

Propagation

Kootenai Amateur Radio Society (KARS) Newsletter

APRIL 2005

PRESIDENT'S CORNER

The "President's Corner" will not appear in this month's newsletter. Bob Kesson has been occupied with preparation for and attendance at Communications Academy 2005.

The editor



BITS & PIECES de K7JMC

HF MOBILE!! It's a gas!!

As the headline implies, we're going to talk a bit about HF mobile operations.

About two weeks ago I managed to get my FT-100D up and running in my "Little Red Truck." The rig, of course, goes from 160m to 70cm. However, 160m mobile is out of the question (80/75m is bad enough). So I have settled for 40m thru 2m. The antennas are: an ATAS-120 (Active Tuning Antenna System) for 40m thru 6m, and a quarter wave spike for 2m (I can replace the spike with a dual band antenna for 2m/70cm).

Having this stuff up and running is great, but how do you manage it?? Tuning an antenna and a rig on HF while driving?? It could be a major safety problem.

The following assumes you have already set your power output, mic gain, etc. prior to going mobile...In mobile operations only a few things need attention: antenna tuning, band switching, and tuning up and down the band.

(continued on page 5)

VOLUNTEERS NEEDED

**FOR IRONMAN CdA 2005
COMMUNICATIONS**

(see text below)

Amateur radio operators are needed ASAP to prepare for and execute at the Ironman CdA 2005 event which is scheduled for 26 June 2005. Volunteers will provide communications services for the event.

Those interested are asked to contact Bob Kesson (K7CGA) at 208.772.6745 or k7cga@arrl.net.

This is an activity of the Kootenai County RACES/ARES group. On a related note, the RACES/ARES group is providing training to members at the monthly meetings (see Calendar of Events on page 2 herein). This month's meeting will include a session on emergency preparedness.

For further information on the Kootenai County RACES/ARES group, contact Darrel White at n7zui@icehouse.net or 208.773.6766.

WEEKLY NET: NORTH IDAHO EMERGENCY COMMUNICATORS

When: every Thursday except first Thursday of each month (which is sked for monthly Idaho State RACES net) at 1830 hours local time. Freq: 3990 KHz. Net control rotates through the Northern counties--third Thursday of each month is Kootenai County's responsibility. KARS is looking for participation in the net, and for volunteers to share net control duties on third Thursdays. Contact Jack McElroy (208.687-3293 or k7jmc@yahoo.com) if interested in net control assignment. Please check-in weekly with local net. Please check in with state net if you can hear the Boise net control station--check-ins are by district--we are in District 1.

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Propagation is published monthly by the KOOTENAI Amateur Radio Society (KARS). The club is located in Coeur d'Alene, Idaho and serves the North Northern Idaho and the Spokane, Washington areas

KARS operates voice repeaters on 146.980 and 444.775 MHz and a packet repeater on 145.510 MHz. KARS normally holds meeting at 1900 hrs, on the second Monday of each month in the Shep Rock Building at the Coeur d'Alene Airport.

Anyone interested in Amateur Radio is welcome to join. Dues are \$12.00 (individual) and \$18.00 for a family membership. Contact the Treasurer (see page 6) to join KARS.

KARS e-mail Directory

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CALENDAR OF EVENTS

DATE/TIME	EVENT	LOCATION
11 April at 7 p.m.	KARS monthly meeting	Kootenai Co. Airport-- Shep-rock Building
18 April at 7 p.m.	ARES/RACES meeting	Kootenai Co. Sheriff's Department Basement
Every Wednesday at 8 a.m.	Donut Day	Rathdrum Super 1 store (on Highway 53)
Second Saturday each Month, 9 a.m. to 11 a.m.	NW Traffic Net Coffee Klatch	Steve's Dugout In Post Falls, ID

Next KARS Meeting:

**Monday, 11 April 2005 at
7:00 p.m. in the Shep-rock Building
at Kootenai County Airport.**

Directions to the KARS meeting:

**North on U.S. 95 to Miles Ave. (Miles is about
one mile North of Hayden Avenue). West on
Miles to the airport gate (access code 1088).
Bear left to the Shep-rock Building (about 200
yards from the gate).**

PACKET RADIO: A PRODUCT OF THE COMPUTER AGE

by Larry Telles, K6SPP

PART THREE: AX.25 – Supervisory Frames, Unnumbered Frames and More Terminology

AX.25 FRAME (S, U, & UI) FUNCTIONS

First we will look at the S frame which controls the communications link. Next will be the six types of U frames, and the only UI frame. Each of the U frames will list has a specific function.

Supervisory (S) Frame

The (RNR) *Receive Not Ready* frame indicates that the far end (destination) station is not able to accept any more Information (I) frames because of a busy condition.

The (RR) *Receive Ready* supervisory frame indicates that the far end (destination) station is able to receive more Information (I) frames.

In Normal Operation: An (RR) clears an (RNR) condition. The (RR) and (RNR) frames may also acknowledge (ACK) properly received (I) frames when the received and recalculated FCS's (Frame Check Sequence) are equal and the frames are in sequence.

The *Reject* (REJ) supervisory frame. Used by the far end (destination) station to request a retransmission when an out-of-sequence frame is received.

Six Un-numbered (U) Frames (Five perform supervisory functions and one allows stations to make unconnected transmissions.

1. A *Set Asynchronous Balanced Mode* (SABM) unnumbered frame indicates a connection between two packet stations.
1. The *Disconnect* (DISC) frame terminates a connection between two packet stations.
1. The receipt and acceptance of an SABM or DISC frame is acknowledged by the *Unnumbered Acknowledge* (UA) frame.
1. If the packet station is busy and unable to accept a connection it will reject an SABM frame by sending a *Disconnected Mode* (DM) frame.
1. The *Frame Reject* (FRMR) frame indicates that the source station is unable to process a frame and re-sending will not correct the problem. (This frame is rarely seen).
1. An *Unnumbered Information* (UI) frame allows data to be transmitted from a source packet station without connection to a destination station. UI frames are used for calling CQ, or sending beacons, to name two.

This covers all of the frames used in packet radio. At this point I will digress a bit to pull together some facts that need to be addressed before I can cover the overall end-to-end packet operation.

In Part 1 of this article, the second level of the OSI model was the *Link* layer. This layer arranges data bits into frames and provides for an error-free transfer of packet frames over a communications link. The ISO (International Organization for Standardization) uses a *High-level Data Link Control* (HDLC) as one of its standards on the *Link* layer. IBM's *Synchronous Data Link Control* (SDLC) is also used. Part 2 described the frame contents. The *Flag Field* (01111110 or 7E hexadecimal) indicates the beginning and end of each frame. The flag field is a unique octet with could have caused a problem. Part 3: I will address the potential problem, let you know the solution and the definition of the buzzwords used.

(continued on page 4)

Packet Radio

PART THREE: AX.25 – Supervisory Frames, Unnumbered Frames and More Terminology

(continued from page 3)

What if your *Address* or *Information* fields contained a 7E or 01111110? The other end might think it was an ending flag or beginning flag. A process called *bit stuffing* or *zero bit insertion* prevents the other octets between flag octets from having the same unique contents of the flag field.

Whenever five (5) consecutive one (1) bits occur in the other octets (not flag field) of a frame that is intended for transmission, the transmitting packet station inserts (or stuffs) a zero bit after the fifth one bit.

01111110
 ^
 Zero bit inserted

At the receive end, whenever five consecutive bits occur in a frame the packet station discards the zero after the fifth one (1) bit. This restores intelligence to the content of the frame.

At the next club meeting I will give a talk on RS-232, the electrical and mechanical interface between the *Data Terminal Equipment* (DTE) and the *Data Communications Equipment* (DCE) at the Physical Layer.

RS-232 is not just used for packet radio. Dial up modems, printers, etc., make up a few of the devices used. This interface has a several cousins, V.24, V.35, RS-442, RS-449, RS-530 to name a few.

Part Four (next month's newsletter): The overall operation of two packet stations.

Upcoming VEC/VE Licensing Exams for Our Area

- 14 April 2005 (Thursday), 5:00 p.m.; Tidyman's Grocery, 13014 E. Sprague Avenue, Spokane Valley, WA; Contact Mary Qualiteri (AA7RT), phone 509/991-2192; e-mail aa7rt@arrl.net.
- 12 May 2005 (Thursday), 5:00 p.m.; Tidyman's Grocery, 13014 E. Sprague Avenue, Spokane Valley, WA; Contact Mary Qualiteri (AA7RT), phone 509/991-2192; e-mail aa7rt@arrl.net.
- 15 May 2005 (Sunday), call for time; Walla Walla College, Industrial Technology Building, SW 4th and Bade Streets, College Place, WA. Contact: Mable Babbitt (WB5AVH), 509/525-7003 or wa5zay@msn.com
- 19 May 2005 (Tuesday), 7 p.m.; University High School, Room E102, (just inside main NE entrance), 12420 E. 32nd. Street, Spokane, WA. Contact: Betsy Ashleman (N7WRQ), 509/448-5821 or n7wrq@aol.com

Field Day 2005 Reminder and Questions

At the March KARS meeting, this writer learned that he will be assisting 1st VP Jack K7JMC as KARS "Field Day Activity Coordinator" for 2005.

As you probably know, Amateur Radio Field Day (FD for short) is the biggest organized Ham event of the year, when ham clubs gather and operate for a 24-hour period somewhere "out in the field". A lot of tradition is also associated with FD, including the event dates, "always the fourth full weekend in June", which falls on 06/25 – 06/26 this year. Unfortunately for our club, this is also the weekend for the CDA IRON-MAN '05 event, and a lot of our members are involved in RACES communications support.

With that in mind, we're trying to organize our FD operation and we need input from you, our members. Please "save the date", and also contact ai7h@arri.net and let me know what resources you can share with the club for FD 2005. Can you operate for a while (how long?); Can you loan us a rig, generator, power supply for the weekend (tell me what you have). Can you help set up or tear down? Everyone is encouraged to participate and you don't need to have any contesting experience. Also, FD is an opportunity to introduce prospective hams to the hobby, so if you have friends or relatives that might be interested, please let them know about Amateur Radio Field Day '05!

Thanks and 73, Ed Stuckey, AI7H

- *If you don't pay your exorcist you get repossessed.*
- *When a clock is hungry It goes back four seconds.*

HF MOBILE: Its a gas!! *(continued from page 1)*

The method I have selected is as follows: take advantage of the channel memories available in the rig. In my case I have set the first four channels to three 2m repeaters and one 2m simplex channel. After that, the next programmed channels are the "mid-phone band" frequencies for the 40 thru 6 meter bands.

I run the rig in Memory Mode" and move between the 2m freqs with the channel selector. When I want to go to the 40 – 6m bands, I go to the proper channel/band then jump out of Memory to VFO Mode (M>V). Now I am in VFO Mode at mid band.. I then press the TUN button and tune the ATAS for the band. Once tuned I can move up and down the band looking for a contact. Any additional antenna tuning will be very small.

To go a different band, I use the VFO/M button to get back into Memory Mode, select another channel and go through the process again. There may a better way to do all this, and I am willing to learn, but this is my approach for now.

I've checked into the "Noon Time Net" on 40m a couple times and get great reports out of Klamath Falls Oregon. You'd be surprised the response you get when you sign as "Mobile in Northern Idaho."

Regards,
Jack/K7JMC

KARS HAMFEST COMING

Watch the newsletter and the K7ID.com website for information on the upcoming KARS Hamfest to be held on 11 June 2005 at the Lion's Club in Rathdrum. Grand-prize in drawing is a Yeasu 857D HF transceiver! You may be the winner!

Humor Section

"Geezers"

Have you been guilty of looking at others your own age and thinking, "Surely I can't look that old?"

I was sitting in the waiting room for my first appointment with a new dentist. I noticed his DDS diploma, which bore his full name. I suddenly remembered a tall, dark-haired boy with the same name had been in my high school class some 40-odd years ago.

Upon seeing him, however, I quickly discarded any such thought. This balding, gray-haired man with the deeply lined face was way too old to have been my classmate.

After he examined my teeth, I asked him if he had attended Lawton Senior High School.

"Yes. Yes, I did. I'm a Wolverine," he gleamed with pride.

"When did you graduate?" I asked.

He answered, "In 1961. Why do you ask?"

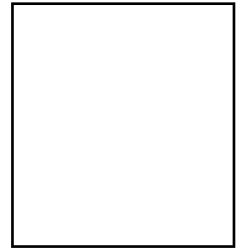
"You were in my class!" I exclaimed.

Then, that ugly, old, wrinkled geezer asked, "What did you teach?"

*The editor thanks
Ed Stuckey (AI7H)
for this gem.*

- *The man who fell into the upholstery machine is fully recovered.*
- *A grenade thrown into a kitchen in France would result in Linoleum Blownapart.*

KOOTENAI AMATEUR RADIO SOCIETY
PO BOX 5222
Coeur d' Alene, ID 83816



Deliver to:



***This is the April 2005 Issue.
Put away the snow shovels. Get out the rakes and hoes!***

Current KARS officers

President:	Bob Kesson 772-6745	K7CGA
1st Vice President:	Jack McElroy 687-3293	K7JMC
2nd Vice President:	Warren Conklin 772-6484	WB7ECU
Secretary:	Linda Chamberlain 765-3144	N7UTK
Treasurer:	Chris Monroe 687-2251	N7ZUJ
Newsletter Editor:	Steve McQuiston 772-4095	WO6LF
Repeater Tech:	Jim Monroe 687-2251	N7ESU

Bonner County Neighbors

Our "neighbors" to the North include the Bonner County Amateur Radio Club (BCARC). BCARC has cooperated with KARS in a number of pursuits, and has earned our friendship.

A reciprocal agreement between KARS and BCARC extends to members of either organization an open invitation to attend one another's meetings and events.

Visit their outstanding web site at <http://bcarcinc.tripod.com>

Check the "Links" link for links (what else?) to a number of interesting radio-related web sites--the W5WWW Morse Code site is worth a million bucks all by itself.

Further, if you are in the market for used ham gear, see the link to the BCARC Swap Shop.

Enjoy the BCARC web site, as well as our own--go to k7id.com for the KARS site.