



FOND DU LAC AMATEUR RADIO CLUB

— FDL 73 —



VOLUME 20 ISSUE 9

www.fdlhams.com September, 2019

Join Us On Sunday Evenings For Our Weekly Net — 1930 hrs. 145.430 MHz — Tone 97.4 Hz

Club Officers

President: Buddy Larson KC9UVJ
Vice-President: Tom Karmann KC9VZY
Secretary: Lloyd Vandervort N9RPU
Treasurer: Doug Schultz N9EZF
Sgt-at-Arms: Paul Bleuel KC9NAA

Board Member: Ron Keller KC9YVL
Board Member: Dick Finn KC9ZVW
Board Member: Larry Mielke KC9RUE

Committee Chairs

Brat Fry: Doug Schultz N9EZF
Contesting/
Education/
Scholarship: Jack Heil KG9IN
Field Day: Jack Heil KG9IN
Fund Raising: Open
Net Manager: Doug Schultz N9EZF
Newsletter: Dick Finn KC9ZVW
Public Service: Ed Beltz N9PJQ
Publicity/Program: Joe Scheibinger K9VY
Repeater: Lloyd Vandervort N9RPU
Testing: Doug Schultz N9EZF
Truck: Brad Freund KC9QYP
TVI: Lloyd Vandervort N9RPU
Web Site: Tim Braun W9AAV

Each committee has several members. If you are interested in serving on a committee, please contact the chairperson and volunteer your services.

Mailing Address

Fond du Lac Amateur Radio Club, Inc.
PO Box 53
Fond du Lac, WI 54936-0053
E-mail: fdlhams@fdlhams.org

**Newsletter
Submissions:**
Please email to
rfinn5@hotmail.com

Presentation for the September Meeting

For our September meeting Cully Kowal, KSØD will present a program on Railroad Radio Systems. He will show how they are configured, how they work, and how these mostly VHF systems differ from our use of HAM radio.

Cully spent many years engineering and selling two-way radio systems to industrial users. His second hobby has been model railroading. He builds and operates 2-rail quarter inch to the foot exact scale operating equipment.



Next Meeting

When: Sept. 9, 2019 at 7:00 pm

Where: Moraine Park Technical College, Room A-112
235 N National Ave, Fond du Lac, WI 54935

Program: Cully Kowal—Use of Radio on the Railroads



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Brat Fry

August 23/24, 2019

Friday morning started out with some unwanted excitement. Dick Finn KC9ZVW picked up the trailer at Hoff's in Brownsville at about 7:15 am. The buns were loaded but not the meat. After a bad experience a year or so ago I made sure to do an inspection to make sure we had everything that we had ordered. So far, so good! I backed the truck up and the fellow from Hoff's helped me to hook everything up. I locked the hitch and told him I'd lock the back door of the trailer but he said everything was already locked tight. I jumped back in the truck and headed off to Lomira. So where was the excitement? Well, when I got to Lomira I found out the left hand door had not been closed properly before the padlock was put on the right hand door. The left hand door was swinging wide open. It was pure luck that two boxes of brats/burgers got wedged cross wise in the opening so they didn't fall out. You best believe I double checked the doors and hitch locks before taking the trailer back.



We also had a bit of trouble with the Yellow Banana. Apparently there were some loose/corroded connections on the started motor. Thanks to Jack Heil KG9IN the connections were cleaned and some conductive grease applied and it started up OK.

While the set up went smoothly we could have used a few more volunteers. Doug Schultz N9EZF and I got started and were soon joined by Cully Kowal KS0D with others arriving before 10:00 am.



Cully Kowal KS0D and Doug Schultz N9EZF got the cooking under way.



We were open for business about 10:30.





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Brat Fry August 23/24, 2019 (Cont.)



Jack Heil KG9IN got the roasters ready to keep the meats warm and the crock pots heated up for the fried onions.



Joe Scheibinger K9VY and Tom Powell KC9VXR man the counter.



Doug Schultz N9EFZ sent me the following note. Sales on both days of the August 23rd and August 24th Club Brat Fry were good since we had good weather. The profits for the August Brat Fry after expenses were \$873.69 which is pretty typical for our August Brat Fries. I would like to thank the following for helping on August 23rd: Cully Kowal KS0D, Chuck Mahnke K9HXL, Joe Scheibinger K9VY, Dick Finn KC9ZVW, Joe Lauber KC9MDY, Tom Powell KC9VXR, Wally Drees KD9JAD and Deb Drees. I would thank the following members for helping at the Brat Fry on August 24th: Tom Karrmann KC8VZY, Dennis Paulin KB9OFM, Lloyd Vandervort N9RPU, Peter Fox KB9WZD, Paul Bleuel KC9NAA, Gene Peterson, KD9IAG Larry Mielke KD8RUE and Ben Haack KD9LVQ. I want to thank Dick Finn for picking up and dropping off the meat trailer at Hoff's. The volunteers make the club Brat Fries successful for our club.



The Saturday afternoon clean up crew finishing up with putting everything away. Many thanks to Peter Fox for shouldering the burden of cleaning the grill





Vintage Amateur Radio de Bill Shadid, W9MXQ



Heathkit quite successfully developed and marketed the mostly successful SB-200 Series, the SB-220 Series, the SB-230, and the HA-14 Linear Amplifiers. To this day, ham shacks around the world include these amplifiers – especially the most successful SB-200 and SB-220 models. Truly one wonders if the last versions of those amplifiers, the SB-201 and SB-221, were built today they would be successful products. I think that they would. Products like the Ameritron AL-811H and the Ameritron AL-82 show that much of the same circuitry is sellable today.

Not resting on their laurels at the time, however, Heathkit moved onward in their market with effective replacements.

In this installment we will talk about three more Heathkit linear amplifiers – actually, two are the last Heathkit HF linear amplifier products. So, one of them was perhaps a pretender, one was not a Heathkit at all, and one had a production run of only ten units! So, to begin this mystery, let's begin with the first one in this group.

When the SB-221 was discontinued in 1983, Heathkit immediately introduced a nearly identically (in circuitry) HL-2200. Like the SB-221, the HL-2200 had a pair of Eimac 3-500z Triodes in its circuitry. It had a tuned input to satisfy 50-ohm impedance exciters and worked on the 80 through 15-meter bands as delivered.



Heathkit HL-2200 80-15 Meter Linear Amplifier

(Heathkit Photo)

Interior views of the SB-221 and HL-2200 were nearly identical. And, why not? Heathkit had a worthy competitor in the SB-220 and SB-221. The only reason to repackage the amplifier was to meet styling changes – note more squared corners – and to change the colors to meet new design concepts by the Heathkit HF Transceivers of the day. The HL-2200 looked nice next to the new SS-9000¹ and HW-5400¹, the company moved from green on green to more of a brown-tone and bronze color tone.

The HL-2200 had an input power of 2,000 watts PEP on SSB and an input power of 1,000 watts on CW. The radio had an output level of about 1,200 to 1,300 watts on SSB and about 600 watts on CW when set to the CW Mode. When set to SSB Mode, but running CW, with today's maximum legal power, this amplifier, like the SB-220 and SB-221, can put out over 1,200 watts on CW.


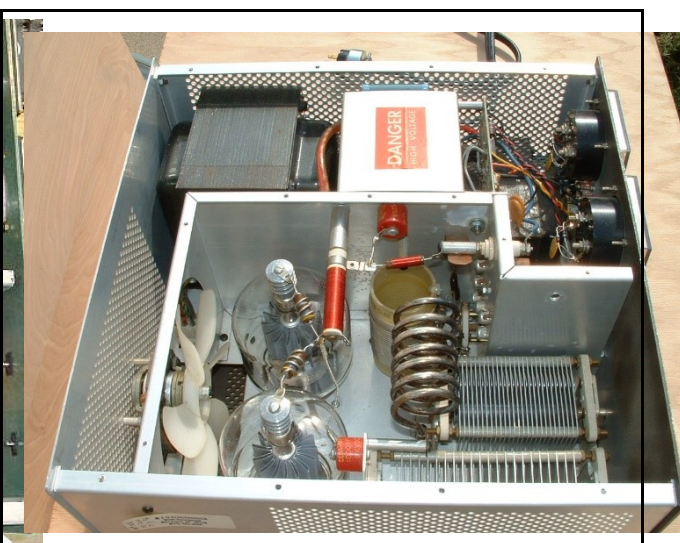


Vintage Amateur Radio de Bill Shadid, W9MXQ



Alas, however, the HL-2200 was not a commercial success. As Chuck Penson, WA7ZZE, relates in his popular book on Heathkit amateur radio history², hams seemed to feel it was a rip-off [presumably of their own SB-220/221].

For the sake of the idea that the SB-220/221 and the HL-2200 were nearly identical where it counts, look at these interior pictures:

	
Heathkit SB-220 Linear Amplifier	Heathkit HL-2200 Linear Amplifier
Note what appear to be higher quality variable capacitors in the TUNE and LOAD positions of the later HL-2200 Linear Amplifier. (Left picture is of an SB-220.)	
(W9MXQ Photo)	(Heathkit Photo)

Acceptance by ham operators at the time notwithstanding, if looking for a Heathkit 2,000-watt amplifier from the era (early to mid-1980's) the later HL-2200 would be a good buy. It suffers from less popularity than the SB-220/221 but has the same very good design. That may translate into less money to purchase. While I like the green color scheme of the earlier linear amplifiers, some hams do not. So, the HL-2200 provides good performance with colors more closely matching modern radios. To each his/her own!

Heathkit's last entry in HF Linear Amplifiers was not really a Heathkit at all. At least not in terms of design and very little in terms of appearance. The SB-1000 Linear Amplifier was a kit version of the by then very popular Ameritron AL-80A Linear Amplifier. Note the return, by Heathkit's marketing, to the long popular "SB" prefix in the model number – with the "1000" no doubt relating to the advertised power output of the single 3-500z Triode tube. The SB-1000 had a lot going for it. For the first time, Heathkit has a linear amplifier designed to not only work on 160 meters but also the new WARC bands at 17 and 12 meters. (12 and 10 meters were not standard with the SB-1000 but could easily be enabled by a licensed amateur operator with components already inside the radio. Instructions were supplied to the user by Heathkit in return for sending in a copy of their amateur radio license.

The SB-1000 was introduced by Heathkit in 1987, some three years after production of the HL-2200 had stopped. The SB-1000 had a good market life of six years and to this day is relatively common on the used market. With its parts in common with the still popular Ameritron AL-80, AL-80A, and AL-80B, there is little problem with getting replacement parts. MFJ Enterprises, the parent company of Ameritron, openly sells every part of every product it makes. Here is a



Vintage Amateur Radio de Bill Shadid, W9MXQ



Ameritron AL-80B Linear Amplifier

(Ameritron Photo)



Heathkit SB-1000 Linear Amplifier

(Heathkit Photo)

So much for the Heathkit that really was not a Heathkit – except to say that while the fact is Heathkit did not design this radio they did design the concept of making this product a kit. They supplied their time proven assembly, alignment, and troubleshooting to the successful kit. So, many of the traits of a Heathkit were present here. I think that the Heathkit version of this Ameritron is better looking than its source product. But that is just one man's opinion! (Remember, I also like the Heathkit green radios!)

One more linear amplifier needs to be in this sequence. It came about late in the production of the SB-220 (not the SB-221) that was outlined in last month's installment. Let's look at the Heathkit SB-240 – vintage about 1975:



**Heathkit SB-240 HF Linear Amplifier
Brown/Beige/Black Prototype**



**Heathkit SB-240 HF Linear Amplifier
Green/Beige/Black Prototype**

Different Color Schemes were Considered – at the time no radios used what was to become the Brown/Beige/Black colors. Apparently change was in the air!

(KC8IV Photo)

(Heathkit Photo³)

The SB-240 has a footprint essentially the same as the SB-220. Heathkit, like they later did with the HL-2200, essentially repackaged the SB-220 with a different look. The green base-color and design apparently was design to match the SB-104/SB-104A¹ Transceiver of the time. The green color of the SB-220 matched the SB-104 series but details of style were different, as you can see. All RF specifications of the SB-240 matched those of the SB-220 – including



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Vintage Amateur Radio de Bill Shadid, W9MXQ



The SB-240, for reasons unknown to us today, did not go into production. It appears that ten of the units were built, according to KC8IV³, former Heathkit employee, in an advertisement to sell his SB-240 prototype many years ago. Three of these amplifiers of those original ten are thought to still exist.

I have one additional note on the SB-240. The green version shown is questionable. I have little data that it existed as a prototype and could be a unit cobbled from a SB-220 panel. But that could as well have been done by Heathkit in making the prototype. Suffice it to say this prototype existed and several still do in perhaps one or two colors.

Between this installment and the one last month, we have covered nine of the eleven HF linear amplifiers made by Heathkit. Next installment will cover two more. In fact, those two were the first two. They were made in a time of big radios — like the Heathkit Apache and Marauder Transmitters and Mohawk Receiver. Do you remember those boat anchors?

Special thanks go to Bob W9DYQ and Gary K9DJT for their proof reading. I appreciate that you read my articles. Remember that I am open to questions and comments at my email address, W9MXQ@TWC.com.

W9MXQ

Notes and References:

¹ Subject of a future article.

² Chuck Penson, WA7ZZE, "Heathkit, A Guide to Amateur Radio Products" Electric Radio Press, © 1995.

³ It is difficult to determine the ownership of this photo. It may well be tied to KC8IV or Heathkit™.



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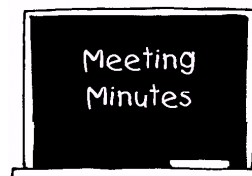
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MEETING MINUTES

FOND DU LAC AMATEUR RADIO CLUB

Minutes of FDLARC Monthly Meeting

Monday, August 12, 2019



Call to Order:

The meeting was called to order at 7:01 pm with president Buddy Larson KC9UVJ presiding.

Program:

There will be a tour of the Fond du Lac County 911 center immediately after the meeting. Use the south parking lot.

Introductions:

All attendees introduced themselves.

Approval of Meeting Minutes:

A motion to approve the June minutes was made by Doug Schultz N9EZF and seconded by Justin Buell KB9YET. The motion carried unanimously via a voice vote.

A motion to approve the July minutes was made by Tom Powell KC9VXR and seconded by Richard Finn KC9ZVW. Joe Scheibinger K9VY mentioned that the minutes should be amended to say that our 501.c3 has only been submitted but not yet approved. The amended motion carried unanimously via a voice vote.



Treasurer's report:

The Treasurers Report was presented by Doug Schultz N9EZF.

A motion to approve the Treasurers Report was made by Justin Buell KB9YET and seconded by Jack Heil KG9IN. The motion carried unanimously via a voice vote.



Truck Fund	0.00
Emerg. Services Fund	1,486.59
General Use Fund	5,283.01
Savings Account	25.00
Petty Cash Fund	<u>19.12</u>
Total	6,813.72
Repeater Fund	232.07



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MEETING MINUTES

FOND DU LAC AMATEUR RADIO CLUB

Minutes of FDLARC Monthly Meeting

Monday, August 12, 2019



Old Business:

The Race the lake bike race around Lake Winnebago is scheduled for Aug 25th. We need lots of help in Fond du Lac county. All you need to volunteer is a handheld radio. Volunteers will be stationed around the course and let net control know when the lead bikes and the last pass. If there is an accident or breakdown let net control know. Buddy Larson KC9UVJ and Peter Fox KB9WZD will be net control.

The ARC will be having a run walk and roll on Sept 28th. See Buddy Larson KC9UVJ to volunteer.

The second (and last) Brat Fry of the year will be held on Aug 23 and 24 see Doug Schultz N9EZF for the sign up sheet.

Adjournment:

A motion was made to adjourn by Tom Powell KC9VXR The motion was seconded by Cully Kowal KS0D. The motion carried unanimously via a voice vote and the meeting was adjourned at 7:26 pm.

Raffle:

No raffle





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NOTICES/ANNOUNCEMENTS

FDLARC On YouTube



Many of you may not be aware, but Lloyd Vandervoort N9RPU, our Club Secretary, has been making videos of the presentations at our meetings. There is now a pretty large collection of them on You Tube. Do yourself a favor and take a few minutes to scan the list and play some of them. Enjoy!

FARC - W3AO Field Day Presentation <https://youtu.be/UK1A47pNKyo>

FARC - Bob Heil Ham Radio Presentation https://youtu.be/t3Ueh9IN5_U

FARC - WWV Presentation https://youtu.be/w3-DP9DEv_U

FARC - Pacific Antenna Talks Kit Building <https://youtu.be/SBReL2YIsn0>

FARC - Scanner Master Presentation <https://youtu.be/dlSIAufGkv8>

FARC - WBAY Field Trip TV Nov 17 2015 <https://youtu.be/sfQvJ1fV6eo>

FARC - WBAY transmitter tour https://youtu.be/NnZ21O_6HvA

FARC - NooElec https://youtu.be/s_pxYkH4xds

FARC - Elecraft Radio <https://youtu.be/3Ou1Qpx9Vg8>

FARC - Ed Tobias & Morse Code <https://youtu.be/9uu4PFMrH2U>

FARC - Salvation Army Emergency Communications <https://youtu.be/oxXoZjuTTNE>

FARC - KFIZ Interview <https://youtu.be/UVFMCvRGEJE>

FARC - HAARP Presentation <https://youtu.be/cdeNXLMuyEE>

FARC - The DZKit Ham Radio Kits https://youtu.be/giZcfQW_tpA

FARC - The DZKit Ham Radio Kits https://youtu.be/giZcfQW_tpA

FARC - The Christmas Island DXpedition with Bill Kendall (4/9/18) <https://youtu.be/XgjYL0vAhlw>

FARC - Restoring Old Antique and Classic Radios (5/17/19) <https://youtu.be/3l352v4gYdw>

FARC - Dave Sumner K1ZZ, Secretary of the IARU (1/14/19) <https://youtu.be/fVzhzhUpYlw>

Newsletter Back Issues

When I took over as the newsletter editor I simply continued the volume numbering that existed then. Unfortunately, I don't have copies of those old newsletters. I would appreciate it if you have any newsletters earlier than October, 2014 you would send them to me. Electronic copies are ideal but I would also be pleased to accept hard copy. I'll scan them and return the originals to you.

Many Thanks, Dick Finn KC9ZVW



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NOTICES/ANNOUNCEMENTS

HAM Testing Session

The Fall dates for testing will be rolling around soon (the first is on October 12, 2019). This still gives you plenty of time to prepare to upgrade (or get) your ticket. If you have questions or want to reserve a spot (note: reservations are not required but do help us to be aware of how many may be coming) please contact Doug Schultz at 920-922-3088 or via email at schultz74@charter.net. There's still plenty of time to crack the books and prepare to upgrade your ticket.



Generally speaking, I will be publishing the newsletter each month (except December (when we do not have a meeting) on the Monday before our monthly meeting. I start assembling it during the preceding two weeks. Obviously I would like to have the material as early as possible but the deadline will have to be on the Wednesday preceding the publish date.

Following are the pertinent dates I'll update this table and print it in each month's newsletter):

	Publish Date	Deadline Date
Oct, 2019	10/7/19	10/2/19
Nov., 2019	11/4/19	10/30/19
Dec, 2019	No News-	



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Free, For Sale or Wanted

Upcoming HAMFESTS and Conventions From ARRL

Hamfests

09/07/2019 | Ozaukee Radio Club 14th Annual Regional Fall Swapfest

Location: Cedarburg, WI

Type: ARRL Hamfest

Sponsor: Ozaukee Radio Club

Website: <http://ozaukeeradioclub.org>

[Learn More](#)



09/27/2019 | Central Division Convention, HRO Superfest

Location: Milwaukee, WI

Type: ARRL Convention

Sponsor: Milwaukee Radio Amateurs' Club W9RH

Website: <https://www.w9rh.org/>

[Learn More](#)



11/03/2019 | FCARC Swapfest

Location: Kaukauna, WI

Type: ARRL Hamfest

Sponsor: Fox Cities Amateur Radio Club, Inc.

Website: <http://fcarc.club/hamfest.php>

[Learn More](#)





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2019 CALENDAR

Jan. 14, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935

Feb. 11, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.

Feb. 16, 2019

License Exams, 9:00 am-Noon, Moraine
Park Technical College in Room O-104
Contact: Doug Schultz N9EZF



Mar. 9 & 10, 2019

Wisconsin QSO Party



Mar. 11, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
Annual Membership Drive-Contact Joe Scheibinger
235 N National Ave, Fond du Lac, WI 54935

Apr. 8, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935



Apr. 13, 2019

License Exams, 9:00 am-Noon,
Moraine Park Technical College in Room O-104
235 N National Ave, Fond du Lac, WI 54935
Contact: Doug Schultz N9EZF

May 13, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935

May 17—19, 2019

Dayton HAMFEST



May 31, 2019—June 1, 2019

Brat Fry Country Corners Exxon Station,
Hwy 67 and Hwy 41 in Lomira. 8:00am to
5:00pm—Contact: Doug Schultz N9EZF



June 10, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935

June 7—9, 2019

Walleye Weekend. Contact Joe Scheibinger K8VY

June 22 & 23, 2019

ARRL Field Day, 1800 UTC Saturday and
running through 2059 UTC Sunday



July 8, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC O-102.

July 21, 2019

RMC Triathlon



Aug. 12, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935

Aug. 25, 2019

Race the Lake

August 23-24, 2019

Brat Fry Country Corners Exxon Station,
Hwy 67 and Hwy 41 in Lomira. 8:00am to
5:00pm—Contact: Doug Schultz N9EZF



Sept. 9, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935

Sept. 20—22, 2019

Fox Cities Marathon



Oct. 7, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112
235 N National Ave, Fond du Lac, WI 54935

Oct. 12, 2019

License Exams, 9:00 am-Noon, Moraine
Park Technical College in Room O-108.
235 N National Ave, Fond du Lac, WI 54935
Contact: Doug Schultz N9EZF



Nov., 11 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935
Election of 2019 Officers

Dec. TBD, 2019

FdL Parade of Lights, 4:00, Downtown



Dec. 8, 2019

FDLARC Holiday Party: Jim and Linda's
Contact Buddy Larson KC9UVJ



Dec. 14, 2019

License Exams, 9:00 am-Noon, Moraine
Park Technical College in Room O-104
235 N National Ave, Fond du Lac, WI 54935
Contact: Doug Schultz N9EZF





First	Last	Call Sign
Annika	Kreis	
Barbara	Simon	W9MER
Ben	Haack	KD9LVQ
Blend	Bowen	KC9VXV
Brad	Freund	KC9QYP
Brian	Turkiewicz	KC9LFR
Buddy	Larson	KC9UVJ
Chuck	Mahnke	K9HXI
Cully	Kowal	KS0D
Danny	Vandekolk	KC9IGD
Dave	Witt	WD9W
David	McCumber	N9WQ
David	Zittlow	K9DUI
Dawn	Krause	KD9CAW
Dean	Choate	KC9TGM
Debra	Florian	
Dennis	Paulin	KB9OFM
Derek	Giese	KD9IAN
Dick	Finn	KC9ZVW
Don	Chapman	KC9KZQ
Donald	Bakke	KD0HCW
Donna	Blend	KC9TFN
Dot	Olig	K9FDL
Doug	Murray	KC9ZVT
Doug	Wagner	KC0RNS
Doug	Schultz	N9EZF
Ed	Beltz	N9PJQ
Ed	Sipple	W9VYO
Ed	Steinfeld	KB1ZJK
Fernando	Salazar	KC9ZVX
Gene	Olig	KD9ZP
Gene	Peterson	KD9IAG
Gerry	Radtke	WA9GON
Gregory	Schmude	KD9EHB
Isaac	Lundberg	KD9FPG
Jack	Heil	KG9IN
James	Scovronski	N9WAM
Jeremiah	Alderden	KC9SGL
Jim	Balthazor	K9AIX
Jim	Cole	N9WAP
Joe	Lauber	KC9MDY
Joe	Scheibinger	K9VY
Joyce	Keyes	KC9KIJ
Justin	Buell	KB9YET
Kirk	Everson	KC9FZE
Kyle	Ruesch	AB9AX
Larry	Lamont	KB9POP
Larry	Mielke	KC9RUE
Laura	Yates	
Laurie	Winchell-Beltz	KC9YQS
Lloyd	Vandervort	N9RPU
Lorelei	Kreis	
Louis	Simon	KB9VQM
Marjean	Buck	KC9LFI
Marjorie	Heil	KC9BEN
Mark	Forss	WD9CYM
Mathew	Yates	KD9CSD
Matt	Nett	KD9BBN
Matthew	Zimmerman *	KD9KTY
Michelle	Lawrence	N9RQL
Mike	Keyes	KE7ES
Mike	Lawrence	N9UA
Nancy	Myers	K9ANA
Neal	Buck	KC9LFN
Paul	Bleuel	KC9NAA

CLUB ROOSTER



Paul	Tvrdy	N9KLG
Peter	Fox	KB9WZD
Randy	Nelson	KC9MYG
Ray	Grenier	K9KHW
Reinholt	Aschmotat	N8VDH
Richard	Jarzynka	KD9EMX
Rick	Robinson	NI9Z
Ron	Keller	KC9YVL
Scott	Kreis	
Stan	Cram	AI0M
Steve	Smith	W9GPI
Ted	Gustavus	KD9IAH
Ted	Neuburg	W9LUQ
Ted	Willett	W9NHE
Timothy	Braun	W9AAV
Todd	Beay	AC9EX
Tom	Karrmann	KC9VZY
Tom	Murray	N0HOR
Tom	Powell	KC9VXR
Tony	Pass	KC9QYR
Walter	Rueger	KC9WQ
Walter	Drees	KD9JAD

Paul	Tvrdy	N9KLG
Ed	Beltz	N9PJQ
Lloyd	Vandervort	N9RPU
Michelle	Lawrence	N9RQL
Mike	Lawrence	N9UA
James	Scovronski	N9WAM
Jim	Cole	N9WAP
David	McCumber	N9WQ
Rick	Robinson	NI9Z
Timothy	Braun	W9AAV
Steve	Smith	W9GPI
Ted	Neuburg	W9LUQ
Barbara	Simon	W9MER
Ted	Willett	W9NHE
Ed	Sipple	W9VYO
Gerry	Radtke	WA9GON
Mark	Forss	WD9CYM
Dave	Witt	WD9W
Annika	Kreis	
Debra	Florian	
Laura	Yates	
Lorelei	Kreis	
Scott	Kreis	

First	Last	Call Sign
Kyle	Ruesch	AB9AX
Todd	Beay	AC9EX
Stan	Cram	AI0M
Jim	Balthazor	K9AIX
Nancy	Myers	K9ANA
David	Zittlow	K9DUI
Dot	Olig	K9FDL
Chuck	Mahnke	K9HXI
Ray	Grenier	K9KHW
Joe	Scheibinger	K9VY
Ed	Steinfeld	KB1ZJK
Dennis	Paulin	KB9OFM
Larry	Lamont	KB9POP
Louis	Simon	KB9VQM
Peter	Fox	KB9WZD
Justin	Buell	KB9YET
Doug	Wagner	KC0RNS
Marjorie	Heil	KC9BEN
Kirk	Everson	KC9FZE
Danny	Vandekolk	KC9IGD
Joyce	Keyes	KC9KIJ
Don	Chapman	KC9KZQ
Marjean	Buck	KC9LFI
Neal	Buck	KC9LFN
Brian	Turkiewicz	KC9LFR
Joe	Lauber	KC9MDY
Randy	Nelson	KC9MYG
Paul	Bleuel	KC9NAA
Brad	Freund	KC9QYP
Tony	Pass	KC9QYR
Larry	Mielke	KC9RUE
Jeremiah	Alderden	KC9SGL
Donna	Blend	KC9TFN
Dean	Choate	KC9TGM
Buddy	Larson	KC9UVJ
Tom	Powell	KC9VXR
Blend	Bowen	KC9VXV
Tom	Karrmann	KC9VZY
Walter	Rueger	KC9WQ
Laurie	Winchell-Beltz	KC9YQS
Ron	Keller	KC9YVL
Doug	Murray	KC9ZVT
Dick	Finn	KC9ZVW
Fernando	Salazar	KC9ZVX
Donald	Bakke	KD0HCW
Matt	Nett	KD9BBN
Dawn	Krause	KD9CAW
Mathew	Yates	KD9CSD
Gregory	Schmude	KD9EHB
Richard	Jarzynka	KD9EMX
Isaac	Lundberg	KD9FPG
Gene	Peterson	KD9IAG
Ted	Gustavus	KD9IAH
Derek	Giese	KD9IAN
Walter	Drees	KD9JAD
Matthew	Zimmerman *	KD9KTY
Ben	Haack	KD9LVQ
Gene	Olig	KD9ZP
Mike	Keyes	KE7ES
Jack	Heil	KG9IN
Cully	Kowal	KS0D
Tom	Murray	N0HOR
Reinholt	Aschmotat	N8VDH
Doug	Schultz	N9EZF
Paul	Tvrdy	N9KLG

NAME
SORT

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