

# THE NEWSLETTER

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Mercury Amateur Radio Association - MARA - North America - North East



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*E-mail your comments, ideas, or submissions to [marane@mara.net](mailto:marane@mara.net) or to [velvq@eastlink.ca](mailto:velvq@eastlink.ca)*

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# FEATURE ARTICLE

## TIME OF TRANSITION FOR MARA AND ERC?

**A**s I sit back and think of all the good folks who have been active in MARA over the years, I have many good memories of why I am a Ham Radio Operator. Nothing stays the same though, and I have been asked to write an article for the Newsletter, further developing some ideas I suggested on the net on January 1st. This is a tall order and I am sure that as I attempt it there will be many things that people feel strongly about for which I simply do not do justice.

Please consider these things as ideas for discussion on the path of change rather than a declaration of what should be.

MARA was formed quite a number of years ago and provided a structure and leadership for many of us who wanted to be of service in an emergency; recalling the days of the Teton Dam Disaster. It provided a network and, I think also rather importantly, a social structure that we could all look to for fellowship and help in preparing for such a disaster. MARA NE, for the last few years, has focused on HF communications as that provided a mechanism for mid range as well as longer range communications. It is also not dependant on facilities run by others (i.e. 2 Meter Repeaters) that I see as being of less use to us in a real emergency. Those facilities will likely be dominated by RACES activity.

Things are changing now with the advent and organization of the Emergency Response Communications (ERC) system taking shape. Several of us are asking when and how do we transition to the ERC system as a focus of our communications.

There is a tendency for the newly formed ERC nets to find "their own times and frequencies to use". I see nothing wrong with this as it probably demonstrates a natural change over from MARA NE to ERC. But, I submit that that is not as easy as it

**... consider these things as ideas for discussion on the path of change...**

sounds. I suggest we recognize it for what it is and see where it takes us.

We (MARA NE and MW) have, over the years, become habituated to 3872.5 kHz, and the 7:30-8:30 ET timeframe. Other frequencies (up and down) on Saturday mornings become occupied with others who have moved out of our way. Also, we all (more-or-less) know where to look on the band in time of emergency. We have also found a frequency that seems to work even with folks operating AM nearby. I was pleased to see that, as late in the morning as the ERC net was called, that 40 Meters provided for rather good communi-

cations among those who checked in. 80 Meters by 9 AM did not provide the desired geographic coverage.

Let's chat more about this and see if we can develop this train of thought further into a workable plan. The MARA NE e-mail group, moderated by Dave, VE1VQ, is a good place to do this. Please join us at [http://groups.yahoo.com/group/mara\\_ne/](http://groups.yahoo.com/group/mara_ne/)

Stan, N3HS

[For those of you who are not registered to post and receive e-mails using the MARA NE reflector, you may wish to join by going to <http://ne.mara.net/reflector.htm> and following the instructions. - Ed]

**Let's... chat more about this and see if we can develop this train of thought... into a workable plan.**

## GOT SOMETHING YOU WANT TO SHARE?

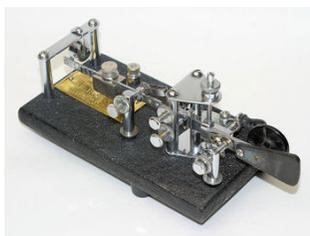
Have something you want to share? A construction project, pictures of your station... home or mobile, a station installation at the chapel, a radio related project of any kind, or maybe an antenna in your back yard. Whatever it is, share it with us here in the newsletter. Send it to [ve1vq@eastlink.ca](mailto:ve1vq@eastlink.ca)

# Grandma Mara's RAMBLINGS

# CULTURED CORNER

by ANØNMS

Last month's newsletter had a note mentioning [STRAIGHT KEY NIGHT](#), and inviting us to blow the dust off our old straight key or bug and fire up the CW rig, and have some fun. Grandma has participated in these events for more years than I would care to admit. I took a break from ham radio for a time while I was raising my family so I wasn't on for the first few years. Looking back, the first mention I could find was in the April 1970 issue of QST when SKN was suggested by K4MD. The first one was held on New Year's Eve and the following day (from 8pm to 1am) of that year (1970/1971). I found that there was an SKN on July 4th for a few years in the mid to late '70s. The New Year SKN eventually outshone the 4th of July event, and the summer one was dropped.



Grandma's [VIBROPLEX #6](#)  
Lightning Bug model that  
once belonged to her father.

I don't remember the summer SKN so I must have been raising children rather than antennas at that time. After all, there are a few things more important than radio!

I'm all ready for this year's event. Checked out

the [Vibroplex adjustments](#) just to make sure. Even printed out some log sheets just for the occasion.

The weather on the Saturdays in December hasn't been the greatest, and Wendy's whole family has been busy this month, what with all of the Christmas activities going on. They haven't had the time to put up the dipole that she scrounged all of the pieces for from some of the local hams with big junk boxes. So she is coming over here to use my station.

She has her own J-38 straight key. A gift from me for getting her license. Who knows, she might even have her very own call sign by then!



Wendy's government surplus [J-38 straight key](#). Grandma had bought a bunch of these some years back, at less than eight dollars apiece, to give away as presents. At one time, you could buy them for under a dollar! As this is written, there is one on E-Bay with a bid of \$41.00!

## THE BIG MAN IN THE RED SUIT COMES THROUGH!

*My heart is filled with great sadness.  
There was no box under the tree.  
No new and shiny transceiver.  
No rig for ever hopeful me.*

*I never lost my steadfast hope.  
I had faith that you'd come through.  
The other hams all laughed at me  
But, I never gave up on you.*

*My wife says to keep on wishing  
But I just don't know if I can,  
To only have my hopes dashed,  
Again and again and again.*

*It's very close to New Years Day,  
And I've about resigned myself  
To keep my fifty year old rig.  
So much for the jolly old elf.*

*What is that just stopped outside?  
A large brown truck marked UPS.  
A fair size cardboard box appears.  
They surely have the wrong address!*

*There is no mistake the man says.  
Sign right here and it can be yours.  
All in a daze I scrawl my name;  
Don't remember opening the door!*

*I just knew you'd come through Santa.  
The new rig you sent is just the trick;  
Every thing I've ever wanted;  
Just ever so fantastic.*

MNE

# TECH STUFF

By VE1VQ

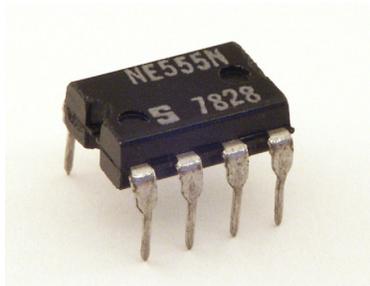
## THE “IC TIME MACHINE”

### THE VENERABLE 555 INTEGRATED CIRCUIT

If you’ve done any experimenting with and building of electronics circuits, the chances are good that you’ve used a NE555 integrated circuit or one of the many copies. Despite the overwhelming popularity of the IC, it is unlikely that you have ever heard of its inventor.

In the late 1960’s, Hans Camenzind was an engineer working for Signetics<sup>1</sup>, a company started by several former employees of Fairchild

Semiconductor. The text in quotation marks that follows is taken from an interview with Mr. Camenzind<sup>2</sup> done in 2004.



“They had a chance to surpass Fairchild, which was number one then. But they badly stumbled two years later. They started losing money like crazy. So I resigned - I took a leave of absence to write a book. I told them I didn’t want to come back, but I would work as a consultant and independent designer, and I proposed the 555 design.”

As part of this consulting agreement he proposed designing a timer chip, something not yet available. Signetics accepted his proposal and agreed to pay him \$1200 a month for a year, and to loan him some of the necessary equipment.

“What I wanted to do was not to make just an oscillator, but a timer – trigger it, it would run for a certain time, then stop it. The marketing manager [at Signetics] bought the concept. There was nothing like it at the time. You had to use quite a few discrete components, a comparator, a zener diode or even two. It was not a simple circuit.”

The whole process of designing the 555 took a year, from start to prototypes and small production quantities, and Camenzind got it right the first time.

“I have gone through so many projects where you have teams of people, two people each with one looking at the circuit diagram and the other checking back and forth maybe three teams checking in succession, and there were still mistakes. So, in this case, I had to do it all myself. I was a one man design house, and I got it right the first time. I think that was luck – I may have spent extra time doing it because it was my project. There was no way at that time to make absolutely sure you had it right.”

Neither Signetics nor Camenzind patented the 555! All of those billions and billions of timer chips made by dozens of companies, and never a cent of revenue.

“Signetics did not want to apply for a patent. You see, the situation with patents in Silicon Valley in 1970 was entirely different than it is now. Everybody was stealing from everybody else. I designed the 555, Signetics produced it, and six months, or before a year later, National had it, Fairchild had it, and nobody paid any attention to patents. The people at Signetics told me they didn’t want to apply for a patent, because what would happen if they tried to enforce that patent, is the people from Fairchild would come back with a Manhattan-sized telephone book and say “These are our patents, now let’s see what you’re violating”. It was a house of cards – if you blew on it, the whole thing collapsed.”

Since its introduction in 1972, the 555 integrated circuit has outsold all other IC types by a wide margin. In the second year it moved to the largest quantity sold of any IC and it has stayed that way for 30 years. In 2003 alone, over 1 billion units sold worldwide, and that level continues. Today they are mostly made in Korea by Samsung.

The design of the 555 has remained largely unchanged since the beginning. There is a CMOS low current version available now but even it is pin for pin compatible. If you look back in such magazines as QST and CQ Magazine, you can find many circuits using it. Beyond the amateur realm the range of applications has spanned such diverse areas as children’s toys and space craft electronics.

“I’m amazed and stunned that in 30 years, somebody hasn’t looked at the schematic and said, “I can make this better”, so for the same area and same cost, and then they have a better product. Nobody has done that.”

Without a doubt, it is his design work on the 555 integrated circuit in the early 1970s that has ensured him a prominent position in the history of IC technology.

Hans R. Camenzind has been involved in the semiconductor industry for over 45 years, with a distinguished career in the field of integrated circuit technology. The complete list of Hans’s contributions is impressive – a brief summary includes:

- 20 U.S. patents
- Three published IC texts
- Numerous technical articles
- University lecturer
- 2002 Inductee into the Electronic Design Magazine Hall of Fame
- Founder and president of two successful IC design companies

<sup>1</sup> <http://en.wikipedia.org/wiki/Signetics>

<sup>2</sup> [http://semiconductormuseum.com/Transistors/LectureHall/Camenzind/Camenzind\\_Index.htm](http://semiconductormuseum.com/Transistors/LectureHall/Camenzind/Camenzind_Index.htm)

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This is from the GEECH comic strip by Jerry Bittle. The original publish date was Jan 3, 2002. If you want to subscribe (for free) then go to [http://comics.com/geech\\_classics/](http://comics.com/geech_classics/)

The previous short poem speaks to whichever type you are. No matter what, leave the past with a celebration. Recall

the good things that happened and forget the not so good. Don't dwell on the latter. Don't hold on to the less than worthy things that are past, but dare to go forward into the unknown with firm resolution. While you're doing these things, make a point of helping those around you to make their tasks lighter, doing everything that comes your way with cheerfulness.

If you are more 'into' resolutions than I am, good for you. The blessings come, not for making resolutions to improve yourselves, but for actually 'doing' or living the way you should.

I especially like the first line 'to leave the old with a burst of song'. Celebrate what is past, no matter what! Whatever your experience, whether pleasant or unpleasant, you have learned something from it. And the line to 'help your brother along the road'; isn't that what we teach and learn about every Sunday?

So this year, let's hope we've all left the old one with a bit of celebration, and let us keep an eye out along the way for those who need a bit of help. And, if your year didn't exactly end with a song and you're the one needing a hand, don't be afraid to ask. By refusing to ask for help you are denying someone the chance to be of service.

Isn't the journey what it's all about?

Until next month,  
VE1VQ

MNE

## QUOTE OF THE MONTH

*"A New Year's resolution is something that goes in one Year and out the other."*

*Anonymous*

## DI-DAH-DI-DAH!

### Recipe for a Happy New Year

Author Unknown

*To leave the old with a burst of song  
To recall the rights and forgive the wrong;  
To forgive the thing that binds you fast  
To the vain regrets of the year that's past;*

*To have the strength to let go your hold  
Of the non-worthwhile of the days grown old;  
To dare to go forth with a purpose true;  
To the unknown task of the year that's new,*

*To help your brother along the road  
To do his work and lift his load;  
To add your gift to the world's good cheer,  
Is to have and to give a Happy New Year.*

I've said before that I'm not one for New Year's resolutions and that any I've ever made more than likely got forgotten before mid January. I suppose you could say I think that I'm more of the gradual, a little-bit-at-a-time change/actually obtainable goal kind of guy.

## WHAT EQUIPMENT AND ANTENNA DO YOU USE FOR YOUR STATION?

E-mail me with the above information for a future newsletter? Send your information to [ve1vq@eastlink.ca](mailto:ve1vq@eastlink.ca)