



NEWSLETTER

January 2023

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NOW HEAR THIS!

PRESIDENT'S CORNER

K6AAN, Mike Dugger

Season's greetings!

Hope all of you have already started to enjoy the holiday festivities in the area and are ready for the celebration of Christmas. During the past few weeks last month, some important items of business have arisen and have been discussed during our recent Board of Directors meeting. Our member Rick Manies contacted me regarding a very special donation he wanted to make to the club. As some of you are aware, Rick won the solar battery box system that was the grand prize during our drawing at the last meeting. Rick advised me that he wishes to donate the solar battery system along with a Yaesu 991A radio, Yaesu external speaker and a Comet GP-3 antenna to the club. Rick would like to see these equipment items used for club events, field trips, contests, and public demonstrations. I immediately started an email vote amongst the board of directors. The results were unanimous in favor of accepting Rick's very generous donation. This equipment will be acquired and inventoried in the next couple of weeks.

During the past year, we have purchased several items of equipment to supplement our complement of club radios and other items. We have basically outgrown our limited 5'x5' storage unit. A larger unit became available at the same facility recently. N6NFB, N6ZW and I, went out and looked at the new unit. It is much wider and will take care of our needs for the near future. A vote was taken from board members and unanimously approved to move to the upgraded storage unit. There is an added cost of approximately \$25 per month more than we have been paying to do this. The need to keep our property stored in a central location and safe far outweighs the additional costs. The actual move from the old space to the new will occur in the next couple of weeks, and we will complete an inventory of our club property at the same time.

My last announcement concerns possibly changing the tax status of our club to becoming a non-profit organization. There have been several discussions during our board meetings in the past about making the change. A vote was taken at the last board meeting and unanimous approval was made to move forward with this project. I was assigned to pursue the process



with the assistance of one of our members who is a licensed tax professional. There are several obvious advantages to the club being a non-profit under 501(c)(3) of the tax code. The ability to accept donations, grants, corporate sponsorships, and mitigation of liability are a few of the direct benefits. The only downside to the whole idea is it would cause additional administrative duties for a couple of the club officers. This will be an item for discussion at our next meeting on January 5, 2023. In closing, I wish you all the happiest and safest holiday season!

73!

FROM THE NET DIRECTOR

N6TCE, Bob Officer

Hello All,

I wanted to share the final numbers for the net from this past year in comparison to previous years. We finished with 13 more total check-ins for the net in 2022 than in 2021:

Totals 2022: 1,881

Totals 2021: 1,868

Totals 2020: 1,655

Totals 2019: 1,553

Totals 2018: 1,501

Good work and kudos to all Net Control Stations and Net Members!

The net measures how well the club's public face operates.

We have two new net control stations this year. Adding two experienced control operators will be a positive move for the net. Rick, N6DT and Dave, K6DCL are our two new net control stations. Please welcome them both!

At the same time, we bid Barry, K6ZZD farewell. He is stepping back to allow other people to be NCS. He has served many years as a net control station.

Heads Up!

Next week we start with Week 1. All the net counters will be reset. The reset means the roll call will be by Club Officers, Special Appointees (that serve at the president pleasure), Past Presidents and Regular Net Members. Remember that Regular Members are amateurs who have checked into the net *three times consecutively*.

All the categories are sorted on the first net by suffix. Thereafter, the rollcall will be sorted by the number of times you have checked in and then by the call sign suffix.

Net Control Operators Update

Below are the Net Controls for the rest of the year. Substitutions are possible:

January 2023	1/4 N6TCE	1/11 N6DT	1/18 K6AAN	1/25 KK6ES
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Watch this space for next February and March NCS listing.

Bob Officer, N6TCE
Net Director

BATTERY OPERATION & TESTING

SPECIFIC TO RADIO OPERATION

KN6SKY, Gary Gagliano

There are many ways to provide emergency power for a radio or radio station. This article will be dedicated to the use of a battery for either stationary or mobile use. The concepts described in this article will not change for either application.

The battery used for testing in this case is a:

- Bioenno Power
- Lithium Iron Phosphate Battery
- 12v 20Ah

The battery was purchased new from HRO. It was peak charged for 24 hrs. with the charger provided, then stored in doors for about 10 months, not on float charge.

On 11.30.2022 the battery was used to power a Yaesu FT 991a for standby, receive and transmit functions. This was for the LARC Simplex Net test and weekly practice 2m check in. The most critical function of course is the transmit report, which was a 5/9 report from N6GKJ/ Ron.

The 991-power meter indicated 50 watts during transmit mode.

The battery measured as follows:

- ✚ No load open voltage: 13.39 volts. Indicates the battery maintained an acceptable charge level during the storage period.
- ✚ Radio in monitoring mode: 13.24 vdc.
- ✚ Radio in transmitting mode: 12.6 vdc.

Therefore:

- ✚ $50W / 12.6v = 4a$ during transmit mode.

This will change during the discharge cycle of the battery. Clearly as the voltage changes, the current draw will change to support the radio output. Each radio will have the minimum and maximum DC voltage operating range stated in the specifications. This is where the standby current should be found as well.

- ✚ $20ah / 4.0a = 5$ hrs. estimated run time in transmit mode.

Standby current draw is based on a current measurement or the radio's specification. This would need to be factored into the run time estimate.

To be safe, a -10% safety factor is normally used to derate the time estimate to account for battery aging and a possible lower charge starting point. Storage and operating temperature are other important factors in estimating battery life and performance. Temperature ranges are typically stated in the battery literature and on the name plate.

A series amp meter can also be used to measure the current in both the standby and transmit modes.

Depending on the type 120vac/12vdc power supply being utilized, a backup battery may be used in parallel with the DC output of the power supply. In my case, a Yaesu FP-1030A is the power supply of choice. Due to the output stage design, it is allowable to connect a battery in parallel with the output, regardless if the power supply is on or off. What you now have is a charged battery on standby ready to provide a seamless continuation of power in the event of a commercial power failure. This is commonly referred to as a UPS, or "uninterruptable power system".

The advantage of a DC powered radio station is that the externally supplied DC is easily supported by a battery back up on standby. An inverter is not needed. Start up, transfer times and inverter interference issues are eliminated.

It is important to know if the power supply being considered will allow for a parallel battery connection, to eliminate battery reverse current into the power supply output stage during a power outage, or if the power supply is turned off while the battery is connected.

This is the question I get most often regardless of the battery or battery bank in question: How long will it last? Keeping in mind this is an estimate only, a new fully charged battery or battery bank will usually test out very close to the estimated calculation with good data. As the battery ages and life cycles are used up the capability will diminish. Actual testing in service is the only sure way to know what a given battery power supply is capable of doing during its life span.

Lithium type batteries have expected life spans of 5-10 years when properly charged and stored. Some will last longer. There are various lithium chemistry-based battery types available from industrial to consumer grade. The type used for this test is a good choice for several reasons. Safety, cost, and performance. If you choose to have standby batteries in your shack or home, it is important that you be aware of any local fire codes and possible HOA regulations that may be applicable. You may affect your homeowner's insurance with the installation of a battery or battery bank above a certain size limit or utilizing certain types of batteries. Permitting and code issues may or may not apply.

Safety Considerations:

- ⊕ If anything, other than a sealed recombinant type of battery is used, the operator must be aware of any gas discharge during the charge or discharge cycle. These gases can be hazardous in several ways. Personal health and safety, as well as fire. These types of batteries are not recommended for radio station use. Vehicle type batteries are notorious for starting fires in the wrong application.
- ⊕ Do not utilize lead/ acid batteries for home or shack use.

Solar Power:

I get a lot of solar power questions. Yes, I have a clear understanding of solar power systems both residential and commercial. No, I do not provide design, drawing or even simple specs and calcs, however I am glad to guide you through the process of estimating your power requirements and looking into a solar power system for your home or shack.

Abbreviated bio:

Sr. Power Systems Engineer
Technology Lead Eng.

I am glad to discuss and chat at any time if you have power related questions.

Season's greetings/ 73's
KN6SKY/ Gary

NETS & MEETINGS



WEDNESDAY NIGHT NETS

We have two nets, weekly on Wednesday nights:

- 6:30 PM – **Simplex Net**, 147.090 (No offset, No PL)
- 7:00 PM – **Weekly Club Net**, 147.090 (+600 kHz offset, PL is 114.8 Hz)

CLUB MEETINGS

Our club meetings are held the first Thursday of each month starting at 6:30 PM, located at **Casa Flores Restaurant, 400 E Kettleman Ln, Lodi CA**.

The meeting starts promptly at 6:30. If you plan to eat dinner then arrive early as usual. We do plan to have a drawing so bring your piggy banks!!

Lodi Amateur Radio Club

1030 S. Hutchins St., Ste. 4-127
Lodi, CA 95240-5251

LodiHams@gmail.com
lodiarc.org

EVENT CALENDAR

JANUARY 2023 EVENTS & CONTESTS

- 1st – [Straight Key Night](#)
- 5th – LARC Club Meeting at Casa Flores
- 7th – [Kids Day](#)
- 7th - 8th – [RTTY Roundup](#)
- 21st thru 23rd – [January VHF](#)

QST! QST!

A Google form has been created to update our club roster. The link for the Google form is below; Please go in and fill out the form in its entirety. If you have any questions, please reach out to our Club Secretary, Kristen Dugger at

LodiHams@gmail.com.

[Click Here to Fill Out the Form](#)

FOR SALE

VIRTUAL SWAP MEET

- **Ameritron, AL1200 – Make reasonable offer**

High Power HF Amplifier, covers 160-15M, with an easy convert to 10M. Factory wire for 220-240V. Runs a very cool 1200 watts output, 1/2 hour 1500 Watts. Driving power approx 100W for FULL output. Weighs 77 lbs, 18 1/2X 17 X 10. Date of purchase 8-12-91. Was used approx from purchase date until approx. 2005, approx 3 hours a week during that time. Has been sitting idle in shack since. I no longer need high power. New AL-1200's from MFJ (Ameritron) are approx \$5,999.95! I also have the QSK-5 (new) but haven't installed it.

If anyone is interested they will have to make an offer, until I can find what used ones are going for.

Contact Mike Zane, n6zw@comcast.net

- **ICOM Package – \$750**

ICOM 475h AND ICOM 275a -- Both in excellent condition in and out! Two ICOM mast mounted preamps -- One VHF and one UHF; Both NOS new in box. ICOM satellite interface for normal or reverse doppler. **Sold as a package only**. Pick up at my QTH in Pittsburgh.

Contact Bruce Croskey, AH0U@ARRL.NET

- **Hy-Gain AV-18HT – \$1500**

This is for a Hy-Gain AV-18HT 53ft tower, 10-80m, tilt-over hinged base, has not been used. Pick-up only.

Contact Bob LaRocca, ke6eang@gmail.com

- **Tower Sections & Antennas – Contact for Details**

This is for 4 sections of Rohn tower, including the top section. Four-element Cushcraft 15M beam. Three-element A3s triband beam; Plus, I "might" have a rotor that will work with either beam.

Contact Mike Zane by email, n6zw@arrl.net

Interested in posting something for sale here?

Please send your request to LodiHams@gmail.com to be considered for the next newsletter, no later than the 25th of the month. Please ensure to include your contact information to go along for the sale item!
