



# The SKYHOOK



HOLIDAY CITY AMATEUR RADIO CLUB

[www.hcarc.us](http://www.hcarc.us)

MAY 2013

Toms River, NJ

## ARES Active at Boston Marathon

Amateur Radio Emergency Service was activated for the Boston Marathon, as usual, but turned out to be even more important than expected. See the full report on page 7.



## Program for Our Next Meeting

It's Show & Tell time., Here's a chance to show off your vintage your Do-It-Yourself project. And what have you been working on lately? Old photos are welcome, too.

### Dates For Your Calendar

May 2	HCARC Club Meeting 7pm
May 8	License Exams 7pm
May 12	Mothers Day
May 13	Lunch Get-together at noon
May 27	Memorial Day
May 27	Lunch Get-together at noon
May 29	HCARC Board Meeting 10am
June 6	HCARC Club Meeting 7pm

## Birthdays & Anniversaries

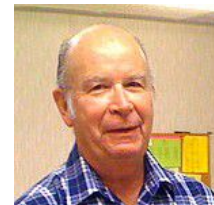
Elaine Bicher  
Joe Militano  
Lynn Wilson



Barbara & Warren Keay  
John & Nancy Roberts



## The President's Corner



Well, here it is almost a third of the year done and the weather can not seem to decide what season it is.

Hopefully it will warm up soon. We had a great time at our Chinese luncheon. The food was great and the company and conversation was great. Hopefully more of you can join us next time. I hope every one is starting to think about Field Day. I am making my plans for both Four Days In May a qrp event sponsored by QRP ARCI a day before the start of the Dayton Hamvention. My shopping list is growing. Looking forward to seeing everyone at the May Meeting.

73,

[Carl W2PTZ](mailto:Carl W2PTZ)

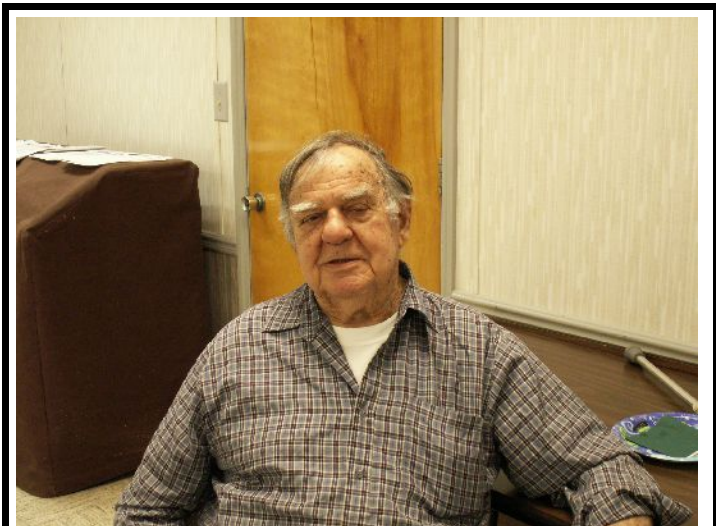
## W1AW Special Event

During 2014 both the ARRL and the United States Power Squadrons will be celebrating their 100th Anniversaries. The United States Power Squadrons is an organization of recreational boaters dedicated to the advancement of safe boating through education. USPS has an amateur radio club that is an ARRL affiliated club. On June 1st and 2nd members of the USPS Radio Club will be operating at W1AW to start celebrating both anniversaries. I will be one of the operators. There will probably be a Special Certificate and/or QSL Card for working W1AW. We will probably be working several bands and modes. I look forward to working many club members during the weekend.

Carl

[W2PTZ](mailto:W2PTZ)

**NEXT MEETING:**  
**Thursday May 2 at 7:00PM**  
**Meeting Rm. #1 at Holiday City South**  
**Clubhouse**  
**Mule Rd. at Santiago Drive**



**Paul Kaciuba, N2IFH, Silent Key**

Folks,

It is my sad duty to inform you of the passing of our club member and good friend Paul Kaciuba, N2IFH. Paul passed on Wednesday March 26 at home. Paul was an avid CW operator and operated mostly 40 meters.

- Larry Puccio



**Dave Ottenberg, WA2DJN, Awarded Certificate**

At the April meeting, President Carl Lee presented Dave Ottenberg with a Certificate of Achievement honoring Dave's 55 years as a licensed radio amateur. Dave enjoys the challenge of making ham radios out of available parts as well as working QRP.

**The 2-meter Repeaters In and Around Ocean County**

By Murray Goldberg, [KD2IN](#)

These are the repeaters which I have checked for operation as of mid-March 2013. I have used 5 watts output from a base 2M radio. The antenna is a J-pole at about 15 feet above ground level.

Input (MHz)	PL (kHz)	Offset (Hz)	Call Sign	Location
146.910	600	127.3	W2DOR	Toms River
146.835	600	127.3	N2OO	Barneget
145.170	600	131.8	WA2RES	Manchester
146.445	- 600	131.8	KC2GUM	Bayville
146.655	- 600	127.3	WA2JWR	Toms River
146.700	- 600	192.8	N2NF	Tuckerton
146.955	- 600	103.5	W2RAP	Lakewood
146.490	+1000	141.3	W2NJR	Brick*
*Linked repeater network covering all major NJ highways				
147.345	+600	127.3	WA3BXW	Camden
145.470	- 600	127.3	KC2QVT	Chatsworth



**We Welcome New Member Ira Dechowitz, N2RKV**

Ira, now a General class licensee, was first licensed as a Tech Plus in 1992. He lives in the corner of Manchester that has a Toms River 08757 postal address and FM29ux grid code. His favorite band is 40m CW.

[For a list of coordinated repeaters, including other bands, see [www.arcc-inc.org](http://www.arcc-inc.org) for Southern NJ and Eastern PA, and [www.MetroCor.net](http://www.MetroCor.net) for Northern NJ and Metropolitan NYC.]

## The 60m Band

60 meters is a strange one. Instead of a range of frequencies, we have just five channels, and it's shared with other services which have higher priority. Most nations don't list 60m as an amateur band in their allocation chart, so don't expect any DX.

Power is limited to 100W Effective Radiated Power. That's less than PEP, because ERP includes antenna gain.

For CW, set the carrier frequency to the center of the channel.

When using SSB, we are required to use USB (upper sideband), rather than LSB (lower sideband), even though it's below 10 MHz.

For all modes that use SSB, and that includes all those modes that use an SSB rig with a sound card, you set your carrier frequency 1.5kHz below the center of the channel. Because the carrier is outside the allocated frequency range, it, and the lower sideband, must be well suppressed.

### Here's the official FCC regulation:

(1) In the 5330.5–5406.4 kHz band (60 m band), amateur stations may transmit only on the five center frequencies specified in the table below. In order to meet this requirement, control operators of stations transmitting phone, data, and RTTY emissions (emission designators 2K80J3E, 2K80J2D, and 60H0J2B, respectively) may set the carrier frequency 1.5 kHz below the center frequency as specified in the table below. For CW emissions (emission designator 150HA1A), the carrier frequency is set to the center frequency. Amateur operators shall ensure that their emissions do not occupy more than 2.8 kHz centered on each of these center frequencies.

### 60 m BAND FREQUENCIES (kHz)

Carrier *	Center
5330.5 .....	5332.0
5346.5 .....	5348.0
5357.0 .....	5358.5
5371.5 .....	5373.0
5403.5 .....	5405.0

(2) Amateur stations transmitting on the 60 m band must not cause harmful interference to, and must accept interference from, stations authorized by:

(i)-The United States (NTIA and FCC) and other nations in the fixed service; and

(ii)-Other nations in the mobile except aeronautical mobile service.

## Internet and e-Mail Address Links

Internet addresses and most callsigns in The SKYHOOK are now hyperlinks. If clicking on the link does not bring up the web site, copy the address and paste it into your search box.

## HCARC Official Badge Ordering

The club's official badge maker is the Capital Engraving Co. in Longview, WA. To order a badge, simply call Capital at 1-800-628-4985 after 1PM M-F. All that is required is to give your call and first name and your mail address. Use your credit card to pay. Cost is \$12.50 plus \$2 S&H. Al Ross WA7UQE will take care of you and put the official logo and club name on your personal badge.

### Our VE Crew

Murray [KD2IN](#), John [K2JWH](#), Ed [W1EAP](#), Larry [K2QDY](#),  
John [KQ4WR](#), Stan [KB2PD](#), Steve [N2WLH](#), Kevin [W2FA](#),  
Walter [KC2LFD](#).

*License exams are given on the second Wednesday of each month at Holiday City South Clubhouse, Bldg A, which is at the corner of Mule Rd. and Santiago Dr.*

*Directions: Go to Mule Rd. and to the corner of Santiago Dr. Turn into Santiago Dr., then into the parking lot in front of the pool. Enter bldg. on right*

### CLUB COMMITTEES

*Refreshments:* Ed Baranowski

*Webmaster:* Steve [N2WLH](#), Carl [W2PTZ](#)

*Publicity:* Ed [W1EAP](#)

*Programs:* Murray [KD2IN](#)

*Sunshine:* Dave [WA2DJN](#)

*Field Day:* Larry [K2QDY](#)

*VE Sessions:* Larry [K2QDY](#) & the crew

*Skyhook:* John Roberts [KQ4WR](#)

*Fund Raising:* vacant

*Membership:* Murray [KD2IN](#)

### HOLIDAY CITY AMATEUR RADIO CLUB

Toms River, New Jersey

Web Site [www.hcArc.us](http://www.hcArc.us)

President	Carl Lee	<a href="#">W2PTZ</a>	732 237-2421
Vice President	vacant		
Secretary	John Hann	<a href="#">K2JWH</a>	609 660-0985
Treasurer	Larry Puccio	<a href="#">K2QDY</a>	732 349-2950
Executive Board	John Roberts	<a href="#">KQ4WR</a>	732-350-1162
Executive Board	Ed Picciuti	<a href="#">W1EAP</a>	732 736-0955
Executive Board	Don Smith	<a href="#">W2III</a>	732 505-4821
W2HC Trustee	Don Smith	<a href="#">W2III</a>	732 505-4821

Membership is open to all interested persons. Ham license is not required. Dues are \$20.00 per year, payable Jan 1<sup>st</sup>. Members joining during the year will have the dues prorated. Family membership \$30.00.

Meetings are held on the first Thursday of every month, at 7:00 pm. Location: Meeting Room #1 in the Holiday City South Clubhouse. Directions: Go to Mule Rd. and to the corner of Santiago Dr. Turn into Santiago Dr., then into the parking lot in front of the pool. Enter bldg. On right.

The SKYHOOK is published monthly.

Editor and Publisher:

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Send all newsletter items to: John Roberts

7 Lincoln Ct. Whiting, NJ 08759-1505, or e-mail [KQ4WR@arrl.net](mailto:KQ4WR@arrl.net)



### The 80m Band (incl 75 meters)

3500 - 3510	CW - (DX)
3510 - 3525	CW - (Contests)
3525 - 3560	CW - (Contests)
COA = 3555	CW - (QRS)
COA = 3560	CW - (QRP)
3560 - 3580	CW & Slow Data (<200Hz BW)
3580 - 3590	All narrowband modes
COA = 3580	PSK31
3581.5	W1AW CW (Practice, etc)
3590 - 3600	All narrowband modes
COA = 3595	Unattended data stations
3597.5	W1AW Data (Bulletins)
3600 - 3650	All modes - (SSB Contests)
COA = 3630	Digital voice
3650 - 3700	All modes (SSB)
COA = 3690	SSB (QRP)
3700 - 3775	All modes - (SSB Contests)
COA = 3750	Emergency
COA = 3775	Image
3775 - 3800	All modes- (SSB DX)
3800 - 3900	All modes
COA = 3845	Image
COA = 3885	AM
COA = 3985	Emergency
3990	W1AW SSB (Bulletins)
3900 - 4000	All modes

T G A E  
N

Technician and Novice licensees may use CW (only) up to 200W in the 3525-3600 kHz sub-band. General class (G), Advanced class (A) and Extra class (E) licensees may use sub-bands as indicated in the chart. Below 3600 kHz, only modes having bandwidth of 200Hz or less, such as CW, are permitted. Between 3580 and 3600, bandwidths up to 500 Hz are allowed. From 3600 to 4000, up to 2.8kHz bandwidth, including SSB (use LSB) voice, is permitted. Despite that, AM is permitted (but discouraged). Historically, the phone portion, once reserved for "Class A" licensees, is known as the 75 meter band.

### Getting A Vanity Callsign

by Urb LeJeune, W1UL

I've helped many people get a vanity call. The problem is that it takes more time to help someone apply than it takes to do it myself.

I'll make an offer to any HC member to apply for their vanity call application for free but there is a \$15 FCC application

fee.

They should check the FCC database or QRZ first to make sure the call they want is available.

Caution, 1X2 calls are a very special case and anyone wishing to apply for one should call me first at 609-296-5856.

73,

Urb

### How's DX?

From about March 15 to about April 14

Joe Militano, KC2QLA worked:

10 m	SSB	CX2DK	Uruguay
10 m	SSB	PY2DXA	Brazil
10 m	SSB	D44BS	Cape Verde
10 m	SSB	6V7S	Senegal
10 m	SSB	KP2MM	Virgin Is
10 m	SSB	NP3PR	Puerto Rico
10 m	SSB	TG9NX	Guatemala
10 m	SSB	L07H	Argentina
10 m	SSB	HK1NA	Columbia
15 m	SSB	KP2/J56RRR	Virgin Is
15 m	SSB	E77XZ	Bosnia-Herzegov
15 m	SSB	EE1W	Spain
15 m	SSB	5D5A	Morocco
15 m	SSB	TM1W	France
15 m	SSB	DR1A	Germany
15 m	SSB	KP4RV	Puerto Rico
15 m	SSB	CR3A	Madeira Is
15 m	SSB	8P5A	Barbados
15 m	SSB	1K4GRO	Italy
17 m	SSB	FS/DK50N	Saint Martin
17 m	SSB	LY23A	Lithuania
20 m	SSB	9A9RR	Croatia
20 m	SSB	ED57	Spain
20 m	SSB	KP2MM	Virgin Is.
20 m	SSB	P4OL	Aruba
20 m	SSB	CO2GG	Cuba
20 m	SSB	PY2EE	Brazil
20 m	SSB	TM6M	France
20 m	SSB	KG2A/UPG	Bermuda
20 m	SSB	YW4D	Venezuela
20 m	SSB	EI7M	Ireland
20 m	SSB	VE7GL	Canada
20 m	SSB	GW9T	Wales
20 m	SSB	9A33P	Croatia
20 m	SSB	EA7LL	Spain
20 m	SSB	ED8W	Canary Is.
20 m	SSB	DM4X	Germany
20 m	SSB	CQ9T	Madeira Is.
40 m	SSB	VY2LI	Canada

**Russ Young, WA2VQV worked:**

17m	SSB	FS/DK5ON	St. Martin
12m	SSB	VP8LIZ	Falkland Islands
30m	CW	FS/LY2IJ	St. Martin
17m	CW	FS/LY2IJ	St. Martin
17m	CW	V44KAO	St. Kitts & Nevis
17m	CW	PJ7/N0TG	St. Maarten
30m	CW	I0/S53R	Italy
17m	CW	TK0INT	Cerbicales I
17m	CW	TK1INT	Sanguinaires
17m	SSB	CO2OQ	Cuba Cipriano & Lavezzi Is
17m	CW	TK2INT	Is
20m	SSB	J5UAP	Guinea-Bissau
17m	CW	RW0SC	Asiatic Russia
15m	CW	TR8CA	Gabon
17m	SSB	S58N	Slovenia
20m	SSB	OD5ZZ	Lebanon
17m	CW	TK5MH	Corsica
15m	CW	H70OR0	Nicaragua
12m	CW	5W0M	Samoa
17m	CW	5T0JL	Mauritania
17m	CW	J6/N7QT	St. Lucia
17m	CW	H70OR0	Nicaragua
17m	RTTY	5W0M	Samoa

**Larry Puccio, K2QDY worked:**

30m	CW	9K2MU	Kuwait
30m	CW	ER3GQ	Russia
30m	CW	ES3AY	Estonia
30m	CW	RK6HO	Russia
30m	CW	TA1BJ	Turkey
30m	CW	Z30U	Macedonia
20m	SSB	5D5A	Morocco
20m	SSB	IK2WZM	Italy
20m	SSB	ED8W	Canary Is
20m	SSB	J88DR	St. Vincent
20m	SSB	PX2C	Brazil
20m	CW	7T9A	Algeria
20m	CW	DJ9IB	Germany
20m	CW	EA3GG	Spain
20m	CW	GX8HRO	England
20m	CW	OH6VL	Finland
20m	CW	SP9MZH	Poland
17m	CW	7Z1HL	Saudi Arabia
17m	CW	HZ1TT	Saudi Arabia
17m	CW	LU8MFF	Argentina

**In the Spring a Young Ham's Fancy  
Lightly Turns to Thoughts of Dayton  
Hamvention**

By John Roberts, [KQ4WR](#)

Yes, it's that time of year again. I've only been there once. My son, KD4WCL, who had just received his Tech license, took me there. I had let my Advanced class license expire decades earlier, so I had to buy a copy of *The FCC Rules Book* at the [ARRL](#) booth to see what had changed. A month later, I passed the 5 wpm code, Tech test, 13 wpm code, General, and Advanced class tests. All in one sitting. A month later, I passed the 20 wpm code and Extra class exams.

The [Hamvention](#) (the world's fair of amateur radio) is May 17 -19 at the HARA Arena near Dayton, Ohio.



**Dear Elmer, What's a Sideband?**

A sideband is a signal produced when a signal, such as an unmodulated carrier, is modulated by another signal, such as audio, video, digital pulses, or even Morse code.

The result is normally two sets of signals, called sidebands, at frequencies which are the sum and difference frequencies of the original signals.

In AM modulation, for example, if a 3885kHz carrier is modulated by a 1kHz audio tone, signals will be produced at 3886kHz (the sum) and 3884kHz. (the difference).

What is actually happening is that the instantaneous values of the 3885kHz sine wave are being multiplied by the instantaneous values of the 1kHz sine wave.

For single sideband (SSB), the multiplication is usually done by a circuit called a balanced modulator, which outputs the sidebands, but not the original signals. The unwanted sideband must then be filtered out, leaving only either the sum (upper) or difference (lower) sideband.

The important thing to remember is that your signal is not a single frequency, but a range of frequencies, so be sure your sidebands are within the band limits.

When using USB SSB on one of the five channels of the 60m band, you set your (suppressed) carrier 1500Hz below the center of the channel, so your single (upper) sideband fits within the channel.

I hope this helped.

73,

[Elmer](#)

Start	End	Entity	Callsign	QTH	QSL via	Con/lotA	ITU	CQ	MCS	Miles	Dir	Bands	Modes
4/27	5/01	Mariana Is	NH0J	Tinian I	JJ2VLY	OC-086	64	27	QK25ta	7857	NW	80-10m	CRS
4/22	5/04	Ogasawara	JD1BMH	Chichijima I	JD1BMH Buro	AS-131	45	27	QL16cb	7246	NNW	40-10m	CRS
4/27	5/04	Antigua	V25PM	Falmouth Hbr	KB4GYT	NA	11	8	FK97ca	1152	SSE		CPS
4/27	5/04	Tunisia	TA8IT	Djerba		AF-083	37	33	JM53iv	4534	ENE	HF 8m	CPRS
4/26	5/05	Senegal	6V7T		F5RAV Dir	AF	46	35	IK24	3940	E		PS
4/28	5/04	Ogasawara	JD1BLY	Chichijima I	J15RPT	AS-031	45	27	QL16cb	7246	NNW	40-10m	CDS
4/28	5/05	Ogasawara	JD1	Chichijima I	LotW	AS-031	45	27	QL16cb	7246	NNW	160-8m	All
4/29	5/05	Micronesia	V63	Pohnpei I	JH3QFL	OC-010	65	27	QJ96cu	7797	WNW	80-8m	CJRS
4/29	5/06	Tunisia	TS8TI	Djerba I	IK2DUW	AF-083	37	33	JM53ks	4544	ENE		
5/01	5/07	Tonga	A35UD	Tongatapu	UT6UD	OC-049	62	32	AG28ks	7717	W	40-10m	CRS
5/01	5/31	Mauritania	5T1FOC		ON8RA Buro	AF	46	35	IK28	3800	E		
5/02	5/05	Mariano Is	KH0	Saipan	JL1UTS	OC-086	64	27	QK25uf	7842	NW	HF	All
5/03	5/14	South Cook Is	E51AAO	Rarotonga I	LotW	OC-013	62	32	BG08dr	6927	WSW	40-10m	S
5/03	5/19	Egypt	SU8N	Jazirat Disuqi	SU1SK group	AF-109	38	34	KM50bi	5583	ENE	HF	
5/03	5/12	Norfolk I	VK9NT		OQRS pref	OC-005	60	32	RG30xx	8896	W	80-10m	CRS
5/04	5/18	Belize	V31RD		K4UUK	NA	11	7	EK57	1800	SSW	80-8m	S
5/05	5/22	Tonga	A35JP	Tongatapu I	LotW	OC-049	62	32	AG28ks	7717	W	80-10m	CS
5/07	5/11	Mozambique	C91GR	Bilene	ZS6AYU	AF	53	37	KG64ot	8313	E	40-10m	C
5/07	5/31	South Cook Is	E51AGY	Rarotonga I	ZL2AGY	OC-013	62	32	BG08	6930	WSW		C
5/08	5/12	Mariana Is	W3ANA/KH0	Saipan	KH8XGS	OC-086	64	27	QK25uf	7842	NW	HF	All
5/08	5/12	Mariana Is	KH0/JA1RTS	Saipan	JA1RTS	OC-086	64	27	QK25uf	7842	NW	HF	All
5/09	5/16	Anguilla	VP2E		LotW	NA	11	8	FK88lf	1643	SSE	40-10m	CRS
5/11	5/12	Reunion	TO1PF	Piton De La F..	FR1GZ	AF-016	53	39	LG78us	9252	E	HF	All
5/12	5/20	Madiera	CT9		ARI Buro pref	AF-014	36	33	IM12np	3181	E		CPS
5/13	5/26	Maldives	8Q	Komandoo I	G3VDB	AS-013	41	22	MJ63oe	8814	NE	20m	CS
5/13	5/30	Senegal	6V7S		RK4FF		46	35	IK24	3940	E	HF	
5/15	5/28	Cyprus	5B4ALB		RT9T		39	20	KM65	5500	NE		
5/15	6/15	Afghanistan	T6JP	Kandahar Prov	KB2OBQ		40	21	MM21	6900	NE	160-8m	CS
5/15	6/15	Marion I	ZS8		see QRZ.com		57	38	KE63uc	9105	WNW	40-10m	DS
5/24	5/30	Jersey	MJ		ON4ANN	EU-013	27	14	IN89we	3472	NE	160-2m	CPS

**Mode Codes:** C = CW, D= Digital (unspecified or various), J=JT65, P=PSK31, R=RTTY, S=SSB.

Mileage listed is US statute miles, usually based on the latitude and longitude I find from a quick Internet search. To convert to nautical miles, (per QRB), multiply by 1.15.

The editor wishes to acknowledge and thank NG3K for the basis of much of the information listed above.

## Free Unclassified Ads

Murray, [KD2IN](#) mentioned that he has some 2-meter equipment he'd like to unload. That reminded me that the Skyhook has occasionally had a Swap&Shop corner. So let's do it again. If you need something or want to sell something garage sale style, send me an e-mail, As usual in the Skyhook, photos are appreciated.

Neither the HCARC, the Skyhook, nor the [Editor](#) can accept any responsibility for any transactions which may result.



## Getting Ready for Field Day?

HF is fun, so invite the parasites (kids). June 22 we plan to be at Whispering Pines Park (at the end of Selkirk Ave). Read up on Field Day at <http://www.arrrl.org/field-day>.





## Ocean County ARES® News

On April 17<sup>th</sup>, Ocean County ARES held a general meeting at the Ocean County EOC. Al Mantz, Radiological Control Officer for Ocean County gave RERP 2013 to all those who attended. I would like to welcome new members of Ocean County ARES: Jim Simonsen – W2SIM, Ken Simonsen – W2KJS and Gavin Rozzi – KD2CXZ.

## Boston Marathon Communications

### *From the April 17, 2013 ARES E-Letter:*

As has happened many times in years past, over 200 Amateur Radio operators participated in communications for the Boston Marathon on Monday, April 15, 2013. Unlike prior challenging situations such as very warm weather for the runners or other weather-related challenges, this year's marathon will be remembered for the bombings that took place at the finish line. Despite this heinous act, professional first responders, medical volunteers from the American Red Cross that staffed the route, and Amateur Radio operators performed magnificently in the face of adversity.

“Within minutes, cell phone systems became overloaded and making phone calls and text messages was difficult. Amateur Radio operators performed communication duties under duress and performed admirably. No Amateur Radio volunteers were injured on the course in this terrible act,” said Steve Schwarm, W3EVE, who is the Amateur Radio Course Communication Coordinator and associated with a consortium of clubs and groups known as Marathon Amateur Radio Communications (MARC).

“At the finish line net control, which was only 400 feet from the initial blast, we heard the explosion. I poked my head outside to confirm what I thought it was and saw the white smoke. We immediately knew what had happened and commenced a roll call of all ham operators and medical tents. State Police authorities initially ordered us to lock down and post a ham for

security watch outside the net control trailer. Thankfully none of our people were hurt,” said Paul Topolski, W1SEX, Amateur Radio Finish Line Coordinator.

Following the explosion and roll call, Topolski stated that they began pulling together updates and sent the information via the Massachusetts Emergency Management Agency (MEMA) Web-EOC software tool and provided updates via Amateur Radio. Shortly after sending a few updates both Boston Police and Massachusetts State Police gave the order for the tent area to be evacuated. “In my mind, the course end of things is where a lot of work needed to happen as runners eventually needed to be stopped, congregated and transported to safety and staging areas,” Topolski said. “At the finish line, our job was to check on the safety of our people, provide those initial updates and evacuate per police instructions. Three of our Amateur Radio operators redeployed to the Boston Marathon Course Net Control Center.”

Across the course outside of the finish line after the bombings occurred, first aid stations were consolidated to larger first aid stations to pool runners for pickup and to keep runners warm as there were enhanced tents along the route where runners could be kept warm and hydrated. At the Heartbreak Hill first aid station, amateur operators had a complete base station setup, including a computer, and were prepared to handle health and welfare traffic as required. Several shelters were set up along the route at churches and schools, and Amateur Radio operators from secured first aid stations went to those shelters, providing communications in those areas until runners were moved out of their locations.

“My role at the request of Steve, W3EVE, as event organizer before the race was to shadow the course medical tent coordinator for the Red Cross, Kandi Finch,” said Rob Macedo, KD1CY, who is also the Eastern Massachusetts ARES Section Emergency Coordinator. “It was a challenging position but all organizers on both the Amateur Radio side and Red Cross side said things went well in coordinating during normal race conditions and particularly after the bombings.”

At course net control, which was away from the bombings, ham operators controlled their nets calmly and professionally while also expressing an appropriate level of urgency. Over a dozen amateurs at the net control center pooled together to announce messages and keep status of changes along the course route as required.

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Net Control Center Coordinator, Karen Brothers, K1KEB, kept in constant contact with MEMA, where Terry Stader, KA8SCP, was stationed. Stader became the MEMA 'Ops' point person at the State Emergency Operations Center as runners were transported from the shelters to other staging locations. From his location at the EOC, Stader was able to sort out the sheltering plan and reception centers for the runners, subsequent transport of runners from shelter locations and give out information on MBTA bus and train operations.

Jim Palmer, KB1KQW -- who served as a net control at the Net Control Center -- stated that nets were doubled up on operators, to allow one person to operate the radio while the other listened and logged priority calls and ambulance requests, creating a more efficient operation. "Several ambulance requests for dehydration and exhaustion were handled due to the runners needing to be stopped," Palmer said. The specific net that Palmer ran also provided a link between the marathon course and the American Red Cross in its Cambridge facility. Lou Harris, N1UEC; Frank O'Laughlin, WQ1O, and Dan Howard, K1DYO, staffed the Red Cross in Cambridge.

Many amateur operators who volunteered along the marathon route praised Net Control's support after the bombing. "Net Control did an awesome job," said course volunteer David Wihl, KB1VEG. "The workload was busiest after seven hours on the radio, and it didn't let up for another couple hours."

Several young radio amateurs from the Clay Center Amateur Radio Club also supported Net Control Operations, both as direct net control operators and runners for the operation as they have done in the past. This provided a tremendous learning opportunity for these young operators, from both an Amateur Radio perspective and an overall learning perspective.

"Despite the total lack of warning in this situation, amateurs followed a creed I've long since preached since the 9/11 terrorist attacks and the mutual aid response to those attacks: 'blessed are the flexible for they will not get bent out of shape,'" said Steve Schwarm, W3EVE. "Amateurs on the course did what they had to do to assure their own safety and runner safety working with the Red Cross medical people. They did an outstanding job and I was told so by Red Cross organizers as well."

From an ARES perspective, a heightened state of awareness on the Boston Marathon event is typical, but within 15 minutes of the bombings, Eastern Massachusetts ARES Assistant Section Emergency

Coordinator, Carl Aveni, N1FY, issued an ARES Stand-By and requested that amateurs give availability for the next 24 hours. Within minutes, 20 amateurs offered their availability.

The ARES sub-regional command center at the Acushnet, Massachusetts EOC (under call sign WA1EMA) was utilized as a control point to obtain critical situational awareness of the rapidly changing situation, as well as to monitor resource nets per a report filed by Acushnet Emergency Management Communications Officer Ed Caron, KA1RSY; he also serves as the South Shore Massachusetts ARES District Emergency Coordinator. A total of five Amateur Radio operators were deployed to this facility. An ARES resource net was called on the 147.18 Bridgewater repeater with Byron Piette, K1YCQ, as net control with 11 stations checking into the net.

"In terms of having amateurs within ARES who cannot get directly involved in the marathon, we have a process where we have them monitor in case of a situation like what occurred on Monday. That process paid off and facilitated a rapid response to our request for possible additional support," said Carl Aveni, N1FY.

73 de WX2NJ

Bob Murdock

Ocean County Amateur Radio Emergency Service® EC

## **Measuring the Effective Power of a Microwave Oven**

You will need 3 styrofoam cups and a meat thermometer.

Cut a small hole in the bottom of one of the cups for the thermometer. Shorten this cup about a 1/2 inch so it can be used, inverted, as a lid on the other cups, to prevent evaporation. Leave the uncut cups nested together.

Pour exactly 6 ounces (3/4 cup) of ice water (without ice) into the inner uncut cup. The outer cup is just insulation.

Invert the shortened cup on it as a lid. Record the water temperature. Remove the thermometer.

Microwave on high power for exactly 1 minute.

Without removing the lid, measure and record the temperature.

To find the power in watts, multiply the temperature rise (in Fahrenheit degrees) by 6.9.