



M.A.R.K. NEWS

Volume 5 Issue 3 March 2006

For the latest news check out the MARK website at <http://www.qsl.net/mark/>

Weekly Nets:

Saturday Night
10 meter Net
28.400 MHz USB
8 p.m. CDT (1:00 UTC)
Net control: Ken, KA9AHP

Sunday Night
2 meter Net
Temporarily 444.925
103.5 Hz tone
Normally 146.655, - offset
8 p.m. CDT (1:00 UTC)
Net control: Various

A Ham Radio breakfast is held every Friday morning at the D and W Restaurant in Mattoon at 8 a.m.

Coles County ARES will meet Fridays at the Forum from 6:30 AM to 7:10 AM until further notice. This is located about four doors East of Gowins restaurant in Mattoon.

Don't forget to check into the **Clark County**

Regular Monthly Meeting

The regular monthly meeting will be on March 20th 7 pm at the club house in Bruce IL All amateur & their guests are welcome Note: There will be testing after the meeting...If you are wanting to upgrade or know someone who does bring them to the meeting so they can take the test Please give some thought about volunteering to mow the yard at the club house this year

Program

SuitSat By Clint KC9S

Program Suggestions

We would greatly appreciate your suggestions for programs for the club meetings. If you have something you would like to present, or know a person who could give us a good program please email Clint, KC9S. kc9s@mail2usa.com or Bob, KA9LRZ ka9lrz@consolidated.com

Newsletter Editing

If you have problems with the newsletter, please contact kc9s@mail2usa.com or ka9lrz@consolidated.net Thank you.

Letter From The President

Now that the old repeater is back up on the elevator and on the air we will begin again to reach out and touch other amateurs in around the area The Sunday night net will continue at 8 pm each Sunday evening with various Net Control Operators Thanks to those of you that have volunteered for that position I appreciate this ... Those of you that have not paid your dues **please pay them now** The address to mail you dues to is on last page of this newsletter We must get things ready for the hamfest and we need you're your help The work schedule will be generated soon so please let us know if you will be able to help Thank you for your support
Bob KA9LRZ

**ARES Net Wed nights
at 9:00 pm on 146.520.
N9YRX NCS**

H F CONDITIONS

During the last month, the graph of the Solar Flux has been nearly flat, varying only between 72 and 79. It was roughly in the middle of that range, at 75 to 74, for the ARRL DX Phone Contest on March 4th and 5th. Ten meters was not used in the contest at W9LYN other than to listen briefly for PJ2T on Curacao Island in the southern Caribbean. It was thought that at this stage of the Solar Cycle the band would be nearly useless. In PJ2T's report of their contest activity on Curacao, however, they indicated 503 QSO's on that band or about 5% of their 9461 contacts. The propagation surprise for me was that they made nearly 1/3 of their contacts on 15 meters with the number of Q's decreasing on the longer and longer wavelengths. Fifteen was also a good band at W9LYN with contacts in five of the originally inhabited continental areas in about three hours of operation on that band. From Asia several Japanese stations were heard but no contacts were made. Nearly one half of my time in the contest was spent on forty meters and that band provided contacts in all of the continental areas.

There was some activity on 160 and 15 meters, about two dozen contacts total, at W9LYN in the ARRL DX CW Contest in mid-February with the usual 100 watts through a manual tuner to the 160 meter inverted "L". The real local activity in this contest was by Giles – W9JWV running, as I understand it, about 2 watts of QRP to a wire vertical that produced more than four dozen contacts mostly on 20 meters. Many of his Q's were with Europe but one appears to have been with a station in Western Australia using a callsign that may never have been intended to be used in regular amateur communication!

It may be a long story...

While the "official guess" on the end of Solar Cycle 23 is still being listed as the end of 2006 or the very beginning of 2007, there is a new estimate! The new computer "Predictive Flux-transport Dynamo Model" has been developed by scientists at the National Center for Atmospheric Research's High Altitude Observatory in Boulder, CO. They think that the evolution of sunspots is caused by a current of plasma that circulates between the Sun's equator and its poles rather like a conveyor belt of sunspots over a period of 17 to 22 years. They expect Cycle 24 to begin in late 2007 or early 2008 and reach its peak about 2012. The real plus for hams, if the scientists are correct, is their prediction that Cycle 24 will be 30 – 50% stronger than Cycle 23 was.

One report is that "the model was virtually spot on when applied

Retrospectively to "forecast" the last eight solar cycles."

See: <http://www.ucar.edu/news/releases/2006/sunspot.shtml>

The decision by M.A.R.K. to offer License Exams following our meetings has already produced a new ham. After the February meeting Jim Eyrich, who came down from Hoopeston, IL, successfully completed his Technician exam and is now KC9IWZ.

"Congratulations, Jim and may you have a lot of fun in ham radio!"

(VE's were Ralph – WC9V, Alan – KA9Z, Clint – KC9S, and ? Thanks!)

A special thanks to Art – WA9LXT for the program "Don't ZAP Your Equipment" at the February meeting. Many of us had probably been vaguely aware of the problems that can result from "static" electricity but had never seen such an effective demonstration of how it behaves as Art gave with the meter that he brought. He also had along a book that showed micrographs of the trails of static discharges in chips that was impressive in those small spaces between leads.

One story that he told about a problem one facility had will stick with me. The facility was reporting that only about three out of ten special circuits that they were getting from a supplier actually worked once they were placed in their equipment. When Art checked out the person unpacking the special circuits with the chips in them, he found that she was removing them from their protective packing in one part of the lab and carrying them on her angora sweater to the work bench on the other side of the lab. Who knows how many thousands of volts of static electricity was getting into the leads from her sweater!

Since I had a problem making a copy of Art's material to put in last month's "R. F. Feedback", I ran off copies and brought them to the club meeting. Now I have learned how to do it and below is that material for those who have not seen it

ElectroStatic Discharge -- #1 Killer of Electronic Devices

By Art Varga, WA9LXT

As the weather gets colder and the indoor humidity drops, static electricity becomes a major problem when handling modern microelectronic components. Make sure you take all necessary precautions before you open the case on that new transceiver.

ElectroStatic Discharge (ESD), sometimes called micro-lightning, is the number one cause of failure in modern electronics, accounting for 30 - 50% of the failures that occur during the manufacturing phase of components and 27% of failures at the subassembly (circuit card) level.

Static Electricity becomes a problem when static (stationary) charges become dynamic (move). ElectroStatic Discharges are defined by three major failure models: Human Body Model (HBM), Charged Device Model (CDM) and Field Induced Model (FIM).

A Human Body Model discharge occurs when a technician becomes charged by walking across the floor, shifts position on a chair, etc., and then touches a component with his hand / finger. The discharge can immediately destroy a component or weaken it so that it will fail before it's normal life expectancy. A subset of the HBM discharge is the Machine Model (MM) where a HBM discharge occurs through a tool used by the technician -- like a pair of pliers, screwdriver, or tweezers. Wearing a static strap (wrist strap) drains static charges from the technician and reduces the chance of HBM discharges. However, the clothing worn by a technician (nylon, rayon, Dacron, etc.) will often retain charges and may cause a Field Induced Model failure.

A Charged Device Model failure occurs when a component becomes charged due rubbing on packaging material or some other way during manufacture or transport or assembly. When a lead of the component touches a conductive surface (less than 10,000 ohms in resistance) the resulting discharge often blows a hole in the component's metalized layer(s).

Static fields can be produced by rubbing insulative plastics and other non-conductors (like rubbing a balloon on the carpet). Static Electricity caused by rubbing is referred to as Triboelectric charging. A Field Induced Model failure occurs when a component or circuit card assembly (CCA) is touched by a technician or another conductor while in the influence of the electrical field of a static charge. FIM scenarios create a double jeopardy for components and CCAs. The first failure opportunity happens when the component or CCA is touched while in the presence of the field. Once the component or CCA becomes charged through induction, it then becomes vulnerable to a Charged Device Model failure. For further information about ESD log on to www.esda.org.

FOR SALE: Hammarland HQ-180A classic 1960's triple conversion General Coverage (540 KHz-30MHz) 17 tube receiver, believed to be in good working order. The receiver IF/detector system was optimized for Single Sideband reception, and performs very well given its era and design parameters. Its a great receiver to use for CW, AM or SSB, and is highly prized by Short Wave Listeners for its overall performance, frequency coverage, and quality audio. It is a great receiver for Amateur

Band use, and is used by many vintage gear enthusiasts. It was the last receiver used by a dedicated listener who over several scores of years accumulated verifications of his receptions of their broadcasts from over 3,000 AM Broadcast stations. A description from an old QST add indicates that the "Hammarland has a built-in 100 KC/S

crystal calibrator and a separate filament transformer connected to the HF oscillator and 1st mixer that drastically reduces warm-up time." The AMATEUR NET price listed in 1963 was \$439 . That was when FIRST CLASS POSTAGE was 5 CENTS so the receiver cost very roughly \$3,500 in today's money! Suggested offer \$250. Call Giles Henderson (217) 345-7635.



Moultrie Amateur Radio Klub Meeting
February 20, 2006
Club House Bruce, IL

Members present :

Bob Olson	KA9LRZ
Art Varga	WA9LXT
Del Nack	KA9TDT
Clint Parrish	KC9S
Bill James	W9LYN
Joe Tuley	KC9GIK
Giles Henderson	W9SVW
James Wood	WB9URK
Jerry VanMatre	WX9D
Ralph Zancha	WC9V
Kenneth Winnings	KA9AHP
James Eyrich	Nocall Passed test!!!
Alan Dickens	KA9Z
Sam Guccione	K3BY

Meeting opened at 7:25 pm with a program by Art Varga WA9LXT about Electrostatic Discharge (ESD) hazards of electronic devices, such as our expensive ham radio and computer equipment. Art gave a very good demonstration of electrostatic charge that exist when we use common tools such as screwdrivers, wire cutters, etc. to work on electronic equipment. The remainder of the presentation was excellent.

President Bob passed around the financial statement. There were questions about the \$40 for electricity this month. This cost was due to the electric heaters needing to be turned on for testing session and club meeting. Statement approved (Sam moved/Bill seconded).

OLD BUSINESS

Hamfest is 3 months away on April 30th. Bill will make up the work schedule. The plan is to have volunteers work one hour then be off for one hour then back on for one hour. A workday will take place on Saturday April 22.

Bob passed out draft of new tickets for the hamfest and asked for comments. The tickets need to have repeater PL tones of 103.5 for 444.925 and 162.2 for 146.655 repeaters. A flyer will be created as well and sent out ASAP.

The tower section for the clubhouse is in Ralph's garage.

Repairs on the clubhouse are awaiting warm weather and Dave who is in FL.

Everyone such as advertisers, ARRL, etc have been contacted. Tables will be available for \$10. Ralph said that all tables must have a reservation this year.

Bob talked about food at the hamfest. Bob and his wife will do the food unless someone else wants to do it. Bob said that they would need help with serving, etc.

There is still no bill for the repeater and no contact from Butch. The old repeater has been placed in operation as a result and appears to be working well. There was a discussion that a repeater can be purchased from a store such as AES and we can install it ourselves. It was decided that Butch would be notified through a letter (email) that we want the new repeater ready to go by April 1 or the club will not accept any responsibility for it.

Coordination for 146.655 repeater needs a signed letter from Howard, which has been done. Ralph will send the paperwork in shortly.

NEW BUSINESS

The raffle was discussed. A license will be purchased to make the raffle legal. It is planned that 250 tickets at \$10 each were be printed. Dave and Ralph will create list of possible prizes.

Bob West and John Stafford are having physical problems. Bob is at the Masonic Home and John is home recuperating from surgery.

Ralph announced that a 220 repeater will be placed at the Lovington repeater site within the next 60 days.

The hamfest will move to the Arthur Firehouse next year. It will be indoors with heat and kitchen facilities. The firehouse is very close to the present site.

A mowing schedule for clubhouse will be created. Mowing will start when the weather breaks. Need to let Bob, Alan, or Clint if you will be part of the mowing crew. It is expected that mowing will take place from April through September or October. Bob identified that the grass needs to be cut for field day and meetings days. A potluck lunch will be held during field day on Saturday at noon. Field day is July 22 and 23.

Fox hunting was discussed. The local fox hunts alternates between Effingham and Newton on the second Saturday of the month. A local hunt was discussed.

Bill asked about duplexer cavities, repeater, etc from the Charleston repeater site. They are at Dave Duggan's house. Dave has apparently put the repeater on the air. Bill mentioned that EIU is interested in having hams be involved in emergency ops. Some discussion about whether the Charleston repeater is listed in repeater directory.

Meeting was closed at 8:08 pm (Ralph motioned and Bill seconded).
Respectively submitted Sam Guccione K3BY

Contact M.A.R.K.

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