

**Cathay Newsletter**  
**January 2008** supplement  
[www.cathayradio.org](http://www.cathayradio.org)

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**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.

**Message from the President:** *Edison Fong, WB6IQN*

This a short newsletter right before the BIG annual Chinese New Year Banquet. The banquet is going to be eventful and we expect over 100+ attendees. Most are licensed hams and their families. The annual banquet is now so renown that many people not related to ham radio attend just because of the great food and raffle prizes. Who knows, maybe some attendees may want to become hams. So be on your best behavior. You never know who will be at your table. This banquet gives us real exposure to our friends and family members and give us a chance to show them what a nice group we are. We will entice them with our great food and raffle prizes and our GREAT company. Then we can throw them the study guide.

The purpose of this short newsletter is just to focus on the banquet prizes. Deciding on the raffle prizes for the Cathay Radio Club is always difficult. Everyone seems to have everything. Everyone I know in the Club has at least more than one radio. I was asking Dave Chan WZ6X about how many radios he had and he couldn't even tell me. He said something like, "At least

40+, but who knows.” I personally lost track years ago how many radios I have. At that point I thought it was best that we ask the members what type of raffle prizes they wished. On a quick vote several months ago on the Monday night net, the members voted for a “high end” laptop computer over an 42” LCD HDTV. I only can assume that most club members already have an HDTV. Being a ham club, many board members still want some type of radio as one of the raffle prizes. Another popular suggestion was a GPS receiver. So what did we decide? Here is a list of the top prizes.

### **Grand Prize- HP/Compaq F730 Wide Screen Laptop**

Dual Core AMD Processor

1024 Megabyte of RAM – expandable to 4096 megabytes

120 Gigabyte of harddrive

802.11b/g built in wireless

DVD/CDROM burner with lightscribe and double layer support

Microsoft Vista or XP service pack 2 - take your choice

Wide Screen format for DVD movies



### **2<sup>nd</sup> Prize** Yaesu FT7800 dual band mobile

50 watts on VHF

40 watts on UHF

receives 108-520 MHz

1000 memory channels

full tone encode/decode

Touch tone microphone

Control Head can be separated.

All around great radio. Howard N6MNV won one several years ago and is a happy camper.



### **3<sup>rd</sup> Prize** GPS receiver - Magellan Maestro 3225

Finding that you waste gas when looking for an address late at night? Getting frustrated when you take the wrong exit when you are not in a location you are familiar with? What you need a GPS receiver with maps loaded in. These things are absolutely amazing. It knows exactly where you are within about a few yards and literately guides you in to where you want to go once you enter the destination address.

Display: 3.5" diagonal QVGA full-color, anti-glare, touch-screen display

Dimension: .7"D x 3.65" W x 3.25"H

Weight: 4.94 oz

Preloaded maps: Full North America

Voice prompts: Turn right in 500 ft.

Speaks Street Names: Turn right on ELM Street in 500ft.

2D & 3D Map Perspective, Map View, TrueView™ 3D split screen & Maneuver List

Choice of route setup: Faster time, Shorter distance, Off road, least or most use of freeways, & avoid toll roads

Custom POIs: 1.3 Million points of interest (POIs) & Interactive POI icons

QuickSpell™: Enter addresses with unique auto-complete feature that even corrects spelling

Address book



The Cathay radio club is also known for its unique prizes and this year is no exception.

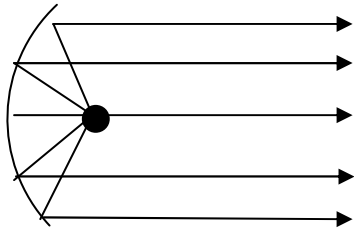
**Portable Solder Pencil** - One great new product this year is the “truly” portable solder pencil. This is an invention by the Weller Company and is marketed through Radio Shack stores. It is also marketed through the Weller brand name. This solder pencil runs on four standard AA penlite cells and despite its low voltage heats to 1050 degrees Fahrenheit in about 5 seconds. It melts solder like butter. There have been other cordless solder pencils in the past, but many relied on high current nicads or even a miniature propane torch to generate the heat. This is truly an amazing technology that Weller has perfected.



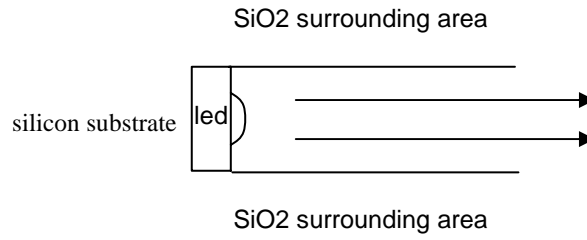
**Focusing LED Flashlight** - The other amazing technology is the advancement of LED's. All paid members will receive a 12 white LED single AA cell flashlight. This flashlight is an amazing advancement in the field of LED's and DC to DC converters. However, typical LED's do not focus very well. This is because the light is not a point source as in a conventional incandescent or Xenon bulb. If one can remember their high school physics, a point source of light (also know as an isotropic radiator) can be focus with a reflector. This principle has been used in flashlights for over 100 years. Unfortunately, when the LED came along, the principle of an isotropic source could not be used. A conventional LED is NOT an isotropic source. It is polarized due to the fact the light is being emitted from a PN junction deep inside a well surrounded by SiO<sub>2</sub> and other materials. Shown below on the left hand side figure is an isotropic radiator with a reflector with its ray traces. If the bulb is placed in the correct position of the reflector, the resulting beam can be very narrow. The figure on the right side is that of an LED in silicon. An LED basically generates light from a PN semiconductor junction. The exact makeup of the material will determine the color that is emitted from the LED. The physical construction is basically the same for all colors. The LED is not a point source as in the incandescent bulb. It is a unidirectional source since it generates light only in the forward direction. An analogy would be light shining through a paper towel row. After the light comes out, it cannot be focus easily. For the light to get to the surface, it must transverse through the oxide and the metal layers that are necessary to supply energy to the LED. This makes it almost impossible to focus with a conventional reflector. The only known method is with a lens or a combination of lens. Even this method is meant with marginal results. This is why many LED flashlights need multiple LED's. Even with multiple LED's, as many as 50, the results are disappointing.

This basic problem lead Maglite to research the "focusing" LED. I do not know the exact details of their research, but for years I was disappointed that Maglite had not joined the LED community with their products. A couple of year ago, they did introduce a replacement bulb kit for their flashlights which used a white LED. It consisted of a module that contained the DC to DC converter since two AA cells would not generate the proper voltage to drive a moderately bright LED. This upgrade kit sold (and still sells) for \$15-\$20 and can be retrofitted into a conventional Maglite. The light it emits is inferior to the stock light bulb, but it does consume about 1/4 the power.

The new Maglite LED uses a very "flat" LED and utilizes a dispersion lens to scatter the light. The scattered light is then refocused using a specially designed reflector. This reflector is almost twice the length of a conventional reflector. I have not worked out all the mathematical equations on the Maglite reflector. All I know is that it works and works well with about 4x more usable time on one set of AA batteries.



Conventional ray trace of an isotropic radiator (aka.lightbulb) working with a reflector.



This is a crude model of an LED. Since the light coming from an LED is deep in a well, the light is not isotropic, it cannot be focused by a conventional reflector.



**World's Smallest AM/FM/SW Radio with Alarm Clock** - This is truly a GEM. Although introduced several years ago, it is still a great performing AM/FM and shortwave receiver with even a built in white LED flashlight. It even covers 40 and 20 meters. It has no BFO for SSB or CW but I think it can be easily modified since I believe it uses a 455KHz IF stage.



Many other prizes that you would just have come by and see. Total cost of prizes should exceed \$1500. Good Luck and buy plenty of tickets so we can break even.

### **Last Call for the Banquet – Saturday January 26, 2008**

Please sign up for the annual Chinese New Year's Banquet. Tell your friends. It's a great 10 course traditional style all out banquet. My favorite dish is the Peking Duck. It is the best dinner money can buy for \$30 for members and \$35 for guests. Kids under 12 are free.

The menu is as follows:

- *Minced Sausage, Waterchestnut & Mushrooms/Lettuce Cups*
- *Sun Dried Scallop Soup w/Golden Mushrooms*
- *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*
- *Yang Chow Fried Rice*
- *Beverages & Dessert (Oolong tea, sparkling cider & lychee nuts)*

Now that sounds like a great menu.

Directions and address are as follows:

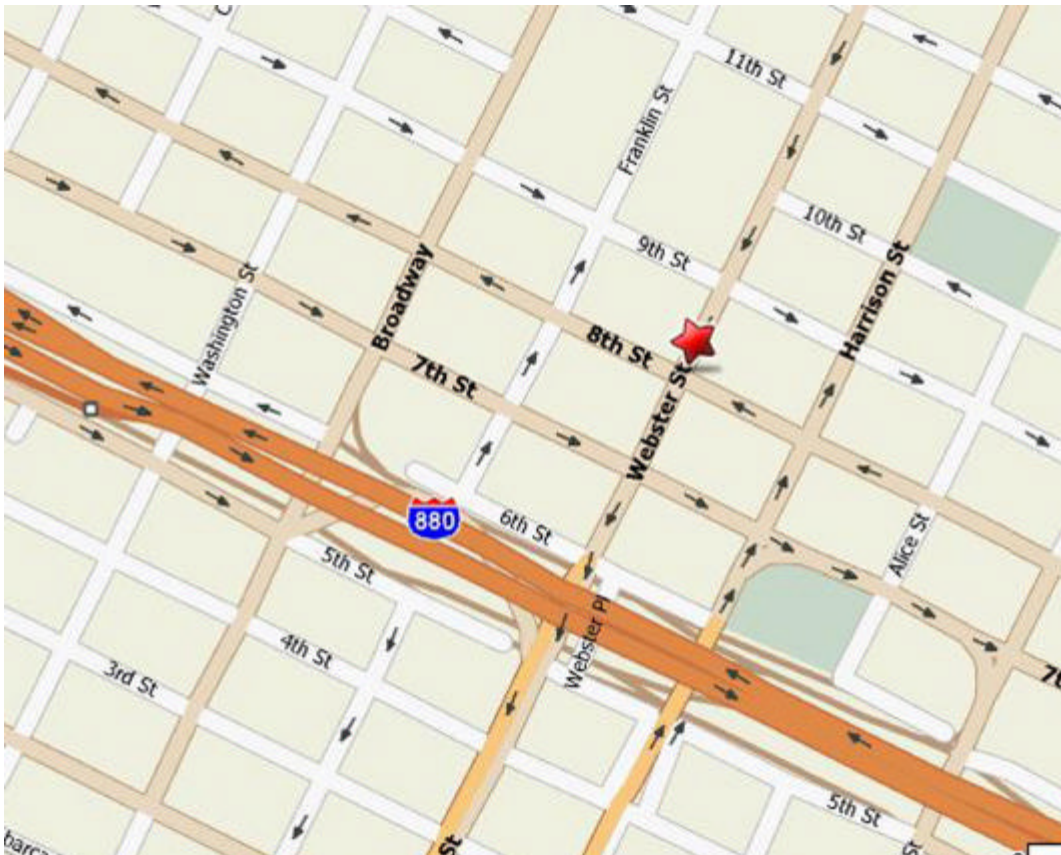
Silver Dragon Restaurant  
835 Webster St, Oakland, CA  
510-893-3748

There is street parking and a nearby parking garage.

**Directions:**

From South Bay: Take 880 north. Exit on the Broadway exit towards downtown. Proceed to 9<sup>th</sup> Street. Make a right on 9<sup>th</sup> Street and find street parking. There is a public garage on Franklin and 9<sup>th</sup> Street.

From North Bay: Take 880 South to San Jose. Exit on the Broadway/Alameda Exit. Stay straight, go on to 5<sup>th</sup> Street. Turn left on Broadway. Turn right on 9<sup>th</sup> Street. There is a public garage on Franklin and 9<sup>th</sup> Street.





If you have not renewed for 2008, the form is shown below. Remember, if you renew today, you will get a state of the art LED flashlight. These will be distributed during the banquet to paid members. If you do not attend the banquet, the flashlight will be sent to your via United States Postal Service. You may purchase extra flashlights for a \$10 donation to the club. Email Ed Fong for details.

**2008 Membership Renewal and Banquet Reservations**

	Number		Amount
Member Banquet \$30.00		Name (call sign)	\$
Spouse (or) Guest \$35.00 Banquet Kids under 12 free		Name (call sign)	\$
☺ 2008 Renewal \$15.00		Name	\$
<b>TOTAL</b>			\$

**2008 membership renewal information**

Membership or Roster changes  Especially email address.	
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Make the check payable to the “**Cathay Amateur Radio Club**” or “**CARC**” and mail the ballot and banquet reservations to Bill Chin KC6POF by January 12, 2008:

Bill Chin  
 43 Norwood Ave.  
 Daly City, CA 94015

If you have any questions on the membership or banquet email Bill at: *bill.email@juno.com*