First Ever Collegiate QSO Party

September 15th-16th Debut

ARRL's Collegiate Amateur Radio Initiative (CARI) will sponsor the first Collegiate QSO Party < http://www.gatorradio.org/collegiate.html > in mid-September, just as the fall semester gets under way. The new operating event is part of the larger effort to promote a renaissance of Amateur Radio clubs on college and university campuses.

"Discussion of this sort of event has come up in multiple forums at hamfests," the Milluzzi brothers — Andy, KK4LWR, and Tony, KD8RTT — told ARRL. "It gained more interest in the last couple of years and was a hot topic of debate at the ARRL Collegiate Amateur Radio Initiative Forum at Hamvention® this past May. The rules were formulated by current students, faculty, and alumni of collegiate clubs. We are excited to see things materialize and are happy to help organize the event."

The inaugural Collegiate QSO Party will begin on Saturday, September 15, at 0000 UTC and continue until Sunday, September 16, at 2359 UTC. Using phone, CW, or digital modes, participants will exchange call sign, college/university name, or abbreviation and mascot, and operating class
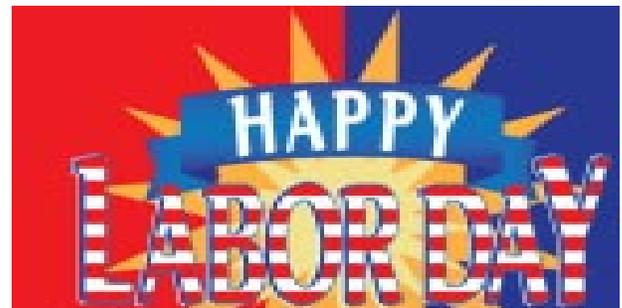
"Existing contests are great for club activity, but there is a critical need to get collegiate stations on the air early in the semester and drum up attention," Andy Milluzzi said. He said the ARRL School Club Roundup (SCR) has been popular with college students, but it's later in the semester, when college students are more deeply involved with their studies. The Society

cont'd col. 2

of Midwest Contesters also created the North American Collegiate Championship in conjunction with the North American QSO Party (NAQP) SSB event. Andy Milluzzi said the Collegiate QSO Party hopes to capitalize on the success of both events.

In a nutshell, the concept is an Amateur Radio operating event that focuses on collegiate Amateur Radio, with the goal of promoting student activity, alumni engagement, and community awareness. The contest is open to all radio amateurs, including school clubs from around the world, the Milluzzis said. There is no explicit bonus for DX and no US-specific awards. Points may be earned by individuals, clubs, and collegiate stations. New hams are welcome and collegiate clubs are encouraged to accommodate newcomers.

BREAK - OVER

ARES Activities
Weekly Net Monday 7 PM 146.535 mhz (s)
Breakfast Saturday, September 8th
Digital Monday, September 10th

ARES Nets

MN ARES Phone Net
        6:00PM Sunday   Freq: 3.860 mhz
ARRL MN Phone Net
     12:00p, 5:30p CST Daily   Freq: 3.860 mhz
ARRL MN CW Net
     6:30p, 9:50p CST Daily   Freq: 3.568 mhz

NETS WITH OUR NEIGHBORS

North Dakota:	Daily 3.937 mhz	6:30pm
South Dakota:	Daily 3.860 mhz	6:00pm
Wisconsin:	Daily 3.985 mhz	5:30pm
Iowa:	Daily 3.970 mhz	12:30/5:30pm

Dakota Division Appointments

Advisory Com. and Asst. Dir. Appointments

ARRL Dakota Division Director Matt Holden, K0BBC, announced the following volunteers that have agreed to assist Vice Director Nelson and himself within the Dakota Division:
- Dr. Scott Wright, KØMD, has accepted the position to represent the Dakota Division on the Contest Advisory Committee. He is the Editor of the National Contest Journal.
- Ron Dohmen, NØAT, continues to represent the Dakota Division on the DX Advisory Committee. He serves as a CQ Awards Checkpoint (card checker).

I have appointed four Dakota Division Assistant Directors:
- Joe Heitzinger, KCØOIO, President, Stillwater Amateur Radio Association
- Bill Mitchell, AEØEE, President, Bloomington Amateur Radio Association
- Kent Olson, KAØLDG, Previous Dakota Division Director, Dakota Division Vice Director and North Dakota Section Manager.
- Doug Nelson, AAØAW, Minnesota Northeast ARES District Emergency Coordinator

Director Holden expressed his gratitude to these gentlemen for their service to the ARRL Dakota Division. Their term ends the same day as the Director, and Vice Director Nelson's term, on December 31, 2020.

BREAK - OVER

Q: Can a kangaroo jump higher than the Empire State Building?

Scott County ARES Contacts

Emergency Coordinator
Bob Reid N0BHC
13600 Princeton Circle
Savage, MN 55378
952-894-5178
N0BHC@arrl.net

Asst Emergency Coordinator
Chad Palm KD0UWZ
Chaska, MN
KD0UWZ at scottares.org

Test Your NIMS Knowledge

This month we begin our review of ICS-700, An Introduction to National Incident Management System. This corse is designed to enable personnel to operate efficiently during an incident or event within the Incident Command System (ICS). ICS-700 provides an overview of the NIMS structure.
Check your recall of the course material with this question.

1. The National Response Framework (NRF) presents the guiding principles that:
 A. Are singly focused on improving Federal homeland security agencies' response to catastrophic natural hazards and terrorist-related incidents.
 B. Supersede the National Incident Management System's framework when Federal agency and departments are assisting in a response.
 C. Provide the structure and mechanisms to ensure effective Federal support of State, tribal, and local related activities.
 D. Mandate specific operational plans for local responders to use when managing a wide range of incidents.

Check next month's ARES Communicator for the solution

July NIMS Knowledge Solution

1. A basic premise of the NIMS and National Response Framework (NRF) is that:
 A. Incidents should be managed at the lowest jurisdictional level possible.

NBEMS Current Versions

The current version of the Fldigi manual is available at NBEMS Info page at www.scottares.org. Look under the 'Help Sheets' heading.

Now is a good time to check to your digital software to make sure you are running the newest versions. You can find the most recent versions posted at both: www.w1hkj.com/ and www.scottares.org/NBEMS.htm

Here are the most recent releases as of Aug. 23 2018.

Software	Version
Fldigi	4.0.18
Flwrap	1.3.4
Flmsg	4.0.6
Flamp	2.2.03

The Monday evening training net is a great place to have your digi questions answered and problems solved! Join the Scott ARES group on 146.535 mHz simplex at 7:00pm on Monday evenings.

AREDN Project Update

ARRL Letter

The Amateur Radio Emergency Data Network (AREDN) Project team has made noteworthy progress in utilizing the amateur radio microwave bands including: Extending the high-speed multimedia AREDN network capabilities from solely the 2.4 GHz Wi-Fi band to 900 MHz, 3 GHz and 5.8 GHz. On the 2.4 GHz band, the range was extended to include two channels on amateur radio frequencies below the Wi-Fi channels, thus improving SNR and throughput.

AREDN < www.arednmesh.org/ >has formed a non-profit corporation to ensure continuity: The project saw the need for more formal governance and as a result, took the strategic step of organizing as a non-profit corporation. This will help protect the user-community investments in mesh networking by setting up the framework for long-term resource management, research, and development, the group said in a news release.

"Our mission is still focused on providing the Amateur Radio community with software, education, and support to enable them to aid public safety, emergency response and disaster relief agencies with high-speed multimedia data networks," the release reported.

The release noted "Continuing to rely on the financial support of a few individuals is not a sustainable means of supporting the project. Without more widespread support, the community's growing investment in network equipment and relationships with served agencies is at risk. We expect to obtain contributions primarily from the ham community. We plan to use these funds to cover operating expenses such as web site hosting, setup a test and validation lab, obtain associated test equipment, and address the costs of promoting the project through various marketing channels. We plan to consider grants to fund worthy implementations of AREDN infrastructure as our resources may allow."

All AREDN source code has been moved to GitHub< github.com/aredn/aredn_ar71xx >. GitHub is one of the largest open source code repository services with over 40 million users.

Anyone with basic knowledge of Linux and Git can now contribute changes and compile AREDN images through an automated build process. If you have a background in application or firmware development, the hurdle to contribute is now substantially lower.

The move to GitHub helps the project stay aligned with the current version of OpenWRT < openwrt.org/ >. This is the basis for AREDN firmware and is supported by over one thousand developers worldwide. These developers release a steady stream of advancements and fixes. Contributors may now focus on those features that make the AREDN product unique and pertinent to the ham community. Those amateurs interested in contributing can become familiar with the GitHub workflow and submit pull requests. Regular code contributors may take part in periodic developer conference calls.

AREDN Corporation

Amateur Radio Emergency Data Network, Inc. is a New Jersey non-profit corporation supporting the AREDN open-source software development project. The project writes and promotes the development of firmware for repurposing Wireless Internet Service Provider (WISP) devices for use by licensed radio amateurs. These repurposed devices - referred to as "AREDN Nodes" - are deployable by radio amateurs to automatically interoperate and form a high-speed data network. This network is highly useful to emergency responders and disaster relief agencies during times of local and regional disasters. See the AREDN website for further information and software.

BREAK - OVER

"If the magic smoke has not been released there is not a lot wrong, and you have to be doing something right."

A. Nony Moose

Weekly ARES Net
7 PM Monday Evening
146.535 simplex
Scott ARES Training Net

Illegal Imports

FCC Cites Out Of Band Operation

The FCC has issued a *Citation and Order* to Amcrest Industries, LLC (formerly Foscam Digital Technologies, LLC), an importer and marketer of popular and inexpensive Baofeng hand-held transceivers, alleging that the company violated FCC rules and the Communications Act by illegally marketing unauthorized RF devices. The FCC asserts that Amcrest marketed Baofeng model UV-5R-series FM hand-held radios capable of transmitting on "restricted frequencies." The Baofeng models UV-5R and UV-5R V2+ were granted an FCC equipment authorization in 2012 to operate under Part 90 Private Land Mobile Radio Service (Land Mobile) rules.

"Under § 2.803 of the Commission's rules, an entity may not market a device that is capable of operating outside the scope of its equipment authorization," the FCC *Citation* said. "RF devices that have been authorized under Part 90 rules, such as the model as issue, must operate within the technical parameters established in those rules." The FCC also maintained that the UV-5R 2+ is capable of operating at 1 W or 4 W, while the Part 90 Equipment Authorization limits the power output to 1.78 W.

Amcrest conceded that the units were capable of operating on restricted frequencies but told the FCC that, per discussions with the manufacturer, were "only capable of operating at 1 W, the FCC said. The company instructed the manufacturer to fix the problem and later confirmed with the manufacturer that all Amcrest inventory on order and in the future would operate only on 145 – 155 MHz and 400 – 520 MHz.

While the *Citation* does not mention Amateur Radio, the UV-5R series radios can be programmed in a channelized configuration to function on 2-meters and 70-centimeters. According to the *Citation*, Amcrest had added a warning in its user manuals and marketing and sales materials implying that the UV-5R V2+ could operate on unauthorized and restricted frequencies, including Part 87 Aviation Services frequencies, Part 80 Maritime Services frequencies, and frequencies reserved for federal government use. The FCC said Part 90 radios that permit the operator to use external controls to program and transmit on frequencies other than those programmed by the manufacturer are "generally prohibited."

First Thursday Net

Metro District Hospital Net

The Metro District ARES Hospiital net is held on the first Thursday of each month. The purpose of the net is to provide an opportunity to exercise Dual-band xcvrs installed at hospitals and clinics in the metro area. The net is open to all amateur radio ops and provides the opportunity to participate in a directed net and practice directed net procedures.

Everyone is welcome!

- First Thursday of each month
- 12:30PM (lunch time)
- 146.700 - (PL118.8)

Amcrest told the FCC that it had ceased marketing four models in the Baofeng UV-5R series "a few years ago," but it did not remove them from its website until last February. Numerous online retailers continue selling UV-5R series radios for less than $25, with some ads indicating that these are "ham" equipment.

Amcrest Industries, LLC, which owns and operates Baofengradio US, is an import, distribution, and marketing company based in Houston, Texas. It also sells hand-held transceivers under its own label.

"While we recognize Amcrest's efforts to date to achieve compliance with the Commission's rules, the company must nonetheless ensure the version of the UV-5R V2+ it is marketing operates only on frequencies specified in its Equipment Authorization," the FCC said in its *Citation*. The FCC directed Amcrest "to take immediate steps to come into compliance with the Commission's equipment authorization rules and cease marketing unauthorized RF devices in the United States." Amcrest could face fines of nearly $20,000 per day if it fails to comply.

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"O O" Program to be Retired

ARRL Letter

The ARRL Board of Directors has adopted the recommendations of the Official Observer Program Study Committee, which would retire the Official Observer (OO) program and institute the Volunteer Monitoring (VM) program. The Board took the action at its July 20 – 21 meeting in Windsor, Connecticut, instructing that the transition "be implemented as soon as practicable." Under the terms of the new program, current Official Observers will be invited to apply for appointment as Volunteer Monitors (VMs). The Board expressed its appreciation for the OOs and their dedicated volunteer service over the years.

The Board said the action is expected to re-energize enforcement efforts in the Amateur Radio bands and was undertaken at the request of the FCC in the wake of several FCC regional office closures and a reduction in field staff. Coordination of cases and evidence gathering would become the responsibility of ARRL Headquarters staff, while the FCC will retain the responsibility for final decisions regarding action in specific cases.

The study committee report spelled out the additional steps necessary to launch the Volunteer Monitoring program. Among them would be the appointment of a dedicated Headquarters staff member or an independent contractor working under the direction of ARRL Headquarters to administer the new program and interface with its participants. The Volunteer Monitoring program administrator would, among other duties, create a vetting and accreditation process for prospective Volunteer Monitors. The authority to accredit, appoint, and dismiss Volunteer Monitors would be assigned to ARRL Headquarters staff. Section Managers will continue to be a part of the vetting process for VMs, although they will not have appointment or dismissal authority.

Volunteer Monitor accreditation would be limited to a 3-year term, renewable by satisfying requirements necessary to ensure competency. A new *Volunteer Monitoring Training Manual* is in the final stages of development.

The administrator will create a target for the number of geographically distributed Volunteer Monitors. Preliminary plans would include up to five Volunteer Monitors per ARRL Section and up to 250 Volunteer Monitors overall.

In other duties, the administrator would "develop a rubric or other aid for program participants to highlight offenses and other criteria that the FCC considers a priority," the motion said.

Surf's Up!

Surfing the web for interesting topics related to radio, building, computing, and anything else interesting along the way

Receiving ISS with RTL-SDR

www.rtl-sdr.com/video-tutorial-on-receiving-iss-astronaut-amateur-radio-conversations-with-rtl-sdr

If you live in an area that can 'see' the ISS at the same time as the school then you can easily pick up the downlink (astronaut to ground) portion of the conversation while the ISS passes over. The downlink signal is fairly strong, so only a simple antenna is required. In his video Crazy Danish Hacker uses a telescopic whip attached directly to his RTL-SDR which is placed outside with a view of the sky.

Developments in the Art of Receiver Technology

www.analog.com/en/analog-dialogue/articles/a-selected-history-on-receiver-innovations-over-the-last-100-years.html

This article shows the development of radio technology from its beginning, to the superheterodyne receivers, and nowadays, to software-defined radios (SDRs). Check out the 'Portable Radio' model.

Homebrew SWR Bridge

http://www.na0tc.org/lib/exe/fetch.php?media=technical:homebrew_swr_meter.pdf

Great background on theory and measurement of SWR. Practical SWR shut-down application.

People who buy things

https://www.youtube.com/watch?v=V64BDBfsIK4&feature=youtu.be

Click, view, you decide! Then chuckle a little.

Thinking WAAAAYYYYY outside the box!

http://www.mymorninglight.org/ham/insaneBTN.htm

THIS THING is an AM TRANSMITTER! Believe it or not... as God is my witness, this thing is a WORKING, x-tal stable, flea-power, AM Transmitter!

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The administrator also would be charged with organizing periodic webinars, highlighting technologies, techniques, and other continuing education topics that would assist, motivate, and better enable Volunteer Monitors. The FCC will be actively involved in the development and presentation of these training opportunities.

The new Volunteer Monitor program would continue to send notices recognizing good on-the-air operating practice. Under the new program, positive or negative operator notices eventually would be sent from ARRL Headquarters, not by individual Volunteer Monitors, in part to maintain their anonymity.

BREAK - OVER

ARES Plan Input Needed

Following up on an ARRL Board of Directors directive at its July meeting, the Public Service Enhancement Working Group (PSEWG) has contacted all ARRL Section Managers (SMs) and Section Emergency Coordinators (SECs) seeking comments and suggestions regarding the proposed *ARES Strategic Plan*, <www.arrl.org/files/file/Media & PR/ARES/ARES Strategic Plan - final - PSC.pdf >via an online form. The deadline is October 31, in order to give the PSEWG sufficient time to review the comments and suggestions, formulate any necessary revisions, and submit the revised document to the Board for consideration at its January meeting.

Created in 1935, ARES has undergone very few changes over the years, while the agencies ARES serves have undergone many. The PSEWG evaluated the ARES program for 2 years and drafted several proposed enhancements aimed at updating the program.

The *ARES Strategic Plan* introduces changes and a platform for future growth. For many, this will represent a major paradigm shift; for others, it will formalize many of the requirements they have employed routinely for several years.

An independent team of individuals experienced in ARES and emergency work from across the US has reviewed the proposed plan. Their suggestions and recommendations were carefully considered, and many were included in the plan during its development.

Now, the ARRL Board wants SMs and SECs to have the opportunity to offer comments on the recommended changes prior to implementation of the plan. While SMs and SECs are invited to reach out to their Emergency Coordinators (ECs) for their thoughts and feedback, formal responses must be submitted through SMs and SECs.

The PSEWG asks SMs an SECs to keep their comments respectful, concise, and on point, and to keep in mind that the ARES framework must remain as close to universal as possible, even while participants in some geographical areas may require specific training that others do not need. Mutual aid pacts may require training specific to adjacent jurisdictions.

Also, SMs and SECs are reminded that specific agency agreements and needs must be honored. Those having concerns about a proposed new policy are requested to offer alternatives.

BREAK - OVER

Take a Dip in the General Pool

Time to test your knowledge of the information covered by the General Class license exam. Each month we'll take a look at a selection from the question pool.

Strap on your thinking cap and see what you can recall. Here is this month's sample:

1. How should the winding axes of solenoid inductors be placed to minimize their mutual inductance?
  A. In line
  B. Parallel to each other
  C. At right angles
  D. Interleaved

2. What is the peak-inverse-voltage rating of a rectifier?
  A. The maximum voltage the rectifier will handle in the conducting direction
  B. 1.4 times the AC frequency
  C. The maximum voltage the rectifier will handle in the non-conducting direction
  D. 2.8 times the AC frequency

3. When two or more diodes are connected in parallel to increase current handling capacity, what is the purpose of the resistor connected in series with each diode?
  A. To ensure the thermal stability of the power supply
  B. To regulate the power supply output voltage
  C. To ensure that one diode doesn't carry most of the current
  D. To act as an inductor

(Check next month's issue of the ARES Communicator for the answer.)

BREAK - OVER

Of course! The Empire State building can't jump!

July General Pool Answers

1. What is the output PEP of an unmodulated carrier if an average reading wattmeter connected to the transmitter output indicates 1060 watts?
B. 1060 watts

2. What is the RMS voltage across a 500-turn secondary winding in a transformer if the 2250-turn primary is connected to 120 VAC?
C. 26.7 volts

3. What is a common name for an inductor used to help smooth the DC output from the rectifier in a conventional power supply?
D. Filter choke

BREAK - OVER

Amateur Radio License Exam

Want to become a ham? Want to upgrade your license? You can find information and resources to success in ham radio at this page: http://www.scottares.org/License Info.htm
If you want to ask questions or find a local Elmer (Mentor) just drop an email to: newhaminfo@scottares.org

The hams in Scott ARES gather for breakfast the first Saturday of the month at the Perkins Restaurant in Savage. Bring you ham radio questions and talk to local amateur radio operators.

Now that you have done the work to study for your up-grade, here is where to find a convenient exam session near you. There is a VE exam search engine at: http://www.arrl.org/exam_sessions/search

Walk-ins allowed at most sessions however it is always best to check the details at the specific session you are planning to attend. Below is a list of scheduled sessions close to Scott County. Good Luck!

September 12, 2018 Wednesday 7:00 PM
Sponsor: VARC
James C. Rice (612) 384-7709
Email: jrice@danpatch.org
Location: Perkins Restaurant & Bakery
17387 Kenyon Avenue
Lakeville MN 55044-4459
Walk-ins allowed, Pre-reg requested

September 15, 2018 Saturday 9:00 AM
Sponsor: SEMARC
Daniel M. Franz (651) 769-0358
Email: wd0gup@hotmail.com
Location: Zion Lutheran Church
8500 Hillside Trail South
Cottage Grove MN 55016
Walk-ins allowed, Pre-reg requested

September 22, 2018 Saturday 8:45 AM
Sponsor: Bloomington Off/Emergency Mgmt
Daniel J. Royer (952) 888-9756
Email: dandroyer@gmail.com
www.Bloomington-VE.org
Location: City Hall-Police Department
1800 W Old Shakopee Rd
Bloomington MN 55431

October 10, 2018 Wednesday 7:00 PM
Sponsor: VARC
James C. Rice (612) 384-7709
Email: jrice@danpatch.org
Location: Perkins Restaurant & Bakery
17387 Kenyon Avenue
Lakeville MN 55044-4459
Walk-ins allowed, Pre-reg requested

October 20, 2018 Saturday 9:00 AM
Sponsor: SEMARC
Daniel M. Franz (651) 769-0358
Email: wd0gup@hotmail.com
Location: Zion Lutheran Church
8500 Hillside Trail South
Cottage Grove MN 55016
Walk-ins allowed, Pre-reg requested

BREAK - OVER

Monday Evening 7PM

The Scott ARES net meets every Monday evening at 7:00 PM either on 146.535 simplex or on the first Monday of the month the WB0RMK repeater 147.165 (PL 107.2).

The net is in a directed net format and provides the opportunity to practice working in an emergency net style.

There is help available in setting up and using NBEMS digital messaging software and generally a weekly digital message for practice.

Everyone is welcome to check in and contribute two cents worth!

ARES Breakfast
Saturday
September 8th 2018
7:30AM
**Hy-Vee Market Grille,
6150 Egan Dr, Savage, MN**

NECOS Schedule September 2018

The first Monday or the month the net is held on the WB0RMK repeater, Carver. You will find WB0RMK here: 147.165/765 PL 107.2

Date   NECOS_____
September 2018
Sep   3rd WA0DGW John- First Mon. Net
Sep 10th KD0UWZ Chad
Sep 17th N0BHC Bob
Sep 24th WA0DGW John
October 2018
Oct 1st KD0UWZ Chad- First Mon. Net
Oct 8th N0BHC Bob