
Field Day Source Book

2009



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Table of Contents

<i>Welcome.....</i>	<i>4</i>
<i>PART 2009 Field Day Staff Directory.....</i>	<i>6</i>
<i>Important Notes.....</i>	<i>8</i>
<i>Emergencies.....</i>	<i>9</i>
<i>Schedule of Events.....</i>	<i>10</i>
<i>Saturday</i>	<i>10</i>
<i>Sunday</i>	<i>10</i>
<i>Operating at Field Day.....</i>	<i>11</i>
<i>General Operating Rules</i>	<i>12</i>
<i>Site and Antenna Plan.....</i>	<i>13</i>
<i>Operational Area</i>	<i>16</i>
<i>Social Area</i>	<i>16</i>
<i>Using the radios.....</i>	<i>16</i>
<i>Message to Section Manager/Section Emergency Coordinator.....</i>	<i>16</i>
<i>Score submission</i>	<i>17</i>
<i>PART Field Day 2009 Event Facilities.....</i>	<i>17</i>
<i>Parking.....</i>	<i>18</i>
<i>Lunch</i>	<i>18</i>
<i>PART Supper</i>	<i>18</i>
<i>Toolbox Talks.....</i>	<i>19</i>
<i>Appendix A: ARRL Field Day Rules for 2009.....</i>	<i>20</i>
<i>Appendix B: 2009 W1AW FIELD DAY BULLETIN.....</i>	<i>26</i>
<i>Appendix C: EXCHANGE CATEGORIES.....</i>	<i>27</i>
<i>Appendix D: ARRL-CRRL SECTIONS.....</i>	<i>28</i>
<i>Appendix E: COMMON-TEXT "BOOK TRAFFIC".....</i>	<i>30</i>
<i>Appendix F: RECOGNITION.....</i>	<i>32</i>

Welcome

Since 1933 Field Day has been a tradition in Amateur Radio. It is the *contest that is not a contest* held each year in the fourth full weekend in June challenging operators to drag their equipment, antennas, power supplies, ropes, insect repellent, and comfortable clothes out of the house and into "the field" to work the world. While some of this sounds like a picnic (literally), serious business is also afoot. Every Field Day exercise could be the key practice event before the next hurricane, earthquake, or flood.

There is a thrill communicating with someone hundreds, or thousands of miles away with just a wire and a box of mysterious looking parts. Radio operators routinely talk between continents with less power than that used by a night-light. There is science. There is engineering. There is know-how. Some of the brightest engineers, scientists, doctors, and teachers are also Amateur Radio operators.

Field Day represents the best opportunity for Amateur Radio operators nationwide to show the public what we do. Mostly, we have fun! But, this isn't just a fun day in the sun. This event is *scored*. The American Radio Relay League, the national organization for Amateur Radio, has a point system that allows individuals and clubs to compete and vie for the top spot in a given category. Radio contesting, or *radiosport*, as it has become to be known, is a rapidly growing hobby in its own right with Field Day as one of its earliest progenitors. In a typical radio contest, operators work during a fixed period, contact as many stations as is possible, and exchanging some set pieces of information in the process. Each contact earns points.

This is the *contest that is not a contest*, as some have come to call it, because Field Day points may be obtained not only from on-air activities, but also from preparation activities, events during the weekend, and from participation from the public and government officials. Field Day is not just about working the radio; Field Day is also about working well within the system, and part of the community.

In the past, PART has taken the rules for what they were, operating a few stations and submitting the score without much fanfare. The past two years, PART tried something quite new and unique. It used the event as a platform for learning, cross-training, and mentoring. One of the fine traditions in the Amateur Radio Service is that of *Elmering*, a term that evokes an image of an old man (named Elmer, of course), taking a young man under his wing and teaching him all he knows. Before the Internet, before Adult Education classes, there was the *Elmer* and his understudy learning about electronics and antennas and skywave propagation.

Our first theme for 2009 will be to celebrate the *Elmer* by promoting a series of *Toolbox Talks*, brief, intimate demonstrations and hands-on discussions taught by club members, for club members. These talks (discussed in detail later) cover a wide range of topics from simple things like "how to make a dipole", to more complicated things like "how to predict HF propagation".

This educational program was so successful that the ARRL incorporated an Educational Activity Bonus into the 2008 rules for all participants:

FD rule 7.3.10. 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. For more information consult the FAQ in the complete Field Day packet. Available to Classes A & F entries and available clubs or groups operating from a club station in class D and E with 3 or more participants.

We will build upon our successes of the past two years and foster a sense of hands-on learning and experimentation. Toolbox Talks will continue.

Our second theme will revolve around emergency communications. This is particularly timely given the December 2008 ice storm. Several aspects of this theme are simplicity in equipment and operation, examples of emergency go kits and equipment, demonstration of VHF and HF emergency stations, relevant Tool Box talks, and a GOTA station emphasizing emergency communications. We will invite regional EMA, MRC, and CERT teams.

Our third theme is camaraderie. PART has always fostered "community" with their holiday supper, first Saturday breakfasts, and weekly early-bird breakfasts. This year we will hold a bar-b-q Saturday night to complement these activities. We will also have a designated and dedicated social area separate from the operational areas.

While we will not score as many points as those hard-charging, point-chasing contesters, we believe that no one will teach more, or learn more this weekend than the members of PART. And, we believe that somewhere, an old man with thinning gray hair named *Elmer* is smiling because of it.

Welcome to Field Day 2009! —The PART Field Day Staff

PART 2009 Field Day Staff Directory

Role	Lead	Contact this person for...
Field Day Chair	Steve Telsey (N1BDA)	Contact the Field Day Chair for general questions, problems, or concerns with the event that cannot be resolved by those listed below.
Field Day Assistant Chair	Steve Rimsa (WA1KBE)	Contact the Field Day Assistant Chair for general questions, problems, or concerns with the event that cannot be resolved by those listed below.
Toolbox Talk Chief	Richard Crisafulli (AB1HD)	Contact the Toolbox Talk Chief regarding problems with the schedule for talks, or for assistance with facilities or other needs associated with these talks.
Safety Officers	Sean Payne (KB1QHM) Peter Dolloff (KB1OCF) Hugh Maguire (N1QGE)	Contact the Safety Officer <u>immediately</u> in the case of any injury (no matter how minor it may seem), or if any hazard is identified.
Facilities Manager	Alan Lewis (K1ALL)	Contact the Facilities Manager if there are <u>any</u> problems with the building, grounds, parking, electricity, plumbing, or air conditioning.
Antenna Raising Captain	Steve Rimsa (WA1KBE)	Contact the Antenna Raising Captain for any questions regarding the placement and erection of antennas.
SSB Station Chief	Alan Lewis (K1ALL)	Contact the SSB Station Chief regarding problems with the radio or computer on the SSB station.
CW/Data Station Chief	Rich Crisafulli (AB1HD)	Contact the CW/Data Station Chief regarding problems with the radios or computers on the CW/Data stations.

Role	Lead	Contact this person for...
VHF/UHF Station Chief	Allison Parent (KB1GMX)	Contact the VHF/UHF Station Chief regarding problems with the radio or computer on the VHF/UHF station.
Logging Captain	Andy Stewart (KB1OIQ)	Provides logging software and instruction; collects and tabulates logs.
GOTA Coach	TBD	Supervise the operator of the station, answers questions, and talks operators through contacts, but may not make QSOs or perform logging functions.
Message Captain	TBD	Receives ARRL Field Day Bulletin, send message to SM, relay message traffic as needed.
Food Captain	Alan Lewis (K1ALL)	Develops menu and leads shopping expedition. He does NOT do all food preparation.
Ice Cream and Homemade Cookie captain	Gary Frascarelli (W1GFF)	Provides delicious frozen and baked desserts Saturday evening.
Pizza Retrieval Captain	Alan Martin (W1AHM)	Picks up Saturday luncheon pizza.
Photographer	Bob Schmeichel (N1RXV)	Documents digitally all aspects of Field Day in his unique fashion.
Publicity Captain	Bo Budinger (WA1QYM)	Handles media publicity prior to event including invitations to the public, elected officials, area hams, and regional emergency management, CERT, MRC personnel.
Guest Relations Captain	Andy Stewart (KB1OIQ)	This event will draw the press, Carlisle government officials, MRC and CERT members, ARRL representatives, and the general public. Please direct them to the Guest Relations Lead, or his assistants. Dave Welsh (WI1R) and Hugh Maguire (N1QGE) assist.

Role	Lead	Contact this person for...
Auxiliary Meeting Space Captain	Al Bates (W1XH)	Arranges for a screen tent, chairs, and tables for socializing and dining.
Signage Captain	Al Bates (W1XH)	Arranges for the construction and placement of signs at key intersections and at the site.

Important Notes

Field day weekend is also Old Home Day in Carlisle. There will be many events around Carlisle Center and the rotary will be shut down for a road race sometime between 7:30 and 9:30 Saturday morning. Please use an alternate route and avoid using the rotary during those hours.

Please bring a folding chair or lawn chair for use in the social area or outside.

Mosquitoes are prevalent. Bring repellent.

Ticks abound this year. Check yourself periodically.

Sun screen is always recommended, even if it is cloudy.

We plan on having visitors. Please introduce yourself, explain what we are doing, and invite them to tour the operational areas. If you are busy, please bring the visitors to a club officer or Field Day staff person.

Emergencies

**In the event of any emergency requiring
police, fire, or medical assistance,
dial**

911

**and tell the operator you are at
282 E. Riding Dr., Carlisle.**

If you need the Carlisle police or fire department for non-emergency reasons, use the following numbers:

Police: (978) 369-1155

Fire: (978) 369-1442

**In the event of any potential danger such as thunderstorms,
alert those immediately affected and notify the following:**

- **Steve, N1BDA – 978-505-7009**
- **Steve, WA1KBE – 978-973-8632**
- **Safety Officer – Hugh Maquire, N1QGE**
- **Safety Officer – Pete Dolloff KB1OCF**
- **Safety Officer – Sean Payne, KB1QHM**
- **Alan, K1ALL – 978-287-0049**

Schedule of Events

Saturday

Time	Courtyard	Barn
9:00 AM	Antenna erection DO NOT TRANSMIT DURING THIS TIME	Station setup
to		
11:00 AM		
11:00 PM		Introduction to Fldigi
11:30 PM		PAR End-Fed Dipoles
12:00 PM	Lunch	Lunch
1:00 PM	Finalize antenna setup	Finalize station setup
1:00 PM		Getting Started with LOTW
1:30 PM		Tips on using PowerPole connectors
2:00 PM	Field Day Operations Begin	On-air Operations Operations continue as long as operators would like.
6:00 PM	Bar-B-Q Supper	

Sunday

Time	Courtyard	Barn
	This is an opportunity to Experiment with different antennas and configurations	On-air Operations
12:00 PM	Informal Lunch	Informal Lunch
2:00 PM	All operations cease	
	Tear down Please bring HTs and set to the frequency 146.550 SIMPLEX to coordinate outdoor activities	

Operating at Field Day

The PART Field Day operation will feature four stations: HF SSB, HF CW, HF Data (e.g., PSK31), and VHF/UHF. Stations are positioned in the facility's main room to the right of the entrance and in the second floor office. We will be class 4D.

The *exchange*, the information transferred during each QSO, consists of the category and location for each station. The ARRL section for Carlisle is Eastern Massachusetts, abbreviated EMA. A typical on-air exchange for both SSB and CW appear below.

TYPICAL SSB EXCHANGE

WE: CQ CQ CQ This is Whiskey Bravo One Golf Oscar Foxtrot, Whiskey Bravo One Golf Oscar Foxtrot standing by for a call.

THEY: Kilo Bravo Nine Alpha.

WE: Kilo Bravo Nina Alpha, you are four delta EMA Echo Mike Alpha over.

THEY: Roger. You are three alpha Illinois.

WE: Roger your three alpha Illinois. Thank you. This is Whiskey Bravo One Golf Oscar Foxtrot standing by for a call.

TYPICAL CW EXCHANGE

WE: CQ CQ CQ DE WB1GOF WB1GOF K

THEY: KB9A

WE: KB9A DE WB1GOF — UR 4D EMA BK

THEY: R R UR 3A IL BK

WE: R TU QRZ?

TYPICAL PSK31 EXCHANGE

WE: CQ FD CQ FD DE WB1GOF WB1GOF K

THEY: KB9A

WE: KB9A DE WB1GOF PSE CPY 4D EMA 4D EMA BK

THEY: WB1GOF DE KB9A TU PSE CPY 3A IL 3A IL BK

WE: KB9A DE WB1GOF TU GL QRZ K

The exchange categories are in Appendix C and the ARRL-CRRL sections are in Appendix D.

The signal report, categories for our stations, locations, and the stations we contact, must be *logged* properly along with the time (always in GMT), date, band, and mode. Additional information on computer logging may be found with the operating instructions for each station.

General Operating Rules

There will be multiple operators, on multiple radios, all in a limited space. There must be rules in place to avoid chaos! This section covers some of the general rules to be used during this event.

1. **Remember the club's event goals.** This is an *elmering* event where the emphasis is on teaching, training, and sharing. Please help create an atmosphere of sharing. Encourage all members to get on the air. Assist those new to HF or contesting so they "learn the ropes."
2. **Stations are operated in tandem.** Ideally stations have one experienced operator paired with a less experienced one. Both listen, but one operator executes the QSO and creates the log entry.
3. **Headphones must be used.** Each station has two sets of headphones for the tandem operators. CW and Data Mode operations should be completely silent. Phone operators are encouraged to keep noise to a minimum. Again, with three stations in a small space, noise from one station can diminish the effectiveness (and fun!) of others.
4. **Computer logging must be used.** Each station will utilize computer logging, though not necessarily the *same* logging program. Paper-and-pencil logging is strongly discouraged. One of the most important elements of contesting (and DXing and DXpeditioning) is keeping an accurate log. Please help ensure that the club submits a "clean" log by double-checking call signs, exchanges, and carefully recording band changes if your station does not use computer-based rig control.
5. **Computer-based rig control will be used wherever possible.** Computer automation, including computer rig control, is a key part of modern radiosport. Operators are encouraged to familiarize themselves with this technology. (Attending the *Toolbox Talk* on the subject is also encouraged.)
6. **Band coordination.** Modern transceivers are marvels of sensitivity and can be easily damaged by strong signals. The two HF stations must operate on different bands. Operators must coordinate with their fellow operators at the other station before making a band change. Failure to observe this rule may result in a destroyed radio.

Cards will be available with a band on each card. There will be one card per band covering SSB, CW, and digital modes. You must have the card matching the band on which you will be operating. Cards for unused bands will be kept in a single location. **Do not take a card from another station!**

7. **Observe NO TRANSMISSION times in the schedule.** Prior to 2PM local time antenna work and *Toolbox Talks* using sensitive equipment will take place. Do not transmit until given the ALL CLEAR from the Field Day Chair.
8. **Safety First!** In the event of lightning in the area, operations of all stations shall cease. Antenna feed lines will be removed from the radios and secured. Please follow directives from Field Day staff. Operations will not resume until staff members give the ALL CLEAR.
9. **Observe good operating practices at all times.** This is an *elmering* event. Please provide a good example for your peers both on-the-air, and off. Use standard phonetics when on phone. Favor accuracy over speed on CW. Keep bandwidth use to a minimum on PSK-31 by lowering power levels and monitoring modulation. Steer clear of band edges. Be courteous. Don't be a *lid*!
10. **Treat all equipment and facilities with respect.** We are guests in this facility. All provided equipment has been loaned by other club members. Use common sense, restraint, and respect. Practice the *leave no trace* approach to the facilities by ensuring everything is as clean (or cleaner) than we found it, and all equipment is in good working order when we are finished.

Site and Antenna Plan

We expect the primary HF daytime bands to be 40m and 20m given recent propagation with 80m added at night. 10m and 15m may open. We plan to have 80m-70cm available. Several HF antennas are planned. Their tentative positions are indicated in parentheses.

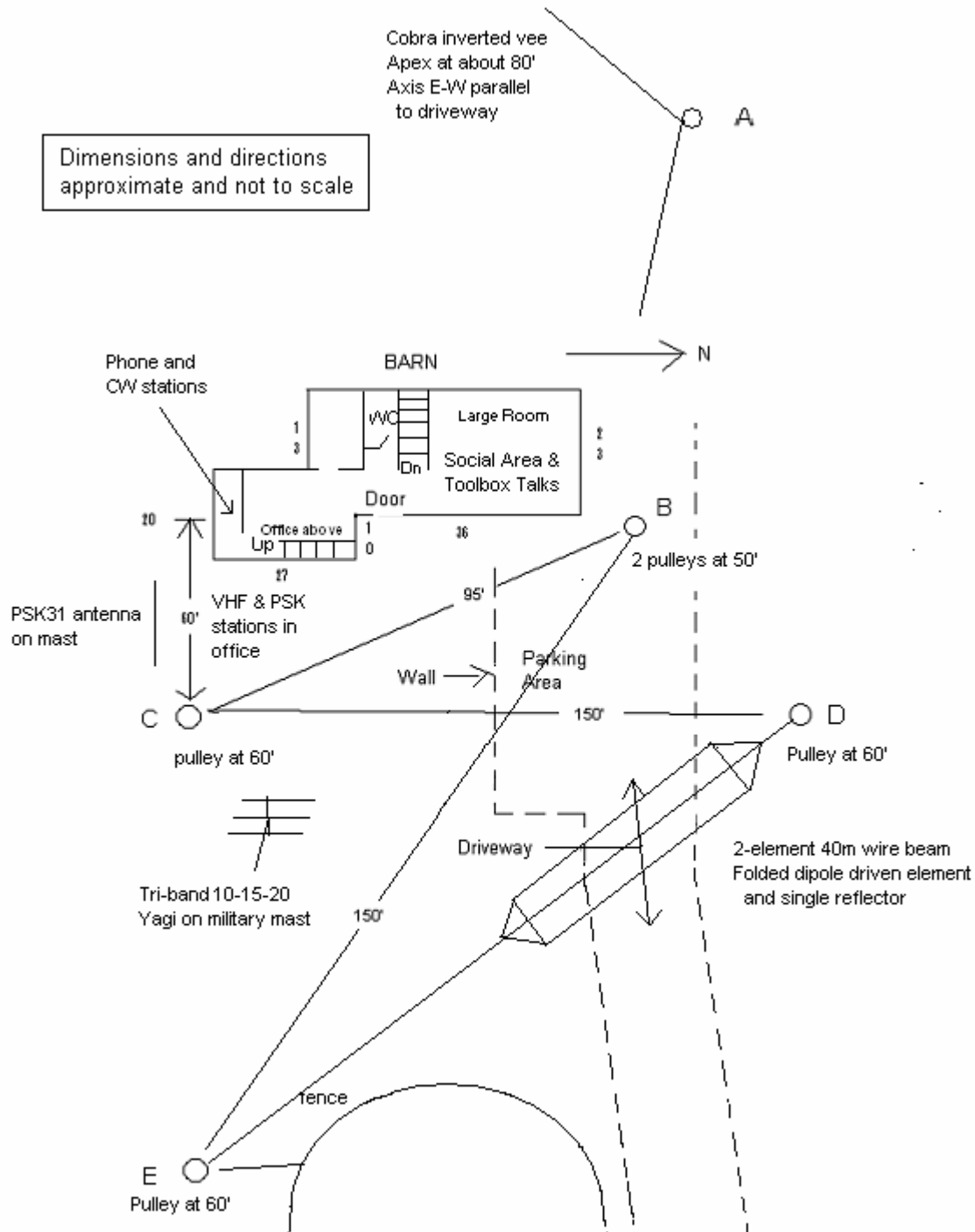
- Cobra inverted V loadable on 80m-10m (A)
- Mosley TA-33 Jr. Tri-band Yagi (east of C)
- 40m two-element wire beam (E-D)
- PAR 10/20/40 end fed dipole (C)

Also available are a G5RV and a 20m, 3 half-wave collinear approximately 105' which can be erected C-D or B-E or as a sloper or inverted V using E.

The area east of the barn towards the line connecting points A and C is a level open field. The wire antenna(s) will be erected between the trees or using a tree as one point. The Yagi may be suspended from a rope between trees or installed on an extension ladder in lieu of a tower.

The VHF antennas will be erected at the south end of the barn approximately 60' from point A or a nearby area.

The antenna plan is current as of the printing of this document. Some alterations of this plan may be made. If you have an antenna you would like to erect, please see the Field Day Co-Chair so that we can accommodate all requests with minimal impact on existing antennas. The basic site plan is shown below:



Operational Area

We plan to operate three HF stations: phone, CW, and digital modes. Additionally we plan to operate a VHF-UHF station, primarily on 6 and 2m FM and SSB.

Stations will be located in the long, narrow room to the left of the door and in the second floor office.

Social Area

The large room will be the designated social area for toolbox talks, general chatting, and eating. Please do not congregate in the operational areas unless you want to operate/log, observe, or are accompanying visitors.

Using the radios

Each station will have a *cheat sheet* with important information for the operators including instructions on how to operate the radio, how to operate the computer logging system with the radio, operation of the tuner, and more. Also, there will be a training session prior to the start of the contest by the station chief (who supplied the equipment) to ensure proper operation.

Message to Section Manager/Section Emergency Coordinator

The message to the Section Manager/Section Emergency Coordinator must be sent during the Field Day operational period using any mode. The Heavy Hitters Traffic Net Manager, Byron Piette, K1YCQ, will be sponsoring a special edition of the Heavy Hitters Traffic Net to allow clubs and Field Day groups to bring NTS phone traffic related to Field Day to the net. The Field Day Traffic Net will be Saturday evening, June 27, at 10 pm on the MMRA linked system.

Here is an example of a message to the Section Manager/Section Emergency Coordinator:

1 Routine N1BDA 17 Carlisle MA June 27
Mike Neilsen W1MPN
Eastern Massachusetts Section Manager
W1MPN@ARRL.ORG
BT
PART of Westford is operating
Field Day in Carlisle with
10 ARES members and 25
total participants
BT
Steve Telsey N1BDA
Field Day Chair
END

See Appendix E: Book Traffic for sample messages to EMA, MRC, and CERT people.

Score submission

At the conclusion of the contest logs from the station computers will be collected and coalesced into a single log for submission to the ARRL contest branch. In addition to the QSOs, other point-generating activities will also be tallied for this submission. There are a number of these point generating activities including:

- Copying the ARRL Field Day bulletins (100 points)
- Receiving a visitor from elected official (100 points)
- Receiving a visitor from an agency such as the Red Cross or local law enforcement (100 points)
- Media publicity, or even the attempt to obtain publicity (100 points)
- Public information table (100 points; not eligible as class D)
- Message (NTS) to ARRL Section Manager (100 points)
- Message handling (10 points each up to 100 points)
- Public location (100 points) (not applicable this year)
- Satellite QSO (100 points)
- Alternate power bonus (100 points for 5 or more QSOs with solar, for example)
- Non-traditional modes (maximum of 300 points)
- Web submission (50 points for sending your contest submission via the web)
- Youth participation (up to 100 points, 20 per person 18 years or younger making at least one QSO)

PART will submit a log for this event, though it is *not* a goal of the event to generate a high score.

The Field Day Chair is responsible for score submission.

PART Field Day 2009 Event Facilities

On-air and Toolbox Talk activities will be held at K1ALL's QTH, 282 E. Riding Dr., Carlisle. We will have the use of Alan's "barn" which includes a large main room, additional small areas, and other amenities. Talk-in on 146.955, PL 74.4.

Direction to the Field Day Site:

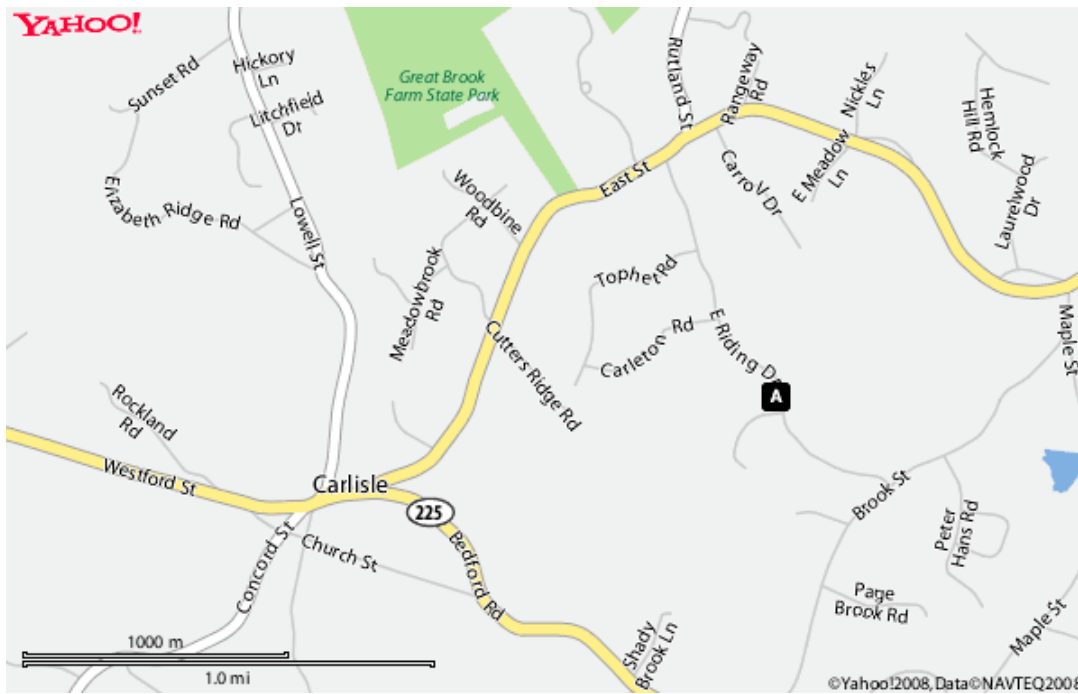
From 495 exit at Boston Road (exit 32)., proceed South on Carlisle Rd. At the end, turn left onto Rt. 225. Continue on Rt. 225 approximately 4 miles. You will cross Rt. 27. At the Carlisle traffic circle, take the exit onto Bedford St.-Rt. 225 heading east and take a slight left onto East St. within 500 feet at the sign to Billerica. Follow East St. about 1 mile and turn right on E. Riding Dr. The driveway will be about ½ mile on your right. If you come to Carriage Way, you have gone too far.

Here' a map link that should help:

<http://maps.google.com/maps?f=q&hl=en&geocode=&q=42.53299,+71.33075&ie=UTF8&ll=42.533164,-71.330752&spn=0.001684,0.003224&t=h&z=18&iwloc=addr>

Here's a map that shows the Carlisle traffic circle:

<http://maps.google.com/maps?f=q&hl=en&geocode=&q=42.53299,+71.33075&ie=UTF8&ll=42.528796,-71.348777&spn=0.013473,0.025792&z=15>



Parking

Parking will be in a small lot at the head of the driveway, along the driveway, and on the street. Because parking is limited, we ask that you put a QSL card or note with your name on your dashboard so we can find you if we need to juggle vehicles.

Lunch

Lunch will be provided Saturday. This will be pizza and soft drinks.

PART Supper

Saturday supper will be a bar-b-q at the site including home-made ice cream and cookies. Food will be provided and the approximate cost will be \$10 per person. Bring beverages of your choice. Beer is permitted.

Toolbox Talks

The *Toolbox Talks* are the centerpiece of PART's 2009 Field Day effort. Four talks will be presented on Saturday morning before operational activities begin. Topics include antennas, contesting, digital operation and

Toolbox Talks will be held in the large room to the right of the door. Speakers may choose to present outdoors weather permitting.

The scheduled Toolbox Talks and their presenters appear below.

Getting Started with LOTW	AB1HD - Richard Crisafulli
Introduction to Fldigi	KB1OIQ - Andy Stewart
Tips on using PowerPole connectors	AB1HD - Richard Crisafulli
PAR End-Fed Dipoles	WA1KBE - Steve Rimsa

Field Day is a learning and teaching opportunity. Ask questions and volunteer to lead discussions, impromptu toolbox talks if you will. We have a lot of talent in the club – let's use it.

Appendix A: ARRL Field Day Rules for 2009

1. Eligibility: 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, but are not eligible to submit entries.

2. Object: To 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.

3. Date and Time Period: Field Day is **always the fourth full weekend of June**, beginning at 1800 UTC Saturday and ending at 2100 UTC Sunday. **Field Day 2009 will be held June 27-28, 2009.**

3.1. Class A and B (see below) stations that do not begin setting up until 1800 UTC on Saturday may operate the entire 27-hour Field Day period.

3.2. Stations who begin setting up before 1800 UTC Saturday may work only 24 consecutive hours, commencing when on-the-air operations begin.

3.3. No Class A or B station may begin their set-up earlier than 1800 UTC on the Friday preceding the Field Day period.

4. Entry Categories: 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. Twenty (20) transmitters maximum are eligible for the purpose of calculating bonus points (2,000 points maximum). However, additional transmitters may be used simultaneously in determining your entry category. Switching and simulcasting devices are prohibited. Bonus stations, such as the GOTA station and satellite station do not count towards determining the number of transmitters for the class and do not qualify for transmitter bonus points.

4.1. **(Class A) Club / non-club portable:** 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. Entrants whom for any reason operate a transmitter or receiver from a commercial main for one or more contacts will be listed separately as Class A-Commercial.

4.1.1. **Get-On-The-Air (GOTA) Station.** Any Class A (or F) entry whose transmitter classification is two or more transmitters may also operate one additional station without changing its base entry category, known as the GET-ON-THE-AIR (GOTA) station

4.1.1.1. 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. This GOTA station may operate on any Field Day band, HF or VHF, but is limited to one transmitted signal at any time during the event regardless if operators change. The GOTA station uses the same exchange as its parent.

4.1.1.2. The GOTA station may be operated by any person 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 to ARRL HQ.

4.1.1.3. As per FCC rules, this station must have a valid control operator present if operating beyond the license privileges of the participant using the station.

4.1.1.4. 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.

4.1.1.5. A maximum of 500 QSOs 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 under rule 7.3.13.

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

4.1.1.7. The GOTA station does not affect the additional VHF/UHF station provided for under Field Day Rule 4.1.2. for Class A stations.

4.1.1.8. Participants are reminded that non-licensed participants working under the direction of a valid control operator may only communicate with other W/VE stations or with stations in countries with which the US has entered a third-party agreement.

4.1.1.9. The GOTA station does not qualify as an additional transmitter when determining the number of transmitters eligible for the 100-point emergency power bonus under Rule 7.3.1.

4.1.2. **Free VHF Station:** Any Class A entry whose category is two or more transmitters may also operate **one f** 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 100-point bonus as an additional transmitter. This station additional transmitter it may be operated for the clubs Field Day period and all contacts count for QSO 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.

4.2. **(Class A - Battery) Club / non-club portable:** Club or non-club group of three or more persons set up specifically for Field Day. All contacts must be made using an output power of 5 Watts or less **and** the power source must be something other than commercial power mains or motor-driven generator (e.g.: batteries, solar cells, water-driven generator). Other provisions are the same for regular Class A. Class AB is eligible for a GOTA station if GOTA requirements are met.

4.3. **(Class B) One or two person portable:** A Field Day station set up and operated by no more than two persons. Other provisions are the same for Class A except it is not eligible for a GOTA or free VHF station. One and two person Class B entries will be listed separately.

4.4. **(Class B - Battery) One or two person portable:** A Field Day station set up and operated by no more than two persons. All contacts must be made using an output power of 5 Watts or less **and** the power source must be something other than commercial mains or motor-driven generator. Other provisions are the same for Class A except it is not eligible for a GOTA or free VHF station. One and two person Class B - Battery entries will be listed separately.

4.5. **(Class C) Mobile:** Stations in vehicles capable of operating while in motion and normally operated in this manner. This includes maritime and aeronautical mobile. If the Class C station is being powered from a car battery or alternator, it qualifies for emergency power but does not qualify for the multiplier of 5, as the alternator/battery system constitutes a motor-driven generating system.

4.6. **(Class D) Home stations:** Stations operating from permanent or licensed station locations using commercial power. Class D stations may only count contacts made with Class A, B, C, E and F Field Day stations.

4.7. **(Class E) Home stations - Emergency power:** Same as Class D, but using emergency power for transmitters and receivers. Class E may work all Field Day stations.

4.8. **(Class F) Emergency Operations Centers (EOC):** An amateur radio station at an established EOC activated by a club or non-club group. Class F operation must take place at an established EOC site. Stations may utilize equipment and antennas temporarily or permanently installed at the EOC for the event. Entries will be reported according to number of transmitters in simultaneous operation. Class F stations are eligible for a GOTA and free VHF station at Class 2F and above.

4.8.1. For Field Day purposes, an Emergency Operations Center (EOC) is defined as a facility established by:

- a) a Federal, State, County, City or other Civil Government, agency or administrative entity; or,
- b) a Chapter of a national or international served agency (such as American Red Cross or Salvation Army) with which your local group has an established operating arrangement;

4.8.1.1. A private company EOC does not qualify for Class F status unless approved.

4.8.2. Planning of a Class F operation must take place in conjunction and cooperation with the staff of the EOC being activated.

4.8.3. Other provisions not covered are the same as Class A.

4.8.4. A Class F station may claim the emergency power bonus if emergency power is available at the EOC site.

4.8.4.1. The emergency power source must be tested during the Field Day period but you are not required to run the Class F operation under emergency power.

5. Exchange: Stations in ARRL / RAC sections will exchange their Field Day operating Class and ARRL / RAC section. Example: a three transmitter class A station in Connecticut which also has a GOTA station and the extra VHF station would send "3A CT" on CW or "3 Alpha Connecticut" on Phone. DX stations send operating class and the term DX (i.e. 2A DX).

6. Miscellaneous Rules:

- 6.1. A person may not contact for QSO credit any station from which they also participate.
- 6.2. A transmitter/receiver/transceiver used to contact one or more Field Day stations may not subsequently be used under any other callsign to participate in Field Day. Family stations are exempt provided the subsequent callsign used is issued to and used by a different family member.
- 6.3. Phone, CW and Digital (non-CW) modes on a band are considered as separate bands. A station may be worked only once per band under this rule.
- 6.4. All voice contacts are equivalent.
- 6.5. All non-CW digital contacts are equivalent.
- 6.6. Cross-band contacts are not permitted (Satellite QSOs cross-band contacts are exempted).
- 6.7. The use of more than one transmitter at the same time on a single band-mode is prohibited. Exception: a dedicated GOTA station may operate as prescribed in Rule 4.1.
- 6.8. No repeater contacts are allowed.
- 6.9. Batteries may be charged while in use. Except for Class D stations, the batteries must be charged from a power source other than commercial power mains. To claim the power multiplier of five, the batteries must be charged from something other than a motor driven generator or commercial mains.
- 6.10. All stations for a single entry must be operated under one callsign, except when a dedicated GOTA station is operated as provided under Field Day Rule 4.1.1. it uses a single, separate callsign.

7. Scoring: Scores are based on the total number of QSO points times the power multiplier corresponding to the highest power level under which any contact was made during the Field Day period plus the bonus points.

7.1. QSO Points:

- 7.1.1. Phone contacts count one point each.
- 7.1.2. CW contacts count two points each.
- 7.1.3. Digital contacts count two points each.

7.2. Power multipliers: The power multiplier that applies is determined by the highest power output of any of the transmitters used during the Field Day operation.

7.2.1. 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, water-driven generator), the power multiplier is 5 (five).

7.2.2. If all contacts are made using a power of 5 Watts or less, but the power source is from a commercial main or from a motor-driven generator, the power multiplier is 2. If batteries are charged during the Field Day period using commercial mains or a motor-driven generator the power multiplier is 2 (two).

7.2.3. If any or all contacts are made using an output power up to 150 Watts or less, the power multiplier is 2 (two).

7.2.4. If any or all contacts are made using an output power greater than 150 Watts, the power multiplier is 1 (one).

7.2.5. 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. (Example: a group has one QRP station running 3 Watts and a second station running 100 Watts, the power multiplier of 2 applies to all contacts made by the entire operation).

7.3. Bonus Points: All stations are eligible for certain bonus points, depending on their entry class. The following bonus points will be added to the score, after the multiplier is applied, to determine the final Field Day score. Bonus points will be applied only when the claim is made on the summary sheet and any proof required accompanies the entry or is received via email or normal mail delivery.

7.3.1. 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 for Class A and F entries 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. (Example: a club operating 3 transmitters plus a GOTA station and using 100% emergency power receives 300 bonus points.) **Available to Classes A, B, C, E, and F.**

7.3.2. 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 claim the points. **Available to all Classes.**

7.3.3. Public Location: 100 bonus points for physically locating the Field Day operation in a public place (i.e. shopping center, park, school campus, etc). The intent is for amateur radio to be on display to the public. **Available to Classes A, B and F.**

7.3.4. 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. **Available to Classes A, B and F.**

7.3.5. 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. The message must be transmitted during the Field Day period and a fully serviced copy of it must be included in your submission, in standard ARRL NTS format, or no credit will be given. The Section Manager message is separate from the messages handled in Rule 7.3.6. and may not be claimed for bonus points under that rule. **Available to all Classes.**

7.3.6. 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). Properly serviced copies of each message must be included with the Field Day report. **The message to the ARRL SM or SEC under Rule 7.3.6. does not count towards the total of 10 for this bonus. Available to all Classes. All NTS messages claimed for bonus points must leave or enter the site via amateur radio RF.**

7.3.7. Satellite QSO: 100 bonus points for successfully completing at least one QSO via an amateur radio satellite during the Field Day period. "General Rules for All ARRL Contests" (Rule 3.7.2.), (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 QSOs may be counted for QSO credit unless prohibited under Rule 7.3.7.1. The QSO must be between two Earth stations through a satellite. **Available to Classes A, B, and F.**

7.3.7.1 Stations are limited to one (1) completed QSO on any single channel FM satellite.

7.3.8. 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. **Available to Classes A, B, E, and F.**

7.3.9. 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.) **Available to all Classes.**

7.3.10. 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. For more information consult the FAQ in the complete Field Day packet. **Available to Classes A & F entries and available clubs or groups operating from a club station in class D and E with 3 or more participants.**

7.3.11. 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.

Available to all Classes.

7.3.12. 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. **Available to all Classes.**

7.3.13. GOTA Bonus. Class A and F stations operating a GOTA station may earn the following bonus points:

7.3.13.1. When a GOTA operator successfully completes 20 QSOs, they receive 20 bonus points. Upon reaching an additional 20 QSOs the same operator receives a second 20 bonus points, up to a maximum of 100 Bonus points per GOTA operator. An operator may make more than 100 QSOs but the QSOs over 100 do not qualify for an additional bonus.

7.3.13.1.1. Additional GOTA operators may earn the GOTA bonus points under this rule, up to the maximum of 500 bonus points. (Remember that there is a 500-QSO limit for the GOTA station. But no single GOTA operator may earn more than 100 of the GOTA bonus points except as provided in 7.3.13.2.)

7.3.13.1.2. A single GOTA operator must complete all 20 QSOs required before the bonus is earned. There is no "partial credit" for making only a portion of the 20 QSOs or "pooling" QSOs between operators.

7.3.13.2. If a GOTA station is supervised full-time by a GOTA Coach, the bonus points earned for each 20 QSOs completed under Rule 7.3.13.1 will be doubled.

7.3.13.2.1. The GOTA Coach supervises the operator of the station, doing such things as answering questions and talking them through contacts, but may not make QSOs or perform logging functions.

7.3.13.2.2. To qualify for this bonus, there must be a designated GOTA Coach present and supervising the GOTA station at all times it is being operated.

7.3.14. Web submission: A 50-point bonus may be claimed by a group submitting their Field Day entry via the www.b4h.net/cabforms web site. **Available to all Classes.**

7.3.15. Field Day Youth Participation:

7.3.15.1. A 20-point bonus (maximum of 100) may be earned by any Class A, C, D, E, or F group for each participant age 18 or younger at your Field Day operation that completes at least one QSO.

7.3.15.2. For a 1-person Class B station, a 20-point bonus is earned if the operator is age 18 or younger. For a 2-person Class B station, a 20-point bonus is earned for each operator age 18 or younger (maximum of 40 points.) Keep in mind that Class B is only a 1 or 2 person operation. This bonus does not allow the total number of participants in Class B to exceed 1 or 2.

8. Reporting:

8.1. Entries may be submitted to the ARRL in one of three ways:

8.1.1. Via Field Day Web Submission Applet site at www.b4h.net/cabforms/;

8.1.2. Via email to fieldday@arrl.org; or

8.1.3. Via land postal or delivery service to Field Day Entries, 225 Main St, Newington, CT 06111.

8.2. Entries must be postmarked, emailed or submitted by July 28, 2009. Late entries cannot be accepted.

8.3. A complete Field Day Web Applet Submission site entry consists of:

8.3.1. An official ARRL summary sheet which is completed on the site;

8.3.2. Supporting information must be emailed to fieldday@arrl.org or submitted by land service.

Supporting information must include:

8.3.2.1. 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

8.3.2.2. Proof of all bonus points claimed (copies of visitor logs, press releases, NTS messages handled, photographs, etc).

8.4. A complete non-applet email submission consists of:

8.4.1. An electronic copy of an ARRL summary sheet completely and accurately filled out;

8.4.2. 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

8.4.3. Proofs of bonus points claimed (copies of visitor logs, press releases, NTS messages handled, photographs, etc).

- 8.5. A complete land postal or delivery non-electronic submission consists of:
- 8.5.1. A complete and accurate ARRL summary sheet;
 - 8.5.2. An accompanying 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
 - 8.5.3. Proofs of bonus points claimed (copies of visitor logs, press releases, NTS messages handled, photographs, etc).
- 8.6. Complete station logs are not required for submission. The club should maintain log files for one year in case they are requested by ARRL HQ.
- 8.7. Cabrillo format log files are not required for Field Day entries. They will be accepted in lieu of the dupe sheets but do not substitute for a summary sheet.
- 8.8. Digital images of proof of bonus points are acceptable.
- 8.9. Electronic submissions are considered signed when submitted.

9. Miscellaneous:

9.1. The schedule of bulletin times for W1AW is included in this announcement. While W1AW does not have regular bulletins on weekends, the Field Day message will be sent according to the schedule included with this announcement. The W1AW bulletins will be transmitted on the regular W1AW frequencies listed in *QST*. The PSK31 bulletin will be transmitted on the W1AW teleprinter frequencies.

9.1.2. The special Field Day bulletin will be transmitted from station K6KPH on the West Coast as included in the bulletin schedule.

9.2. See "General Rules for All ARRL Contests," "General Rules for All ARRL Contests on Bands Below 30 MHz," and "General Rules for All ARRL Contests on Bands Above 50 MHz" for additional rules (www.arrl.org/contests/forms) that may cover situations not covered in these Field Day rules.

9.3. Remember that the national simplex FM calling frequency of 146.52 MHz should not be used for making Field Day contacts.

9.4. The complete Field Day information package may be obtained by:

9.4.1. Sending a SASE with 5 units of postage to: Field Day Information Package, ARRL, 225 Main St., Newington, CT 06111; or

9.4.2. By downloading from the Contest Branch home page at: www.arrl.org/contests/forms

Appendix B: 2009 W1AW FIELD DAY BULLETIN

Day	Mode	Eastern
FRIDAY	CW	8:00 PM
	Teleprinter	9:00 PM
	Phone	9:45 PM
	CW	11:00 PM
SATURDAY	CW	10:00 AM
	Phone	11:00 AM
	CW	8:00 PM
	Teleprinter	9:00 PM
SUNDAY	Phone	9:45 PM
	CW	10:00 AM
	Phone	11:00 AM
	PSK31	12:00 PM

W1AW will operate on the regularly published frequencies. The special PSK31 bulletin will be transmitted on the regular W1AW frequencies.

CW frequencies are 1.8175, 3.5815, 7.0475, 14.0475, 18.0975, 21.0675, 28.0675 and 147.555 MHz.

Teleprinter frequencies are 3597.5, 7.095, 14.095, 18.1025, 21.095, 28.095 and 147.555 MHz (includes PSK31).

Phone frequencies are 1.855, 3.990, 7.290, 14.290, 18.160, 21.390, 28.590 and 147.555 MHz.

Appendix C: EXCHANGE CATEGORIES

Exchange is Operating Category and ARRL/CRRL Section.

Class	Meaning	Example
A	Portable: 3 or more amateurs	4A - 6 amateurs with 4 radios out in a field somewhere
B	Portable: 1 or 2 amateurs	2B - 2 amateurs with a radiio
C	Mobile: Car, boat, plane	1C - Most contacts with amateurs in cars
D	Home: Regular power	1D -The casual operator from home
E	Home: Emergency Power	2E - Two transmitters at home on emergency power
F	Established EOC	1F – One transmitter in an EOC

Appendix D: ARRL-CRRL SECTIONS

ARRL/Canadian Sec	Abbr.	Prefixes, alternates	ARRL/Canadian Sec	Abbr.	Prefixes, alternates
Alabama	AL	AL	North Texas	NTX	NT
Alaska	AK	AK, KL7	Northern Florida	NFL	NFL
Alberta	AB	ALT, ALB, AB, VE6	Northern New Jersey	NNJ	NNJ, NN, NJ
Arizona	AZ	ARI, AZ	Northern New York	NNY	NNY
Arkansas	AR	AR	NYC-Long Island	NLI	NY, NL
British Columbia	BC	BC, VE7	Ohio	OH	OH
Colorado	CO	CO	Oklahoma	OK	OK
Connecticut	CT	CT, CN, CON	Ontario	ON	ON, VE3
Delaware	DE	DE, DL	Orange	ORG	ORG, ORA
East Bay	EB	EB	Oregon	ORE	OR
Eastern Massachusetts	EMA	EM	Pacific	PAC	PAC,HAW,HI,GU
Eastern New York	ENY	EN	Province of Quebec	PQ	PQ, QU, VE2
Eastern Pennsylvania	EPA	EP	Puerto Rico	PR	PR, KP4
Eastern Washington	EWA	EW	Rhode Island	RI	RI
Foreign, except Canada	DX	DX	Sacramento Valley	SV	SV, SAC
Georgia	GA	GA	San Diego	SDG	SDG
Idaho	ID	ID	San Francisco	SF	SF, SANF
Illinois	IL	IL	San Joaquin Valley	SJV	SJV, SANJ
Indiana	IN	IN	Santa Barbara	SB	SB
Iowa	IA	IO, IA	Santa Clara Valley	SCV	SCV
Kansas	KS	KA, KS	Saskatchewan	SK	SA, SK, VE5
Kentucky	KY	KY, KTY	South Carolina	SC	SC
Los Angeles	LAX	LAX	South Dakota	SD	SD
Louisiana	LA	LA, LOU	South Texas	STX	ST
Maine	ME	ME, MAI	Southern Florida	SFL	SFL
Manitoba	MB	MB, MA, VE4	Southern New Jersey	SNJ	SNJ, SN
Maritime Provinces	MAR	MAR,MR,NFD, NB, PEI, LAB, NS, VE1	Tennessee	TN	TN, TEN
Maryland-DC	MDC	MD, DC	Utah	UT	UT
Michigan	MI	MI	Vermont	VT	VT
Minnesota	MN	MIN, MN	Virgin Islands	VI	VI, KP2, KV4
Mississippi	MS	MIS, MS	Virginia	VA	VA
Missouri	MO	MO	West Texas	WTX	WT
Montana	MT	MON, MT	West Virginia	WV	WV
Nebraska	NE	NE	Western Massachusetts	WMA	WM
Nevada	NV	NEV, NV	Western New York	WNY	WNY
Newfoundland-Labrador	NL	VO1, VO2	Western Pennsylvania	WPA	WP
New Hampshire	NH	NH	Western Washington	WWA	WW

ARRL/Canadian Sec	Abbr.	Prefixes, alternates	ARRL/Canadian Sec	Abbr.	Prefixes, alternates
New Mexico	NM	NM	Wisconsin	WI	WI, WS
North Carolina	NC	NC	Wyoming	WY	WY
North Dakota	ND	ND	Yukon, Northwest Terr. Nunavut	YU	YU, NW, VE8, NUN, VY0

Appendix E: COMMON-TEXT "BOOK TRAFFIC"

BOOK OF 10 R HXC N1BDA 27 Carlisle MA 2240 local June 27

BT

area ham radio operators are
participating in Field Day this
weekend to practice emergency communications
and field operations xray further
information at [www dot wb1gof
dot org](http://www.dot.wb1gof.dot.org)

BT

Steve Telsey N1BDA

n1bda@arrl.net

978-505-7009

1 Brent Reagor

Concord Public Health Director

978-318-3275

breagor@concordma.gov

2 Dottie Bernard

Emerson Hospital Emergency Preparedness Coordinator

978-287-3276

Dbernard@emersonhosp.org

3 Sandy Collins

Westford Director of Health Care Services

978-399-2908

scollins@westfordma.gov

4 David Flannery

Carlisle Emergency Management Director

978-369-2888

Chief@carlislefdma.org

5 John Sullivan

Carlisle Police Chief

978-369-1155

jsullivan@carlislepolice.com

6 Mark Cotreau

Acting Concord Emergency Management Director

978-318-3450

mcotreau@concordma.gov

- 7 Paul Macone
Concord Deputy Police Chief
978-318-3406
pmacone@concordma.gov
- 8 Tom Rines
Lahey Clinic Director of Safety & Occupational Health
781-744-5203
Thomas.M.Rines@lahey.org
- 9 Ron Bruchmann
Emergency Management & Safety Specialist
Bedford VA Medical Center
781-687-3097
Ron.Bruchmann@va.gov
- 10 Joseph Targ
Westford Emergency Management Director
978-692-5542
???
- 11 Linda Fantasia
Carlisle Board of Health Director
lfantasia@carlisle.mec.edu
978-369-0283

Appendix F: RECOGNITION

Field Day is a large event to plan and there were many people who worked together to make it a success. This page recognizes some of these people for their contributions. If anyone was missed, please accept our sincere apologies.

Steve Telsey, N1BDA, Field Day Chairman, who spent the time working on this manual, coordinating with others and getting all the ducks in row.

Steve Rimsa, WA1KBE, able Assistant Chair, without whom much work would still be pending.

Alan Lewis, K1ALL, for the generous use of his facilities for Field Day operations including the Saturday cookout.

Field Day Staff members who ably assisted with the planning and execution of this event and are listed on pages 7-9.

Richard Crisafulli, AB1HD, for taking on the responsibility for the Toolbox Talks.

Station chiefs **Alan Lewis**, K1ALL, **Richard Crisafulli**, AB1HD, and **Allison Parent**, KB1GMX, for use of their equipment for this event.

Steve Rimsa, WA1KBE, **Allison Parent**, KB1GMX, **Scott Anderson**, NE1RD, and **John Beanland**, G3BVU (aka AA1YE) for providing antennas and accessories.

Al Bates, W1XH, for professionally looking signs so folks could find us.

Toolbox Talk presenters:

- AB1HD - Richard Crisafulli
- KB1OIQ - Andy Stewart
- WA1KBE - Steve Rimsa

for their generous contributions as *elmers*.

A special thanks to **Gary Frascarelli**, W1GFF, proprietor of Gary's Ice Cream, who provided the delicious Saturday desserts.

And finally, **Bo Budinger**, WA1QYM, President, and the **members of PART**, who make the club the success it is!