

VE5AA

February 2004

# The Feedline

SASKATOON AMATEUR RADIO CLUB



**Ken (VE5KRB) Station Setup:-** HF-Kenwood TS-830S, Yaesu FRG-7000 receiver. Antennas- trapped verticals & rotatable dipoles, 56 ft Delhi HD tower. **VHF**-Kenwood TS-711A 2m all mode, ADI HT dual bander, Radio Shack HTX242 2m mobile, Mirage B3016 power amp. **UHF**-TC70-1 ATV transceivers, Mirage D24 power amp, assorted video cameras, monitors & portable video tape units, Astron RS-20A power supply.



**Saskatoon Amateur Radio Club**

P.O. BOX 751  
Saskatoon, SK S7K 3L7  
ve5aa@qsl.net  
<http://www.qsl.net/ve5aa>

**Saskatoon Amateur Radio Club  
Meetings are held the 2<sup>nd</sup> Tuesday  
of each month September til June.**

**Our meeting location is Alvin  
Buckwold School  
715 East Drive – West entrance**

**Meeting is 0130Z (7:30PM local)**

**VISITORS AND GUESTS ARE  
ALWAYS WELCOME!**



**ARES  
Saskatoon**

**NEXT ARES  
MEETING  
Monday, Feb 16  
7:00 PM  
CITY HOSPITAL  
ROOM 8313  
Portable Packet/APRS  
digipeaters**

<http://www.ares-saskatoon.ca/>

## **NEXT CLUB MEETING**

**Tues, February 10, 2004  
7:30 PM**

**ALVIN BUCKWOLD SCHOOL  
715 East Drive  
West entrance**

**BE THERE!**

## **CONTESTS**

**Feb 1** NCJ Sprint CW  
**Feb 2** MN QSO party  
**Feb7-8** 10-10 Int. Winter SSB  
**Feb7-8** Mexico Int. Contest RTTY  
**Feb 8** NCJ Sprint SSB  
**Feb 14-15** CQ WWW WPX RTTY  
**Feb 14-15** YL/OM Contest CW  
**Feb 14-15** FISTS Winter Sprint CW  
**Feb 15** ARCI QRP Sprint SSB  
**Feb 21-22** ARRL Int. DX CW  
**Feb 21-23** YL/OM Contest SSB  
**Feb 28-29** CQ 160m SSB  
**Feb 28-29** NA QSO Party RTTY

For further information on contests refer  
to TCA, CQ & QST magazines

## **COFFEE**

**Saturdays at 10 AM  
Smiley's on 8<sup>th</sup> St.**

Everyone is welcome. Hams,  
non-Hams, it doesn't matter.  
Were there to have good  
conversation with good  
friends.

**C'mon out and visit!**

# SASKATOON AMATEUR RADIO CLUB VE5AA

## EXECUTIVE

**President** Ron Sather 384-5093  
VE5RMS

**Past President** Andy Paquet 931-1614  
VE5APD

**Vice President** Gus Schmid 249-3996  
VE5SPI

**Secretary** Herb Essenburg 374-4337  
VE5HE

**Treasurer** Al Labbie 373-3188  
VE5MDC

## Directors

Warren Beaulé VA5WDB 934-2604  
Ned Carroll VE5NED 382-1446  
Bob Hilton VE5NFG 652-7014  
Ken Bindle VE5KRB 373-3403

**Repeaters** Gus VE5SPI  
Eric VE5HG  
**Property** Al VE5MDC  
**Training Co-ord.** Ned VE5NED  
**Public Service** Executive  
**Sick & Visiting** Ron VE5RMS  
**Field Day** **Vacant**  
**Elmer** Herb VE5HE  
**Trailer** Ron VE5RMS  
**Space Club** Vacant  
**SARC Net** Bill VE5DN  
**L.B.L. Rep.** Ken VE5KRB  
**Coffee** Colleen VE5CMG  
**50/50 Draw** Nate VE5NAT  
**Feedline** Les VE5LPP  
**Web-site** Bruce VE5BNC

## LOCAL AREA REPEATERS

VE5SK 146.640- Saskatoon SARC  
VE5CC 146.970- Saskatoon linked  
VE5SCA 146.940- Saskatoon long  
range  
VE5BRC/1 147.240+ Lizard Lake

VE5RPA 147.150+ Bellevue to PA  
VE5DPR 147.270+ Hanley  
VE5SKN 145.210- Saskatoon MARS  
VE5STV 146.790- Saskatoon  
VE5FS 448.000- CFCSS tone  
access

## ATV

VE5ATV 439.250 in 1277.250 out

## APRS

VE5RHF 144.390 Saskatoon APRS

## PACKET

VE5Y5-7 DIGI 145.010 Davidson  
VE5HAN DIGI 145.010 Hanley  
VE5TH BBS 145.010 Regina  
VE5XXX BBS 145.010 PA  
VE5MPF-2 NODE 145.010 Melfort  
VE5MPK BBS 145.010 Melfort  
VE5NEP-3 DIGI 145.010 Minichinis  
VE5USR-3 DIGI 145.010 U of S  
VE5BBS BBS 145.010 Club House

## LOCAL AND REGIONAL NETS

Sask WX 80m 1400Z 3753 Khz  
ARES (Sun.) 80m 1430Z 3753 Khz  
Aurora 40m 2330Z 7055 Khz  
& 0200Z  
Manitoba 80m 0000Z 3760 Khz  
Saskatchewan 80m 0100Z 3744 Khz  
Alberta 80m 0130Z 3740 Khz  
Laurel Ladies 80m 0130Z 3.752 Khz  
Tue, Thur & Sat  
Local Area 2m 0200Z 146.640-  
B.C. 80m 0200Z 3729 Khz  
Saskatchewan 2m 0300Z 146.970-  
Prince Albert 2m 0330Z 147.150+

**(All nets are daily except where noted)**

**All Hams are welcome to check into  
any of these nets.**

**MINUTES**  
**SASKATOON AMATEUR RADIO CLUB**  
**January 13, 2004**

The meeting was opened at 7:31 P.M. by President Ron, VE5RMS. We welcomed one guest, Lewis, Jim Clark's brother.

The minutes of our November 18 meeting were approved as circulated in the FEEDLINE, on a motion by VE5HG, seconded by VE5APD – carried. Les, VE5LPP was again complimented on his production of the FEEDLINE! The president then reviewed the minutes of the short business meeting and motion made at the December 9 Christmas social. He read the motion to purchase equipment being offered by Tony, VE5ATB and said that equipment has been placed in the club's inventory, the FT-101 being allocated to the Walter Murray amateur radio project when it is ready for it.

The minutes of the special meeting were accepted on a motion by Gus, VE5SPI, seconded by Warren, VA5WDB – carried.

The treasurer's report was presented by Al, VE5MDC and is filed with the minutes. Ve5MDC moved for the acceptance of his report, seconded by John, VA5RJA – Carried. Al, VE5MDC moved, seconded by Andy, VE5APD, that we renew our GIC for one year – carried. The treasurer also reported that he had applied for associate membership in RAC for the SARC and had received confirmation of the membership.

**CLASSES**

Ned, VE5NED reported that ham classes were progressing well and that packet was also functioning well.

Herb, VE5HE, reported that CW class was returning to 7:00 P.M. from 7:30 to accommodate regular participants.

Ken, VE5KRB reported that the antenna building class continues on Friday nights.

**NEW BUSINESS**

Arrangements are being made to correct the interference our transmitter is causing to the sound system in the school gym.

Due to interference to channel 18 at a neighbor's home, VE5DN is temporarily moving the evening 2M net on 146.640 to 7:45 P.M.

Ken, VE5KRB spoke on the need for an RFI committee and moved for the formation of such a committee, seconded by Andy, VE5APD – carried. Ken volunteered to head up such a committee; VE5HF, VE5SPI and VE5APD have offered to participate in this committee.

Ken, VE5KRB, read a letter from Dr. Willie Braun, our Nov. 18th guest speaker, in which Dr. Braun had some very complimentary words for our members. He returned the honorarium given him asking that we use it to benefit the club.

Ken showed the members the toolbox and a number of tools purchased with Dr. Braun's gift and funds allotted by the executive. These items will remain as a permanent bank of tools at our clubhouse.

Ron, VE5RMs, advised that the next planning meeting for Hamfest 2005 would be held January 15. Hams were encouraged to bring forth ideas for this event.

Ken, VE5KRB is looking for any old answering machines. Check your basement, your garage, and your closets! !

The 50/50 draw, which we almost didn't have due to the president leaving the tickets at home, was rescued by our ever-ingenious treasurer Al who made up tickets during the meeting. The winner \* \* \* Ken, VE5KRB. (O K Ken, so we forgot but you can buy coffee another time).

Guides On The Air (GOTA), sometime in February.

The president declared the meeting adjourned.

Coffee followed accompanied by more of VE5CMG, Colleen's Wonderful baking. It was like Christmas all over again! Thanks from all of us Colleen!

Attention coffee drinkers! The Saskatoon Amateur Radio Club has another benefactor, John, VA5RJA. For some time, John has been supplying the club with coffee, coffee whitener, sugar, cups and napkins. John is the proprietor of Russ McQuarrie coffee merchants on Broadway. A big thank you to John for his support and as for the rest of the membership, coffee is still fifty cents, that's 50 cents so pay up and help the treasury!

Herb Essenburg – VE5HE  
Secretary



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### What we need for the toolbox

The club still needs a few things for the clubhouse toolbox. Any donations would be very much appreciated. We could do with the following:-

- 1- Jewelers screwdriver set
- 2- Tuning wand set
- 3- Centre punch
- 4- Soldering Iron and stand
- 5- Solder

- 6- Crimper – cutter (bolt)
- 7- Crimp connectors
- 8- Extension cord
- 9- Labels
- 10- Test meter

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**All swap and shop ads  
are free to hams.  
If you need something  
or need to sell  
something get in touch.**

## Murphy Strikes at APRS Demo



CASARA members Dale Avison & Chance Sakal

In November I was asked to demonstrate APRS at a CASARA training exercise in Humboldt. CASARA is the Civil Aviation Search and Rescue Association. The demonstration was a great success. Last week I was asked if I would do another presentation at their zone's annual general meeting in Yorkton. I was told I'd have to track 2 aircraft during the exercise. After several days of work I felt I was prepared, but I was about to be proven wrong.

Gus (VE5SPI) and I left Saskatoon at 6AM and arrived in Yorkton just before 9:30. After finding our way to the meeting room. We then sat through their AGM, which proved to be very interesting. This was the last fun we were to have.

It started when I turned on my computer. "Error reading hard disk" is all I saw. I grabbed my spare and we were back in business. Next we hooked up the projector and saw the image on the ceiling. After some head scratching we realized that the design of the projector combined with 10-degree slope on the floor was the culprit. Having fixed that, we found that only flat wall was the blackboard. After a great deal of squinting at the faint image on the blackboard, the presentation was over and we were ready for the demonstration.

We headed out to the hangar to see where we could mount the antenna. I learned that day that nothing sticks out of a Bonanza in flight so we had to just prop the antenna against a rear window. With only one plane, we decided to track a ground vehicle so we tossed another tracker in a van. We saw the vehicle icon leave the parking lot and stop moving shortly afterward. We never did see the aircraft icon.

We were not alone though. The object of the exercise was to locate an Emergency Locator Transmitter (ELT) that had been planted somewhere. The aircraft took off and the ground search vehicle took off and there was nothing but silence from the aircraft radio. We finally established contact with the aircraft and asked him to return. Upon landing he reported never hearing the beacon so we switched the tracking receiver with the spare unit. I checked the tracker and found it was misadjusted and couldn't transmit. The aircraft took off again a few minutes later and we saw his every move.... for a while. It wasn't long before the poor antenna placement meant he was out of range again.

Now back to the ground search crew. Dan's cell phone rang, and rang, and rang. Each time the call was cut off before he could answer because of the poor coverage in that area. He put his parka on and went outside to wait for the mystery call again. When the call came through and it was the ground search vehicle. They reported that they still had not heard from the beacon. After a couple of minutes, Dan told the ground crew where to find the beacon and they headed there.

After a long wait, we heard from the ground crew again and they were returning with the beacon in hand. The aircraft then tracked the moving beacon back to the search base. When the ground crew came in, they reported that a person who lived near where the beacon was hidden had found it and taken it into his house to keep it warm. With the antenna down, the beacon turned off. I then had a chance to look at my second tracker and found the power switch on low, so that explained why we lost them so quickly.

Although it was quite an experience, it was one I could easily do without again.

73, Bruce



**Garage Sale**  
The Saskatoon Free-Net  
will be holding a Garage  
Sale on

**Saturday,  
February 28th,  
2004  
10 a.m. to 3 p.m.  
at the  
Rusty McDonald  
Library.**

## THE PRESIDENT'S BLURB



This evening the only thing that I can think of is how dam cold it's been this last couple days. Today we broke a record that has been around since the same day back in 1966. That was the year I was stationed in Ennadia Lake in the NWT. Two days in a row the mercury (we did use mercury thermometers in those days) hit -62°F/-52C (we still used the old scale).

Some have said that the only time an antenna works properly is if the work is done when the temp. is at least -40.C. I've got news for them.

There's really not much to report as not much has been going on. We are going to be looking at elections coming up, so it would be nice to see some more people coming forward at nomination time. Think about it please.

Bruce VE5DNC and Gus VE5SPI had a demo run for APRS at Yorkton. Bruce has a byline in the Feedline on it. Let's hope that the one slated for Saskatoon on Feb. 7<sup>th</sup> will have better success. SCARAS is having a provincial get together at that time.

The bands have been up and down like a yo-yo lately. If you are lucky enough to have time to spend (waiting for the lottery) cruising them you might have gotten some good contacts.

With that I will just say that it was so dam cold today that one of my fellow bus drivers advised us that he saw a couple of dogs stuck to a fire hydrant. HI HI

73 Ron VE5RMS

## The Technical Corner of the Shack



Another month has gone by and our "honeymoon" with the weather is over from the look and feel of things. Well let's warm up with a little soldering theory.

Last month we talked about flux and its part in soldering a reliable joint on a circuit board. This month we will discuss the soldering iron and its "care and feeding". Originally we used irons that had a long handle and were placed in a furnace that was anything from a campfire to a gas fired heating chamber. The irons were usually made of copper or a copper alloy and had a large "thermal mass" in order to have a enough heat available to heat the work piece and melt the solder. You probably used something like this in high school shop class while making a pitcher or some such trinket. This system would not work very well with printed circuit boards and surface mount technology as well it would be extremely slow if you could get it to work.

Modern soldering irons are electric. They consist of a cord, resistance heating element, heater block inside an insulated handle and the tip. This is very convenient and allows for control of the heat and easy changing of the tip size to fit the work piece. The insides of the unit have different parts depending on the money paid for the

iron. Some have thermostats, some have a unique magnetic switch that will help hold a constant temperature etc.

The type of soldering that we work with is called conductive soldering. This requires the heat from the soldering iron tip to flow to the work piece joint to heat the components to the correct temperature, melt the applied solder, and form the joint. There are other methods which will be touched on briefly later in this series.

Heating in the unit is controlled by the following items. The resistance heating unit (usually an 120 AC coil of special wire), the heater block (a mass of metal that forms a thermal mass holds the tip), and the actual tip that touches the joint on the work piece. The power heats the resistance coil and passes the heat to the heater block. The block passes the heat onto the tip which eventually passes it to the work piece. The size of the resistance element and the mass of the heater block are set up to help regulate the temperature of the tip. This is why a small iron will not work on a large work piece very well. You may get away with one connection and then have to wait for the iron to "catch up" before going on to another joint. This also works the opposite way when a large wattage iron is used on a small work piece. The heat flows from the tip so fast that there is little or no control. The work piece can be damaged from too much heat. So you can see that wattage and thermal mass help to control the temperature of the work at hand. Tip temperature is controlled in more expensive irons by way of a magnetic contact that allows power to flow to the heating element. When the tip is at its proper operating temperature the magnetic material is constructed to lose its magnetism and thus open the circuit to the heater element. When the tip cools down the magnetism returns and switches on the power again allowing the heater block to heat. You can actually hear the click of the switching action on

some manufacturers irons. The size of the tip (which is the actual component thru which the heat flows) regulates the amount and speed of heat transfer to the work piece. So large tips allow fast transfer for larger thermal mass joints and smaller tips allow less heat transfer at a slower rate.

The tips of soldering irons require a little care in their use. They should be clean in order for heat to transfer to the work piece. They can be wiped on a damp sponge to remove oxides and then a small amount of solder applied. The work piece must also be clean to allow the heat to transfer and the joint to heat up to the melting temperature of the solder. Dirt at the joint or the tip results in resistance to the flow of heat from the iron tip to the work piece. CLEAN, CLEAN!!

The last part of this chain of events is the contact point between the actual soldering iron tip and the leads and pads of the circuit board. The contact area with a small tip on a round wire lead is quite small, about the size of a pencil line. If there is resistance from oxides or dirt the heating process will be very slow and may never reach the melting point. It sometimes, especially in reheating a joint to remove a lead from a board being repaired, resembles a "plastic" sort of mush that is really neither solid or liquid. To increase the thermal transfer rate one can form a better (bigger) point of contact by creating a solder bridge. This is done by first applying a small amount of solder to the tip before placing it on the work piece. In this case the bridge formed between the wire lead and the tip will be much greater in area and thus transfer heat at a faster rate. This allows the joint to reach the correct temperature at a faster rate and thus form a reliable joint.

The last factor in soldering is the human factor and our ability to observe the process and react to it. This can be summed up in one word TIME. You must

learn to observe the leads and the solder and know when the temperature has resulted in the proper melt and the joint is a good one that will be reliable. This is where the "two second rule" mentioned before comes into play. While heating the joint and applying the solder it should take about two seconds. That is from applying the tip to the joint and seeing the solder melt to form the joint. It should take approximately two seconds at which time the iron is removed and the joint allowed to cool. This will allow for a reliable joint with no damage to the component or the circuit board.

Well so far you have learned about the history, process, and hardware of soldering. You have seen that there are many variables that each affect the other and so these must all be managed to achieve a successful joint.

Next month we will talk about the use of the iron when soldering different types of joints and terminals.

Until then stay warm and enjoy.

73 Gus

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### **Hams in Iraq**

The following Hams are with the coalition troops in the Middle East and have been active recently: -

**Mark T Smith NG5L** 82nd Airborne CW,PSK31, 80-10m, An Nasiriya (**YI9L**) 14.1950 0500 UTC

**Jim Dunkerton KT4CK** location unknown 21.260 14-1600 UTC

**Robert Furzer K4CY** location unknown

**Kris Partridge G8AUU** Kuwait last location

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*"The more crap you put up with, the more crap your going to get."*

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