

**AUGUST 2019****Volume 8 Issue 7**

# **VE3ERC-LUB**

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## **ERC REPEATERS**

**UHF 444.700 TONE: 131.8**  
**UHF 444.700 TONE: 123.0**  
**VHF 147.390 + TONE: 123.0**  
**EMERGENCY SIMPLEX: 147.51**  
**UHF- IRLP node 2404**  
**VHF- IRLP node 2403, ECHOLINK node**  
**VE3ERC-R**  
**VE3ERC-L**

**In an emergency, tune  
Into our repeaters,  
UHF 444.700 or  
VHF 147.390 or  
HF 3.755 LSB or  
Simplex 147.510  
For coordination and  
assignments.**



**Paul VE3PDC experimenting with satellite communications during the Lighthouse Weekend.**



**Radio Amateurs  
of Canada**

# THE PREZ SEZ!

This club is Radio-ACTIVE  
This club is Radio-ACTIVE

## President's Update for August 2019



**L**ate Summer – this is it, the last week or two for many of us to enjoy those warm, sunny days and cool, clear evenings so typical of the end of August. Many of us in the Elmira Radio Club took advantage of the fine weather to travel to and activate our cherished Point Clark Lighthouse during the International Lighthouse and Lightship weekend of August 24<sup>th</sup>. Thanks to all those who attended the event and especially to those who gave time and effort to the set-up and tear-down.

As we head towards September, remember that our Ham Tech event on September 21<sup>st</sup> is fast approaching. As you may know, these are seminars to advance and stimulate innovation in the amateur radio community. To date we have four confirmed and possible five featured speakers presenting at the Elmira Royal Canadian Legion. I can personally attest to the professionalism and expertise of the featured speakers and to their informative and interactive approach to their presentations! For more info and details please see the attached Ham Tech Flyer.

See you all on Wednesday, September 25<sup>th</sup> at the Elmira Firehall for our September meeting.

As a continuation to the series on Meteor Scatter (**see page 13**) I've included the following article for those wishing to catch (or bounce a radio wave off) a falling star!

## Meteor Activity Outlook for August 24-30, 2019

American Meteor Society, Robert Lunsford

<https://www.amsmeteors.org/2019/08/meteor-activity-outlook-for-august-24-30-2019/>

During this period the moon reaches its new phase on Friday August 30<sup>th</sup>. On that date the moon is located near the sun and is invisible at night. This weekend the nearly half-illuminated moon will rise during the early morning hours. While the moonlight in the morning sky will be bothersome, successful meteor observations can still be undertaken by simply keeping the moon out of your field of view. The estimated total hourly meteor rates for evening observers this week is near 3 for those viewing from the southern hemisphere



**This composite image was created by Ms. Heather M. Wendelboe of Cheyenne, Wyoming USA. The pictures were taken on the night of 9/10 August 2019, from Centennial, Wyoming. She used a Nikon D750, Irix 15mm f/2.4 lens; exposure 15 seconds; f 2.8; ISO 3200 before moonset and 6400 after moonset for sky and meteor images. Shooting continuously from 8 p.m. to 4 a.m., less than 20 meteors were captured: it was a very cloudy night. © Bolo Photo**

and 5 for those located north of the equator. For morning observers the estimated total hourly rates should be near 13 as seen from mid-northern latitudes (45N) and 8 as seen from tropical southern locations (25S). The actual rates will also depend on factors such as personal light and motion perception, local weather conditions, alertness and experience in watching meteor activity. Morning rates are reduced due to moonlight. Note that the hourly rates listed below are estimates as viewed from dark sky sites away from urban light sources. Observers viewing from urban areas will see less activity as only the brightest meteors will be visible from such locations.

The radiant (the area of the sky where meteors appear to shoot from) positions and rates listed below are exact for Saturday night/Sunday morning August 24/25. These positions do not change greatly day to day so the listed coordinates may be used during this entire period. Most star atlases (available at science stores and planetariums) will provide maps with grid lines of the celestial coordinates so that you may find out exactly where these positions are located in the sky. A planisphere or computer planetarium program is also useful in showing the sky at any time of night on any date of the year. Activity from each radiant is best seen when it is positioned highest in the sky, either due north or south along the meridian, depending on your latitude. It must be remembered that meteor activity is rarely seen at the radiant position. Rather they shoot outwards from the radiant so it is best to center your field of view so that the radiant lies at the edge and not the center. Viewing there will allow you to easily trace the path of each meteor back to the radiant (if it is a shower member) or in another direction if it is a sporadic. Meteor activity is not seen from radiants that are located below the horizon. The positions below are listed in a west to east manner in order of right ascension (celestial longitude). The positions listed first are located further west therefore are accessible earlier in the night while those listed further down the list rise later in the night.





**Radiant Positions at 22:00, 1:00, and at 4:00 Local Daylight Saving Time**

### **These sources of meteoric activity are expected to be active this week.**

The center of the large **Anthelion (ANT)** radiant is currently located at 22:56 (344) - 07. This position lies in northern Aquarius, 4 degrees west of the 4th magnitude star known as phi Aquarii. Due to the large size of this radiant, anthelion activity may also appear from western Pisces as well as Aquarius. This radiant is best placed near 02:00 Local Daylight Saving Time (LDST), when it lies on the meridian and is located highest in the sky. Rates at this time should be near 2 per hour no matter your location. With an entry velocity of 30 km/sec., the average anthelion meteor would be of slow velocity.

The last of the **Northern delta Aquariids (NDA)** are expected this week from a radiant located at 23:49 (357) +07. This position is located in western Pisces, 3 degrees northwest of the 4<sup>th</sup> magnitude star known as omega Piscium. Hourly rates should be less than 1 no matter your location. The radiant is best placed near 03:00 LDST, when it lies highest in the sky. With an entry velocity of 38 km/sec., these meteors would be of medium velocities. This shower seems to be a continuation of the Northern June Aquilids, which had been active since early June.

The last of the **Perseids (PER)** are expected this weekend from a radiant located at 04:22 (065) +61. This position lies in southern Camelopardalis, 5 degrees west of the 4th magnitude star known as beta Camelopardalis. This area of the sky is best placed for viewing during the last dark hour before dawn when it lies highest in the sky. Rates are expected to be less than 1 per hour no matter your location. With an entry velocity of 59 km/sec., the average meteor from this source would be of swift velocity.

The **nu Eridanids (NUE)** become active this weekend. This source was co-discovered by Japanese observers using SonotoCo and Juergen Rendtel and Sirko Molau of the IMO. Activity from this long-period stream stretches from August 24 all the way to November 16. Maximum activity occurs on September 24th. The radiant currently lies at 03:14 (049) +01, which places it in northeastern Cetus, 4 degrees southeast of the 3rd magnitude star known as Menkar (alpha Ceti). This area of the sky is best seen during the last dark hour before dawn when the radiant lies highest in a dark sky. Current rates are expected to be less than 1 per hour during this period no matter your location. With an entry velocity of 67 km/sec., the average meteor from this source would be of swift velocity.

The **eta Eridanids (ERI)** were discovered by Japanese observers back in 2001. Activity from this stream is seen from July 23 through September 17 with maximum activity occurring on August 11. The radiant currently lies at 03:44 (056) -08 which places it in northern Eridanus, 2 degrees north of the 4th magnitude star known as Rana (delta Eridani). This area of the sky is best seen during the last dark hour before dawn when the radiant lies highest in a dark sky. Current rates are expected to be near 1 per hour during this period no matter your location. With an entry velocity of 65 km/sec., the average meteor from this source would be of swift velocity.

The **Aurigids (AUR)** are currently active from a radiant located at 05:29 (082) +39, which places within the Auriga pentagon, directly between the bright stars known as eta and theta Aurigae. This area of the sky is best seen during the last dark hour before dawn when the radiant lies highest in a dark sky. Current rates are expected to be near 1 per hour as seen from the northern hemisphere and less than 1 as seen from south of the equator. Maximum activity is not expected until September 1<sup>st</sup>. With an entry velocity of 67 km/sec., the average meteor from this source would be of swift velocity.

The **Daytime zeta Cancrids (ZCA)** were discovered back in 1964 by C.S. Nilsson in a southern hemisphere radio survey of meteor streams. This stream is active from August 13 through September 10 with maximum activity occurring on September 3rd. The radiant is currently located at 08:31 (128) +13, which places it in southern Cancer, between the fairly bright stars known as beta and delta Cancri. This area of the sky is located only 30 degrees west of the sun so any possibility of seeing these meteors would be limited to the time just before the start of morning twilight. Current rates are expected to be less 1 per hour no matter your location. With an entry velocity of 42 km/sec., the average meteor from this source would be of medium velocity.

As seen from the mid-northern hemisphere (45N) one would expect to see approximately 10 **sporadic** meteors per hour during the last hour before dawn as seen from rural observing sites. Evening rates would be near 4 per hour. As seen from tropical southern latitudes (25S), morning rates would be near 5 per hour as seen from rural observing sites and 2 per hour during the evening hours. Locations between these two extremes would see activity between the listed figures. Morning rates are reduced during this period due to moonlight.

Rates and positions are exact for Saturday night/Sunday morning except where noted in the shower descriptions. The list below offers the information from above in tabular form. Rates and positions are /Sunday morning unless otherwise stated in the verbal reports.

SHOWER	DATE OF MAXIMUM ACTIVITY	CELESTIAL POSITION	ENTRY VELOCITY	CULMINATION	HOURLY RATE	CLASS
		RA (RA in Deg.) DEC	Km/Sec	Local Daylight Saving Time	North- South	
Anthelion (ANT)	-	22:56 (344) -07	30	02:00	2 - 2	II
Northern delta Aquariids (NDA)	Aug 14	23:49 (357) +07	38	03:00	<1 - <1	IV
Perseids (PER)	Jul 30	23:54 (359) -09	41	04:00	<1 - <1	I
nu Eridanids (NUE)	Sep 24	03:14 (049) +01	67	06:00	<1 - <1	IV
eta Eridanids (ERI)	Aug 11	03:44 (056) -08	65	07:00	1 - 1	IV
Aurigids (AUR)	Sep 01	05:29 (082) +39	66	09:00	<1 - <1	III
Daytime zeta Cancrids (ZCA)	Sep 03	08:31 (128) +13	42	11:00	<1 - <1	IV

## Ham Tech—A Vision

When the first radio amateurs in the early 1900's were excited by the possibilities of wireless communications, especially after Marconi's dramatic demonstration, how many of them would have believed what this hobby has developed into in 2019? Probably few of us can imagine what ham radio will be like in the next hundred years. The hobby, along with the technology is an evolving process.

One thing that remains the same through all the years and will probably continue into the future is that amateurs are experimenters, tinkerers, who are always pushing the boundaries and asking the "what ifs." Countless hams were at the forefront of the technological society we have today. That is probably the reason why radio amateurs today are privileged to use so many different frequencies in the radio spectrum.

As the technology for our hobby gets more complex who of us can understand all the different facets of Ham radio? We all hear about digital modes, moonbounce, amateur television, satellite communications, software defined radios, meteor scatter, spread spectrum, public service communications, digital radios for voice, and the list goes on and on. Most of us have a limited understanding of the many, many aspects of amateur radio.

That is why, in 2018, Al MacDonald VA3TET and Rich Clausi VE3DCC of the Elmira Radio Club had the vision to start "Ham Tech". Ham Tech was to be a forum where ordinary hams could slowly become more knowledgeable about different aspects of our hobby. There are various experts in different fields right in our own communities and we would have the opportunities to learn and ask questions. This is the next step beyond the fleamarkets and hamfests that are so common today.

So come out to the **2019 Ham Tech** On Saturday, September 21. Support the vision held by the Elmira Radio Club. You will become more knowledgeable and have fun in the process. You won't be disappointed, and you may even win one of the door prizes.

73, Bob VE3IXX



**Dr. Katanya Kuntz spoke about quantum communications for encrypted messages at the 2018 Ham Tech.**

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## CORRECTION

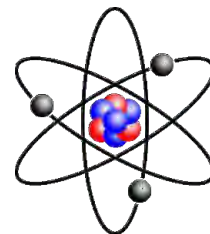
**Rich ve3dcc informed me that he received an e-mail from John Riddell regarding a typo in the memorial for Mary Riddell in our last issue of the newsletter. Mary's last name was spelled incorrectly. We apologize for the error.**



**ELMIRA RADIO CLUB VE3ERC**

**PRESENTS:**

# **HAM TECH**



**Seminars to advance and stimulate innovation  
in the amateur radio community.**

**SEPTEMBER 21, 2019 9 am TIL 4 pm**  
**AT THE ROYAL CANADIAN LEGION HALL**  
**ELMIRA, ONTARIO**

**FEATURED SPEAKERS INCLUDE:**

**Tony Lelieveld VE3DWI on Cables/Connectors**

**Nick Waterman VE3NNW on Spread Spectrum**

**Ted Rypma VE3TRQ "Using fldigi, flarq, flmsg, for  
guaranteed message delivery"**

**Dan Colquhoun VA3SQD Scanners**

**PLUS ADDITIONAL SPEAKERS PENDING CONFIRMATION**

**\$30.00 INCLUDING (light) LUNCH**

**4 free door prize draws for four Hammond power bars courtesy of  
HAMMOND MANUFACTURING.**

**REGISTER EARLY! ONLY 50 SEATS AVAILABLE.**

**To Register: e-mail [fjmonteith@primus.ca](mailto:fjmonteith@primus.ca)**

**Then Send a cheque payable to "Elmira Radio Club Inc VE3ERC"**

**To: VE3ERC Tech Seminar**

**c/o Frank Montieth VA3FJM**

**31 Dinison Cres., Kitchener, ON N2E 2W3**

**519-749-2364**



# POINT CLARK

## Two Tales of A Lighthouse

Or  
"What the Dickens!!"



**Paul VE3PDC and Frank VA3FJM arrived on Friday, Sept. 16 with Frank's trailer to set up the equipment. Paul ascended to the top of the lighthouse and dropped a rope to attach the G5RV dipole antenna. The view from up top was stunning. .... "Watch that first step... it's a long way down!"**





## "It was the Best of Weather and It was the Worst of Weather"

When I awoke, early Saturday morning before 6 am, I planned to get to Point Clark in time to for the 8 am timeslot for ONTARS. However I made the fatal mistake of resting my eyes for a minute. The next thing I knew it was 7:30 am. Not only was I late for reaching Point Clark in time, but I got up to a heavily over-cast, rainy, thunderstorm kind of morning– the exact kind of day you don't want for an outdoor event. Fortunately, Frank VA3FJM and Paul VE3PDC were there to come to the rescue and took care of everything. In fact, I made a quick call to Frank on ONTARS before I left. At least I could claim a QSL card from our Elmira Club special event station.



**Frank, running ONTARS at 8 am on Saturday.**



**Harold, VE3CD and Frank on the air.**



**AI VA3TET**

Very wisely, AI held off in starting up the barbeque and slowly more people drifted in. When AI brought out his special mushrooms and onions and was assisted by Tom VE3DXQ in cooking the hamburgers to tight specifications, there was such a contingent of takers that there was a line-up waiting to get their meal. Definitely a resounding success!

Weather wise, it was a gloomy drive up to the shores of Lake Huron. But I was in for a real surprise. I arrived to wall-to-wall sunshine- not a cloud in the sky. It was like day and night!

When I arrived, only AI VA3TET and his wife, Joan, Harold VE3CD, Bruce VE3QB, Paul VE3PDC, Al VE3AUS, Frank, and myself, VE3IXX were there and AI (VA3TET) had prepared close to 40 of his gourmet hamburgers– a little disconcerting. It seemed like the inclement weather up our way had discouraged a lot of our members from making the trip.



**Tom VE3DXQ is supervised by his better half, Barb, in cooking the burgers that delighted everyone.**





**Paul VE3PDC (with Al VE3AUS sitting beside) making a connection to one of several satellites that flew over. What was even more thrilling to me (VE3IXX) was that I was able to pick up and hear the conversations on my handheld– a first for me!**

Besides the radio contacts, the good meal and the great company, there were two other activities that took place that really made this year unique. Paul brought along his equipment for satellite communications. He was able to get through for at least three solid contacts and I noticed that there was also another lighthouse station connecting to the satellite. My own first time achievement was that I was able to hear the conversations on my handheld.

The second unique activity this year was that Bill VA3QB brought his drone. Bill wanted to fly the drone high overhead our site and make a video. Unfortunately, there was a strong wind coming off the lake and Bill couldn't get it up high enough and still keep the drone stable. Well, there's always next year.

Despite what appeared initially to be inclement weather, the day turned out to be beautiful and Lighthouse 2019 was a resounding success. See you next year!

73, Bob VE3IXX



**Bill VA3QB demonstrated some of the things his drone could do.**



**Harold VE3CD and his American friend Dan K9EA from Fort Wayne, Indiana look on.**





### **"Tale number Two" by Paul VE3PDC**

The Elmira Radio Club once again participated in The International Lighthouse Lightship Weekend at Point Clark ON . I arrived at the lighthouse Friday afternoon just before 2:00 . Frank VA3FJM was already hard at work setting up his trailer. This would be home base and security for the site .

After a short chat , we started setting up the club station . I climbed the 114 steps to the top of the lighthouse and tossed the ropes over the railing . Shortly thereafter Al VE3AUS showed up, to lend a hand . We finished erecting the dining tent in front of the trailer and strung the G5RV between the top rail of the lighthouse and a tree on the north end of the lot . A quick check with the club analyzer showed all was good . We hooked everything up and got some glowing reports on a few bands and called it a day .



**Al VE3DZZ with his wife, Sue.**



**Frank, Al VE3AUS, Rob VE3PCP, Carol and Dave.**





**Dan K9EA, Frank VA3FJM, Lorraine VE3VCL and her hubby, Rich VE3DCC.**



**Bruce VE3QB**



**Doug VE3CXU**



**Frank VA3FJM with some visitors.**

I returned to the site Saturday just before 8:00 to a cool, cloudy and somewhat windy start to the day. Frank was all set up and ready to do Ontars at the top of the hour. Frank was the controller and I did the logging. The hour just flew by. He did a great job. We had multiple contacts and great reports from all over southern Ontario.

Bruce VE3QB arrived just after 9:00 and brought a weekends worth of nice sunny weather with him thanks Bruce . People slowly trickled in between then and lunch time . The barbeque was all set up and Al VA3TET and Tom VE3DXQ cooked up the usual feast of burgers topped with Al's now internationally famous fried onions and mushrooms . There was a good turn out , I estimate between 20 and 25 people were there for lunch. Again, no one left hungry, thanks guys .

We had several curious visitors over the weekend at the site and many questions were answered about what we were doing and the hobby in general.

Different operators manned the club station throughout the day and quite a few contacts were made including several satellite contacts by myself and Al VE3AUS with an Arrow LEO (low earth orbit ) hand held antenna and a Yaesu FT-60 hand held . Pretty much everyone was headed home by about 4:30, so we shut the station down for the day .

Sunday morning was bright and clear, but the bands were pretty quiet. We decided to fold up shop until next year and head for home .

Thanks to all that showed up and made the Lighthouse Weekend a success again this year. Hope to see you all at the meeting , September 26<sup>th</sup> ....

**73, Paul VE3PDC**



**A rare sight to see the two QB's together like this.**

From QST October 1997– Reprinted with permission.

# Catch a Falling Star

## A beginner's guide to meteor-scatter communication— just in time for “stormy weather!”

By Kirk Kleinschmidt, NT0Z

### Part 2

#### Working the Meteors

There are no special procedures for 10-meter meteor-scatter work. At this relatively low frequency, ionization trails usually persist long enough to allow conventional, brief contacts. Limit your transmissions to a few seconds. During meteor showers, Leonids and otherwise, try calling “CQ scatter” just above (and or below) 28.5 Mhz. Aim your antenna in the direction you hop to make contacts.

On 6 meters, activity usually starts at 50.130 MHz and moves up, with many operators listening around 50.200 Mhz. Contacts are fast, so stay awake! On 2 meters and above, most meteor-scatter work is accomplished via schedules, where each station transmits and receives in 15-second intervals. This technique is detailed in Chapter 12 of the ARRL Operating Manual. Most activity can be found between 144.175 and 144.225 Mhz.

During peak shower periods on 6 and 2 meters, call CQ for a few seconds and then listen for a few seconds. “CQ CQ CQ scatter NT0Z NT0Z break” - spoken without pausing for syllables—is what’s needed to accommodate openings that may last only a few seconds! A quick reply might be “NT0Z W3EP W3EP break.”

Contacts are complete when call signs and one other piece of information (grid locator or state) is exchanged and acknowledged by “rogers.” Repeats are often required. Keep your transmissions short and stay with a station until a full exchange of information is made.

#### Get Started with the “Weekend Mornings” Gang

To get your feet wet, the “weekend meteor-scatter watering hole” offers excellent contact opportunities on a consistent basis. Every Saturday and Sunday morning from dawn to about 9 AM local time –prime time for meteors— scatter enthusiasts work 6 meters for fun. You should, too! There are plenty of contacts to be made year-round.

Although activity increases during shower periods, the Earth sweeps up thousands of meteors each day. The morning hours are usually the best for meteor-scatter work because the velocity of the Earth’s rotation increases the effective velocity of inbound meteors (conversely, the evening hours around 9 PM local time, when the Earth is rotating away from incoming meteors, are usually the worst). See **Figure 2**. As shown in **Figure 3**, June, July and August are the best months for Saturday and Sunday morning sessions (and meteor work in general).

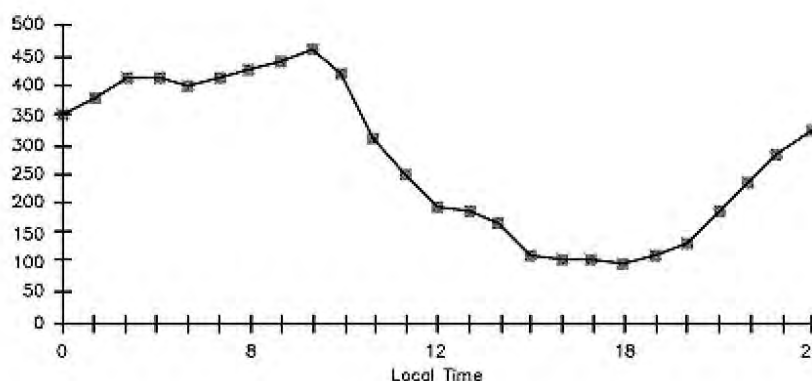


Figure 2—Average daily meteor rates (relative) by the hour.

## Awards, DX and Other Goodies

Because it's sometimes impossible to discern meteor-scatter propagation from tropo or E-skip openings, there are not specific meteor-scatter awards per se. That said, meteor-scatter contacts work just fine for other awards or certificates you may be pursuing, including WAS and VUCC. Central US stations enjoy excellent "DX" potential. Several VHF operators have worked stations in all of the lower 48 states without using satellites or moonbounce.

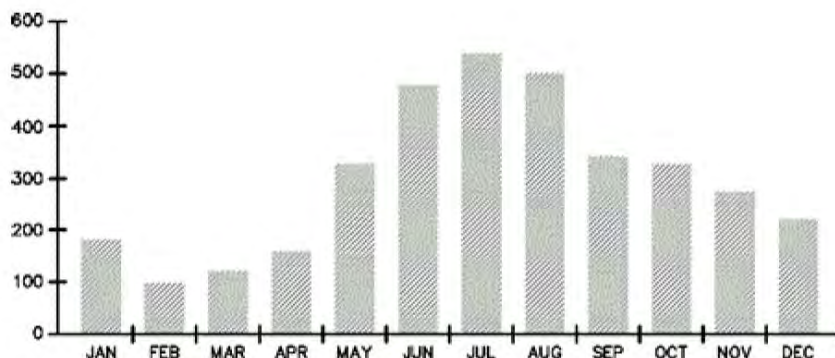


Figure 3—Sporadic meteor rates by season.

The June VHF QSO Party overlaps the Arctids meteor shower which, unfortunately, tends to be a poor performer. Meteor scatter propagation usually gives the best boost to the annual ARRL 10-Meter Contest, which intersects the December Geminids shower. Even during sunspot doldrums when 10 meters seems totally dead, morning meteor-scatter contacts will put at least a few stations in just about everyone's log.

## Resources

If you're serious about pursuing meteor-scatter work there are many resources at your disposal. In addition of operating procedures outlined in The ARRL Operating Manual, see Clarke Greene's "Meteor-Scatter Communications" in January 1986 QST. QST's monthly column "The World Above 50 MHz" hosted by Emil Pocock, W3EP, periodically contains information of interest to meteor-scatter enthusiasts. Try the July 1994 column for starters.

If you have access to the Worldwide Web, point your browser to

<http://www.qsl.net/kd3xt/ms.htm>

For Bernie Gapinski, AB7IY's excellent list of meteor-scatter links. Also interesting is the list of meteor/meteor-scatter experimenter's links at

<http://www.psnw.com/~n7stu/vhftools.html>.

## Conclusion

If you're itching to get involved in one of the more "esoteric" VHF modes, meteor-scatter communications is a perfect place to start. Station requirements are reasonable, and the gear you'll accumulate will be useful for other VHF/UHF work. Besides, if a Leonids storm materializes on some November 17 between now and 2004, you won't want to miss the best meteor-scatter event of your lifetime!

I'd like to thank Emil Pocock, W3EP, for his help with this article (in my days as a QST editor, our nickname for Emil was "noted VHF authority W3EP" - and for good reason!) Thanks also go to the hams quoted in the "Soapbox" whose speedy internet replies were a big help!

1010 Grove St.

Little Falls, MN 56345

E-mail: [kirk@cloudnet.com](mailto:kirk@cloudnet.com)

**TO BE CONTINUED NEXT ISSUE**



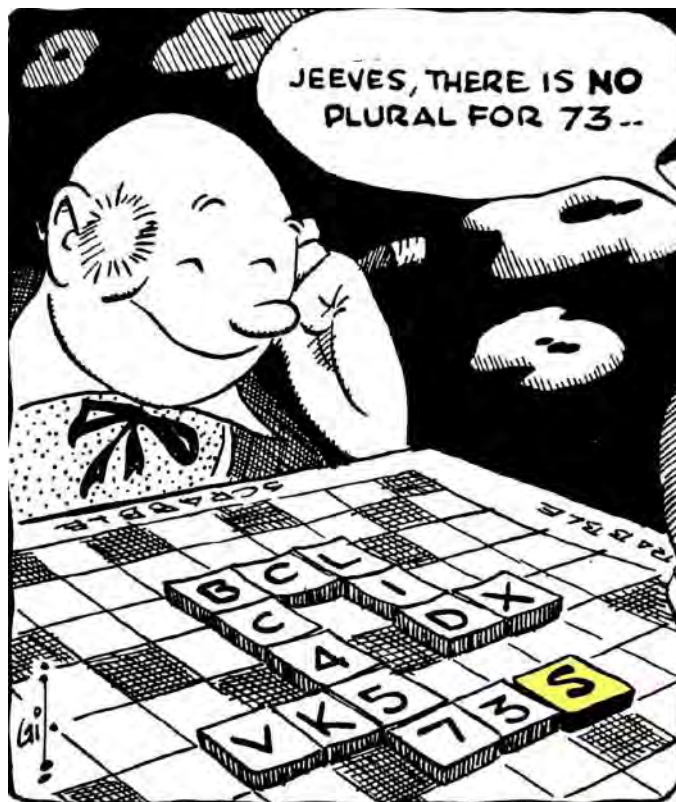
### **CONTRIBUTIONS TO VE3ERC-CLUB NEWSLETTER**

Do you have an article you'd like to submit? Or photos? Do you have any comments you'd like to make?

Perhaps you'd like to share a photo of your shack, a special project you are working on or a special interest!

**SEND THEM TO:**

**Bob** [bobve3ixx@gmail.com](mailto:bobve3ixx@gmail.com)  
(519-787-2279)



### **WEDNESDAY NITE NET CONTROLLERS**

**JULY 24 - TOM VE3DXQ**

**JULY 31 - WES VE3ML**

**AUGUST 7 - PAUL VE3PVB**

**AUGUST 14 - BRIAN VA3DXK**

**AUGUST 21 - BOB VE3IXX**

**AUGUST 28 - TED VE3TRQ**

**SEPTEMBER 4 - AL VA3TET**

**SEPTEMBER 11 - REG VE3RVH**

**SEPTEMBER 18 - FRANK VA3FJM**

**SEPTEMBER 25 - M E E T I N G**

**OCTOBER 2 - BILL VA3QB**

**OCTOBER 9 - TOM VE3DXQ**