



USECA EXPRESS



Michigan's Largest and Most Active Amateur Radio Club

UTICA SHELBY EMERGENCY COMMUNICATION ASSOCIATION, INC. Volume 15, Number 9, November 1999

Repeater 101

Ken, N8KC

THIS SUBJECT HAS BEEN written about several times before, so I'll keep it short. I was asked by a few members in the club to go over it again for those of you who may not be familiar with the topic (and that's not necessarily just the *new* Hams!)

Identification. As you learned in your very first license study guide, you must ID (as per FCC rules) *at least* once every 10 minutes and *at the end* of your series of transmissions. Sometimes, during late-night repeater roundtables, it's easy to forget this simple rule and I've heard a few stations go as long as 45 minutes without ID. *Inversely*, it is *not* necessary to ID with *every* transmission, *nor* on your first. If you take the time to read the FCC rules (97.119a) you'll realize that it's perfectly legal (*although it's very poor operating practice*) to "kerchunk" a repeater, as long as you subsequently make an identified transmission within 10 minutes—a "kerchunk" *only*, with no forthcoming ID is illegal. It's also interesting to note that signing "I/mobile" or "I/portable" is *not* required although many of us do.

Breaking Stations—two kinds, NO DIFFERENCE!

Occasionally, you'll hear a station use the word "Break" to break into a QSO-in-progress. If this happens, you should immediately turn the repeater over to him/her...no ID, no "station acknowledged" and no further commentary—just give them the frequency instantly by saying something like "go ahead" or "breaking station, go." Unlike the world of CB, the use of "Break" on a repeater means an emergency exists and *immediate* use of the frequency is needed. Under other circumstances, you may hear someone else slip their call sign in-between yours and another station's transmissions while in mid-QSO. *The same rule applies as above!* Since you have no way of knowing *why* the other station is jumping in, you should assume that it *may* be an emergency and immediately turn it over to them—if it's not, they'll probably ask to join your QSO or ask permission to make a quick call. On the flip side, *don't* use "Break" to enter a QSO-in-progress, reserve its use for emergencies only. You'll find more on "breaking" below.

Quick-Keying and the Courtesy tone. As I'm sure you're all aware, the courtesy tone on the repeater lets you know that the time-out timer has been reset (in USECA's case, the time-out timer is set for 3 minutes and the Morse code courtesy tone identifies which of our system's remote receivers you're being heard by R=Romeo, M=Mt Clemens, D=Detroit, U=Utica).

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Important Notice!

The next general meeting will be held on the **THIRD** Tuesday of November—the 16th—pass the word!

Comin' up

Millennium Elections!

Ken, N8KC

NOVEMBER IS THE MONTH we USECAns nominate our choices for elective office, with elections held at December's general membership meeting. If you'd like to see someone you know elected to office, be sure to ask if they'd mind your nominating them. Keep in mind that the person you nominate should be more than just a buddy—he/she should be willing and able to work well with the others who will inevitably serve with them. **REMEMBER:** Only members in good standing may hold office (those who've been dues paying members for at least 6 months.) Nominations will be accepted for President, Vice-President, 3 Board members, Treasurer, and Secretary. If *you'd* like to volunteer to help out or fill one of the *voluntary/appointed* positions listed in the front of each *Express*, make your wishes known to the Club leadership at any meeting.

Express On-Line?

Not! Several people have asked—but the answer remains, "not at this time." Why? The *Express* is mailed as "Bulk Rate" postage. To qualify for this special rate, we **MUST** have a minimum of 200 pieces to mail.

November Meeting Hosts
K8QLM, Richard
KC8HMG, Janice

Next Meeting — November 16

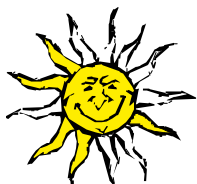
CLUB DIRECTORY

BOARD OF DIRECTORS

President	Dennis Gaboury/W8DFG, (810) 465-7126
Vice President	Nancy Carr/KB8QMS, (810) 749-3383
Recording Secretary	Debbi Cokewell/KB8YYB, (810) 263-0227
Treasurer	Jim Mickle/N8OKW, (810) 677-1667
Membership Secretary	Mark Milby/W8IR, (810) 293-3603
Past President	Floyd Soo/W8RO, (248) 391-6660

ELECTED BOARD MEMBERS

Dave Cunningham/KC8IAQ, (810) 791-2720
Ann Manor/KG8IF, (810) 751-3893
Marianne Mickle/N8TMJ, (810) 677-1667



COMMITTEES

ARRL Liaison	Dave/W8VB
Awards Manager	Delphine/KC8JSH
Door Prizes	Dina/N8YJI
Editor	Joe/K8OEF, (810) 781-0050
Field Day Chair	Jerry/N8KLX, (810) 558-7729
Health & Welfare	Marianne/N8TMJ, (810) 677-1667
Historians	Jerry/K8CFY & Ann/KG8IF
Mailers/Sorters	Ann/KG8IF; Phil/W8IC; & Crew
Net Manager	Brian/KC8DIR, (810) 749-4561
Photographer	Richard/K8QLM
Program Director	Nancy/KB8QMS
Public Relations Officer	Ken/N8KC
Refreshments	Marianne/N8TMJ & Don/KC8CPT
Repeater Trustee	Chuck/WA8Z (changing to N8SA)
Swap & Shop	Debbi/KB8YYB, (810) 263-0227
Technical Director	John/K8ZEC, (248) 828-3742
Technicians	K8FT; WA8GQL; KC8IAQ; N8KND WY8M; N8MIV; KB8PEV; N8SA
Trash-For-Cash	—Open—

CONTROL OPERATORS

Dennis/W8DFG	Dave/KC8IAQ	Nancy/KB8QMS
Doug/K8DK	Mark/W8IR	Floyd/W8RO
Gordy/WB8H	Joe/K8OEF	Bill/N8SA Gulliver/WA8VIJ

PROGRAMMERS

Gordy/WB8H	Doug/N8KND	Bill/N8SA
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VOLUNTEER EXAMINERS

WW1AW	K8EN	WA8IZV	KA8NDY	W8RO	K8WI
AB8BT	AA8HF	WA8JPR	W8NG	N8SA	KB8WTH
AA8CY	KG8IE	N8KC	N8OEF	N8SN	
KM5D	W1IK	WX3L	N8OZ	W8VB	
WB8E	W8IR	WY8M	KG8QT	WY8W	

SILENT KEYS

Len Czapiewski/K8DHH	Joe Steel/KA8IZM	Harry Young/W8VRW
Art Sheff/WD8EGV	Rick Parady/KB8KLW	Velma Ragon/N8YVC
Joe Lucido/NU8F	John Moore/KA8KTV	John Tomlins/KG8YX
Charles Smith/N8FWF	John Palmer/WD8LBH	
Clarence Ringo/W8HQO	John Pizzuti/WB8NHT	

f= Founder c= Charter h= Hon. Charter

N8AVV h	N8HCT f c	WB8OSF h
KA8BDG c	KA8IZM f c SK	K8QLM f c
N8BK h	KA8KTV f c SK	WB8QNI c
N8FDN c	G. Manquardt h	KA8VYV h
N8FNO f c	WD8MFN f c	WA8VZZ c SK
J. Haubner c	WD8NHT f c	

The Editor is:

Still Going

Joe, K8OEF



Due to a conflict of schedules with the school where we hold our monthly meetings, a change was required. Note: *For November only*, it's on the *third* Tuesday (16th).

"Spread the Word"! Got something you want the club to know about? What better way than in the *Express*? I hardly see how much good it does to tell 30-40+ people at the meeting about an event; whereas you could put it into print and have more than 200 know about it. Case in point: The Y2K assistance being asked for New Year's Eve. So if you don't read the *Express* you won't be "in the know." Remember, I'm just the editor, not a reporter (even though I occasionally get on my own soapbox).

Being just the editor, please do not contact me to say you didn't get your *Express* — sorry, I can't help you. You should start with the membership secretary to be assured your address is correct in the current database.

Nominations for club officers will take place at the November meeting — trust me, there will be *many* surprises!

I felt honored to receive written permission from Mr. Isidor Buchmann who has authored many, many articles on rechargeable batteries. I'm trying to include many of his articles in subsequent issues of the *Express* in the coming months. Sooner or later, we all seem to be in contact with some kind of rechargeable batteries.

Ann, KG8IF, in November, will be collecting for this year's annual Christmas party. You don't have to be a member to attend. All of our club functions endorse this belief so non-members and non-hams are all invited to join in the fun!

73 for now.



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Classic



Junque Drawing

**AT THE NOVEMBER 16, 1999
USECA MEETING**

**BRING YOUR OLD RADIO JUNQUE
(JUNK WITH A "K" SHOULD BE LEFT HOME)
ANYONE INTERESTED WILL PUT THEIR NAME INTO THE DRAWING.**

**NAMES WILL BE DRAWN ONE AT A TIME AND THE WINNER (?) GETS TO PICK ANY
ITEM FROM THE CLASSIE JUNQUE TABLE.**

NAMES WILL BE DRAWN UNTIL ALL THE JUNQUE HAS BEEN REDISTRIBUTED!

BE THE FIRST ON YOUR BLOCK TO OWN A PIECE OF CLASSIE JUNQUE!

ULS Is Here

SAY HELLO TO the ULS! Monday, August 16th, the FCC's Universal Licensing System becomes a reality for the Amateur Service. The ULS ushers in an era of electronic, interactive filing and handling of Amateur Radio applications and marks a major change in the way hams will deal with the FCC.

It also means the demise of the familiar paper FCC Form 610 series in favor of the "universal" Form 605—primarily designed for electronic use but also available on paper. Once registered, amateurs filing applications with the FCC under the ULS will use form 605 for all purposes except—at least for now—club station applications.

Before using the ULS to file an application, renew or modify a license, or apply for a vanity call sign. All amateurs must register. When registering, individuals eligible to hold a Social Security Number must provide this number—which the FCC refers to as a Taxpayer Information Number or TIN. This requirement is a mandate of Congress, not of the FCC. All hams must be registered in the ULS to do business with the FCC.

Applicants use TIN Registration Form 606 for both electronic or manual registration. To register electronically,

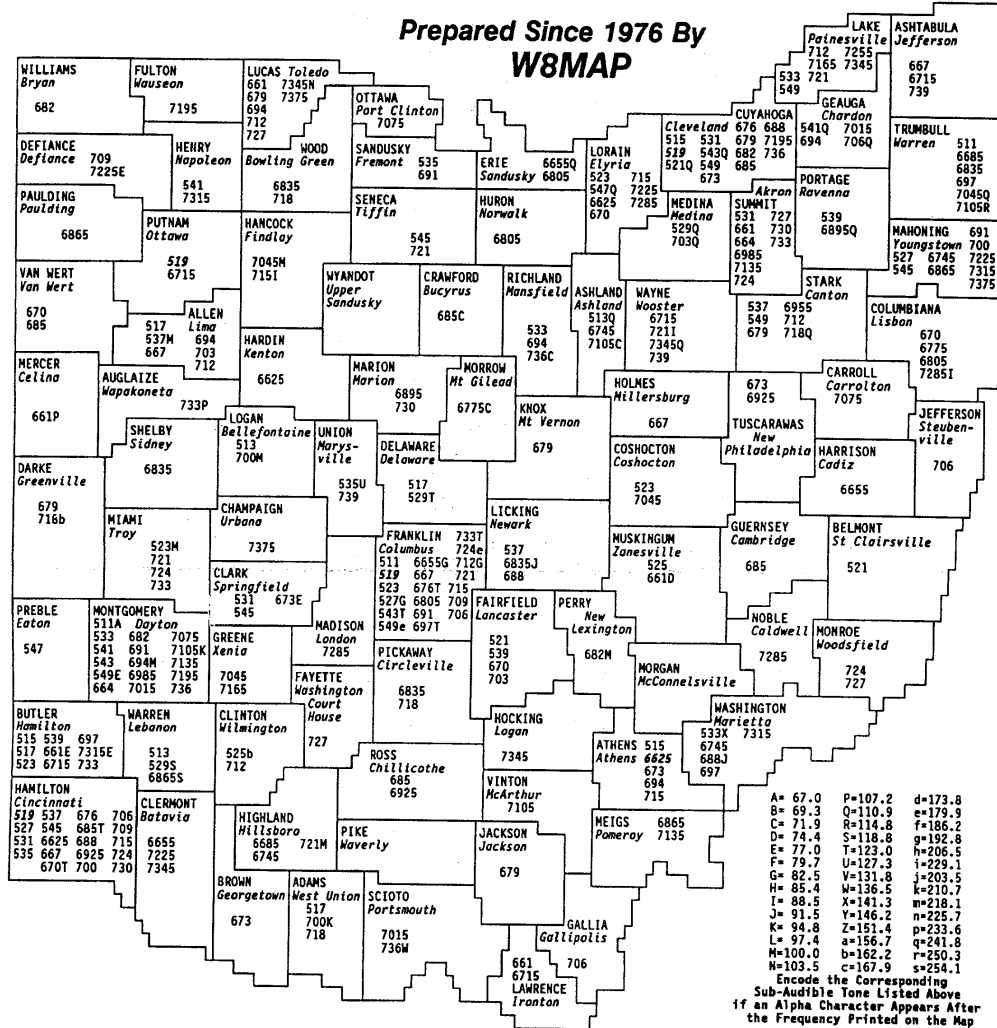
visit <http://www.fcc.gov/wtb/uls/> and click on "TIN/Call Sign Registration. A paper Form606 is available at <http://www.fcc.gov/formpage.html> or by calling 800-418-FORM (3676). One advantage to on-line registrants is that the ULS application system checks for errors before data are [is] submitted.

Applicants first register their Social Security Number (or TIN), then enter a call sign. Applicants also must select a password to identify themselves in future, private transactions with the FCC database. A valid password can be from 5 to 30 alphanumeric characters and is case-sensitive. For additional security, applicants also specify a personal identifier. The FCC and ARRL recommend that applicants not use their Amateur Radio call signs as a password or identifiers.

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OHIO 2 METER REPEATERS

Prepared Since 1976 By
W8MAP



A= 67.0 P=107.2 d=173.8
 B= 69.3 Q=110.9 e=179.9
 C= 71.9 R=114.8 f=186.2
 D= 74.4 S=118.8 g=192.8
 E= 77.0 T=123.0 h=206.5
 F= 79.7 U=127.3 i=229.1
 G= 82.5 V=131.8 j=203.5
 H= 85.4 W=136.5 k=210.7
 I= 88.5 X=141.3 n=218.1
 J= 91.5 Y=146.2 o=225.7
 K= 94.8 Z=151.4 p=233.6
 L= 97.4 a=156.7 q=241.8
 M=100.0 b=162.2 r=250.3
 N=103.5 c=167.9 s=254.1
 Encode the Corresponding
 Sub-Audible Tone Listed Above
 if an Alpha Character Appears After
 the Frequency Printed on the Map

Additions or corrections to W8MAP@febo.com Please Duplicate Without Alteration For FREE Distribution

Your RX frequency is shown. All RX frequencies below 147 MHz use a 600 KHz minus offset for TX. All RX frequencies at or above 147 MHz use a 600 KHz plus offset for TX. EXAMPLE: 676T in Franklin County indicates 146.760 MHz RX and 146.16 MHz TX with a sub-audible tone of 123.0 Hz.

Wide area FARA linked repeaters are in **bold italics** in these counties: Hamilton, Putnam, Cuyahoga, Franklin, Athens.

Map is available for viewing and printing in pdf format at <http://www.qsl.net/kb8ssh/map.html> Revised 6/5/99

The Lithium-Ion Battery in Everyday Use

by Isidor Buchmann

A FEW YEARS AGO, the Nickel Cadmium (NiCd) was the only suitable battery for applications such as cellular phones, laptop computers and video cameras. Since then, new battery chemistries have emerged that provide twice the energy density. One such battery is the *Lithium-Ion* (Li-ion).

Will the Li-ion eventually replace the classic NiCd? The answer is no — at least not for now. Every invention that solves one problem creates new ones.

Compared to the mature and rugged NiCd system, the Li-ion is fragile and requires a protection circuit to maintain safe operation. The load current is moderate and charging must be done according to strict standards. In addition, the Li-ion is subject to aging whether used or not. Signs of reduced performance are visible after one year; a typical service life of a Li-ion is about two years from date of manufacture.

One major advantage of the Li-ion is the absence of memory. No scheduled cycling is required to prolong the battery's life. In addition, self discharge is less than half compared to the NiCd, making the Li-ion well suited for modern fuel gauge applications.

History

Pioneering work for the lithium battery began in 1912 by *G. N. Lewis* but it was not until the early 1970 when the first non-rechargeable lithium batteries became commercially available. Attempts to develop rechargeable lithium batteries followed in the eighties, but failed due to safety concerns.

Lithium is the lightest of all metals, has the greatest electrochemical potential and provides the largest energy content. Rechargeable batteries using lithium metal as electrode are capable of providing both high voltage and excellent capacity, resulting in extraordinary energy density. After much research during the eighties, it was found that occasional shorts from lithium dendrites would cause thermal run-away. The cell temperature would quickly approach the melting temperature of the lithium which resulted in violent reactions. A large quantity of rechargeable lithium batteries sent to Japan had been recalled in 1991 after a battery in cellular phone exploded and inflicted burns to a man's face.

Because of the inherent instability of lithium metal, especially during charging, research shifted to a non-metallic lithium battery using *lithium ions* from chemicals such as Lithium-Cobalt Dioxide (LiCoO₂). Although slightly lower in energy density than with lithium metal, the Li-ion is safe, provided certain precautions are met when charging and discharging. In 1991, *Sony* commercialized the Li-ion and other manufacturers followed suite. Today, the Li-ion is the fastest growing battery chemistry in the world.

Charging the Li-ion battery

The Li-ion charger is a voltage-limiting device similar to that of the Valve Regulated Lead Acid (VRLA) charger. The main differences of the Li-ion charger are higher voltage per cell, tighter voltage tolerance and the absence of trickle or float charge at full charge. Whereas the VRLA offers some flexibility in terms of voltage cutoff, the manufacturer of Li-ion cells is very strict about the voltage choice. The voltage threshold of the Li-ion with the *graphite electrode* is 4.10V whereas the *coke electrode* and spinel is set to 4.20V. The tolerance of +/- 0.05 volts per cell.

Since higher voltage thresholds provide increased capacity, it is in the manufacturer's best interest to choose the highest voltage threshold possible without affecting safety and compromising service life. However, the higher the charge voltage, the greater cell corrosion. To minimize deterioration by corrosion, the charge current is cut off once the battery has reached full charge. Correct voltage setting should be observed when servicing Li-ion batteries on a battery analyzer. This task may be difficult because most battery manufacturers do not specify which version Li-ion is used. If the voltages are set incorrectly, the graphite cell will be slightly overcharged if allowed to reach 4.2V. Likewise, a coke cell will yield lower capacity when discharged to only 3.0V instead of 2.5V. At moderate temperature, little damage occurs when occasionally charging to a higher voltage threshold, but repeated overcharging will hasten corrosion and shorten service life.

Protection Circuit

Commercial Li-ion batteries contain several built-in protection devices. Typically, a fuse opens if the charge voltage of any cell reaches 4.30V or the cell temperature approaches 100°C (212°F). In addition, a pressure switch in each cell permanently interrupts the charge current if a certain pressure threshold is exceeded, and internal voltage control circuits cut off the battery at low and high voltage points. Some batteries feature a low voltage cutoff switch which permanently disconnects the pack if a cell goes below 2.5V. This precaution is done to prohibit a recharge if a battery has dwelled in an illegal voltage state. Charging such a battery could cause lithium metal formation because the electrochemical structure of the cell has been permanently altered.

Most manufactures do not sell the Li-ion cells by themselves but make them available in a battery pack, complete with protection circuit. This precautionary procedure is understandable when considering the danger of explosion and fire if the battery is charged and discharged beyond its safe limits.

A major concern arises if static electricity or a faulty charger manages to destroy the battery's protection circuit through the battery's contacts. Such damage often causes the solid-state switches to fuse to a permanent ON position. A battery with fused switches can no longer be used safely. If charged beyond safe voltage limits, the battery may heat up, then bulge and in some cases vent with flame. Shorting the battery can also be hazardous.

Conclusion

The Li-ion receives good grades in performance and reliability. Billions of dollars are invested in tooling for increased production. Delivery shortages are easing and prices are becoming more affordable. As a result, more portable equipment is being fitted with the Li-ion battery.

The Li-ion has found a strong market niche with portable devices requiring long run time. Because of the aging aspect, the Li-ion is most beneficial for applications with a hectic user pattern. Where the Li-ion falls short is on high current applications and operations that require a full discharge before recharge. Typical uses that fall into this category are power tools and heart defibrillators.

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USECA 1999 VHF Net Points As Received By October 9, 1999

Call	Name	pts	Call	Name	pts	Call	Name	pts
KJ0MN	MIKE	3	KC8HYU	JON	133	K80TT	JB	2
W1ETE	BRENT	29	N8IZE	KEN	3	W80XX	TONY	1
W1K	JIM	92	KC8IAP	MARY	16	N8OZ	JOE	55
KC2BOJ	MARK	1	KC8IAQ	DAVE	134	N8PC	JERRY	1
KA2IBE	JOHN	53	W8IDO	DENNIS	2	N8PDP	MICHAEL	81
WX3L	MIKE	3	KG8IE	SCOTT	1	W8PEG	PEGGY	12
VE3LFZ	MARIE	29	KG8IF	ANN	34	N8PFR	LEONARD	1
VE3ITZ	JOHN	2	W8BIFL	DAVE	1	K8PIK	MARILYN	30
KC4ITU	DWIGHT	2	KC8IHO	COLIN	13	W8PPW	SAM	3
KC4ZHC	STEVE	4	W8IMP	JOHN	2	N8QAE	ERNIE	1
KM5D	ERIC	3	W8IR	MARK	18	K8QLM	RICHARD	232
KG7FA	JOHN	1	KC8IZG	DAVE	16	K8QMP	BILL	1
KB8AKS	JERRY	2	KC8JW	DALLAS	2	K8QMS	NANCY	41
KC8ARS	HENRY	5	KC8JBK	CHARLIE	2	N8QOQ	TOM	2
N8ASD	LARRY	6	W8JDE	JOHN	2	K8QXB	SUE	2
KC8BFP	MARK	19	N8JGU	MIKE	1	K8QXD	RANDY	3
W8BHF	BOB	5	W8JPR	BILL	26	N8RAT	WAYNE	4
KC8BIJ	TED	4	KC8JSF	JEFF	8	K8RBC	MANNY	9
KC8BMY	JERRY	4	KC8JSH	DELPHINE	18	K8RCB	TONY	3
KB8BSG	CARL	7	N8KC	KEN	20	N8RE	JOE	1
AB8BT	ANDY	79	W8KC	PHIL	29	K8RFP	RON	3
KC8BXD	HENRY	111	KC8KIO	GINDY	3	W8RLI	RED	2
KA8CBZ	BILL	2	KC8KIR	MATTHEW	42	N8RRO	FLOYD	39
K8CFY	JERRY	21	KC8JL	BRIAN	4	N8RRU	GARY	4
KC8CPT	DON	42	KC8KJM	BOB	2	N8RUE	EDDIE	24
KC8DBG	BILL	14	KC8KJN	STEVE	21	N8SA	BILL	9
W8DFG	DENNIS	38	KC8KNH	LORA	5	N8SIH	BETTY	30
KC8DIR	BRIAN	98	KC8LAH	STU	63	N8SN	CHUCK	11
K8DXX	BILL	2	KC8LDM	MICHAEL	5	K8SUL	DAVE	1
K8DZT	FRANK	6	KC8LDN	RAY	9	W8M8T	BRETT	6
KC8DZT	TOM	3	KC8LEC	LEE	2	K88TAS	JERRY	38
N88E	JOHN	130	KB8LFE	JIM	5	K88TIQ	JEFF	19
W88E	WALT	68	KA8LGI	DARRELL	18	N8TKH	JOHN	1
KC8ECB	KEN	2	KC8LIR	SCOTT	1	N8TMJ	MARIANNE	6
KC8EDK	BRIAN	2	KC8LIU	CRAIG	11	W8TUW	DENNIS	5
W88EEU	BOB	2	KC8LOC	TOM	3	K8TWO	HANK	5
AB8EH	MIKE	1	KC8LOD	MIKE	2	K8TXS	ALEX	2
KB8EIV	ROB	2	KC8LOQ	RICK	1	K8UHG	DAVE	2
N8ERV	TOM	2	KC8LLM	MIKE	6	K8UJZT	STEVE	3
K8EZ	RANDY	2	KC8LVL	KEVIN	5	W8VB	ELMER	2
KC8FRW	JOHN	28	KC8LXM	SCOTT	5	K8VJ	DAVE	130
K8FT	JIM	2	KC8LXN	LORIE	15	N8VLD	DAVE	4
W88FUI	PHIL	14	KK8M	TOM	8	N8VLY	JOAN	1
KC8FXF	MIKE	3	WY8M	ARPAD	12	N8VOH	KATHY	4
KC8FYF	GEORGE	3	N8MCD	JIM	13	W8VOT	DAVE	10
KC8FYQ	GERALD	3	K8MCG	MIKE	1	N8VSI	SCOTT	2
N8GCD	KEN	2	KC8MCM	ROGER	4	N8VTF	DON	4
K8GEO	GEORGE	11	KC8MES	FRED	3	K8WBV	KEN	1
K8GER	JERRY	1	W8MIR	JOHN	1	K8WCM	STEVE	2
KB8GFE	KEN	2	K8MMB	ED	1	K8WH	DAVE	4
KC8GFN	DAVE	6	KC8MMJ	KIM	6	W8WKG	AL	1
KC8GMS	PHIL	1	KC8MNY	DAN	1	K8WLR	CHUCK	2
KC8GMT	LORA	64	N8MQU	RICHARD	1	K8WTH	RICHARD	68
KC8GNH	KEVIN	2	KC8MSX	BILL	5	AC8X	MIKE	2
KB8GPO	KEN	3	K88MUA	ANDY	1	N8XNM	RAY	7
WA8GQL	DAN	3	KC8MVV	BRUCE	11	K8XO	JEFF	2
KC8GRZ	JERRY	2	KA8NDY	DAN	4	N8YBY	LEONARD	67
KC8GUC	LENNY	19	W8NG	JIM	6	N8YJ	DINA	25
KC8GUE	MIKE	1	N8NMX	BILL	4	KB8YLB	ED	2
KC8HCT	CHRIS	6	N8NQQ	BIFF	3	KB8YB	DEBBIE	6
K8HJ	LARRY	46	N8NSV	BOB	1	KB8ZAW	RAY	2
K8HLJ	GEORGE	1	K8OEF	JOE	3	K8ZEC	JOHN	46
KC8HMG	JANICE	181	N8OEF	VAL	53	N8ZEE	JOHN	1
KC8HMK	VICKI	1	N8OEO	JOHN	1	K8ZEH	DICK	2
KC8HMM	SAM	30	W8OIS	LEN	2	N8ZR	STEVE	6
KB8HSR	TIM	6	N8OKW	JIM	3	N8ZZE	JOHN	2
KB8HW	STEVE	3	KB8OLF	DAVE	1	N8ZZF	PAT	10
HC8HYS	PAT	1	N8OMP	GARY	1	KZ8ZZZ	LES	6

Top 20 VHF Operators

Call	Name	pts
1	K8QLM RICHARD	232
2	KC8HMG JANICE	181
3	KC8IAQ DAVE	134
4	KC8HYU JON	133
5	W8VB DAVE	130
6	NS8E JOHN	130
7	KC8DIR BRIAN	98
8	W1K JIM	92
9	N8PDP MICHAEL	81
10	AB8BT ANDY	79
11	KB8WTH RICHARD	68
12	W8BE WALT	68
13	N8YBY LEONARD	67
14	KC8GMT LORA	64
15	KC8LAH STU	63
16	N8OZ JOE	55
17	KA2IBE JOHN	53
18	N8OEF VAL	53
19	K8ZEC JOHN	46
20	K8HJ LARRY	46

Top HF operators

Call	Name	pts
1	K8QLM RICHARD	183
2	KC8IAQ DAVE	102
3	KC8GMT LORA	82
4	KA2IBE JOHN	73
5	W8JPR BILL	78
6	A8DD BOB	69
7	KB8TAS JERRY	66
8	KC8HMG JANICE	56
9	N8KC KEN	48
10	W8BE WALT	44
11	W8IR MARK	40
12	AB8BT ANDY	38
13	N8MOJ MARION	38
14	W8RO FLOYD	34
15	WY8M ARPAD	28
16	K8PIK MARILYN	24
17	W1ETE BRENT	24
18	KC8HMM SAM	22
19	K8WH DAVE	22
20	W8IC PHIL	22

Database c/o KC8JSH (Delphine)
 Software written by W8BC (Tom)

See USECA's "Net Point System Explanation" for info on how net points & awards are earned.

See or call Brian KC8DIR USECA's Net Manager, for more information on running a net and earning extra points.

SETI@HOME

Mark W8IR & Dave, KC8IAQ

T IRED OF BEING Master of the Universe? Banging away for hours, just to kill a couple hundred aliens? Why not try helping to search for the real thing? Here it is, your chance to utilize a sophisticated radio telescope to find aliens.

SETI@home is a scientific experiment that harnesses the power of hundreds of thousands of Internet-connected computers in the Search for Extraterrestrial Intelligence (SETI). You can participate by running a free program that downloads and analyzes radio telescope data. There's a small but captivating possibility that your computer will detect the faint murmur of a civilization beyond Earth.

The SETI project uses the Arecibo radio telescope in Puerto Rico. It is currently the most powerful radio telescope in the world. This project will run 2 years, at which time the Arecibo array will have scanned the entire sky 3 times. The area of radio spectrum that will be examined is 2.5MHz wide, and centered at 1.4 GHz. This area was chosen because it is a quiet region of radio spectrum, mostly free from atmospheric and galactic background noise, and it is between the resonant frequency of Hydrogen (H) and Oxygen (O) sometimes referred to as the watering hole. It is assumed that intelligent beings would be aware of this, so this would be a great place to send a beacon. The nearest stars are about 4 light years away. This means it would take 4 years to say hello, and you

would have to wait 4 years for a reply. Don't be discouraged though, radio is the best means we have with current technology to communicate. Our fastest space vehicle could only travel at 25,000 miles per hour. Radio waves travel at 186,000 miles per SECOND.

The program comes in two flavors, a graphical screen saver that runs in the background when you are not using your computer, and a fast command line version that screams through data chunks. We have been running SETI since May and recently started a group named USECA.

Just go to <http://setiathome.ssl.berkeley.edu> and download either the Windows Screen Saver version (version 1.06) or the Win NT command line version (i386-winnt-cmdline.exe, version 1.3, you'll find under Text Version Only), install it and start chunking data.

To join our group, go to GROUPS, scroll down to the bottom, and search for USECA. Click on join group, this'll prompt you for your email address and your password. If you chose text version click on email password and they'll send you one. Now start all over and you should be able to join the group.

Hey after all we could have a share in the Nobel Prize, if we find them, or we could be the dessert trays for a galaxy far, far, away.

1999 Net Point System

- ✓1) HF CW NCO = 4 points, HF SSB/VHF NCO = 3 points, HF CW/SSB check-in = 2 points, VHF check-in = 1 point. HF < 30 MHz, VHF > 30 MHz. (NOTE: Check-ins should do so *personally*, proxy check-ins are legitimate *only* for members on club business. "In & Out" check-ins, though allowed, are discouraged.)
- ✓2) Awards are earned for 50 points and multiples thereof; plaques for the highest annual HF and VHF scores. Awards are meant to encourage **participation** and can be earned by any licensed amateur.
- ✓3) Net logs must be readable and include the CALLS and NAMES of check-ins, as well as NCO, DATE, and MODE.
- ✓4) NCO's: Forward net logs to the Awards Manager within 30 days; logs received later will not earn the bonus points normally awarded a NCO. MAIL logs to: 17516 Brill Dr., Clinton Twp., MI 48035 c/o KC8JSH; E-Mail: delwro@att.net.
- ✓5) If *you* notice any errors in the database, wrong or changed call signs, misspelled names, etc., let Delphine know ASAP.

Coming Soon (I hope), will be a column entitled "What's My Line." This will give members an insight as to what other members do for a living. (Gotta know where to shop!)

—Joe, K8OEF

USECA . . . We Are Family!

USECA Board Meeting Minutes—October 5, 1999

In attendance:

- W8DFG, Dennis President
- KB8QMS, Nancy Vice-President
- KB8YYB, Debbi Recording Secretary/Swap Chairperson
- *W8IR, Mark Membership Secretary
- N8OKW, Jim Treasurer
- KC8IAQ, Dave Board Member
- KG8IF, Ann Board Member
- N8TMJ, Marianne Board Member
- *W8RO, Floyd Past President
- K8CFY, Jerry Historian
- K8OEF, Joe Express Editor
- W8VB, Dave ARRL Liaison
- WB8E, Walt Field Day Chairman
- K8ZEC, John Repeater Technician
- *KC8DIR Net Manager
- WB8E, Walt; KB8TAS, Jerry; K8PIK, Marilyn; KB8YYA, Dreux
- *Absent



The meeting was called to order by the President at 7:33 P.M.
 The minutes of the last meeting were approved.
 The Treasurer's report was approved.
 Membership: No report.

Repeater: John, K8ZEC, promulgated that the back up repeater will soon be installed at Mt. Clemens General hospital, and the main repeater will undergo extensive work.

Express: No report
 Health & Welfare: No report
 Net Manager: No report

Old Business:

Swap: Debbi, KB8YYB, reported everything is progressing well.
 Y2K Project: Dennis, W8DFG, informed the Board that Norm, N8MIV, will make a special presentation at the General Membership meeting on October 12, 1999.
 Debbi, KB8YYB, presented an idea for a Classie Junque Drawing. It was decided to present the idea to the membership for consideration.

New Business:

Dave, W8VB, requested that NCO's be designated to cover the 5th week nets.
 Marianne, N8TMJ, noted that USECA information appears in the Senior Living newspaper thanks to Ken, N8KC.
 Ann, KG8IF, blazoned facts about the Christmas Party to be held on December 11, 1999 at Gar Wood's. Once again the Club will supply the cake.
 Joe, K8OEF, brought forth information regarding two worthy causes, Walk America and Blade America. The topic was tabled.
 The meeting was adjourned at 8:30 P.M.
 Respectively submitted,
 Debbi Cokewell, KB8YYB, Recording Secretary

USECA General Meeting Minutes—October 12, 1999

In attendance:

- *W8DFG, Dennis President
- KB8QMS, Nancy Vice-President
- KB8YYB, Debbi Recording Secretary
- W8IR, Mark Membership Secretary
- N8OKW, Jim Treasurer
- KC8IAQ, Dave Board Member
- KG8IF, Ann Board Member
- N8TMJ, Marianne Board Member
- W8RO, Floyd Past President

Corrected 1999 Fox Hunt Results
 1st Place - Phil and Ann
 2nd Place - Floyd and Brian
 3rd Place - Mark, Peggy, Scott and Kim

- K8CFY, Jerry Historian
- K8OEF, Joe Express Editor
- W8VB, Dave ARRL Liaison
- N8K LX, Jerry Field Day Chairman
- K8ZEC, John Repeater Technician
- *Absent

In lieu of the President's absence, the meeting was called to order by the capable, captivating and captaining Vice-President, Nancy, KB8QMS promptly at 7:30 P.M.

Normal business was suspended temporarily for a presentation by Norm, N8MIV, regarding the Y2K Program at Mt. Clemens General Hospital. Bill, N8SA, volunteered to head up the Y2K Committee to work with the hospital. All volunteers should see Bill "Y2K" Chesney.

New upgrades were recognized.

A motion was made by George, K8GEO, seconded by Walt, WB8E and passed to accept the minutes of the last meeting as printed in the Express.

A motion was made by Bill, N8SA, seconded by Bill, KC8DBG, and passed to accept the Treasurer's report.

Membership: Current membership exceeds 205.
 Express: Articles for the Express are due tonight.

Repeater: John, K8ZEC, informed the membership that there will be a Tech Committee meeting at his house on Tuesday, Oct. 19, 1999.

ARRL: Dave, W8VB, informed the membership that pamphlets are available about the ARRL Award Program.

Hosts: Many thanks to this month's hosts, Larry, K18HJ, George, K8GEO, and Matt, KC8KIR. Next month's hosts will be Richard, K8QLM, and Janice, KC8HMG.

Old Business:

Swap: Debbi, KB8YYB, reported that all is going well. Volunteers will be needed for set up as well as clean up.
 Jim, N8OKW, announced the annual Thumbs Up Road Rally on November 13, 1999, 12:00 P.M. - 10:00 P.M. in Imlay City. See Jim to volunteer your services.

Walt, WB8E, announced that some Field Day shirts have not been picked up. See Walt to pick up your shirt, or they will be sold.

Testing: Testing will continue to be the first and third Saturday of each month at the Salvation Army in Mt. Clemens. Also, the ham radio open house will continue every Saturday evening from 7:00-11:00 P.M.

New Business:

Debbi, KB8YYB, brought forth an idea for a Classie Junque Drawing, it was decided to start this at the November 16, 1999 meeting.
 Ann, KG8IF, announced that the Christmas Party would be held at Gar Wood's on December 11, 1999. Prices will be forthcoming and Ann will collect money in November and December.

Nancy, KB8QMS, promulgated that the November General Membership meeting will be held on November 16, 1999, and nominations will take place at that time.

Dreux, KB8YYA, informed the membership about the upcoming Skywarn 2 Seasons training on November 3, 1999 at 7:30 P.M. at Freedom Hill.

Dave, KC8IAQ, related information about Bill Cheek, an author of numerous books on scanners. Bill has terminal lung cancer and because of a lack of hospitalization is having a difficult time. Any donations or requests for information regarding Bill Cheek should be made to Dave, KC8IAQ.

—Continued on Page 9

USECA Cork Board

▶ Radio "Stuff" ◀

ALINCO DJ-C4T UHF H.T. with manual and battery charger. Mint condition. \$65.00. Richard, K8QLM, (810) 731-4475.

ICOM IC-02AT; 2 meter H.T. with leather case, manual and two battery chargers. \$95.00. Richard, K8QLM, (810) 731-4475.

TEN-TEC; complete station. Omni-C transceiver; model 255 power supply/speaker; model 229 antenna tuner (re-strung by T.T. Spring '99); model 243 remove VFO; model 444 linear amplifier. All units are mint condition, with manuals. Package deal only. \$1,600. OBO. Richard, K8QLM, (810) 731-4475.

TRIPP LITE PR-10b power supply for sale 13.8vdc. 10A surge, 7.5A continuous. Almost identical to Astron RS-10A. \$50. Contact Floyd, W8RO at (248) 391-6660 or hires@rust.net

WANTED: Hallicrafters SR34. K8OEF (810) 781-0050.

WANTED: My straight key back! Whoever borrowed my straight key with the polished brass base that is mounted on a piece of 1/4" plywood; please return it. Thanks. Floyd, W8RO, hires@rust.net or (248) 391-6660.

WILSON. T-1405; 2-meter H.T. with leather case, annual and charger. \$35.00 Richard, K8QLM, (810) 731-4475.

YAESU FT-50RD with manual, heavy duty belt clip & charging stand. \$250. Contact Jim, K8FT at (810) 790-7356 or jkuhns@terayon.com.

YAESU VX-1R, 2-meter, \$125. Radio Shack 212 2 meter, \$125. 5/8 antenna \$25. Call (810) 758-4367 or kc8ftx@yahoo.com.



General Meeting Minutes—Continued from Page 8

There will be a campout at Algonac State Park on October 29, 30, 31, 1999.

Bill, KC8DBG, announced the International Marathon. To volunteer, see Bill,

Tonight's presentation will be on antennas by Tom, W8NSF.

The meeting was adjourned at 8:20 P.M.

Respectively submitted,
Debbi Cokewell, KB8YYB, Recording Secretary



**Unnecessary Words:
"In The Mobile"**

▶ Miscellaneous Items ◀

EPSON Apex Action Printer L1000, 24 pin dot matrix printer. Excellent condition and works beautifully. Comes with tractor feed, as well as plain paper feed; owners manual and software. First \$20 takes it. Call Floyd at (248) 391-6660 or e-mail: hires@rust.net.

★IBM computer (new) desktop style; 100 Mhz Pentium with 32 mb ram, motherboard can take up to 233 Mhz cpu. A drive is a 3- 1/2 1.44 mb; B drive is a 5- 1/4 1.2 mb floppy; C harddrive, 428 mb; D harddrive; 120 mb. Windows 95 installed and comes with a keyboard. No monitor or CD ROM but has room for both excellent system to expand to.Y2K motherboard. Asking \$100.00 or best offer. N8ERV, 810-212-0605 or 810-387-3795.

MONITOR 15" NEC Multi-Sync XV15+. Like new. \$100 firm. K8OEF (810) 781-0050.

SATURN 1995. SL2. Blue/black; 67k miles; auto starter. Dina, N8YJI, (810) 777-4207.

★New this month.
Notify the editor to have items added and/or removed.

The Cork Board is for club members only and it's free!



Unwanted Calls

Jim, N8OKW

Like most of us, I was tired of unsolicited telephone sales calls, especially at dinner time. About a 1-1/2 years ago I heard of a service that I could write and ask that I not have any such calls.

Advertisers are required to check this list, and if you are on it, they are not supposed to call you. I tried it. It worked! I no longer get any junk calls! Still get the junk mail and e-mail, but at least the phone calls have stopped.

The address is: Telephone Preference Service, Direct Marketing Association, P.O. Box 9014, Farmington, NY 11735-9014. Send them a letter and ask that they add your name and phone number to the list of people who do NOT want to receive non-requested sales calls, and give them your address and phone number. It worked for me. Give it a try.

ULS Is Here—Continued from Page 3

Registrants receive a nine-character Licensee Identification Number. Amateurs may use this number in place of a Social Security Number in future dealings with the FCC. Those filing a paper ULS Form 606 by mail will not receive an acknowledgment form [from] the FCC. Paper filers can obtain their FCC generated Licensee ID number from ULS Technical Support at 202-414-1250.

Applications for new licenses or upgrades will continue to be filed through a VEC. VECs will use a special NCVEC Form 605—a variation of Form 605—to file with the FCC for test sessions.

Starting August 16, hams already registered in the ULS may file applications using the new FCC Form 605 electronically at any time of day, seven days a week. FCC Form 605 will be used for license renewals, modifications, cancellations, application withdrawals and amendments, as well as requests for a vanity call sign, duplicate license, change of address or other clerical license modification.

Visit the Wireless Telecommunications Bureau ULS page <http://www.fcc.gov/wtb/uls> and click "Connecting to ULS" for information on accessing the ULS system. Accessing the ULS database requires a telephone modem. A toll-free [free] number, 800-844-2784, connects users to the FCC Wide Area Network.

Among other things, the ULS features a renewal reminder sent 90 days prior to a license's expiration date. The ULS also simplifies the process of submitting fees to the FCC. The FCC said it also anticipates that the ULS will be capable of accepting credit card payment on-line "in the near future."

—Cherry Juice
—Submitted by Dave, W8VB

NAME BADGES
With The OFFICIAL USECA Logo
Contact Debbi, KB8YYB: (810) 263-0227

Radio 101—Continued from Page 1

If you *do not* wait for the courtesy tone (it's only a one second wait!) and "*quick-key*," you'll more than likely find yourself timing out the repeater and hear the dreaded "*Oh, Oh, Repeater timed out for 'X' seconds!*" letting the whole Detroit area know that you're either incredibly long-winded or have an itchy mike finger. (By the way, *quick keying* is just as obnoxious on HF, so *please* don't use the fact that you're more accustomed to HF operation as an excuse!)

There is **no** need to let the repeater carrier drop between transmissions...simply listen for the courtesy tone, wait a second and key the mike. Inversely...if *you'd* like use of the repeater and need to break in, "*tail-ending*" is the best and quickest way to make your presence known. (This method involves inserting just your call just as one station stops talking at the *end* of an on-going transmission, but *before* the courtesy tone.) If you ever need *immediate* use of a busy repeater for a real emergency, don't wait for the courtesy tone—go to your maximum power setting and, if possible, break in by "*tail-ending*" or simply transmitting over one of the other stations. Sounds rude, but in an emergency you do what you gotta' do! (See FCC rule 97.405a&b.)

Repeater use during peak hours ("drive-time"). During the repeater's peak usage hours (morning/afternoon drive time, 7-10am/3-6pm, and lunchtime, 11am-1pm), it's considered *very poor* form to tie up the repeater with extended two party QSOs. During "*peak*" time, *many* stations will be popping in and out as they chat with other fellow USECAns on their way to/from work. Keep your QSOs short and allow plenty of time for others to break in. The main idea is *be considerate!*

Jammers, Interferers, Bootleggers, & Troublemakers. These stations are to be ignored, repeat...**IGNORED!** If you acknowledge their presence by warning them of FCC violations or otherwise scolding them, you give them half of what they want...namely, to "*yank your chain!*" Once they get what they're lookin' for, they'll hang around for hours, interfering with everyone they can get a reaction out of. When you **ignore** them, *most* will go away—if they don't, and they become persistent, don't make empty threats, don't make any threats at all—quietly get a group together, and using another frequency, track 'em down (RDF...fox hunt)! Nothing works quite like an addressed letter or knocking on their door!

Net Operations, Common practices. Although nets on the USECA repeater tend to be rather informal, they are probably the only practice many of us will ever get towards being a part of an emergency/disaster communication net. As such, we should keep in mind the need to practice passing information quickly and efficiently. This **does not** mean that our nets need to be more "*formal*." Making an FM net "*sound*" formal by the use of phonetics (see W8RO's October article), long net intro/prologues, and "*official sounding*" ham lingo (which many participants may not understand) only slows down the process of passing information. To speed things up, use phonetics *only* when warranted by a poor signal (whether it's SSB or FM!). During check-in, ask for call signs only, the name can wait till they make a transmission. Keep the Net intro/prologue short and to the point...state the purpose of the net (or topic), who the NCO is and get on with it! Sure...at various points during the net, give out info about our other nets, but keep the NCO chatter short! The object of a net on our repeater is to encourage *others* to participate, to create a stage for them, *not* a podium for the NCO. An NCO who takes 40 minutes to process 8 check-ins will *lose* at least that many

who tire of waiting and shut off their radio. As a checking-in station you should be patient and wait for the NCO to call for check-ins, breaking-in between stations taking their turn is rude and disrupts the flow of the net.

Repeater Codes, Auto-patch, etc. I haven't heard anyone do this in some time, but **NEVER, EVER** discuss the codes or operation sequences of the auto-patch/dial functions while on the air...these are for club member's use only (*you* pay for the privilege!). A jammer who learns the codes and operation sequences of the repeater can quickly become a *real* nuisance.

DX'ing repeaters. I'll probably catch some flack on this one. Running high power to work distant 2 meter repeaters is *not* a good idea. For instance, *you* hear what appears to be a band opening on 2 meters, so you go to the hill at the entrance of Stony Creek Park and run 40 or more watts (5 may be all it takes) to work the Angola, Indiana 147.180 MHz repeater. If you remember to turn off your 100 Hz tone, you'll be blocked from appearing on the USECA repeater (unless someone else tries to use it who has theirs turned on). But, you'll probably appear on the VE3TTT repeater in Canada, the Bowling Green, Ohio repeater, and possibly the Gladwin, Michigan repeater as well (all on 147.180 MHz the only one *you'll* hear will be the strongest one). Now, assuming the *worst*, you're not just operating one DX repeater, but as many as four simultaneously when the band is open. Instead, turn your VFO to the national calling frequency of 146.520 (simplex) and listen or call for DX stations...move *off* the calling frequency to hold your conversation (146.505, 146.535, 146.55, etc.) to allow others the fun of chasing DX as well.

Always keep in mind that the USECA repeater is shared by 200 or so members and, as an "*open*" repeater system, and one of the best in the Metro area, is in *very* high demand. Be courteous and friendly to other users and follow these general guidelines and the USECA repeater will remain one of the very best places to meet and keep up with fellow hams.

The Lithium-ION—Continued from Page 5

Another field where the Li-ion has proven less favorable is in applications that require only occasional use. On a laptop that is mostly powered by AC, for example, the Li-ion battery ages in time without being able to deliver the full benefit. For these applications, other battery types may serve better.

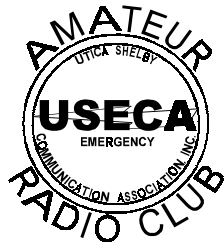
The Lithium polymer systems in development are struggling to meet and surpass the performance of the Li-ion battery. Limited cycle life and high internal resistance are the main drawbacks of today's Lithium polymer. Once mass produced, the Lithium polymer is said to be lower priced than the Li-ion. In addition, the Lithium Polymer can then be shaped into virtually any form. One day the battery may be part of the protective housing or serve as a soft carrying case.

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Email Directory Update

N8RUH, TJ; n8ruh@tir.com
W8VB, Dave; w8vb@aol.com

USECA APPLICATION



DATE _____ NEW RENEWAL
 CALL _____ CLASS _____ AUTO-PATCH _____
 NAME _____
 STREET ADDRESS _____
 CITY _____ STATE _____ ZIP _____
 TELEPHONE # _____ PRINT IN ROSTER YES NO
 BIRTHDATE _____ Copy of Current License for USECA File
 MEMBER: ARRL YES NO RACES YES NO

Rev. 12/98

FOR FAMILY MEMBERSHIPS ONLY:

CALL _____	CLASS _____	CALL _____	CLASS _____
NAME _____		NAME _____	
BIRTHDATE _____		BIRTHDATE _____	
MEMBER: ARRL <input type="checkbox"/> YES <input type="checkbox"/> NO		MEMBER: ARRL <input type="checkbox"/> YES <input type="checkbox"/> NO	
RACES <input type="checkbox"/> YES <input type="checkbox"/> NO		RACES <input type="checkbox"/> YES <input type="checkbox"/> NO	

Annual Membership Dues Regular: \$20 — Family: \$30 — Auto-Patch: \$35 (One Time Fee) + Annual Dues
 Applications can be given to the Membership Secretary at monthly meeting or mailed.
 Please make check payable to: **USECA** — Address: **P.O. Box 1222, Sterling Heights, MI 48311-1222**
 (Allow 4-6 weeks for processing.)



2-Meter LANs

Local Area Nets

DAY	TIME	CLUB	FREQ.
SUN	1:00 pm	USECA/Information	147.180
SUN	8:00 pm	SPIRIT of '76/Traders	146.760
SUN	9:00 pm	HPARC/DART	146.640
SUN	9:00 pm	Garden City ARC	146.860
SUN-SAT	10:15 pm	S. E. Michigan Traffic Net	145.330
MON	8:00 pm	MECA	147.200
MON	9:00 pm	USECA/Slow Code	147.180
TUE	8:00 pm	USECA/Information	147.180
TUE	9:00 pm	Motor City Radio Club	147.240
WED	8:00 pm	GMARC	146.700
WED	8:00 pm	SPIRIT of '76/Info./Traders	146.760
WED	9:00 pm	ARPSC	145.490
WED	9:00 pm	MICHIGAN QRP	145.170
THU	7:00 pm	HPARC/Kids	146.640
THU	8:00 pm	EDISON/Information	145.330
THU	9:00 pm	SATERN	147.180
THU	9:00 pm	ECHO	147.080
FRI	Midnite	USECA/Hoot Owl	147.180

Net Ops Schedules

2-METER NETS

	SUN. 1 PM	MON. 9 PM**	TUES. 8 PM	FRI. MIDNIGHT
WEEK	147.180 MHz	147.180 MHz	147.180 MHz	147.180 MHz
1	KG8IF	N8OEF	K8QLM	KC8IAQ
2	W8IR	W1IK	-Meeting-	W8PEG
3	K8QLM	N8OEF	KC8IAP	KC8DIR
4	AB8BT	W1IK	W8IR	KC8HYU
5*	WB8E	N8OEF	-OPEN-	-OPEN-

**Slow Code

HF NETS

	THURS. 9 PM	FRI. 10 PM	FRI. 11 PM
WEEK	21.140 MHz/CW	21.140 MHz/CW	28.425 MHz/USB
1	K8QLM	KC8IAQ	KC8IAP
2	N8MOJ	W8RO	KA2IBE
3	W8RO	W8IC	K8QLM
4	AA8DD	WB8E	KC8IAQ
5*	-OPEN-	-OPEN-	-OPEN-

*If applicable

NCO's—If you're unable to take your net please get a replacement
 or contact Brian, KC8DIR (810) 749-4561—Don't wait!

On The World Wide Web

USECA Home Page

WWW.USECA.ORG

USECA Hot Line: (810) 268-6730

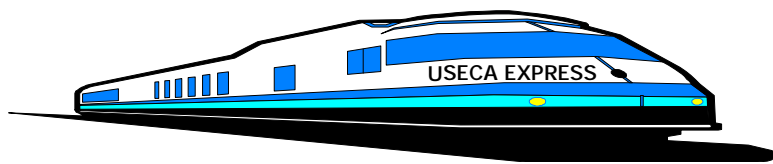
USECA

UTICA SHELBY EMERGENCY COMMUNICATION ASSOCIATION, INC.
P.O. Box 1222 • Sterling Heights, MI 48311-1222

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Coming Your Way

NOVEMBER 1999

"The Happenin' Club"

Club Activities

MONTH	DATE	TIME	EVENT
NOV	16	7:30 pm	General Meeting —Nominations
DEC	11	6:30 pm	12th Annual Christmas Party
DEC	14	7:30 pm	General Meeting—Elections
JAN	11	7:30 pm	General Meeting
FEB	8	7:30 pm	General Meeting
MAR	14	7:30 pm	General Meeting
APR	11	7:30 pm	General Meeting
APR	30	6:30 am	WalkAmerica
MAY	9	7:30 pm	General Meeting
MAY	TBA	9:00 am	9th Annual Pre-Field Day
MAY	19-21		Dayton Hamvention 2000
JUN	TBA		Trash-For-Cash
JUN	13	7:30 pm	General Meeting—Fox Hunt
JUN	24-25		Field Day 2000
AUG	TBA		Annual Club Picnic
SEP	4		Michigan Peach Festival Parade

(Campout dates will be included upon confirmation.)

Swaps

Day	Month	Date	Where
SAT,SUN	NOV	13-14	Fort Wayne, IN
SUN	JAN	16	Hazel Park
SUN	APR	16	SEMARA
F,S,S	MAY	19-21	Dayton 2000*

*ARRL National Convention

Source: *ORV Bulletin, QST & N8ARO*



6-METER NETS

	WED 7 PM	WED 8 PM
WEEK	50.130 MHz/USB	51.740 MHz/FM
1	NS8E	NS8E
2	KC8IAQ	K8QLM
3	N8YBY	KC8HYU
4	W8VB	W8VB
5*	-OPEN-	-OPEN-

**If applicable*

NCO's—If you're unable to take your net please get a replacement or contact Brian, KC8DIR (810) 749-4561—Don't wait!