

ZERO BEAT

Southeastern Massachusetts Amateur Radio Association, Inc. 54 Donald Street South Dartmouth, MA 02748



Since 1932

Volume 50 Issue 6

SEMARA-W1AEC

June 2014

2014 ARRL Field D

Field Day 2014 Rules

Field Day begins at 1800 UTC Saturday and ends at 2100 UTC Sunday on June 28-29, 2014.

Field Day is open to all amateurs in the areas covered by the ARRL/RAC Field Organizations and countries within IARU Region 2. DX stations residing in other regions may be contacted for credit. Work as many stations as possible on any and all amateur bands (excluding the 60, 30, 17, and 12-meter bands) and in doing so to learn to operate in abnormal situations in less than optimal conditions. A premium is placed on developing skills to meet the challenges of emergency preparedness as well as to acquaint the general public with the capabilities of Amateur Radio.

Class A stations that do not begin setting up until 1800 UTC on Saturday may operate the entire 27-hour Field Day period. Stations who begin setting up before 1800 UTC Saturday may work only 24 consecutive hours, commencing when on-the-air operations begin. No class A station may begin its set-up earlier than 0000 UTC on the Friday (Thursday afternoon or evening local time) preceding the Field Day period. Cumulative set-up time shall not exceed a total of 24 hours.

(Class A) Club or a non-club group of three or more persons set up specifically for Field Day. Such stations

must be located in places that are not regular station locations and must not use facilities installed for permanent station use, or use any structure installed permanently for Field Day. A single licensee or trustee for the entry is responsible for the group entry. All equipment (including antennas) must lie within a circle whose diameter does not exceed 300 meters (1000 feet). To be listed as Class A, all contacts must be made with transmitter(s) and receiver(s) operating independent of commercial power mains.

ters may also operate one additional station without changing its base entry category, known as the GET-ON -THE-AIR (GOTA) station. This station must use a different callsign from the *primary Field Day station.* The GOTA station must use the same callsign for the duration of the event regardless if operators change. The GOTA station may be operated by any person

Get-On-The-Air (GOTA) Station. Any Class A entry

whose transmitter classification is two or more transmit-

licensed since the previous year's Field Day, regardless of license class. It may also be operated by a generally inactive licensee. Non-licensed persons may participate under the direct supervision of an appropriate control operator. A list of operators and participants must be included on the required summary sheet.

This station must have a valid control operator present at the control point if operating beyond the license privileges of the participant using the station.

The maximum transmitter output power for the GOTA station shall be 150 Watts. If the primary Field Day group is claiming the QRP multiplier level of 5, the maximum transmitter output power of the GOTA station may not exceed 5 Watts.

A maximum of 500 OSOs made by this station may be

claimed for credit by its primary Field Day operation. In addition, bonus points may be earned by this station.

The GOTA station may operate on any Field Day band. Only one transmitted signal is allowed from the GOTA station at any time.

The GOTA station does not affect the additional VHF/UHF station.

Participants are reminded that nonlicensed participants working under the direction of a valid control



(Continued on page 5)

ZERO BEAT

Published online monthly ©2014 Southeastern Massachusetts Amateur Radio Association, Inc. 54 Donald Street South Dartmouth, MA 02748 508-997-7070

EDITOR: Bob Kelley—K1KVV
E-mail: editor [at] semara [dot] org
SEMARA: http://semara.org
E-mail: w1aec [at] semara [dot] org

2013 SEMARA OFFICERS

President
Marcel Dumont—W1MLD
Vice President
Joe Krisnowsky—N1IXC

Secretary
Marc Dumont—KB1ODE

Treasurer
Mike McDonald—KB1NB

CONTROL OF THE PROPERTY OF T

Dave Dean—K1JGV Jean Pierre Chiron,—AG1Y Martin G. Jordan—KA1YFV

Trustees: (year term is up)
Louis Mester—W1CH (2014) (ch)
Joe Krisnowsky—N1IXC (2015)
Dick Halliwell—K1AHA (2016)
Brad Paiva—W1BEP (2017)
Martin G. Jordan—KA1YFV (2018)

STANDING COMMITTEES
Building and Grounds
Marty Jordan—KA1YFV
Anthony Lessa—KB1UAM

Scholarship
Sonny Eddleston—K1USW – chair
Chuck Moszczenski—KB1FRL
Alan Dulong—WB1FQP
Joe Krisnowsky—N1IXC

Technical-Repeater-Web VACANT —Technical (chair): Rick Cabral—W1RJC: Repeater Rick Cabral—W1RJC: Web

SPECIAL COMMITTEES

Activities VACANT

ARES/SKYWARN/RACES(ACS) Ed Caron—KA1RSY

> QSL Manager John Nery—WA1ESO

Radio Events Bob Kelley—K1KVV

Tech Talk Richard Orluk—K1XRN

It seems to me... de Bob - K1KVV, Editor



that June is a transition month. Here's an Email that shows sometimes amateur radio is discussed at the Sunday morning rag chew.

Hi Bob.....

Here is a subject that seems to be gaining momentum and perhaps a bit of confusion as well. I'm sure this will make a good topic for **Zero-Beat**.

Over coffee and on the air the sloper's characteristics seem to be food for thought. After doing an extensive poll, the ranks seem to be split 50-50 on the answer to a simple question.

"Which way should a sloper be tilted in order to orient it in your preferred direction for best reception or transmit performance?"

Here are some answers I have received:

- depends on whether it is loaded at the top or bottom. Say what?
- tilt the foot out for the preferred directivity of the wire (ecause this gives the best lobe in the preferred direction for skip). Most all have read that somewhere, but cannot show printed proof of it, including me.
- tilt the top out for the preferred directivity of the wire (because slopers are like verticals with a high angle of radiation, thereby transmitting or receiving best off the end) Sorta like firing a gun. Hmmmmm
- it makes little difference. That one gets me. If that is the case, then what is the purpose of a sloper?
- depends on the length of the transmission line. Another say what?
- it is really a tilted dipole, so will exhibit characteristics of both dipoles and verticals. Another Hmmmmm.

~Dave-K1JGV

So what is the answer? Are you talking about a top or bottom fed $\frac{1}{4}\lambda$ sloper or a center fed $\frac{1}{2}\lambda$ sloper?

You are correct about a sloper being a combination of vertical and horizontal components. You can superimpose the antenna patterns of a verticxal and that of a horizontal dipole. In free space where you place the foot does not matter. An ideal ground reflects a mirror-image sloper. For real grounds, the mirror-image sloper has ground loses that are height dependent. ??? What does that suggest to you ??? [Ed.]

Volunteers are welcome to participate at the CF Cycle for Life bicycle tour being held at *Carolyn's Sakonnet Vineyards, in Little Compton, RI*. The date is **September 27, 2014**.

Radio operators and other volunteer types are needed. (Spouses are certainly welcome to volunteer as well.

John-WA1ESO waleso [at] juno [dot] com 401-624-4576

POINT TO PONDER

"No sun outlasts its sunset but will rise again and bring the dawn."

~Maya Angelou, 1928-2014

Official Meeting Minutes



May 1, 2014

The meeting was called to order at 7:05 PM by the **President, Marcel (W1MLD)** with salute to the flag. The roll was called with 26 members and 2 guests present.

SECRETARY'S REPORT

A motion was made, seconded and unanimously voted to dispense reading the Secretary's Report and accept as posted on the board and in **Zero Beat**.

TREASURER'S REPORT

The **Treasurer, Mike (KB1NB)** reported income of \$6,112.00, expenses of approximately \$2,100.00 with a net worth of approx. \$69,865.00. Netcom owes approx. \$17,500.00. A motion was made, seconded and unanimously approved to refer the report to audit.

STANDING COMMITTEES

Scholarship

Sonny (K1USW) introduced the 2014 scholarship winner. The scholarship was awarded at the meeting to Drew Tisdelle, a student at Dartmouth High School, who will be entering Worcester Polytechnic Institute in the fall studying Interactive Media and Game Design. Mr. Tisdelle was accompanied by his mother, Tammy, and read his winning essay.

SPECIAL COMMITTEES

ARES, RACES, SKYWARN

Joe (N1IXC) reminded members of the ARES net the following Monday, as well as the SKYWARN class to be held at SEMARA on Saturday May 11 at 10:00.

Radio Events

Bob (K1KVV) mentioned several events including the New England QSO Party, Kid's Day, Field Day, Armed Forces Communication Event and 13 Colonies Event.

RATIFICATION OF NEW MEMBERS

An application for Life Membership was received from **James Hurwitz (W1FMG)**. A motion was made, seconded and unanimously voted to accept James as a life member.

OLD BUSINESS

The **President, Marcel (W1MLD)** reported that he received two quotes for design of the new building addition. The first quote, from *Southcoast Architecture* offered plans and job oversight for \$3250.00. The

second quote, from *Michael Walker Design and Builder, LLC* offered plans for \$500.00. After discussion a motion was made to authorize the President to accept the bid from **Michael Walker Design and Builder** to design the foundation, handicap entry and miscellaneous necessities to tie in with the existing structure, for an amount not to exceed \$500.00. The motion was seconded and unanimously approved.

The President also reported prices for keyless entry systems for the building. Prices for systems range from \$1000.00 for computer controlled systems to \$700.00 for self-contained systems. Another system from All Security for self—contained system was approximately \$1700.00. After discussion it was decided to continue researching the issue.

NEW BUSINESS

Joe K (N1IXC) made a motion, on behalf of the *Cystic Fibrosis Bike Race*, to use of the 147.00 repeater on September 27, 2014 between 9:00 PM to 5:00 PM. The motion was seconded and unanimously approved.

FOR THE GOOD OF THE CLUB

Joe (KC1BGF) donated the plans to the club of a J-pole mount he made.

NOMINATIONS AND VOTING

Nominations were opened for one position of Director, originally opened at the last meeting by a vacancy. No additional nominations were made in addition to the one nomination during the last meeting for Marty Jordan (KA1YFV). A motion was made, seconded and unanimously approved to close nominations. A motion was then made, seconded and unanimously voted to have the Secretary cast one vote for **Marty Jordan (KA1YFV)** as Director.

ADJOURN

A motion was made, seconded and unanimously voted to adjourn the meeting at 7:57 PM

Respectfully submitted,

Marc M. Dumont (KB1ODE), Secretary



Tidbits





RATIFICATION - NEW MEMBER

At the May 1st Business Meeting, an application for Life Membership was received from

James Hurwitz (W1FMG).

A motion was made, seconded and unanimously voted to accept James as a life member.

Welcome to the club,!

LOCAL NETS

Everyone is welcome to check in!

147.000+ (PL 67.0 Hz) (FM) — Massachusetts RACES/ACS Drill (Region 2, Sector A) is held on the first Monday of the month at 7:30 PM.

50.200 MHz (FM) — Net is held Wednesdays at 8:30 PM. Net control is Brad, W1BEP (E. Freetown).

28.490 MHz (USB) — Net is held Tuesdays at 8:30 PM. **Net control** is **Dick, K1AHA** (N. Dartmouth).

1875 kHz (LSB) Net is held Fridays at 7 PM. Net control is Dave, K1JGV (N. Dartmouth).

If QRN is too high, look for them on **50.200 MHz** (USB)

NEXT VE SESSION @ SEMARA



June 7, 2014 Clubhouse @ 10:30 AM Contact: Fred Bacon-N1TF exams [at] semara [dot] org

508-748-0047

Successful candidates may be eligible for a 'free' SEMARA *Baofeng UV-5B HT*.



GPS Coordinates:

Lat. N 41° 36.795' Long. W 070° 56.550'

Maidenhead Grid Coordinates: FN41mo

— o —

For FISTS Sprints: FISTS #10555

LOCAL REPEATER DIRECTORIES

See http://www.nerepeaters.com/se.htm

144 (http://www.nerepeaters.com/2m.htm)

222 (http://www.nerepeaters.com/222.htm)

440 (http://www.nerepeaters.com/440.htm)

902 (http://www.nerepeaters.com/902.htm)

50/50 RAFFLE



The May 50/50 raffle prize of \$32.50 was won by David (KD1YZ).



CLUB ACTIVITIES

BUSINESS MEETING

First THURSDAY of the month @ 7 PM

Sunday RAGCHEW @ 7-10 AM

Thursday COFFEE CROWD

Dunkin Donuts - Dartmouth & Garfield Dartmouth @ 1 PM

Friday LUNCH BUNCH

Leave for LUNCH @ 12 noon
Gather @ clubhouse before 12 noon

Call on the repeater, or phone the club: 508-997-7070, if you are coming



(Continued from FD Rules, page 1) operator may only communicate with other W/VE stations or with stations in countries with which the US has entered a third-party agreement.

The GOTA station does not qualify as an additional transmitter when determining the number of transmitters eligible for the 100point emergency power bonus.

Free VHF Station All Class A entries may also operate one additional transmitter if it operates exclusively on any band or combination of bands above 50 MHz (VHF/UHF) without changing its basic entry classification. This station does not qualify for a 100point bonus as an additional transmitter. This station may be operated for the clubs Field Day period and all contacts count for OSO credit. It is operated using the primary callsign and exchange of the main Field Day group and is separate and distinct from the GOTA station.

Field Day entries are classified according to the maximum number of simultaneously transmitted signals, followed by a designator indicating the nature of their individual or group participation. The minimum number of transmitters that must be claimed is one (1). the maximum is twenty (20) transmitters for the purpose of calculating bonus points (2,000 points maximum).

Stations in ARRL / RAC sections exchange their Field Day operating Class and ARRL / RAC section.

All stations for a single entry must be operated under one callsign, except when a dedicated GOTA station is operated.

Scores are based on the total number of QSO points times the power multiplier plus the bonus points. Phone contacts count one (1) point each; CW contacts count two

(2) points each; and Digital contacts claim the points. count two (2) points each.

The power multiplier that applies is determined by the highest power output of any of the transmitters used during the Field Day operation. If all contacts are made using a power of 5 Watts or less and if a power source other than commercial mains or motor-driven generator is used (batteries, solar cells, waterdriven generator), the power multiplier is 5 (five); all contacts are made using a power of 5 Watts or less, but the power source is from a commercial main or from a motordriven generator, the power multiplier is 2 (two); if batteries are charged during the Field Day period using commercial mains or a motordriven generator the power multiplier is 2 (two); if any contacts are made using an output power up to 150 Watts or less, the power multiplier is 2 (two); if any contacts are made using an output power greater than 150 Watts, the power multiplier is 1 (one). The power multiplier for an entry is determined by the maximum output power used by any transmitter used to complete any contact during the event.

100% Emergency Power 100 points per transmitter classification if all contacts are made only using an emergency power source up to a total of 20 transmitters (maximum 2,000 points.) GOTA station and free VHF Station do not qualify for bonus point credit and should not be included in the club's transmitter total. All transmitting equipment at the site must operate from a power source completely independent of the commercial power mains to qualify.

Media Publicity: 100 bonus points may be earned for attempting to obtain publicity from the local media. A copy of the press release, or a copy of the actual media publicity received (newspaper article, etc.) must be submitted to

Public Location 100 bonus points for physically locating the Field Day operation in a public place (i.e. shopping center, park, school campus, etc).

Public Information Table 100 bonus points for a Public Information Table at the Field Day site. The purpose is to make appropriate handouts and information available to the visiting public at the site. A copy of a visitor's log, copies of club handouts or photos is sufficient evidence for claiming this bonus.

Message Origination to Section Manager 100 bonus points for origination of a National Traffic System (NTS) style formal message to the ARRL Section Manager or Section Emergency Coordinator by your group from its site. You should include the club name, number of participants, Field Day location, and number of ARES operators involved with your station.

Message Handling 10 points for each formal NTS style originated, relayed or received and delivered during the Field Day period, up to a maximum of 100 points (ten messages).

Satellite QSO 100 bonus points for successfully completing at least one QSO. The no-repeater QSO stipulation) is waived for satellite QSOs. Groups are allowed one dedicated satellite transmitter station without increasing their entry category. Satellite QSOs also count for regular QSO credit. Show them listed separately on the summary sheet as a separate "band." You do not receive an additional bonus for contacting different satellites. though the additional OSOs may be counted for QSO credit. The QSO must be between two Earth stations through a satellite. Stations are limited to one (1) completed QSO

(Continued on page 6)

(Continued from FD Rules, page 5) on any single channel FM satellite.

Alternate Power 100 bonus points for Field Day groups making a minimum of five QSOs without using power from commercial mains or petroleum driven generator. This means an "alternate" energy source of power, such as solar, wind, methane or water. This includes batteries charged by natural means (not dry cells). The natural power transmitter counts as an additional transmitter. If you do not wish to increase your operating category, you should take one of your other transmitters off the air while the natural power transmitter is in operation. A separate list of natural power QSOs should be submitted with your entry.

W1AW Bulletin 100 bonus points for copying the special Field Day bulletin transmitted by W1AW (or K6KPH) during its operating schedule during the Field Day weekend (listed in this rules announcement). An accurate copy of the message is required to be included in your Field Day submission. (Note: The Field Day bulletin must be copied via amateur radio. It will not be included in Internet bulletins sent out from Headquarters and will not be posted to Internet BBS sites.)

Educational activity bonus One (1) 100-point bonus may be claimed if your Field Day operation includes a specific educational-related activity. The activity can be diverse and must be related to amateur radio. It must be some type of formal activity. It can be repeated during the Field Day period but only one bonus is earned.

Site Visitation by an elected governmental official: One (1) 100-point bonus may be claimed if your Field Day site is visited by an elected government official as the result of an invitation issued by your group.

Site Visitation by a representative of an agency One (1) 100-point
bonus may be claimed if your Field
Day site is visited by a representative of an agency served by ARES
in your local community (American
Red Cross, Salvation Army, local
Emergency Management, law
enforcement, etc.) as the result of an
invitation issued by your group.

ARRL officials (SM, SEC, DEC, EC,
etc) do not qualify for this bonus.

When a GOTA operator successfully completes 20 QSOs, they receive 20 bonus points. A single GOTA operator must complete all 20 QSOs required before the bonus is earned.

Upon reaching an additional 20 QSOs the same operator receives a second 20 bonus points, up to a maximum of 100 bonus points. An operator may make more than 100 QSOs but the QSOs over 100 do not qualify for an additional bonus.

Additional GOTA operators may earn the GOTA bonus points up to the maximum of 500 bonus points. (There is a 500-QSO limit for the GOTA station. No single GOTA operator may earn more than 100 of the GOTA bonus points.

GOTA station supervised fulltime by a GOTA Coach, doubles bonus points earned for each 20 QSOs. GOTA Coach supervises the station: answering questions and talking them through contacts; may not make QSOs or perform logging functions.

Web submission A 50-point bonus for submitting Field Day entry via the **www.b4h.net/cabforms** web site.

Field Day Youth Participation A 20-point bonus (maximum of 100) may be earned for each participant age 18 or younger who completes at least one QSO.

Supporting information must be emailed to **fieldday@arrl.org** by July 29, 2014.

- An electronic copy of an ARRL summary sheet completely and accurately filled out.
- An attached list of stations worked by band/mode during the Field Day period (dupe sheet or an alpha/numeric list sorted by band and mode); and Proof of all bonus points claimed (copies of visitor logs, press releases, NTS messages handled, photographs, etc).



Kids Day 2014

Saturday, June 21 2:00pm - 7:59pm (1800 UTC thru 2359 UTC)

Kids Day is designed to give onthe-air experience to youngsters and hopefully foster interest in getting a license of their own. It is also intended to give older hams a chance to share their station and love for Amateur Radio with their children.

Suggested frequencies:

10 Meters: 28.350-28.400 MHz 12 Meters: 24.960-24.980 MHz 15 Meters: 21.360-21.400 MHz 17 Meters: 18.140-18.145 MHz 20 Meters: 14.270-14.300 MHz 40 Meters: 7.270-7.290 MHz 80 Meters: 3.740-3.940 MHz plus your favorite repeater (with permission).

Suggsted exchange:

name, age, favorite color. Be sure to observe third-party restrictions when making DX QSOs

Reporting:

See www.arrl.org/kids-day

Survey & Certificates: go to the Kids Day page; do the survey; print personalized certificates for eack of the kids.

Original Colonies July 4th Week Special Event



The 6th Annual:

🗡 4TH OF JULY WEEK - 13 ORIGINAL COLONIES SPECIAL EVENT 🗡



Presented By The Original 13 Colonies Special &rent Group - Independence week - 2014







KZD - CONNECTICUT









REVOLUTIONARY WAR ERA COLONIAL CURRENCY





THIS IS TO CERTIFY THAT ARS ______HAS PARTICIPATED IN THIS 4TH OF JULY WEEK SPECIAL EYENT. HONORING THE "13" ORIGINAL COLONY STATES AND OUR NATION'S INDEPENDENCE IN 1776, GOD BERSS AMERICA













K2H - MASSACHUSETTS



CI - NEW JERSET



K2J-N.CAROLINA







KOM - PENN.

13 Original Colonies **Special Event**

INDEPENDENCE WEEK: JULY 1-6, 2014

In 2014, the 13 Colonies special event stations will operate from July 1, 9:00 AM ET (July 1, 1300Z) to July 6, 12:00 PM (midnight) ET (July 7, 0400Z).

The theme for 2014 is

"Revolutionary War Era Currency."

The certificate (above) is printed on heavy card stock. Stations working one state or, as many as all 13, will

be eligible for the certificate. A "Clean Sweep" indicator will be affixed, for those lucky enough to "Q" all 13.

A special endorsement will be attached for stations contacting our sister operations:

WM3PEN, Philadelphia, and W3FT, Baltimore.

=> 0 <=

MA Special Event Clubs: K2H

WB1GOF - WESTFORD, MA

Police Amateur Radio Team of Westford **QSL Manager for Massachusetts**

W1GLO - GLOUCESTER, MA Cape Ann ARA W1AEC - DARTMOUTH, MA **SEMARA**

Want to be a **K2H** operator? More details at 13colonies.info. Contact me for the inside scoop. [Ed.]



Radio Tests & Fests

Some Special Events

http://www.arrl.org/special-event-stations

Kids Day 2014

Saturday, June 21 2:00pm - 7:59pm (1800 UTC through 2359 UTC)

www.arrl.org/kids-day

ARRL 2014 Field Day

Saturday, June 28 - Sunday, June 29 (1800 UTC through 2100 UTC)

fieldday@arrl.org

13 Original Colonies Sprecial Event

Tuesday, July 1 – Sunday, July 6 9:00 am - 11:59 pm (1300 UTC through 0400UTC, 7 July)

13 colonies, info

Coming FLEAS & FESTS

www.arrl.org/hamfests/search

7 June **PSARA Hermon ME**

Jerry K1GUP 207 848 3400

15 June Cambridge MA FLEA @ MIT

Mitch 617 253 3776

21 June Newington CT NARL

Quentin KB1EWM 860 383 8203

18.19 July Hartford CT

ARRL Nat Conv 100th Anv

860 594 0200

FLEA @ MIT 20 July Cambridge MA

Mitch 617 253 3776

9 Aug Milo ME **PARC**

George WA1JMM 207 441 6112

Cambridge MA 17 Aug FLEA at MIT Mitch 617 253 3776

Some June Radio Activity

http://www.arrl.org/contest-calendar

Day-Time-Day-Time 7 0000Z 8 2400Z 28/-**Ten-Ten Open Season** Dig www.ten-ten.org

3.5-28/-

7 0400Z 8 See website **Digifest** Dig www.mixw.net/misc/DigiFest/index.html

7 1100Z 7 1500Z 14/-**CW** LZ Open 20 Meter Contest

www.lzopen.com 3.5-28/-

7 1200Z 8 1200Z **SEANET Contest** Ph CW

orari.or.id/seanet2014 -/50

7 1300Z 8 1300Z **UKSMG Sporadic E Contest** Ph CW Dig

www.uksmg.org 7 1600Z 8 0400Z 1.8-28/-

Alabama QSO Party Ph CW www.alabamaqsoparty.org

14 0600Z 15 0600Z 3.5-28/-**Australian Shires Contest** Ph CW

vkshires.vk2bo.com/

worked-all-vk-shires-contest.html

14 1100Z 14 1300Z 14-21/-**Asia-Pacific Sprint**

jsfc.org/apsprint/aprule.txt

14 1200Z 15 1200Z 3.5-28/-Ph CW **Portugal Day**

portugaldaycontest.rep.pt

14 1500Z 15 1500Z 3.5-28/-

GACW WWSA CW www.wwsatest.org

14 1600Z 15 1600Z -/50

Ph CW **REF DDFM Six Meter Contest** concours.ref-union.org

14 1600Z 15 0200Z 3.5-28/-

West Virginia QSO Party Ph CW Dig www.qsl.net/wvsarc

14 1800Z 16 0300Z -/50+

ARRL June VHF Contest Ph CW Dig www.arrl.org/contests

21 0000Z 22 2400Z 1.8-28/-**All-Asian DX Contest** CW

www.jarl.or.jp/English

21 0000Z 22 2359Z -/50Ph CW **SMIRK QSO Party**

www.smirk.org

21 1200Z 22 2359Z 1.8-28/50 Straight Key Weekend Sprintathon CW

www.skccgroup.com

21 1400Z 22 1400Z -/50**IARU 50 MHz Contest** Ph CW

www.iaru-r1.org