President's Message

Greetings from the "Safer at Home" office! I hope that everyone is doing well. It seems that we will be coming out of the stay-at-home orders soon. Please, if you do venture out stay safe.

(Continued on Next Page)

IN THIS ISSUE

OARC MEETING

May 13, 7pm, YouTube Live
Beardall Senior Center **– Closed --**
800 Delaney Ave, Orlando, FL 32801
ARRL Testing: **Cancelled**
For information & Updates
   See www.oarc.org

OARC Board of Directors
President: John Knott, N4JTK
Vice President: Michael Cauley, W4MCA
Treasurer: Ana Groe, KM4JVE
Secretary: Bob Nocero, W4KBW
Directors:
   Bob Cumming, W2BZY
   Frank Gergits, KC9GNQ
   Tony Darnell, KK4VRP
   Dean Groe, KD4TWJ
   Frank Tagliani, KD4EZW
   James Deuel, N0XIA

The Listening Post is the OARC newsletter for OARC members. The LP will be distributed electronically via E-mail and the OARC web site (www.oarc.org).

Editor: Ed Thralls NE4H.

Comments, suggestions and articles are welcome. Send to editors@oarc.org.

Contributing to this edition: John Knott N4JTK, Michael Cauley W4MCA

OARC REPEATERS

Call	Freq	Shift	PL
KB4UT	146.760*	-600	103.5
N4UMB	147.015	-600	103.5

* Fusion Repeater

D-Star

Call	Freq	Shift	
K1XC C	146.820	-600	
K1XC B	443.275	+5MHz	
K1XC A	1275.00	-12 MHz	Voice
K1XC A	1255.00	-12MHz	Digital
W4PLB C	145.160	+600	
W4PLB B	442.300	+5MHz	

All D-star repeaters are connected

From the President's Desk (*Continued* from Previous Page)

To bring everyone up to speed on the status of our monthly meetings, the City of Orlando recently announced that all city facilities will remain closed at least through the end of May. Obviously, no guarantees, but hopefully we will be able to start back with our in-person monthly meetings in June.

The Board of Directors has been experimenting with different modes of virtual conference meeting platforms. To be honest, this is something that OARC has not had to do in the past, except for utilizing Skype to bring in a speaker for a club meeting. We have decided to go with Zoom for our Board Meetings and the HamCation℠ Wrap Up meeting. Zoom worked well. It took a little getting used to it (remembering to unmute your mic when it was your turn to talk) but we did well. With 30 HamCation℠ Committee members, everything went well.

During our process of trying different platforms out, a long-time member mentioned about doing club meetings via YouTube Live. Doing a little more checking we discovered that Zoom would live stream into YouTube Live. Just prior to sitting down to write this article, several Board members and I experimented with live streaming to You Tube Live through Zoom and it worked very well.

So, for the first time in OARC history, OARC will have a virtual club meeting that can be watched on YouTube. Also, for the first time in OARC history, we will have a virtual election. To watch on YouTube, go to the OARC YouTube channel and subscribe. Here is a link to the OARC YouTube Channel.
https://www.youtube.com/channel/UCz05_otvnMgfmL2v2Dx8Pkw

We are aiming for May 13 at 7pm to hold the Virtual Meeting. The meeting length has not been determined yet, but I will send a separate email with all the details of the meeting and election during the first week of May. This is all new to us, so we want to be sure we have it right the first time!

Please stay safe and healthy and we cannot wait for everything to get back to normal.

73
John Knott
N4JTK

HamCation℠ Chairman News

Greetings Everyone

I hope everyone is still doing good and staying healthy.

The HamCation℠ Committee held its 1st ever virtual meeting via Zoom and it work very well. This was our 2020 wrap up meeting. We had almost all chairs in attendance. It was a good and informative meeting. We went over everything that worked and thing that did not work.

One of the biggest complaints this year was the volunteer page on the website. We will be revamping the volunteer signup page for 2021.

Now the big question a lot of clubs is wondering about, when the donation checks will be coming out.? We should have the hours calculated this coming week and we will start mailing out checks in May. We will also be mailing all checks that we usually give out at the club meeting.

Here is the newest photo of the new pavilion being built at the Central Florida Fair Grounds.

73,

Michael Cauley, W4MCA

HamCation℠ General Chairman

ARRL Headquarters Closes,
May *QST* Delivery is on Schedule
(Source: The ARRL Letter for March 26, 2020)

ARRL Headquarters has closed, in compliance with an executive order from Connecticut Governor Ned Lamont that all non-essential businesses and not-for-profit entities reduce their in-person workforces by 100%. ARRL has equipped as many Headquarters staffers as possible to work offsite.

"ARRL remains operational, while our teams work remotely to abide by Connecticut's *Stay Home, Stay Safe* policy, and most departments are maintaining business as usual," ARRL Interim CEO Barry Shelley, N1VXY, explained. "We are doing all we can under the circumstances and trying to maintain operations in as normal a way as possible."

The print edition of the May issue of *QST*, now off the presses, will go out in the mail next week, and the US Postal Service anticipates no delivery disruptions. Digital *QST* and the pending digital debuts of *QEX* and *NCJ* are expected to be posted on schedule. The May issue of *QST* will include more details on the *QEX* and *NCJ* digital editions -- a new member benefit -- as well as an intriguing cover article on "The Lightbulb QSO Party."

ARRL also anticipates that *The ARRL Letter*, *ARRL Audio News*, the *ARES E-Letter*, *The ARRL Contest Update*, and the *Eclectic Technology* podcast will be available as usual.

Although ARRL Headquarters closed, W1AW continues operating, but on a slightly altered transmission schedule. Morning code practice and qualifying run transmissions have been suspended; evening transmissions, including qualifying runs, will go on as usual. W1AW remains closed to the public, however.

Operations at the ARRL Volunteer Examiner Coordinator (VEC) will also continue, and the best way to receive a timely response is via email, as call volume has been heavy.

The ARRL warehouse is working with a reduced staff, so orders will be delayed, and ARRL will not be able to respond to expedited shipping orders.

Members should direct questions to ARRL via email.

Radio Amateurs Team Up to Help University Design Low-Cost Ventilator

Amateur radio volunteers from around the world have volunteered to assist University of Florida Professor Sam Lampotang and his engineering team in their quest to rapidly develop an open-source, low-cost patient ventilator that can be built anywhere from such commonly available components as PVC pipe and lawn-sprinkler valves.

The amateur radio volunteers are developing Arduino-based control software that will set the respiratory rate and other key parameters in treating critically ill coronavirus victims.

Multiple volunteers responding to a call for help from Gordon Gibby, MD, KX4Z, include noted software developer Jack Purdum, W8TEE, and uBITX transceiver maker Ashhar Farhan, VU2ESE. University of Florida physicians are working to address the critical legal aspects as the design moves closer to fruition. The ventilator's valves would precisely time compressed oxygen flow into patient breathing circuits under Arduino control, allowing exhausted patients with "stiff" lungs impacted by viral pneumonia to survive until their body can clear the infection.

The software design team is also adding simple features such as an LCD display, encoders to choose parameters, and watchdog safety features.

Long Island CW Club Offering Free Online Code Instruction for Homebound Youngsters

The Long Island CW Club in New York is offering free online Morse code instruction for the "many youngsters at loose ends as a result of school closings due to COVID-19 concerns." The club's co-founder, Howard Bernstein, WB2UZE, pointed out that learning Morse code is "a fun and educational activity for children of all ages that can fill part of the gap left by the current unfortunate situation that has closed so many schools across the country."

Ongoing classes will take place Monday through Friday, specifically for school-agers anywhere across the country or overseas, via Zoom online video conferencing.

A computer equipped with a microphone and camera is required. Classes for elementary schoolers run 30 minutes starting at 1600 UTC, followed by 45-minute classes for middle- and high school-aged students, starting at 1645 UTC. Parental permission is required through advance registration.

Contact class instructor Rob Zarges, K2MZ, by e-mail or call 508-831-8248. -- *Thanks to Mel Granick, KS2G, ARRL New York City-Long Island Section Public Information Coordinator*

NEW HF OPERATORS -- THINGS TO DO
(Source: The ARRL Contest Update for April 1, 2020)

There are a number of contests or practices that occur on weekdays on a periodic basis. In some time zones, participation in these can be hampered by working, working late, family commitments, or other variables related to life. If you're looking for something different to do and your schedule's changed, why not try one of these events? On Tuesday evenings, you have a choice of a seasonal QRP Fox Hunt or the weekly Phone Fray. The QRP Fox Hunt is a much different format than most contests, make sure you check the rules. CW Ops Tests (CWT) have three sessions on many Wednesdays in the US time zones, and seem to be gaining in popularity. Thursday evenings, it's all about the NCCC RTTY Sprint, followed by the NCCC (CW) Sprint. Oh, there's also a seasonal QRP Fox Hunt on many Thursday evenings.

Band activity may be picking up with so many people staying at home. In the upcoming weekend, you can look forward to four QSO parties, including the Louisiana QSO Party in a new date slot. Some QSO parties are posting notices confirming that their events are still happening, along with any modifications necessary because of government orders or CDC recommendations. Expect mobile or rover operations to be diminished or curtailed. The Florida Parks on the Air event has been cancelled due to the fact that Florida parks are closed. Your DX opportunities are the SP DX Contest, or for RTTY, the EA RTTY Contest.

ARRL Field Day 2020 -- A Time to Adapt
Source: The ARRL Letter for April 2, 2020

Many individuals and groups organizing events for ARRL Field Day 2020 have been contacting ARRL for guidance on how to adapt their planned activities in this unprecedented time of social distancing and uncertainty.

"Due to the unique situation presented this year, this can be an opportunity for you, your club, or your group to try something new," ARRL Contest Manager Paul Bourque,

N1SFE, said. "Field Day isn't about doing things the same way year after year. Use this year to develop and employ a new approach that is in line with the current circumstances."

Social distancing and state and local requirements very likely will impact just how -- and even whether -- you are able to participate in Field Day this year. ARRL continues monitoring the coronavirus situation, paying close attention to information and guidance offered by the Centers for Disease Control and Prevention (CDC). If social distancing means that Class A with a 30-member team set up in a city park won't work this year, then it's time for a Plan B. Part of the Field Day concept has always been adapting your operation to the situation at hand. At its heart, Field Day is an emergency communication demonstration. Field Day rules are flexible enough to allow individuals and groups to adjust their participation and strategies in a way that still addresses their needs while being fun. Some possibilities include:

- Encouraging club members to operate from their home stations on emergency power (Class E).

- Using the club's repeater as a means for individual participants to keep in touch during the event.

- Setting up a portable station in the backyard with a temporary antenna for family members interested in operating Field Day, who are now unable to participate as part of a larger group.

One big impact this year will be a decline in public visibility and any interaction with the visitors. Prudence may dictate dispensing with the ham radio PR table to attract passersby, should you set up in a more public location. It's okay not to score all the bonus points you may have attempted in the past. Local and served agency officials may be unwilling to visit, which is understandable under the circumstances. Do be sure to reach out to them as part of your preparations and remind them that you look forward to continuing your working relationship with them in the future.

The impact will differ from place to place, so ARRL recommends that all amateur radio clubs participating in Field Day stay in regular contact with local or state public health officials for their advice and guidance on hosting Field Day activities.

"With any emergency preparedness exercise, it's not about adapting the situation to your operation; it's about adapting your operation to the situation that presents itself," Bourque said. "Try something different." Read more. *-- Thanks to Paul Bourque, N1SFE, and Dan Henderson, N1ND*

Remotely Administered Amateur Exam Systems Showing Promise

(Source: The ARRL Letter for April 16, 2020)

Facing a growing demand for amateur radio exam sessions in a time of social distancing and stay-at-home orders, sponsors of some Volunteer Examiner (VE) teams have risen to the challenge and are developing systems to remotely proctor test sessions.

"Many of our VEs and VE Teams have been working on remotely proctored exam session ideas, employing both video and in-person components -- following social distancing protocols," ARRL Volunteer Examiner Coordinator (VEC) Manager Maria Somma, AB1FM, said. "We have been receiving interesting and innovative suggestions, and we appreciate the dedication and ingenuity our examiners have shown."

The Spalding County Amateur Radio Club in Georgia is among those that have come up with plans to remotely administer amateur exams while complying with ARRL VEC testing standards during COVID-19 stay-home mandates and social distancing guidelines. Current systems leverage Zoom video-teleconferencing technology, the "Fill & Sign" feature of Adobe PDFs, reliable email, appropriate computer equipment and internet connection, and no volunteer examiners (VEs) present at individual remote test sites. The Georgia club collaborated and shared ideas with the Emergency Amateur Radio Club (EARC) in Hawaii, which has successfully conducted sessions since 2011 with its own remote testing system, initially with paper exams with a proctor on site and now with fillable PDFs, with no on-site proctor.

The Georgia club obtained ARRL VEC approval to administer video-supervised exams. "We have started with testing just one candidate at a time, but are planning to ramp up to multiple candidates -- probably two or three -- simultaneously," club member David Robinson, K4WVZ, told ARRL. "Before we do that, we want a few more single sessions under our belt and a few more Video VEs trained."

The club's procedures entail a pre-exam video interview with candidates to ensure they understand all the requirements and procedures. Following the exam, the VEs score the test and sign off on the paperwork, with the VE Team Leader submitting the application online and by mail, per ARRL VEC instructions.

New England Amateur Radio Inc (NE1AR), an affiliate of New England Sci-Tech, (NESciTech), has taken it one step further, Somma said. It got the approval of ARRL VEC to begin trials of what it describes as "completely online testing with strict rules and protocols for maintaining the integrity of the testing environment." NE1AR is limiting candidates to one exam per session, due to the current candidate backlog and the "difficulty of administering exams online." Candidates must agree to a list of protocols, which include a cell-phone camera scan of the entire room and exam area "to show that there are no materials or people [in the room] that could aid in taking the exam."

"We began a series of trials on April 1 under ARRL VEC review and have now been asked to help train more VE teams on the process," NE1AR President Bob Phinney, K5TEC, told ARRL. "We have now tested 12 applicants and are still working on streamlining the process. We are working with the software developer of the exam delivery system to help them adapt the system for video-supervised testing."

With pressure continuing to build to provide testing compatible with COVID-19 guidelines and stay-home orders, ARRL VEC Manager Maria Somma has asked the amateur radio community to be patient. "Please remember that with the introduction of significant new processes such as these, that there should be proof of concept, establishment of protocols and procedures, and beta testing, before expanding to a larger audience," she said this week. Somma said video-supervised exam sessions require a different skillset than in-person exam administration, and not all teams will be equipped to deliver video exams right away.

"ARRL is pleased to be one of the leaders in providing an opportunity, although limited initially, for video-supervised exams in this time of social distancing and isolation required by the current health situation," Somma said. Read more.

Hamvention QSO Party Set for Saturday, May 16

(Source: The ARRL Letter for April 9, 2020)

The Hamvention QSO Party, a sort of virtual Dayton Hamvention®, will take place on the HF bands on May 16, which would be the Saturday of the now-canceled event."Let's celebrate the many years we have all had at the Great Gathering we call Hamvention," said an announcement over the signatures of Tim Duffy, K3LR, and Michael Kalter, W8CI. "We also want to remember Ron Moorefield, W8ILC, who never missed a Hamvention and contributed to our club until his recent death. Let's light up the airwaves with our remembrances of Hamventions of the past! See you on the air!"

The Hamvention QSO Party will be a 12-hour event, from 1200 UTC until 2400 UTC on May 16. Operate CW or SSB on 160, 80, 40, 20, 15, and 10 meters, exchanging signal reports and the first year you attended Hamvention. If you have never attended Hamvention, send "2020."

Designated members of Hamvention's host, the Dayton Amateur Radio Association (DARA), will activate DARA's W8BI. Participants can add 10 points for each band/mode contact with W8BI (12 available).

Post scores (number of contacts) to 3830scores.com within 5 days of the event. An online certificate will be available to print. No logs will be collected.
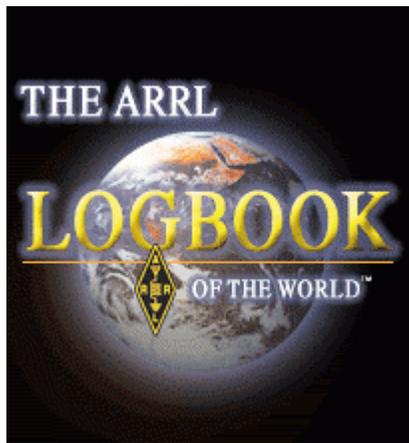
N1MM Logger+ has provided a user-defined contest module for the event. More information is on the N1MM Logger+ website.

Greater LoTW Database Accuracy is the Goal of *TQSL* Update(s)
(Source: The ARRL Letter for April 16, 2020)

The recently released *TQSL* version 2.5.2 application for uploading logs to Logbook of The World (LoTW) tightens requirements for data consistency, with the goal of improving the integrity of the LoTW database. Starting with *TQSL* version 2.5.2, discrepancies in submitted logs are now flagged, especially when it comes to the Amateur Data Interchange Format (ADIF) files frequently uploaded to LoTW. This has prompted questions and concerns, however, when the system fails to accept a user's uploaded contact or log.

ADIF exists precisely to help ensure the accuracy of "data interchange" among amateur radio applications -- different logging programs, for example. *TQSL* uses ADIF file data for cross-checks that help to keep inaccurate or incomplete information from contaminating the LoTW database, and that's where some user issues have arisen. For example, the OPERATOR field, which should be a call sign, sometimes shows up as a name. Occasionally, operators have reversed their ITU and CQ zones. Another issue is in the MY_STATE field, which should show a US Postal Service two-letter state abbreviation. Anything else is a problem.

"The value of the checks added to *TQSL* is that it lets operators know when the data they're handling in their computer-based logs is correct," said TQSL Developer Rick Murphy, K1MU. "It's important to make sure that when a ham submits a log to LoTW that the content of that log accurately captures the details."

Some help is on the way. Murphy will soon release *TQSL* version 2.5.3, which, among other things, skips over the OPERATOR field check. "We have found that some of the checking performed for TQSL 2.5.2 was incomplete in some cases -- for example, allowing incorrect zone information to pass, and overly strict in other cases -- for example, the STATION_OWNER tag," Murphy said. "We've made great strides in improving the way logs are checked to ensure that checking is more complete while not raising false alarms."

The problem is not always with the user. The initial implementation of cross-checks in *TQSL* 2.5.2 revealed that not all logging applications conform to the ADIF standard. *TQSL* 2.5.2 has offered support for operations from several locations, as well as the ability to detect uploads that contain incorrect location data.

"Operators have a right to insist that the logging applications they use conform to the standards agreed upon by the ADIF collective," said Greg Widin, K0GW, the chair of the ARRL LoTW Committee. "Those who find that their logger is out of conformance should demand an update." Read [more](#).

New Volunteer Monitor Program is Up and Running
(Source: The ARRL Letter for April 16, 2020)

After kicking off on January 1, the new [Volunteer Monitor Program](#) has ramped up to operational status. A "soft rollout" of the program began on February 1, designed to familiarize Volunteer Monitors (VMs) with issues on the bands and to put into practice what to report -- and what to ignore, based on their training. The VMs will not only be looking for operating discrepancies, but for examples of good operating. The VM program has, at least for the moment, put Riley Hollingsworth, K4ZDH, back in the center of amateur radio enforcement as the Volunteer Monitor Coordinator (VMC). He was brought aboard to get the program up and running, and ARRL will eventually take over the VMC function.

Hollingsworth is using a system called *VMTRAC* -- developed by a VM -- to measure the work of VMs and determine instances that qualify for good operator or discrepancy notices, referral to the FCC, or follow-up with FCC requests to the VM program. Hollingsworth reported that during March, the 165 active VMs logged upward of 2,300 hours of

monitoring on HF, and nearly 2,000 hours on VHF-UHF and other frequencies.

"I am extremely pleased with the number of hours devoted to monitoring this early in the program," Hollingsworth said. No stone is being left unturned. Two VMs constantly monitor FT8 watering holes and have developed programs that alert them if a licensee is operating outside of privileges accorded to that license class or if a license has expired. "We have 30 open cases, five of which are good operator cases," Hollingsworth said. "Regarding open cases relating to rule violations, none have yet had to be referred to the FCC." He said he's experimented with letters, telephone calls, or emails to the subjects of

discrepancy reports where they could be identified. While he's still waiting for replies to his written correspondence, he has received responses to his calls and emails, and the violations have either stopped or were explained. "They were violations such as expired licenses, Technicians operating on General frequencies, unauthorized use of a call sign, and deliberate interference," he said.

One case "being groomed for FCC referral," he said, involves long-standing interference to a repeater in the Philadelphia area by someone using an unauthorized call sign. Hollingsworth said he worked with net control operators of nets on 75 and 40 meters that had been suffering serious interference, and so far the solutions are working.

Riley Hollingsworth, K4ZDH.

"It is becoming apparent that if informal contact can be made by the VMC with a known offender, the problem can sometimes be stopped," Hollingsworth said. "We do not want to call upon the FCC unless absolutely necessary." Read more.

HAM RADIO in Friedrichshafen, Germany, Announces Cancellation of 2020 Show
(Source: The ARRL Letter for April 16, 2020)

The annual HAM RADIO show in Friedrichshafen, Germany, has decided to cancel its 2020 show due to the COVID-19 pandemic. According to the announcement, HAM RADIO acted in accordance with an April 15 decision by federal and state authorities that no major events are to take place until August 31. HAM RADIO 2020 was set for June 26 - 28. The event is Europe's major ham radio show, attracting some 15,000 visitors from around the world each summer, including a contingent from ARRL. This year's show would have been the 45th HAM RADIO.

"Our members, domestic and foreign guests, and we ourselves

have been hit hard by this decision, which now became necessary to make on short notice," said Deutscher Amateur Radio Club (DARC) President Christian Entsfellner, DL3MBG. "Until we get together again in Friedrichshafen, we as amateur radio operators are looking forward to keeping in contact with one another using amateur radio."

On the HAM RADIO website, exhibitors, including DARC, will offer a virtual show.

WORD TO THE WISE
(Source: The ARRL Contest Update for April 1, April 15, 2020)

Self-Amalgamating Tape

The generic term for silicone-rubber tapes that don't feel sticky to the touch, but are self-sticky. It's typically used by stretching and wrapping around cables, with overlap to form a continuous layer. The areas of overlap can fuse to form a seamless and waterproof layer.

VPN

"VPN" is an initialism for Virtual Private Network. It's a way for computers in different physical locations on different networks to be able to work as if they were all connected on the same local area network. For contesting purposes, a VPN can be used to connect computers running logging programs together for multi-single or multi-multi contesting.

OPERATING TIP
(Source: The ARRL Contest Update for April 1, April 15, 2020)

Review Contest Recordings

Obviously, your overall contest score is one measurement of how well you did in the contest. But improvement in your overall score can only happen if you know the components that went into the score, and how you perform versus your peers. By listening to recordings of your operating in a contest you can look for hints on how to improve for the future. In phone contests, using extra words like "You are my number" or "please copy" or unnecessarily repeating the other station's exchange is a cumulative rate killer. Also, use your Log Checking Reports (LCRs) to review the audio of busted QSOs - try to understand why the bust occurred, look for patterns (e.g. heard "Alpha" as "Delta" four times) to be wary of the next time. It can be cringe-inducing to listen to flubs, but that's part of the learning process.

75 Baud RTTY Configuration

Operating success starts with proper configuration. Check out AA5AU's website for Writelog tips on how to configure your messages, configure MMTTY and 2Tone settings for 75 baud. The *N1MM Logger+* website contains similar directions for MMTTY 75 baud setup.

Weekly Radio Network Meetings

Mon @ 20:00	**147.090**	**Seminole ARES Net – Except – First Monday of the month (146.460 Simplex)**
Tues @ 19:00	**145.350**	**Osceola ARES Net**
Tues @ 19:30	**147.195**	**Quarter Century Wireless Association**
Tues @ 20:00	**146.760**	**Wayne Nelson Trader's Net**
Wed @ 19:00	**147.300**	**Disney Emergency Amateur Radio Service**
Wed @ 21:00	**432.090**	**Florida Weak Signal Group**
Thur @ 19:00	**443.050**	**Orange County ARES Net**
Thur @ 20:30	**432.090**	**Florida Weak Signal Group**

OARC Meetings and Events 2020

May 13, Wednesday	**Virtual Meeting – YouTube Live**
June 3, Wednesday	**Meeting, 7:30pm at the Beardall Center**
June 27-28, Saturday and Sunday	**ARRL Field Day**
July 1, Wednesday	**Meeting, 7:30pm at the Beardall Center**
August 5, Wednesday	**Meeting, 7:30pm at the Beardall Center**
September 2, Wednesday	**Meeting, 7:30pm at the Beardall Center**
October 7, Wednesday	**Meeting, 7:30pm at the Beardall Center**
November 4, Wednesday	**Meeting, 7:30pm at the Beardall Center**
December 2, Wednesday	**No Club Meeting**
December 5, Saturday	**Christmas Party**

OARC Membership Application

Make Checks payable to:
    Orlando Amateur Radio Club

Orlando Amateur Radio Club, OARC
Post Office Box 574962
Orlando FL 32857

To have your membership card mailed to you, please include a SASE with your check.

Date: __/ __/20__   [ ] Regular Member [ ] Family Member [ ] Associate Member
                      [ ] New Membership   [ ] Renewal   [ ] CMP

Name: _____ Call _____ Class _____

Address: _____

City _____ State _____ Zip _____

E-mail Address (print) _____

(Home) Phone: _____ (Cell) Phone _____ Birth Month_____

Rates: Regular   [ ] 1 year $15.00 [ ] 3 years $40.00 [ ] 6 years $75.00

Rates: Family   [ ] 1 year $5.00 per family member Husband, Wife or Child under 18

Rates: Associate [ ] 1 year $15.00   Dues Total: _____

All Membership(s) will expire ONE year from date paid.

Other Club Affiliation:_____

Are you an ARRL Member: [ ] Yes   [ ] No

Name Badges: White letters on Black background with Gold embossed OARC logo.

[ ] Regular 3" x 1.5" @ $10.00 each

Name: _____ Call _____

All badges are to be picked up at the General meeting or add $2.00 for shipping & handling.

Shipping & Handling: [ ] Yes [ ] No

Badges _____ S&H _____ Total _____