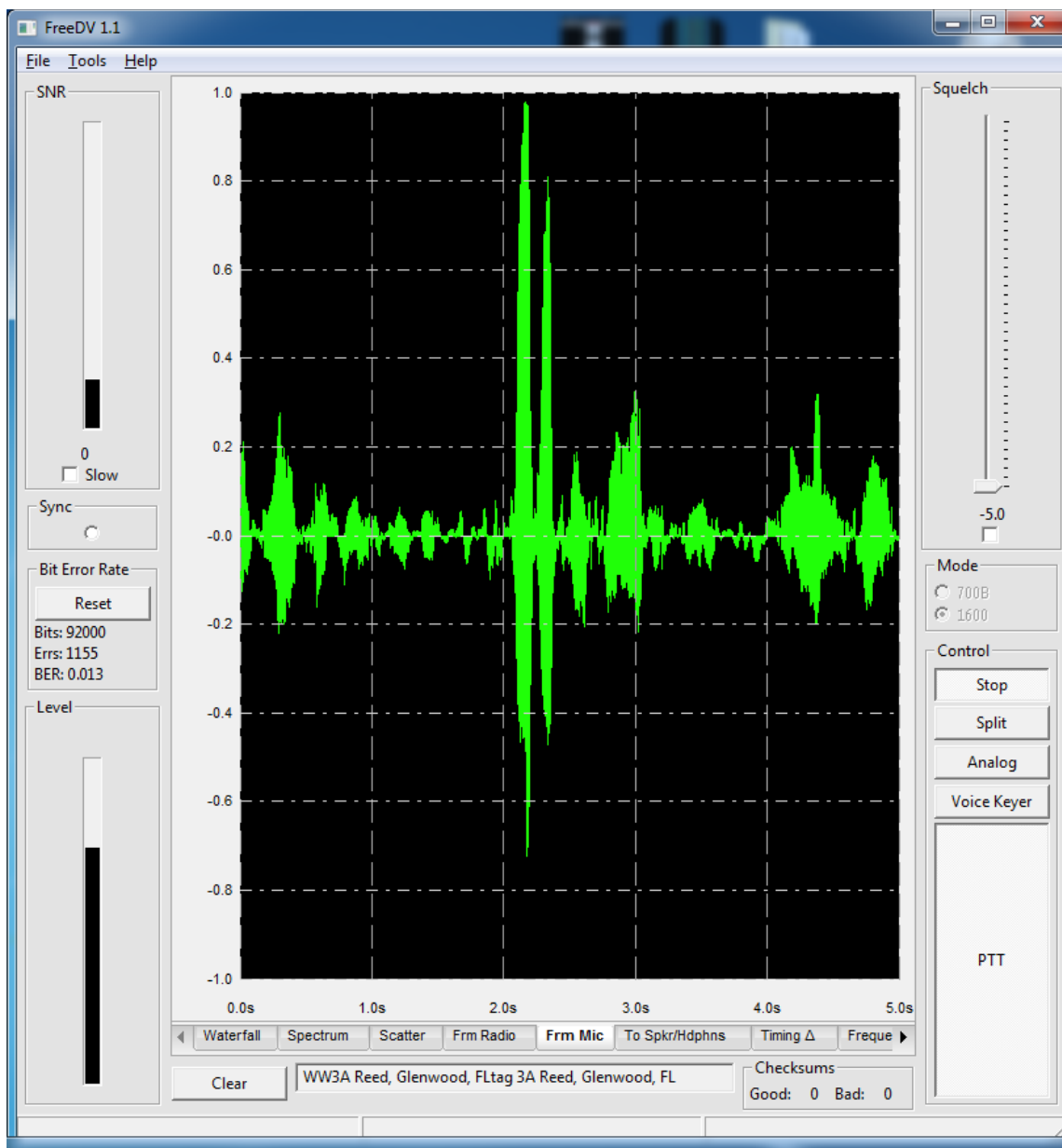# digital modes

FreeDV transmit audio

- practicing and testing the equipment for a month was time well spent
  - make diagram of USB connections — use USB hub
  - set and check time zone <mark>before</mark> trip with fldigi
  - use checklist before operating every morning
- bringing yellow gaffers tape was a good idea
- sitting and operating for ten hours a day for seven days is unhealthy
  - sit in a comfortable chair at the <mark>right height</mark>
- bring digital modes station using carry-on roller suitcase
  - don't carry equipment
- brought too much gear

- great experience — Buddipole antennas boot camp

- Buddipole antennas work well — I am a fan

  - learned to appreciate two element Yagi antennas

    - provides 4 to 5 dB gain

- learned much from experienced DXpedition operators

- Array Solution AS-6BPF-Lux six bandpass <mark>filter set</mark>
  worked well

- FT-857D digital modes station worked flawlessly

- enjoyed making PSK31 contacts and receiving brag files

- FreeDV digital voice is practical for a DXpedition

- Chateau Devaux is a great DXpedition location

- making new friends with locals hams was the <mark>best part</mark>
  of the trip: Frans, J69DS, Ernest, J69Z, Francis, J66CF

- I would like go back within two years to Saint Lucia

  - visit nearby islands

- operate a more modern, integrated digital modes station

  - operate more HF FreeDV digital voice

- would like to organize a ham radio licensing class with local hams

?

W2LNX@ARRL.net

resources

Getting Started with Digital Modes on HF

http://www.marcclub.org/mweb/education/training/digital-modes-presentation.pdf

Saint Lucia

http://stlucianow.com/

https://en.wikipedia.org/wiki/Saint_Lucia

Chateux Devaux

http://chateaudevauxslu.com/

Buddipole, Inc.

http://www.buddipole.com/

Array Solution bandpass AS-6BPF-Lux six filter set

http://arraysolutions.eestage.com/as-6bpf-lux

FreeDV

http://freedv.org/tiki-index.php

Frans, J69DS

http://j69ds.dageekz.com/

http://j6portable.dageekz.com/buddies-in-the-caribbean-15/

http://slarc.dageekz.com/

resources

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10 Ah 12V Dakota Lithium LiFePO4 batteries

http://www.electric-bike-kit.com/12v-lithium-lifepo4-replacement.aspx

Tenergy Smart LiFePO4 Charger: 12.8V 1.5A Charging Current

http://www.tenergy.com/01303

lithium batteries rules and regulations

http://blog.tsa.gov/2013/06/travel-tips-tuesday-safely-packing.html

http://phmsa.dot.gov/safetravel/batteries

http://phmsa.dot.gov/safetravel/definitions#lithium_metal

http://www.ecfr.gov/cgi-bin/retrieveECFR?
gp=1&SID=bba5ad06518b529c94e1d67a3270196b&ty=HTML&h=L&r=SECTION&n=49y2.1.1.3.12.1.25.5

https://www.delta.com/content/dam/delta-www/pdfs/baggage/acceptance_guidelines.pdf

https://www.delta.com/content/www/en_US/traveling-with-us/baggage/before-your-trip/restricted-
items.html

https://www.faa.gov/about/initiatives/hazmat_safety/more_info/?hazmat=7

https://www.faa.gov/about/office_org/headquarters_offices/ash/ash_programs/hazmat/passenger_info/
media/Airline_passengers_and_batteries.pdf

https://www.segtravel.com/Guide%20to%20DOT's%20Lithium%20Battery%20Carry-on%20Provisions%20-
%20Jan.%202008.pdf

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