

# THE NEWSLETTER

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

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# VIEW from the TOWER



Must be on vacation!

## FEATURE ARTICLE

### REPORT FROM THE MAY 2010 ERC MEETING

by James **KC9MZB**  
and Chuck **WØCEH**,  
as edited by Colin **W9UPK**

**H**ere are some notes from our meetings on May 14, 2010 in Dayton, Ohio during the [Dayton Hamvention](#). They were put together by James Reed, KC9MZB. I have edited them in places. At the bottom are notes from Chuck Healy, WØCEH. I've edited them too, since some of his comments pertained to the members of the St. Louis Area Preparedness Net. At the ERC Meeting the main speakers were Gary Hollenbaugh, NJ8BB; Doug Raneer, WA7UAH; and Ken Pearce, N4KCD. Near the bottom is a brief mention of our MARA Midwest Meeting.

**The ERC Meeting was put together by Gary Hollenbaugh, NJ8BB, of the Dayton Ohio Stake.**

The ERC Meeting was put together by Gary Hollenbaugh, NJ8BB, of the Dayton Ohio Stake. Gary opened the meeting with an announcement that this is the first meeting and the plan is to conduct this meeting annually to coincide with the Hamvention. (Actually we held a similar meeting in 2008).

#### **Gary Hollenbaugh NJ8BB**

When hurricane Katrina pushed up into the Ohio valley, the area lost power. Cell phones and phones went down. Cell phone companies have only an obligation of four hours to provide communications. The Stake was incapable of communications and the stake president couldn't communicate with his bishops. The Stake president decided to do something about it and started an effort to make sure the communications failure did not occur again.

VHF Radios were purchased and installed in the buildings via the stake budget. Antennas were installed in four of the chapels with the antennas at the peak of the attic. The Shiolo Springs building near the Hara

Arena Convention Center has an antenna in the steeple.. The radios were installed in either the clerks offices or libraries. They installed an HF end fed antenna to communicate with the Indianapolis Bishop's Central Storehouse in Indianapolis --- 128 miles away. They are working on installing a [Hustler four band trap vertical antenna with radials](#). Part of this will be as an Eagle (Scout) project. Both HF antennas will be stored, and deployed when needed.

They have been holding classes to get operators licensed. Eighteen of twenty-three students have passed their exams. They hold nets on conference weekends to get their operators proficient.

They are using repeaters to communicate between the wards. There is one repeater that can be used for communications between all the stake buildings. There are six buildings and nine units. At the present they cannot use simplex to communicate between all buildings. They have two radios at the stake center. There are radios in the homes of members in key strategic areas. Some members are checking in on ERC nets.

They are preparing so they can communicate without the need for commercial power during power outages. They plan on providing technical training sessions. These classes will teach their members how to use a VOM to check for power issues, install connectors and be prepared to handle their own issues rather than call someone for help. They have very few HF operators who can communicate outside of the stake area, and they are encouraging members to upgrade to General Class licenses.

He quoted Air Force General Curtis LeMay "The president of the US makes you a general, Communications makes you a commander."

### **Bernadette Crumb KD8KIO**

Bernadette shared her testimony of ARO (amateur radio operator) skills. She grew up in a household that had an ARO. She felt inspired to get her license on her own. Shortly after getting her license she was called as an EC specialist.

### **Doug Reneer, WA7UAH**

Doug then spoke asking "What are the expectations of the church?" Doug is at the Church's Welfare System and

is responsible for emergency radio communications.

People are seeking more detailed information on what their responsibilities are as an EC specialists even to the point of what kind of equipment to buy. Part of this frustration comes from the lack of information on Provident Living. [The Provident Living web site](#) is purposely vague on most issues so it can be used, applied and adapted to local Church requirements. The Church is now an international church and what fits in one area may not fit another. The responsibilities of an EC specialist is to provide communications in time of an emergency. Implementation will vary from stake to stake.

In the 'distant' past when the wired phones failed there were only two other communication tools, Ham radio and CB radio. In the past 20 years other communication tools have become available such as cell phones, the internet, blackberry and satellite phones.

*The calling (emergency comms) is a communications calling not a ham radio calling.* The most valuable resource during an emergency is a person who is educated and knows how to make things work. For example during Hurricane Ike, Bill Skipper installed satellite phones, repaired telephone systems and installed emergency lighting and intercom systems. Broaden your abilities and know emergency power systems. Doug encouraged each of us to broaden our knowledge by learning how to make an antenna, wire a phone system and know how to use whatever communications methods that will work.

In Chile they found that their satellite phones only worked for 10 minutes. The batteries were ten years old and had never been charged and maintained. They found that they could communicate via Skype (VOIP - voice over Internet protocol). Nonetheless, amateur radio is not being de-emphasized. If you think we are de-emphasizing Amateur Radio, go to the Provident

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Living site and check it out.

### **Communications systems should be:**

*Simple* - simplicity works best. Keep it simple

*Reliable* - have systems that are reliable

*Diversity* - build around the ability to use various options

*Redundancy* - build in back-up systems

*Ownership* - you want ownership/control of the system. Don't be dependent on systems or corporations. Be able to do your own thing and own it. If you own it, you have the power to do what you need to keep it working. If you rely on equipment owned by others, you are at their mercy if it fails.

If you evaluate communications systems, you will find that Amateur Radio meets all these criteria. It was WA7UAH's opinion that amateur radio will endure.

As ERC specialists we are called by priesthood authority. *We need to recognize that the ultimate choice is the bishops' or the stake presidents'*. Approach the stake president as a council member. One person is in authority with a council of people who are given an opportunity to give their input. When all points are considered the leader makes the decision. As specialists you bring knowledge to the council that others do not have. When the decision is made support that decision. D&C 107:39 - Let every man learn his duties and act in accordance. Know the expectations of the leaders, gain experience then act in that capacity.

Quoting Elder Bednar, he stated, "You do not have permission to sit back and wait for someone to tell you what to do." In our callings we do not need to feel that we know what to do. We are not alone, the Lord is there for us to rely upon. Seek the guidance and strength of the Lord. Learn our duty and act in that capacity. *You do not have permission to wait until your stake president tells you what to do.* Learn your

responsibility and rely on the Lord. We are not alone. The Lord wants to help us. Approach Him in humility.

We have found that the use of Church terminology during radio nets is not good. *When we are on the air we should avoid church terms.* When we do, we open ourselves to jamming. Those who have this goal may not jam our communications until we need to rely upon it during an emergency. The church had a bad experience

**We have found that the use of Church terminology during radio nets is not good.**

in California during an emergency because of this very thing.

Quoting Richard L Evans, "It is great to be spiritual, but it is better to be spiritual and competent". The leadership of the church is aware of what we are doing and support it. In the last seven months the church has lost more members due to natural disasters than the past 10 years.

### **Ken Pearce N4KCD**

Ken's presentation was on his experience in setting up radio communications for the Church in Haiti following the earthquake.

No knowledge is worthless but **FEMA** and **CERT** training was not useful in Haiti.

Brother Pearce was in Haiti to serve the priesthood there. Shortly after the earthquake the priesthood began having meetings.

The church building had concrete walls with concertina wire on top, steel gates and armed guards. It was impossible to get into the church property without some form of Church ID. If this weren't the case the church would have been overrun. They knew we had food and power.

The people of Haiti have cell phones but they do not have chargers. The street vendors have the chargers. They pay the vendors to charge their cell phones

Brother Pearce had a **go kit** with supplies for ten days. He never left the compound with less than two days of supplies. His backpack was always packed. *When you are in this type of emergency you may need to leave immediately at any time.*

The Church sent him in with a repeater and 10 handheld radios. These VHF radios only had to be turned on and push the PTT button. They were configured for a single frequency operation. He had briefings on what diseases he might encounter and a medical kit with the shots he would need. They also gave him a church

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survival kit with 10 days of food and water.

He flew into Haiti from Los Angeles on a Church of Scientology flight. They were given briefings on what they would face. The picture was fairly grim. When they got there they had five minutes to unload the aircraft. Their stuff was thrown out on the ground because the plane had to get in and out fast.

Multiple US government agencies were there with no communications capabilities. They managed the situation by rumors.

Brother Pearce had no idea that the church had sent 10,000 pounds of supplies with him. He had a whole bunch of stuff to deal with.

He spent the first night in an orphanage. The next day they installed the radio on the roof of the orphanage, but he found out that they did not run the generator during the day, and there was no power for the repeater. He convinced the stake president that they needed to run the generator all day. (He found out that he could run his meetings on the radio.)

Qualcomm gave out several hundred satellite phones to people who were departing the US. They found that they were useless except for texting.

There were 700,000+ (Ken's estimate) dead people in the streets and under the buildings. They had no way of dealing with them. *When you get in a situation like this and they find out that you are an ARO you will be pulled*

*many different ways.* You will be asked to get power wired, restore other infrastructure and many other non-radio functions. Since he had medical training, he was called upon to provide medical treatment for a pregnant woman who had been walking around with a broken pelvis.

They found that UHF would have been better than VHF, due to its better propagation within buildings (maybe in this situation, not in all environments).

In general, in these types of disasters you will find that no one is in charge. *Brother Pearce went there to support the priesthood, and it worked. The structure was intact and they knew who was in charge. The priesthood lines of authority were clear and worked.*

They found challenges with getting the different communications systems to work together. They couldn't get the satellite phones to connect to cell phones. The

**Qualcomm gave out several hundred satellite phones to people who were departing the US. They found that they were useless except for texting.**

Salvation Army expected to set up computers and communicate via the internet. They have a trailer set up to deploy. Brother Pearce saw this trailer last year. He asked them where the radios were? He didn't see it in Haiti.

He stated he is concerned that we don't have youth more interested in the ARO hobby. The ARRL is working on getting BSA more involved. We need to get more involved in scouting.

*If you are going to travel to a foreign country, the last thing you want to be is an American.* We travel to foreign countries and tell them how we would do things. If we do, they will do what they can to get rid of us. If we go there and try to learn their culture they will fall all over themselves to teach us. *While in a foreign country don't think that they don't understand what you are saying.* They spoke four languages in Haiti. Brother Pearce noticed a situation where someone was talking about the Haitians in English thinking that they didn't understand, and they did. Don't talk about politics. You have no business getting involved in their politics.

*Don't go somewhere you are not sent.* When you do, you become a secondary disaster and those dealing with the disaster now have to deal with you also. If they didn't ask for you, they are not prepared to deal with you.

He then bore testimony of his knowledge of the truthfulness of the church and adjourned the meeting for one year.

### Notes From Chuck Healy, WØCEH

Chuck's notes touch on the ERC Meeting, our brief MARA Midwest Meeting over a Chinese buffet, and the Hamvention.

In Ken's discussion on satellite (sat) phones and cell phones, he also mentioned that a General Authority wanted to make contact with his wife. The sat phones and cell phone were incompatible, but a sat phone connecting to a land line worked fine. He was asked to get the land lines up and running, which he apparently did.

**We travel to foreign countries and tell them how we would do things. If we do, they will do what they can to get rid of us. If we go there and try to learn their culture they will fall all over themselves to teach us.**

In Doug Reneer's discussion of PH leaders being in charge and deciding what they will and will not use for emergency communications, he indicated that radio operators should not be discouraged if they are not given much license (pun unintended) to set up ward/stake plans based on a predominantly amateur radio paradigm. In addition, he indicated that they should not be discouraged with the lack of specific direction as to what to do from the Church. The basic take is that *SECSs (stake emergency communications specialists) should forge ahead with their plans and present those to PH leaders on an ongoing basis, including other forms of communications.*

The totality of the plan, including amateur radio, will very likely be eventually approved.

Doug very briefly made mention that we can get shot out of the saddle from the perspective that we are too into radio and the technical aspects of the hobby to the extent that some think we have lost the spiritual side of what we are about. Paraphrasing, he indicated that we must be both spiritual *and* competent.

Doug also re-emphasized the critical nature of protecting our identity as a Church on the nets by our not using, ever, Church terminology (names of units, terms such as "ward" or "stake," titles for callings such as bishop or stake president, or anything else that easily identifies us as a Church net).

Ken Pearce spoke about:

- *general electronics* (we may be asked to re-wire parts of buildings, re-establish phone lines, etc.),
- *mechanical working* (how to operate/fix a generator, get a heating/cooling system working again, turn off leaking gas lines, etc.), and
- perhaps *medically related efforts* (general first aid, triage, etc.).

Such thoughts have crossed my mind repeatedly over the past few weeks and coupled with Doug's competency comments indicate to me that perhaps we ought to look into identifying applicable subject areas and then doing

some follow-up training/learning. Ken's comment basically was that folks knew he was there to be an emergency communicator, but, as a radio operator with a supposed level of general, broad-brush expertise á la MacGyver, Ken was expected by PH leaders and others to do even more. This is not unlike ARES and served agencies, like the Red Cross, also expecting AROs to be versed in things related to overall situational needs.

### **MARA-MW Dinner Meeting**

#1 – There were 18-19 folks in attendance, including Doug Reneer and Gary Hollenbaugh. Not all were MARA affiliated.

#2 – Colin reviewed, with some assistance from Doug, the history of MARA, and the current position of MARA and the Church. The Midwest Chapter (there are also chapters in the northeast, the southeast, the west, and the northwest) will look to be more formally organized and serve as a) a training ground for folks to get involved in amateur radio on an HF level and to practice their skills; and b) a pool of experienced radio folks from which local PH leaders may draw on to call people into ERC-affiliated positions.

#3 – Colin reiterated the need to understand the need to have folks not use Church terminology on the nets. Given the relatively small number of attendees in the meeting compared to the 60+ in the Chapter, this will take some time.

### **Hamvention**

#1 – The size of the meeting seemed to be typical. Of course, I only saw Friday and have no idea how the rest of the meeting went. I thought the numbers would be down the past few years based on the lousy economy but heard there were ~27,000 last year and Friday looked to be the same last year and this year to me.

#2 – The Kenwood booth was especially lacking and their presentation of a not-ready-for-prime-time radio (the new TS-590) was most disappointing.

#3 – There seemed to be a lot of non-radio related stuff this year – health aid booths, cell phone item booths, etc. Also, the forum meetings were not as interesting as in years past.

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**...we can get shot out of the saddle from the perspective that we are too into radio and technical aspects of the hobby to the extent that some think we have lost the spiritual side of what we are about.**

#4 – I did go to the lawyers forum on CC&Rs. Based on what I heard, there seems to me to be a lot more we can learn on this topic that may help some of our folks who are struggling with antennas and subdivision covenants while keeping in the good graces of our neighbors. I'll research this some more and come back with some suggestions. The ARRL does have a staff of folks who work on these issues pro bono (up to a point). **MNE**

## Grandma Mara's RAMBLINGS

One week to the day after she and her mother paid me a visit to see my radio gear, Wendy my twelve year old neighbor was back to see me with questions she had from reading through the book **Now You're Talking** by the **ARRL**, neatly printed in her twelve year old hand, complete with reference page numbers! Some of the questions were simple, some were more difficult and required that I get out a book or two! But together we managed to find answers to all of her questions.

She said they had a computer at home and she could access the internet as long as her mother or father was with her (smart parents, I thought!). So I gave her a bit of 'homework'; things to look up dealing with very basic theory, operating procedures, and general ham material and history. Another week and back she came again with all of the 'homework' completed, and looking for more. This child likes a challenge! So I gave her more, and this time introduced her to the code. I had dug through the junk box in the basement and found an old Heathkit code practice oscillator and a straight key I hadn't used for years. We talked a bit about the various codes, and I sent her some slow Morse code with the dits and dahs at about 20 words per minute (wpm) but with a 5 wpm spacing between characters. I explained to her that we were doing it this way so that she would learn the code by the sound and not by individual dots and dashes. Her 'assignment' for this week was to memorize the first ten letters of the alphabet.

**MNE**



Grandma's old Heath  
HD-16 code practice  
oscillator

# CULTURED CORNER

by ANØNMS

## ANNUAL MEETINGS

*The Annual Meeting  
that most groups will do,  
of one sort or another,  
and most wives will eschew.*

*The day gets selected  
to fit all who can  
make it to the meeting  
and be part of the clan.*

*The words will be spoken  
and hands will be raised  
to take care of business.  
Many eyes will be glazed.*

*Rubber chicken eaten,  
Antacid consumed.  
It's time to turn homeward.  
Your life to be resumed.*

# TECH STUFF

By VE1VQ

## THE AUDIO SIGNAL TRACER - PART 3

Sometimes all I need is just an excuse to build something new in the way of test gear. So it was with the LM386 audio tracer. Since one of my employees had more need of it than I did, it ended up in his toolbox. There were still times when I needed one so when I came across the article by Sam Ulbing, N4UAU in the June 1996 issue of QST magazine, it looked like a good time to break out the soldering iron once more.

This amplifier uses **National Semiconductor's LM4861**, a bridge-connected audio power amplifier capable of delivering 1.1W of continuous average power to an 8Ω load with 1% **THD (total harmonic distortion)** +N (noise) using a 5V power supply.



The LM386 signal tracer in a Hammond aluminum box. The two white connectors at the top are wired to the speaker terminals. See the June issue of the newsletter for more information on this model.

From the National Semiconductor data sheet:

“A bridge amplifier design has a few distinct advantages over the single-ended configuration, as it provides differential drive to the load, thus doubling output swing for a specified supply voltage. Consequently, four times the output power is possible as compared to a single-ended amplifier under the same conditions. This increase in attainable output power assumes that the amplifier is not current limited or clipped.”

Signal is fed from the input jack, through the input capacitor to the volume control. This input circuit is similar to that for the LM386 with the exception that there are two capacitors in parallel (instead of a single

one), one reversed in polarity with respect to the other to make the combination appear non-polarized. The kit that I purchased from N4UAU had an on-board chip input capacitor. The signal out of the volume control was fed to the board input terminals and this chip capacitor.

The input leads are constructed from small lamp cord. While this might possibly allow for the introduction of more 60 Hz hum into the amplifier, the ease of use over shielded cable more than made up for the possibility. Alligator clips on both leads provide for secure connection. A 1/4 inch jack and plug are used for the input for ruggedness in the field. Unless they are well made (read expensive!), smaller connectors will quickly break.

The speaker in the case I used is reasonably large, taking up a good part of the housing front. Smaller speakers will not take advantage of the amplifier’s output nor will they provide for as much in the way of low frequencies. There is no coupling capacitor from the output to the speaker. Instead the speaker connects between the two amplifier outputs in a bridge format as mentioned above.



The LM4861 signal tracer built into an old computer speaker housing.

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There is no coupling capacitor from the output to the speaker. Instead the speaker connects between the two amplifier outputs in a bridge format as mentioned above.



The LM4861 tracer shown with the case open. Three AA batteries in the bottom part provide the power (4.5 VDC). They are connected to the off/on switch on the rear of the volume control. Signal is input via the 1/4 inch jack through the parallel capacitors, to the volume control, and finally to the circuit board shown above the speaker. A square of soft foam (not shown) fitted on top of the batteries holds the speaker in place in the case front once the halves are assembled.

**ANY TIME YOU WORK ON ACTIVE EQUIPMENT, ALWAYS BE VERY CAREFUL AND OBSERVE THE NECESSARY SAFETY PROCEDURES!**

You can reference [the article by N4UAU in the June 1996 issue of QST](#). My final circuit was a combination of his original design with the addition of an input volume control, and a bypass capacitor (4.7pf) from pins 4 to 5 (bypasses resistor  $R_f$  to form a low pass filter preventing high frequency oscillation). Another change was the deletion of the voltage regulator since I was powering from a battery pack. I soldered a piece of wire across the input and output pads on the pcb. I left the diode and the capacitors in place on the power circuit trace. The capacitors for noise filtering and the diode as protection against possible battery reversal. A normal silicon diode (e.g. 1N4007 power diode) will cause a 0.7 volt drop leaving 3.8 volts. If you want a bit more then use a Schottky diode which only drops 0.3 volts and leaves 4.2 volts.

If you’ve never built anything before with surface mount devices, N4UAU’s article is a good place to learn some basics about the practice. **MNE**



## QUOTE OF THE MONTH

*You have to love a nation that celebrates its independence every July 4 <sup>(1)</sup>, not with a parade of guns, tanks, and soldiers who file by the White House <sup>(2)</sup> in a show of strength and muscle, but with family picnics where kids throw Frisbees, the potato salad gets iffy, and the flies die from happiness. You may think you have overeaten, but it is patriotism.*

Erma Bombeck

If you are Canadian then:

- (1) July 1st - Canada Day or Fête du Canada
- (2) the Parliament Buildings in Ottawa

Otherwise all else is the same, including the iffy potato salad.

## DI-DAH-DI-DAH<sup>D</sup>

### HONESTY - IS IT AN OUTDATED VALUE?

Is it my imagination or is honesty a thing of a bygone era these days? It used to be that scandal in business and politics was something that happened somewhere else, like in a foreign country or a far off city. Now it's almost become an everyday neighborhood event.

Since early this year, we here in Nova Scotia have been treated to a scandal involving our elected provincial legislative representatives. Seems a lot of them have been submitting receipts for duplicate travel expense claims, or generators, big screen televisions, digital cameras and excessive numbers of computers, and other things for their

**It used to be that scandal in business and politics was something that happened somewhere else...**

'offices'. The leader of the party now in power was found to have let the public funds pay his fees to retain his good standing with the provincial lawyer's association. All of these claims are (*of course!*) above board and all approved by the appropriate government people! Many (if not

all!) of them were declared to be 'honest mistakes' and even repaid - once they were questioned by the public! An interesting thing is that *these expenses are over and above the \$45,000 they can claim and be reimbursed for, without receipts?* The story came to light when the provincial auditor general's office questioned the practices in their annual report. And whom did the government select to investigate the allegations - why, the individual who formerly approved the same expenses before his retirement!

I recently read a book called [Winners Never Cheat - Even In Difficult Times](#) by Jon M. Huntsman. While mainly about honesty in business, it also applies to any aspect of a person's life. If I had my way, every politician and government employee would be required to read and be tested on its contents yearly!

I'd recommend it to anyone, even if you aren't a politician, a lobbyist, or some other participant at the public trough! It's available from Amazon and other book sellers at around \$12 and up.

Until next month,  
VE1VQ