



Cathay Newsletter November 2006

President: Tony Halog, *KR6EG* email: KR6EG@arrl.net

Vice President North: Howard Louie, *N6MNV*

Vice President South: Bill Fong, *W6BBA*

Editor: Ed Fong *WB6IQN* email: edison_fong@hotmail.com and Bill Tom *KN6QD*

Membership: Margaret Wong, *KF6WDO*

Treasurer: Vince Chinn, *W6EE*

Mission: The Cathay Amateur Radio Club is basically an active social club of Ham Radio Operators and their spouses

Monday Night Net Time: 9PM PST Frequency: 146.67MHz -600KHz PL85.4 and 442.70 +5MHz PL 173.8 The repeaters are linked. The Monday night net is the best way to find out the latest club news. All check-ins are welcome

President's Message Tony Halog – KR6EG

Ham Conventions – Are they worthwhile?

My wife Connie (*KF6WEA*) and I went to Pacificon this year and, without speaking for Connie, I had a pretty good time. We couldn't attend in 2005 as we had other obligations, but we have attended most of the other Pacificons in recent years. We've also been to other ham related conventions; some have been multi-club sponsored events, and some have been focused on a specific topic. Most everyone in Cathay knows by now that Connie and I are heavily involved in Emergency Communications (EmCom).

Expectation has much to do with satisfaction. At the very least, we expect our ham conventions to have a flea market, some forums and some type of exhibit area. The remainder of the program has been left to the convention's planning committee. There may be one or more formal or informal meals; usually a banquet dinner or a breakfast. Maybe there will be official representatives from one or more of the big vendors, such as Icom, Yaesu, HRO and the like. Sometimes there is a VE Team available for folks to join as new licensees or upgrade. Perhaps

there will be a local club or organization with a cook-out BBQ to raise funds to help support their group.

That being said, it should be obvious by now that conventions are all similar in nature. Some will have more than others to attract attendees. So let's return to the article's title- Are they worthwhile? To me, it's become rather simple. Did the gathering meet or exceed my expectations? Were my expectations reasonable? The answers to those questions have become my rule-of-thumb for each convention. And I consider each convention individually. As a newbie at my first convention, I remember walking around, wide-eyed (as it were), attempting to soak up anything and everything. I'm not an Electronics Engineer, so it took me a bit to understand that there weren't really any "miracle antennas" that were a foot long, covered DC to daylight, with +12db gain on all bands. Darn, and I really wanted one of those, too. When Connie and I attended our first ham convention, she too, was licensed, so we were like kids in Disneyland. We wanted to see everything and do everything. Naturally, we were unable to do so. So, while we had fun, there was some disappointment, because we couldn't do absolutely everything.

So how do we determine our expectations? We pick and choose, when possible. If the convention has a flyer or a website, we'll try to find it. We'll look for a schedule. If there are interesting topics listed in the forums, we'll start a list. Perhaps the banquet speaker will be someone we want to hear. Maybe there will be a display or two that will spark our interest. There could be new equipment that we want to learn about. Even better if the equipment's representative will be there. Usually bargains galore at the flea market.

If none of that strikes you, there's the people. Goodness, hams are interesting people. Truly, amateur radio is a microcosm of the world. All shapes and sizes, backgrounds and personalities. Okay, there's always a few goofy folks in the crowd, but how's that different from anywhere else? This year, Connie and I socialized more than we have at recent Pacificons. We saw folks we haven't seen in years. We chatted with Cathay members that we don't ordinarily get a chance to talk with at the club events. We met people face-to-face that we've only spoken with on the air. We still went to some forums. We had time for bargain hunting. Found some nice deals, too. All in all, I think the 2006 Pacificon was the most enjoyable for me in a few years. Probably because I like talking with people. It's great to touch base with friends and find out what they've been up to. Yes, sometimes the news isn't pleasant, but normally we can at least exchange a smile and a handshake.

A smile and a handshake. Isn't that worthwhile to you?

73

Tony Halog, KR6EG

New Members

This quarter, we have three new members: Sheldon KD6MNZ, Gary Crown AB6S, and Kern Wong (KI6DTX). Please welcome them when they come to events. They all work for National Semiconductor and all three are very knowledgeable in radios. More about them in the next newsletter.

2007 Election of Officers

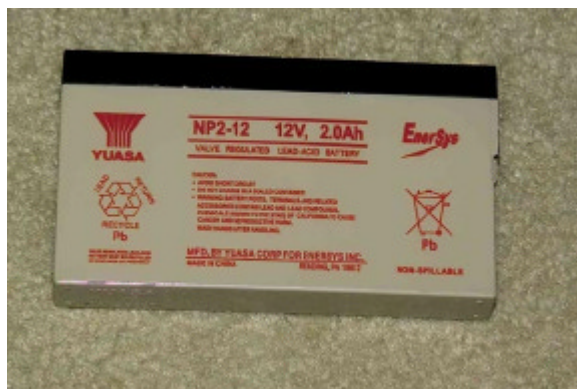
Hey, it's the end of the year and yes it's time to elect new officers. If you like to nominate a person for a position, just email me. Give the name and position. Any member can nominate another member. The positions available are President, Vice President, Vice President South, Treasury, Secretary (membership), and 4 board members. Email: edison_fong@hotmail.com

Christmas Party at Ed's House, Saturday, December 2, 2006

My wife Sharadon and myself (Ed Fong) will host our annual Christmas Party on the Saturday 2nd of December. Party starts at 6PM or so and usually last till about 10PM. Bring your kids and friends. No need to fine a baby sitter. This is a kid friendly event and of course FREE to Cathay Radio Club Members. Bring a dish if you wish, but not required. About 1/3 of the people are licensed hams and other 2/3 are just darn nice people. Sorry we wouldn't have a raffle, but you will get to try the FT897 out and see if you want to win it at the annual Banquet. On top of that, I will have a free 12V Gel Cel for anyone that wants one. These are made by Yuasa and are 2.0 Amp/hr. Great for emergency backup power. See the photo below. You can also bring your radios for minor repairs (no charge) and feel free to use my service monitor and HP9594 spectrum analyzer for adjustments. The address is:

1163 Quince Ave.
Sunnyvale, CA94087
Phone number: 408-245-8210

If you need precise directions from where you are coming from, go to www.mapquest.com. They seem to give the best directions or give me (Ed Fong) a call on the phone.



Come to the Christmas Party and get an Emergency Communications battery.
12V / 2amp/hr Gel Cel. Absolutely FREE.

Report on the Annual Picnic

We had a great time at the annual picnic this year on the 23rd of September. The weather was just right. The newspaper said 74° so one could not ask for more. We had 42 people attend. This year we tried something different. It was full pot luck. The food was great and I had more than my share of desserts. There were plenty of pies, cookies and cakes to go around. Not to mention, the ample chicken, lasagna, and salads. Hey if you missed it, set your calendars for next year. We had several visitors from National Semiconductor this year. These included Sheldon Mah (who also signed up to be a member), Larry Zuckerman K6LZ, and Tony Sacco KI6EOD who has volunteered to be our webmaster.

The Yaesu FT7800 went to yours truly, but I ended up giving it to one of our new members Gary Crown AB6S. What a great incentive to join the club. My wife says I have too many radios.

Yaesu FT7800 dual band mobile Gary Crown AB6S
Gem 17 LCD monitor – Warren Hui KD6JTO
Cordless Drill Set Bill Fong W6BBA
APC 400 UPS Larry Zuckerman K2LZ
GP4 Shortwave radio Walt Gee K6GIJ
Motorola Talkabout Judson Chu W6WTY
2 - Power strips Dave Everhart KA2HRS and Bill Fong W6BBA
Pryme dual band antenna Bill Chinn KC6POF
Machine LED Flashlight Dave KA2HRS
General Class Study Guide Ron Quan KI6AZB
RF field strength meter Phil Wong KG6ECC
Tek Plier George W6BUR
2 - Computer tools sets. Ed Fong WB6IQN Phil KG6ECC

Congratulations to all the winners!!! The following are pictures from the picnic taken by Howard N6MNV.



Bill W6BBA and Joyce Fong, Walter K6GIJ and Anne Gee.



New member Sheldon KD6MNZ and Julie.



Bill Fong W6BBA wins the cordless tool set.



Violet and Mei-lin with the grand prize.



Dave Chan WZ6X with the Wu Yee.



Megan and Sydney daughters to Leonard Tom NX6E

Annual New Year's Banquet

Next Year's (2007) annual Chinese New Year Banquet will be held at the Silver Dragon in Oakland. Thanks to Joe W6DOB for organizing it. The set date is Saturday February 10, 2007, so set your calendars. More details in the December newsletter.

Silver Dragon Restaurant
835 Webster St, Oakland, CA

There is street parking and a nearby parking garage. The preliminary menu is:

- *Fried Stuffed Crab Claws*

- *Tree Mushroom w/Velvet Chicken*
- *Glazed Honey Walnuts w/Jumbo Prawns*
- *Tenderloin of Beef in XO Sauce (served w/Chinese broccoli)*
- *Braised Shitake Mushrooms (served w/tender greens)*
- *Golden Roasted Chicken*
- *Peking Duck w/Blossom Rolls*
- *Sweet and Sour Fillet of Fish*
- *Steamed Rice*
- *Beverages & Dessert (Oolong tea, sparkling cider & lychee nuts)*

The Grand Prize for the Banquet

OK folks, I have talked with members and a general consensus is that club members love good food and RAFFLE PRIZES. I'm not in charge with the food, but I am in control of the raffle prizes. With a 10 megapixel camera one year, three Yaesu FT817's, a Dell 7000 laptop, hey what can top that? That's what I said. Well, I looked around and asked around. People seem to like the FT817, but that was an all mode all band QRP radio. Not bad, but not suitable as a base station? Well, when I saw the Yaesu FT897, I decided that was my dream radio. What more can you ask for? Here's are the features:

- full 100 watts output on HF 160-10 meters
- 50 watts out on 6 meters and 2 meters
- 20 watts out on UHF
- all modes on all bands SSB, CW, AM, FM
- full DSP filters, adjustable from 60Hz to 6KHz.
- Dual VFO's, 200 memories.
- 2 uncommitted slots. Can be used for AC switching powersupply, 4.5 Amp/hr battery, etc.
- Spectrum analyzer – built in spectrum analyzer
- Programmable repeater offsets, fully feature PL and DPL

Hey, this is some radio. We need to sell at least a hundred tickets just to cover the cost of the radio. This radio meets the demand of the home DX'er, the casual home operator, the weekend camper, and most important, this radio is the ultimate for emergency communications.



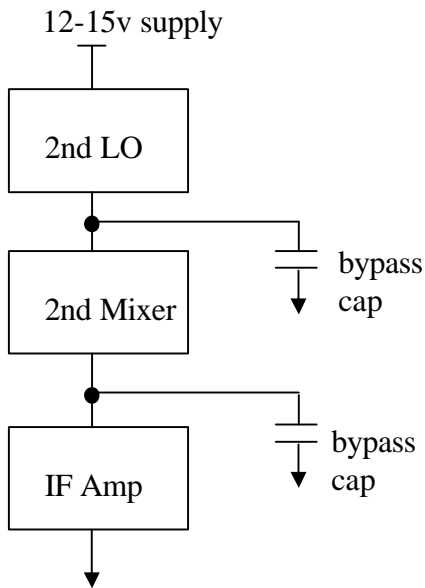
Now this is a mighty fine radio. Buy a raffle ticket and this may be yours.

Installment 4 The HT220 – Ed Fong WB6IQN

This is the fourth installment on the classic Motorola HT220 hand held walkie talkie. Up to this point we have discussed the various models. From the very tiny HT100 to the 5 watt 6 channel with PL Universal model. The cost of these radios were slightly under \$2000 depending on the exact features. So what was inside these radios that may them so special? Clearly, great engineering with unprecedented innovation. If the Motorola Design Team just continued doing what everyone else was doing, then they would have been another vanilla radio manufacturer. The team decided to begin with a very innovative high performance basic transceiver chassis. Features were then built around this basic chassis. The basic main board would be a uncompromisingly small two channel two watt transceiver. This main board had to meet all FCC specifications for a commercial radio suitable for police, fire and other government services. The power system had to be rechargeable batteries since using disposable batteries would be too costly. Motorola had attempted this earlier in 1963 when they released the HT200. Although many of these were sold, they were considered too bulky. By 1968, new technologies were developed that could be incorporated into the new radio. The HT220 slimline was about 1/3 the size and 1/3 the weight of the earlier HT200. The minimum standby receive time was 16 hours and still have enough battery life to transmit for at least a minute at the end of that period.

To meet the extremely aggressive commercial specifications it was obvious that Motorola had to start from scratch. To have a commercial hand held transceiver consume less than 10ma on standby would be no easy task. Most front ends of radios consume more than 10ma. The Motorola HT220 without PL decode consumes less than 3.5ma on standby. And that's not just the front end. That's the entire radio. Just look at the digital multimeter below. That's right, 3.15ma. My meter does not lie. Now look at the figure next to it. It is a current model HT1000 and it consumes on order of 60ma. So how did Motorola do it? Now to be fair, a present day radio has a frequency synthesizer but it still runs considerably higher current. The present day solution is to have higher capacity batteries. Perhaps acceptable, but not very elegant. The original HT220 slimline batter had a capacity of 200ma/hr. Today, a NiMH of the same size would carry a capacity of four times that. At 3.5 ma, the receiver could stay on for 64 hours continuous. Today's commercial radios usually have standby's of about 15-20 hours.

So what was their trick? There were basically two major ones and numerous smaller ones. One of the secrets was the use of stack circuitry. That is, rather than to implement one function from VDD (supply) to ground, up to three functions were cascaded in series. Since the radio was spec to operate down to 12 volts, this allowed 4 volts for each function. The 12 volts was needed at the time because good RF power transistors required 12 volts for 2 watts output. Motorola decided not to waste 12v per functional stage. For example, the first mixer, second LO (local oscillator) and 455KHz IF amplifier all operate under one current path to ground. This is done with very careful use of bypass capacitors. Another example is the front end RF amplifier and the first LO are stacked. The second innovative design technique was to completely shut down the power line in the audio section when the receiver was squelched. This save considerable power since the quiescent power of an audio section can be tens of milliamps. Most transceivers, even today, chose to short the audio at the output of the volume control but leave the audio amplifier on. This unfortunately wastes power. A crystal filter was also used in the first IF (16.8MHz) and a passive high performance ceramic filter at 455KHz. These filters were very innovative for its time but best of all, they consumed no direct power.



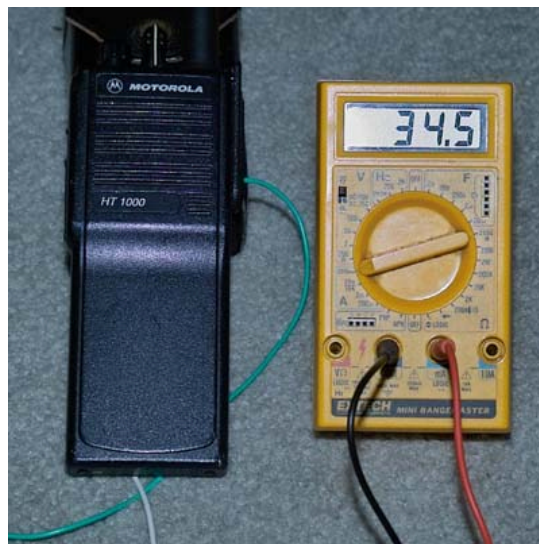
Stack circuitry is the HT220's claim to fame to conserving power in standby.



Yes, That's 3.15ma on standby. I'll never seen a radio that can do that.



The current production HT1000 consumes 64.5ma on standby.



Even in "sample mode", it consumes 34.5ma.

INFECTIOUS DISEASES - AVOIDING SILENT KEY-

By: Bill Tom KN6QD

Infectious diseases are a greater threat to our health than ever before. During the past 25 years, 30 new infections have emerged into our society; many are of the resistant forms. Because of our lax immigration policies, many diseases come from foreign visitors, particularly undocumented immigrants, or were introduced by imported meats and vegetable food products.

Our country has become a trading partner with almost every country in this world, probably preparatory to forming the “open border of the New World Order” concept of the Bush presidencies.

Although infectious diseases are the 3rd most prevalent health problem in this country, with heart disease and cancer being the first two, the number one killer worldwide is infections, killing about 1500 people every hour. 90% of the deaths are from AIDS, diarrhea, tuberculosis, malaria and measles. Our own death rate is insignificant in comparison, although our rate of infection has doubled over the past 25 years. During the next 20 years, our common diseases will be AIDS, hospital acquired infections, hepatitis C, and drug resistant tuberculosis.

Annually, 40 million international travelers enter this country and roughly 60 millions of our citizens travel to foreign lands, some of them to underdeveloped countries. Approximately, 20% to 40% of travelers to underdeveloped countries become infected with traveler’s diarrhea, which is probably inconvenient but it is not the most debilitating disease for a healthy person on the move. Many of our travelers return home with malaria, dengue fever or parasites, which are quite a bit more serious. The two most debilitating infections are cholera and shigella, which produce exotoxins that cause dehydration via continuous watery diarrhea until death. The most deadly diseases, though not common, are botulism from improperly canned foods and from the Hantus virus, found in this country from inhaled dust particles from dried rat droppings.

Next issues, we will discuss how our antibiotics work and the types of infectious microbes and parasites in our environment. Meanwhile, we must always wash our hands before eating at every meal. Carry a small bottle of Purell or alcohol to clean your hands in between meals, especially after you have used a bathroom, traveled on buses or had gone shopping or had shaken hands with others. When I was touring China a few years ago, our physician friend brought along alcohol wipes for us to sterilize our eating utensils and dishes as a precaution.

Do not drink local waters, or use ice cubes during your flights or in local restaurants. Ice cubes are more often, than not, made from local waters. Drink only bottled water with sealed caps, eat well-cooked foods, and avoid salads or fresh peeled fruits. There is a reason why people in China always imbibe previously boiled teas or hot water. With such a high density of population as in China, for example, their used water would not have had enough time to percolate and sterilize through their uncontaminated soil without running through old, or current septic cesspools, on the way back to the water source.

When I was traveling in Texas this year, I found a cockroach within the two sheets on my side of the bed in a medium priced motel. Spiders would be the more dangerous insects in your hotel room. Wearing insect repellents would help to avoid mosquitoes too. But those are another type of problems. *kn6qd*

From the editor (Ed Fong)

Have a great holiday and think of things to do for 2007.