



# GUYWIRE

September 2017

A monthly publication of the RARA Inc. except July and August.

If you wish to receive or be removed from the e-mailing please contact the editor/publisher at the RARA e-mail address @ ve5rara@gmail.com

NOTE: all e-mail and web addresses are active hyperlinks

## GENERAL MEETING

September 13th @ 7:00 p.m.

Regent Place Library - Regina Market Mall - 331 Albert St.

**Participation in the  
RAC Simulated Emergency Test ?  
October 2017**

### 2017-18 RARA Executive

President - Neil Slater - VA5SCA  
Secretary - Terry White - VE5TLW  
Treasurer - Allan Tidball - VE5LAT  
Past President - Harvey Drinkle - VE5AD  
Director - Con Berger - VE5CON  
Director - Justin Chapman - VA5RED  
Director - Summer Hartzfeld - VE5SDH  
Director - Lyle Maystruck - VE5EE  
Director - Mark Humphreys VA5LNX

### 2017 PUBLIC SERVICE EVENTS

EVENT      DATE      ORGANIZER

#### UPCOMING

Mayor's Run - September 24th - Terry VE5TLW

#### COMPLETED

RPS 1/2 marathon - April 30 - Terry VE5TLW

MS Super Cities Walk - April 30 - Rick VE5RJR

MS Bike Tour - August 19th - Richard VE5RJR



# Simulated Emergency Test: October 2017

**Date: Saturday, October 14**

Note: In Ontario the Simulated Emergency Test will be held on Saturday, October 14 but at Emergency Operations Centres that are located in Municipal offices, that can't get access on the weekend, the SET will also be held on Wednesday, October 11.

The Simulated Emergency Test is a North America-wide exercise in emergency communications, administered by the ARRL and the RAC Emergency Coordinators and Net Managers. Both the Amateur Radio Emergency Services (ARES) and the National Traffic System (NTS) are involved. The SET weekend gives communicators the opportunity to focus on the emergency-communications capability within your community, while interacting with NTS nets.

RAC administers our Canadian SETs. Among other objectives we aim to strengthen the relationship between ARES and served municipalities and relief agencies. It is vitally important that this be done at the local EC level.

The deadline for receipt of all reports is January 31, 2018.

Note: Please use the SET Report Form. No other format is acceptable for reporting SET activities.

After their chosen SET weekend, participating ECs, Net Managers or others must send their completed forms online.

Please send a copy to your Section Manager (SM) and to your Section Emergency Coordinator (SEC) or Section Traffic Manager (STM) as applicable. See form to submit an email copy for your own records.

## Purpose of SET

To find out the strengths and weaknesses of the ARES, NTS and other groups providing emergency communications.

To provide a public demonstration – to served

agencies such as Red Cross, Emergency Preparedness and, through the news media, of the value to the public that Amateur Radio provides, particularly in time of need.

To help Radio Amateurs gain experience in communications using standard procedures and a variety of modes under simulated-emergency conditions.

## Format

The scoring format reflects broad objectives and encourages use of digital modes for handling high-volume traffic and point-to-point welfare reports out of the affected simulated-disaster area. Participants will find SET an opportunity to strengthen the VHF-HF link at the local level, thereby ensuring that ARES and NTS are working in concert. The SET will give all levels of NTS the chance to handle exercise-related traffic.

Test messages should carry the word "TEST" before the precedence; that is, "Test Priority" on phone and "TEST P" on CW. The text of such messages should also begin with the words "TEST MESSAGE."

## Preparing for SET

### Emergency Coordinators

Sign up all available Radio Amateurs in the area under your jurisdiction and work them into your SET plans. Make special efforts to attract newly licensed Amateurs.

Call a meeting of all ARES members and prospective members to briefly outline (no details) SET activities and to give general instructions. Do not divulge the exact time or nature of the test to them at this time. This should come as a surprise. Take this opportunity to register new ARES members and get up-to-date information on others. Hold an on-the-air meeting if it's not possible to meet in person.

Contact served agencies and explain the intent and overall purpose of the SET. Offer to send test messages to other branches of their agencies and invite officials to your ARES meetings and SET operating sites.

Contact officials of any adjacent communities

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having no active Amateurs and offer to provide representation in Amateur networks for them as well.

Arrange publicity in local newspapers and radio/TV stations by preparing an announcement and/or inviting the press to observe your group's SET operation.

Set up liaison with one or more NTS local/section nets (if you don't already have liaison) so you will have an outlet for all messages out of the local area.

Formulate your plans around a simulated disaster. Possible "plots" include: a flood, a serious fire, an ice storm, a missing person, a serious accident (automobile, bus, aircraft, for examples), a broken gas line, a tornado and so forth. Elaborate on the situation by developing a scenario but please be realistic.

During the SET  
Announce the emergency situation. Activate the emergency net. Dispatch mobiles to served agencies.

Have designated stations originate messages on behalf of served agencies. Test messages may be sent simulating requests for supplies. Simulated emergency messages (just like real emergency messages) should be signed by an authorized official.

Emphasize tactical communications for served agencies.

As warranted by traffic loads, have liaison stations on hand to receive traffic on the local net and relay to your section net. You should also be sure that there is a representative on each session of the section net to receive traffic going to the local area.

Operate at least one session (or substantial segment of a session) of the local net on an emergency-only basis. Or, if a repeater is on emergency power, allow only emergency-powered stations to operate through the repeater for a certain time period.

After the SET  
An important post-SET activity is a critique session

to discuss the test results. All ARES members should be invited to the meeting to review good points and weaknesses apparent in the drill. Emphasize ways to improve procedures, techniques and coordination with all groups involved. Report your group's effort to RAC and TCA and include any photos, clippings and other items of interest.

#### National Traffic System

The main function of NTS in an emergency situation is to tie together all of the various local activities and to provide a means by which all traffic destined outside of a local area, section or region can be systematically relayed to the addressee.

NTS routing should be followed. A valid exception is the handling of emergency traffic which should be routed as rapidly and efficiently as possible, bypassing various levels of nets when delivery can be expedited. Another exception is when one station is loaded down with traffic for one region or section. At the discretion of the Net Control Station (NCS), the station may be directed to bypass a normal channel and go directly to a lower (or higher) echelon net.

The interface between NTS and ARES lies in the liaison function between local nets and other NTS nets, particularly at the section level. Responsibility for representation of the local network on the section net lies with the local net manager who may or may not be the EC. Although we usually think of ARES members being the representatives in section nets, it is equally valid to expect NTS personnel to act as liaison to local nets.

At least one net session or substantial segment of a session should be conducted on emergency power. Plan a surprise session or two. Advise the NCS just before net time. If the NCS is unable to operate on emergency power, then someone else must be net control. Only stations operating on emergency power may report in during this time.

## Summary

One of the first steps on the way to a successful SET is to try to get as many people involved as possible, especially new Amateurs. In a real emergency, we find Amateurs with all sorts of varied interests coming out of the woodwork. Let's get them involved in SET so they will know more about how emergency communications should be handled. Promote SET on nets and repeaters. Sign up new, enthusiastic Amateurs. Many of those offering to help will be inexperienced in public-service activities. It's up to you to explain to them what's going on and provide them with useful roles. They may like it so much that they will become a permanent fixture in your ARES or NTS group.

## Last Months Puzzler

How many prominent U.S. ham singers and musicians can you name.

**Answer:** Here is a short list.

You can probably think of others.  
Patty Loveless KD4WUJ Country singer  
Chet Atkins W4CGP Country musician  
Arthur Godfrey K4LIB entertainer  
Jim Croce WN5OQW Country singer  
Ronnie Milsap WB4KCG Country singer  
Burl Ives KA6HVA Folk singer  
Lance Bass KG4UYY N'sync vocalist

## This months puzzler:

Can you name the Canadian astronauts who are hams?

**Answer next month**

## Silent Key

Sadly we note the passing of Vi Appleton VE5VRA on June 10. She was the wife of Doug Appleton, VE5DA. Our condolences to the family.

On August 15th, Arlene Jeal, wife of Keith Jeal, VE5AFK passed away. Our condolences to Keith and family.

## Hurricane Irma

Gaston Browne, the prime minister of Antigua and Barbuda, says he's "barely holding on, trying to preside over a difficult situation."

The Caribbean nation was pummeled by Hurricane Irma this week and one of its namesake islands was left in complete shambles. There's no electricity. There's no water. There's no telecommunications. We just recently got an additional ham radio over there as well as some satellite phones, but they were actually cut off for a good 12 hours. We had absolutely no contact with them for about 12 hours after the passage of Hurricane Irma.

## The Ghostly Radio Station that no one claims to run

By Zaria Gorvett

2 August 2017

In the middle of a Russian swampland, not far from the city of St Petersburg, is a rectangular iron gate. Beyond its rusted bars is a collection of radio towers, abandoned buildings and power lines bordered by a dry-stone wall. This sinister location is the focus of a mystery which stretches back to the height of the Cold War.

It is thought to be the headquarters of a radio station, "MDZhB", that no-one has ever claimed to run. Twenty-four hours a day, seven days a week, for the last three-and-a-half decades, it's been broadcasting a dull, monotonous tone. Every few seconds it's joined by a second sound, like some ghostly ship sounding its foghorn. Then the drone continues.

Once or twice a week, a man or woman will read out some words in Russian, such as "dinghy" or "farming specialist". And that's it. Anyone, anywhere in the world can listen in, simply by

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tuning a radio to the frequency 4625 kHz. It's so enigmatic, it's as if it was designed with conspiracy theorists in mind. Today the station has an online following numbering in the tens of thousands, who know it affectionately as "the Buzzer". It joins two similar mystery stations, "the Pip" and the "Squeaky Wheel". As their fans readily admit themselves, they have absolutely no idea what they are listening to.

In fact, no-one does. "There's absolutely no information in the signal," says David Stupples, an expert in signals intelligence from City University, London.

What's going on?  
The frequency is thought to belong to the Russian military, though they've never actually admitted this. It first began broadcasting at the close of the Cold War, when communism was in decline. Today it's transmitted from two locations – the St Petersburg site and a location near Moscow. Bizarrely, after the collapse of the Soviet Union, rather than shutting down, the station's activity sharply increased.

There's no shortage of theories to explain what the Buzzer might be for – ranging from keeping in touch with submarines to communing with aliens. One such idea is that it's acting as a "Dead Hand" signal; in the event Russia is hit by a nuclear attack, the drone will stop and automatically trigger a retaliation. No questions asked, just total nuclear obliteration on both sides.

There are clues in the signal itself  
This may not be as wacky as it sounds. The system was originally pioneered in the Soviet era, where it took the form of a computer system which scanned the airwaves for signs of life or nuclear fallout. Alarming, many experts believe it may still be in use. As Russian president Vladimir Putin pointed out himself earlier this year, "nobody would survive" a nuclear war between Russia and the United States. Could the Buzzer be warding one off? As it happens, there are clues in the signal itself. Like all international radio, the Buzzer operates at a relatively low frequency known as "shortwave".

This means that – compared to local radio, mobile phone and television signals – fewer waves pass through a single point every second. It also means they can travel a lot further.

While you'd be hard pressed to listen to a local station such as BBC Radio London in a neighbouring county, shortwave stations like the BBC World Service are aimed at audiences from Senegal to Singapore. Both stations are broadcast from the same building.

It's all thanks to "skywaves". Higher frequency radio signals can only travel in a straight line, eventually becoming lost as they bump into obstacles or reach the horizon. But shortwave frequencies have an extra trick – they can bounce off charged particles in the upper atmosphere, allowing them to zig-zag between the earth and the sky and travel thousands, rather than tens, of miles.

Which brings us back to the Dead Hand theory. As you might expect, shortwave signals have proved extremely popular. Today they're used by ships, aircraft and the military to send messages across continents, oceans and mountain ranges. But there's a catch.

The lofty layer isn't so much a flat mirror, but a wave, which undulates like the surface of the ocean. During the day it moves steadily higher, while at night, it creeps down towards the Earth. If you want to absolutely guarantee that your station can be heard on the other side of the planet – and if you're using it as a cue for nuclear war, you probably do – it's important to change the frequency depending on the time of day, to catch up. The BBC World Service already does this. The Buzzer doesn't.

Another idea is that the radio station exists to "sound" out how far away the layer of charged particles is. "To get good results from the radar systems the Russians use to spot missiles, you need to know this," says Stupples. The longer the signal takes to get up into the sky and down again, the higher it must be.

There is a station with some striking similarities. Alas, that can't be it either. To analyse the layer's altitude the signal would usually have a certain sound, like a car alarm going off – the result of varying the waves to get them just right. "They sound nothing like the Buzzer," says Stupples. Intriguingly, there is a station with some striking similarities. The "Lincolnshire Poacher" ran from the mid-1970s to 2008. Just like the Buzzer, it could be heard on the other side of the planet. Just like the Buzzer, it emanated from an undisclosed location, thought to be somewhere in Cyprus. And just like the Buzzer, its transmissions were just plain creepy. At the beginning of every hour, the station would play the first two bars of an English folk tune, the Lincolnshire Poacher.

"Oh 'tis my delight on a shining night

In the season of the year

When I was bound apprentice in famous

Lincolnshire

'Twas well I served my master for nigh on seven years..."

After repeating this 12 times, it would move on to messages read by the disembodied voice of a woman reading groups of five numbers – "1-2-0-3-6" – in a clipped, upper-class English accent.

To get to grips with what was going on, it helps to go back to the 1920s. The All-Russian Co-operative Society (Arcos) was an important trade body, responsible for overseeing transactions between the UK and the early Soviet Union. Or at least, that's what they said they did.

In May 1927, years after a British secret agent caught an employee sneaking into a communist news office in London, police officers stormed the Arcos building. The basement had been rigged with anti-intruder devices and they discovered a secret room with no door handle, in which workers were hurriedly burning documents.

It may have been dramatic, but the British didn't discover anything that they didn't already know. Instead the raid was a wake-up call to the Soviets, who discovered that MI5 had been listening in on them for years.

"This was a blunder of the very first order," says Anthony Glee, who directs the Centre for

Security and Intelligence Studies at the University of Buckingham. To justify the raid, the prime minister had even read out some of the deciphered telegrams in the House of Commons.

The upshot was that the Russians completely reinvented the way messages are encrypted. Almost overnight, they switched to "one-time pads". In this system, a random key is generated by the person sending the message and shared only with the person receiving it. As long as the key really is perfectly random, the code cannot be cracked. There was no longer any need to worry about who could hear their messages.

Enter the "numbers stations" – radio stations that broadcast coded messages to spies all over the world. Soon even the British were doing it: if you can't beat them, join 'em, as they say. It's quite difficult to generate a completely random number because a system for doing so will, by its very nature, be predictable – exactly what you're trying to avoid. Instead officers in London found an ingenious solution.

They'd hang a microphone out of the window on Oxford Street and record the traffic. "There might be a bus beeping at the same time as a policeman shouting. The sound is unique, it will never happen again," says Stupples. Then they'd convert this into a random code.

Of course, that didn't stop people trying to break them. During World War Two, the British realised that they could, in fact, decipher the messages – but they'd have to get their hands on the one-time pad that was used to encrypt them. "We discovered that the Russians used the out-of-date sheets of one-time pads as substitute toilet paper in Russian army hospitals in East Germany," says Glee. Needless to say, British intelligence officers soon found themselves rifling through the contents of Soviet latrines.

Now North Korea are getting in on the act, too. The new channel of communication was so useful, it didn't take long before the numbers stations had popped up all over the world. There was the colourfully named "Nancy Adam Susan",

“Russian Counting Man” and “Cherry Ripe” – the Lincolnshire Poacher’s sister station, which also contained bars of an English folk song. In name at least, the Buzzer fits right in.

It also fits with a series of arrests across the United States back in 2010. The FBI announced that it had broken up a “long term, deep cover” network of Russian agents, who were said to have received their instructions via coded messages on shortwave radio – specifically 7887 kHz.

Now North Korea are getting in on the act, too. On 14 April 2017, the broadcaster at Radio Pyongyang began: “I’m giving review works in elementary information technology lessons of the remote education university for No 27 expedition agents.” This ill-concealed military message was followed by a series of page numbers – No 69 on page 823, page 957 – which look a lot like code. It may come as a surprise that numbers stations are still in use – but they hold one major advantage. Though it’s possible to guess who is broadcasting, anyone can listen to the messages – so you don’t know who they are being sent to. Mobile phones and the internet may be quicker, but open a text or email from a known intelligence agency and you could be rumbled.

It only becomes a numbers station in moments of crisis, such as if Russia were invaded. It’s a compelling idea: the Buzzer has been hiding in plain sight, instructing a network of illicit Russian spies all over the world. There’s just one problem. The Buzzer never broadcasts any numbered messages.

This doesn’t strictly matter, since one-time pads can be used to translate anything – from code words to garbled speech. “If this phone call was encrypted you’d hear “...enejekdhejenw...” but then it would come out the other side sounding like normal speech,” says Stupples. But this would leave traces in the signal.

To send information over the radio, essentially all you’re doing is varying the height or spacing of the waves being transmitted. For example, two low waves in a row means x, or three waves closer together means y. When a signal is carrying

information, instead of neat, evenly spaced waves like ripples on the ocean, you’re left with a wave like the jagged silhouette of an ECG.

This isn’t the Buzzer. Instead, many believe that the station is a hybrid of two things. The constant drone is just a marker, saying “this frequency is mine, this frequency is mine...” to stop people from using it.

It only becomes a numbers station in moments of crisis, such as if Russia were invaded. Then it would function as a way to instruct their worldwide spy network and military forces on standby in remote areas. After all, this is a country around 70 times the size of the UK.

It seems they’re already been practicing. “In 2013 they issued a special message, ‘COMMAND 135 ISSUED’ that was said to be test message for full combat readiness,” says Māris Goldmanis, a radio enthusiast who listens to the station from his home in the Baltic states.

The mystery of the Russian radio may have been solved. But if its fans are right, let’s just hope that drone never stops.

**credit - BBC Radio**



### “Moon Eating Sunspots”

This photo taken during the recent eclipse was passed long to us by Summer VE5SDH.

# Field Day June 2017





# Field Day June 2017



## Persons assisting with set-up & take-down

Harv Drinkle VE5AD  
Justin Chapman VA5RED  
Terry White VE5TLW  
Bill Down VA5CW  
Neil Slater VA5SCA  
Con Berger VE5CON  
Daniel Dion VE5DLD  
Mark Humphreys VA5LNX  
Doug Pfaff VE5DCP  
Lyle Maystruck VE5EE  
Allan Tidball VE5LAT

Special thanks to:

MaryAnn Slater who did the breakfast Pancakes

## Persons operating radios

Daniel Dion VE5DLD  
Summer Hartzfeld VE5SDH  
Justin Chapman VA5RED  
Terry White VE5TLW  
Neil Slater VA5SCA  
Con Berger VE5CO  
Doug Pfaff VE5DCP

## Persons who visited Field Day Site

Murray Crandon VE5MC  
Keith Jeal VE5AFK  
Cheryl Johnson VE5CJ  
Trent Linford  
John Wambululu  
TV newsman from Global Regina

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## My two weekends of Club activity this summer

### HamFest

I had been planning to attend Hamfest this year, and since the organizers had asked for the RARA MCV tuck to be in attendance, I drove it to Yorkton for 2017 Hamfest.

To be there at a decent hour, I threw a tent and camping gear in the back of the truck, and drove to Yorkton on the afternoon of August 11. I camped overnight at a campground in the city, which made it easy to arrive well-rested at Hamfest on Sat. Aug. 12

This year, Hamfest was held at the Painted Hand Casino. There was an entrance directly into the convention hall, with lots of free parking. It was a very good venue, and there was even an HF antenna erected outside.

I parked the truck near Parkland Search and Rescue. They had already set up, and were showing off a very well outfitted trailer. Their trailer is close to the same size as ours, with a small office at the front, storage and a long desk in the back, an awning on the right side, and exterior lighting on both sides. It's very well arranged; see the accompanying photos.

Ah, but what of Hamfest, you say. Well, there was the usual flea market full of vintage ham and other gear. Someone even had a case-full of gorgeous vintage Nikon lenses and a Nikon F body.

Other vendors were included to help sponsor the cost of the event. There were several home businesses displaying their wares, such as Watkins, Scentsy, and half a dozen more. There was also a silent auction with about 26 items being sold, and of course a 50-50 draw.

I completely missed the presentations and workshops of the day; I was too busy talking to new and old friends all morning, and showing off the MCV truck at various times for those interested.

After lunch in one of the casino dining areas, it was back to the convention room in time for the SARL AGM. It was relatively brief and I didn't take notes, so I won't try to rely on my memory and mislead you as to what happened.

After the AGM and the awarding of auction items and prizes, the HamFest was mostly finished, as people started tearing down their sales tables and dragging unsold and newly purchased treasures to

their vehicles.

Several of us retired to a Chinese buffet for supper, then Summer VE5SDH and Jim VE5EIS returned to their hotel rooms, and I headed home into the sunset.

One of the traditions at Hamfest that seems to have been forgotten for the last couple of years is the group photo of all attendees. I have to admit that I miss that!

### MS Bike Tour

On August 19, Summer and I drove the MCV truck (to be clear; I drove, she navigated) to the Wakamow Valley in Moose Jaw for this year's MS Bike Tour. The event was shortened to one day this year, with a 100-km route similar to last year's first day. We set up the truck at the start/finish line, with access to electricity for the radio, and had an easy day, with mostly routine radio traffic. The organizers like their cell phones, and the only real issue that we needed to assist with was done entirely by telephone. However, it would have been far easier if we had a ham and reliable radio in each sag wagon (radio communication would have been more convenient, and less expensive for the MS Society). The injury was a rider who slid and fell on some gravel. He was not badly hurt, incurring only a nasty bit of "road rash" that made it too difficult for him to finish the last 15 km or so.

The day started cool and clear, with a rather strong northwest wind. It was windy enough that the challenge section of the route was closed to all but the first dozen or so riders, in order to give all 125 participants time to finish by 4 p.m.

When the ride was done, we joined in a catered supper in the great outdoors, where we were thanked several times for assisting. After supper, we stowed the chairs and other equipment, and drove home with a tail wind.

For the two trips, I noticed first that the crack that goes diagonally across the entire windshield of the truck now has a friend; there's a section crack starting. This is going to require a windshield replacement soon. Also, the steering is getting loose. The roof of the box isn't looking very good either. The first two alone are expensive enough items that we might want to begin thinking of alternatives to that dear old truck.

And that was my summer radio fun. What did YOU do for amateur radio this summer?

Neil Slater - VA5SCA