VOLUME XLII, NUMBER 11

SPURIOUS EMISSIONS

NOVEMBER, 2016

INDIAN RIVER ARC

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KN4JN

HAPPY

THANKSGIVING

CLUB MINUTES

The meeting began at 7:31PM with the pledge of allegiance.

Dave admonished the group to vote at the upcoming presidential election.

Visitors and Guests: K1ZMB and new member, NO4RD, Richard.

Dave said that he saw Ray N4LEM at the Melbourne hamfest and that he is looking good. He thanked everyone for their prayers for Ray.

A call was made for a motion to approve the August meeting minutes, since we had no meetings in September or October, due to storms. A motion was heard and the August minutes were approved.

Larry W4WDD, club treasurer, reported for August through present: we have $1379.06 in checking and $1276.97 in the equipment fund, for a total of $2656.03. A motion to approve the Treasure's report was made, and the treasure's report was approved by acclamation.

President Dave reported for the technical committee and noted that there is an issue with the 88 controller, so he bought another controller to match the one in the 37 repeater. He is doing this because he wants all club repeaters to be identical and freely compatible, and he is donating this controller to the club. The 146.88 repeater is on fusion mode and some members have had good results using it.

It's been noticed that there is a Morse code ID coming through the 145.37 repeater that is not our repeater ID. Members will try to get the call sign to figure out what is happening. While the discussion addressed club repeaters, it was noted that folks can get into the 37 repeater from as far as the airport in Orlando.

Next, the upcoming events were discussed:

December 1st is the Christmas Party at Red Lobster, starting at 7pm, and the CARS club is invited to join us.

New Business: Dave presented the budget for 2017. Larry, W4WDD pointed out that our insurance costs will likely go up next year because we have added new equipment. He also suggested that we should include the hardline repeater coax lines in the insurance list, since they are costly. A vote was held on the proposed budget and the motion to approve the budget for 2017, as published, was carried.

Greg AB4GO reported that AI4FY's antenna has blown off the roof of the Red Cross building and its current status is uncertain.

Next Dave KU0R talked a little about the bad band conditions. Greg AB4GO discussed playing in the international DX contest and inexplicably Japan could not be heard. Also, there were rapid band fluctuations on 20 meters, which was rather unusual for this band.

Next Larry WD5CKN, our club Emergency Coordinator, was invited to talk about the amateur radio response to Hurricane Mathew. But first came the 50-50 drawing and the winning ticket was found to be in the hands of Joe Parker KC4CFE.

In his report, Larry noted that we got lucky because the storm wobbled a little to the east and stayed off shore, thus saving us from a more destructive incident. He then summarized the good and the bad of the event from the communications standpoint.

What went well:

All the nets came up, the equipment worked, and the different groups cooperated with each other.

What did not go well:

Shelter issues: In some cases, shelter managers had no idea what the radio operators were there for. We need to have more training on both sides to achieve good communications between the amateurs and the other agencies. Also, the use of cell phones, as proposed by some in the EOC community, may create confusion because there is no paper trail to track messages. The amateur process renders a paper trail that can be tracked in case of misunderstandings.

Some shelters had antenna problems. We need to engage the county and the school board to understand the technical needs for proper communications in emergency situations, to facilitate correct antenna placement in shelters.

Viron N4VEP reported that fluorescent lights created very noisy conditions for VHF operations at his shelter and if a need to go simplex arose, communications would have been impossible.

Message passing was not smooth at first: Reports were ad-hock, not standardized, or produced regularly.

NBEAMS did not always work right, but was a good asset and needs to be developed.

Network logging was non-standard and uneven: Operators need more training and we need more active net control operators.

The biggest issue we had was providing shelter operators. We need shelter operators to go to the shelters when the shelters open, 48 hours before the storm hits, not after the storm. Folks with homes, families, and other responsibilities may not be able to respond. We need to recruit younger hams who have no obligations and are able to give their time without concerns.. JD W4GNC suggested that folks who live on the barrier islands that would have to evacuate anyway could be good candidates.

Shortly before Mathew hit, the Red Cross decided that the roof of the Red Cross building could blow off and evacuated the building to the Rockledge police department, abandoning the building and all the radio assets, as well. This was a last minute decision and did not allow for adjustment from the ham community. Again, communications between all groups is critical.

Viron suggested that some repeaters be reserved for folks who are not involved in the emergency, since inside antennas and hand-held radios do not work well on simplex. Larry WD5CKN pointed out that we have back up repeaters that when not in official use can be accessed by anyone.

Bob W0AGE asked about the upcoming election of BEARS officers. Larry WD5CKN announced that both he and Dwain KM4HCN are running for the BEARS presidency. The BEARS officers are elected by the BEARS board of directors, which is composed of all the club representatives. Larry is our club representative to BEARS.

A motion to adjourn occurred at 8:51 pm and was moved and approved.

Respectfully Submitted

Steve N4UTQ, Secretary

HAPPENINGS

SKYWARN Recognition Day, December 3

The annual SKYWARN ™ Recognition Day (SRD) will be held this year on Saturday, December 3, 2016. This is the day when Amateur Radio operators visit National Weather Service (NWS) offices and contact other operators around the world. The purpose of the event is to recognize the vital public service contributions that Amateur Radio operators make during National Weather Service severe weather warning operations. It also strengthens the bond between Amateur Radio operators and the local National Weather Service. The event is co-sponsored by ARRL and the National Weather Service. Please remember that this is not a contest, so no scoring will be computed.

Object: For all radio amateur stations to exchange QSO information with as many National Weather Service stations as possible on 80 through 10 meters, including 6 and 2 meters bands and the 70 centimeter band. Contacts via repeaters are permitted.

Date: National Weather Service stations will operate December 3, 2016, from 0000 - 2400 UTC.

Exchange: Call sign, signal report, QTH, and a one or two-word description of the weather occurring at your site.

Modes: National Weather Service stations will work various modes including SSB, FM, AM, RTTY, CW and PSK31. While working digital modes, special event stations will append "NWS" to their call sign (e.g. NØA/NWS).

Station Control Operator: It is suggested that during SRD operations, a non-National Weather Service volunteer who is a licensed radio amateur serve as a control operator for the station that is set up at a NWS office.

New this year: There will be a new log submission process introduced this year, and W1AW at ARRL Headquarters is scheduled to be on the air for SKYWARN Recognition Day.

ON THE AIR

In cooperation with the Point Reyes National Seashore, part of the National Park Service, the Maritime Radio Historical Society (MRHS) has taken on the job of preserving the historic ex-RCA coast station KPH and returning it to the air. KPH will be on the air every Saturday and Sunday on the following frequencies:

4247.0

6477.5

8642.0

12808.5

17016.8

22477.5

630-METER SPECIAL EVENT

November 12, 2016

On November 3, 1906, the Berlin treaty made 500 kHz the International Distress Frequency. 630-meter operators will commemorate the Berlin Treaty with a special event on Saturday night, November 12. Three different groups will participate:

U.S. Part-5 Experimental Operators including WD2XSH stations and others will operate in the 472 - 479 kHz band. They will use CW transmissions for QSOs and beacons with special messages. There may also be some operation on 500 kHz itself.

Canadian Amateurs will also engage in CQ QSOs in the 472 - 479 kHz band. They will also participate in cross-band QSOs with amateurs operating on 80 and 40 meters.

The Maritime Radio Historical Society will activate its KSM/KPH transmitter at Bolinas, CA for a mini "Night of Nights" with special messages and bulletins.

Contests:

November Sweepstakes – CW Nov 5-7; Phone Nov 19-21 The contest period for each contest begins at 2100 UTC on Saturday and continues through 0259 UTC on Monday. Stations may operate for 24 hours out of the 30 hours available. Rules are at the ARRL web site.

Spy Radios by Armando Delgado, KN4JN

World War II was the first large military conflict in which radio played a big role. The technology had advanced by that time to a point that made radio equipment practical, reliable, and small enough that it could be part of every military activity, be it on the air, land or sea. Of course, radio became as well a significant, if not the main player in intelligence gathering.

In the European theater of the war, the distances between belligerent countries were close enough and the people similar enough that it was possible to insert spies to gather intelligence.

The British made use of agents in all occupied European countries, but particularly in France, where resistance to the German occupation was widespread. To facilitate communication with their agents, British Intelligence developed a number of radio units to use in the field. The most popular was the radio designated Type 3 Mk. II (B2).

The British Type 3 Mk. II, commonly known as the B2, is arguably the most well known spy radio set used during WWII. It was designed in 1942 by (then) Captain John Brown at SOE Station IX, and manufactured by the Radio Communication Department of the SOE at Stonebridge Park. The set was issued to agents, resistance groups and special forces operating in occupied territory. The official designator is Type 3 Mk.II but the radio is also known as Type B Mk.II, B.II and B2.

The radio was housed in a leather suitcase for inconspicuous transport by agents in the occupied countries. (Figure 1) Initially, the suitcase was of brown leather with metal closure clasps, but later in the war the design and color of the suitcases were changed as the Germans began to recognize the suitcases from captured equipment.

Spy Radios

The suitcase housed a receiver, transmitter and power supply. The Type 3 Mk.II (B2) was relatively small for its day and produced an HF output power of 20 Watts. Nevertheless, it was too big to carry around unobtrusively especially when traveling by public transport. For this reason, later radios, such as the Model A Mk. III (A3) were made much smaller, albeit with a limited frequency range (3.2-9.55 MHz) and reduced power output (5 Watt). Of course, the only operating mode was CW.

For the transmitter, external tank coils were used, each coil suitable for a limited frequency range and inserted into a 6-pin socket just below the meter (Figure 2). In order to cover the entire frequency span, four coils were supplied (L1 to L4) each with two sides (A and B). Besides the correct coil, a band selector was used to select the appropriate range.

The following frequency ranges were available:

L1-A: 3.0 - 4.0 MHz

L1-B: 3.75 - 5.25 MHz

L2-A: 4.5 - 6.25 MHz

L2-B: 5.5 - 7.5 MHz

L3-A: 6.5 - 9.0 MHz

L3-B: 7.0 - 10.0 MHz

L4-A: 9.0 - 13.0 MHz

L4-B: 12.0 - 16.0 MHz

Furthermore, the appropriate PA grid frequency needed to be selected with the band switch (7 steps) and the optimum fundamental crystal frequency with the CRYSTAL selector (6 steps). The circuit was based on just two tubes: an EL32 for the oscillator and a 6L6 for the PA. Provisions were made to allow the crystal to be used in fundamental, second or third harmonic mode.

The receiver's entire coverage from 3.1 to 15.2 MHz was divided over three ranges that were selected by a band selector. Two tuning knobs allowed both coarse and fine tuning, visible on a scale readout with a magnifying Plexiglas lens over it.

The power supply permitted both mainline connection and battery operation from a 6 V battery. It provided the following voltages for the receiver:

230V (28mA)

6.3V (1.2A) filaments

-12.5V (bias)

The following voltages were supplied to the transmitter:

500V (60mA)

230V (18mA)

6.3V (1.1A) filament.

Technical specifications

Receiver frequency range: 3.1-15.2 MHz

IF frequency: 470 kHz

AF output: 50mW into 120Ω

Sensitivity: 1-3 µV @ 10 mW (CW)

Transmitter frequency coverage: 3-16 MHz (4 ranges)

RF output: 20 W (fundamental and 2nd harmonic), 16-20 W (3rd harmonic)

Antenna: 18 meter wire

Ground: 3 meter wire

AC power supply: 97-140V and 190-250V (40-60Hz)

Power consumption: 27W (RX) and 57W (TX)

DC power supply: 6V, 4.5A (RX) and 9.5A (TX)

Figure 1.

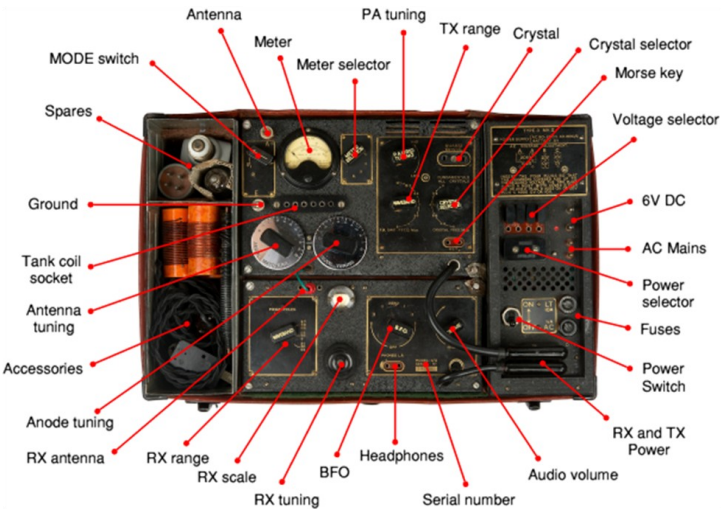

Figure 2.

Send comments or contributions to the newsletter to the editor's email address:

olardelga@aol.com

W1AW CW PRACTICE TRANSMISSIONS

7 PM EST) Slow CW : Mon, Wed, Fri

7 PM EST Fast CW: Tue, Thu

FREQUENCIES:

1.8025, 3.5815, 7.0475, 14.0475, 18.0975, 21.0675, 28.0675, 147.555

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