



Mid-Atlantic Amateur Radio Club

www.marc-radio.org

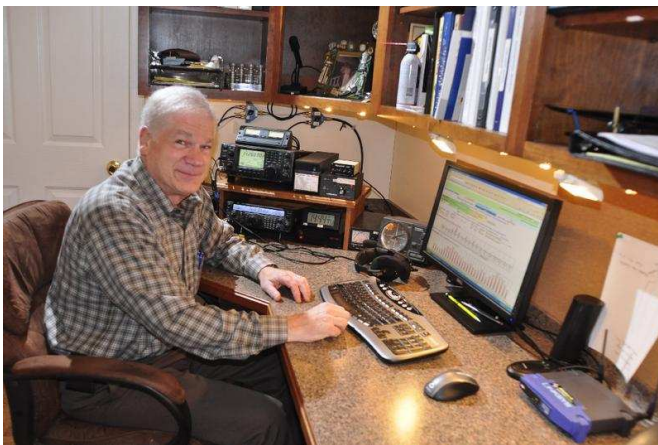
P.O. BOX 557
EAGLEVILLE, PA
19408

REMARCS

Next Meeting: Apr 16, 2013 at 7:30 PM

Mar/Apr 2013

Letter from the MARC President



Dear Fellow MARC Members:

I hope you are all enjoying 2013, which already seems to be slipping by – hard to believe it's already the end of March. This also means that club dues need to be paid. Many members have already done so and we have several new members. Please see the treasurer at our next club meeting or you can mail in your dues to the post office box. Thanks!

At our February meeting, our own **Martin Keefe (AA3A)** told us all about the Motorola Digital Mobile Radio System (MOTOTRBO)

Our presenter at the March 19 club meeting was **Alan Wolke (W2AEW)**. Alan's talk included a slide show and discussion regarding how oscilloscopes work and a description and features of modern versus historic oscilloscopes. This was followed up by a demonstration of how the oscilloscope can be used in the shack including how it can function as a station monitor and measuring properties of coax. Alan has created a number of very helpful and useful videos that can be found at

<http://www.youtube.com/user/w2aew>

Our April meeting will be the annual Junque/Antique auction hosted by our own **Dennis Silage (K3DS)**. Please bring any ham radio related equipment, books, supplies - I'm sure the XYL would be pleased to see some gear leave the house, and you never know what you might come home with.

This will also be an opportunity to bring in your QSL cards so that we can submit them to the ARRL bureau. We did this at the September meeting and we plan to continue doing this twice a year. As part of your club dues, MARC will pay the postage and fees for the card submission. Remember to bring your ARRL membership number.

Our May meeting is 'home brew' night – that's radio – not beer!! **Tom Freeman (K3TF)** will be showing us his home brew VFO and we'll have time for other presentations as well – what have you made that you would like to share with the club?

Our next VE test session is May 4 – please contact **Bob Lees (W3ZQN)** if you would like to sign up to upgrade. Remember that one of the benefits of MARC membership is one free test session per year.

Field Day is June 22/23. This will also be our club picnic – a new feature. **Steve Ikler (KS3K)** - *that's Steve's new Extra Call* - will be our Field Day Captain, again and **Yak (N3MQM)** will be in charge of food. Thanks to Steve and Yak for making this happen but they are going to need lots of help with set up, operating, making food and take down. Please let us know how you can help.

The MARC Hamfest is July 7 which once again will be run by our **Mike Pilotti (KF3CD)** – Mike is going to need lots of help setting up, helping to park cars, assist at the club both and take down. Please contact Mike if you can help - we need lots of folks!!

Saturday Breakfasts – we continue to meet on the

Inside REMARCS

1	Letter from the MARC President
2	VOX
3	MARC Board Meeting Minutes
5	Field Day & MARC Picnic
5	Upcoming General Membership Meetings
5	Outgoing QSL Bureau Service
6	VE Test Sessions
6	Public Service Events
6	High Speed Multi-Media (HSMM-MESH™)
8	Solar Cycle 24 May Have "Double Peaks"
8	Hamfests and Contests

second Saturday of the month, 9 AM at the Country Squire Diner, 2560 West Chester Pike in Broomall. It's all very informal, there is no agenda, but it's a great way to spend some quality time with your fellow club members.

· Club Secretary – with regrets, I've accepted the resignation of **Tom Freeman (K3TF)** as a club member and club secretary. Tom is a member of several radio clubs and he's not been able to devote time to all, so he had to make some painful decisions. Tom made a valuable contribution to the Board and was a help to me – we will miss him.

· Public Service Events –

- **MS Walk - East Goshen Township Park - 1 mile walk – April 21, 2013**
- **Radnor Memorial Day Parade – Wayne, PA – May 27, 2013**

To volunteer, please contact **Bob Palin N3JIZ** at 610-687-4587.

I'm looking forward to seeing you all at our next club meeting and our upcoming events. Thanks to all of you who help make MARC the success that it is.

**73/Steve
KD3WK**

President/ Mid-Atlantic Amateur Radio Club

VOX

In the last issue of REMARCS we were looking for volunteers to fill the vacancy on the board for the Membership Services Chairman. We are pleased to announce that **Chris Ruhl N3GBJ** has volunteered to fill the vacancy. Thank you very much for stepping forward, Chris.

We still have one vacancy on the MARC board due to the recent resignation of **Tom Freeman K3TF** as our secretary. Tom was only on the board for a short time but we thank him for his service and hope to see him at future meetings.

Our Vice President and Newsletter Editor, **Steve Ikler**, is now **KS3K** after giving up his long-time callsign of WA2EAJ.

March begins MARC's fiscal year for dues. Dues for 2013 are now due. If you haven't already done so, please pay your dues at the next regular meeting or mail it to:

Mid-Atlantic Amateur Radio Club
PO Box 557
Eagleville, PA 19408

New members and members with changes to their personal information should fill out the membership form (available from the MARC website at <http://marc-radio.org> on the Membership page) and include it with your check. As of press time, 50 members had already renewed their memberships. MARC thanks you. The membership page on the website lists members who have paid and former members who have not yet paid for 2013.

MARC Info

wb3joe@marc-radio.org
<http://www.marc-radio.org>

MEMBERSHIP MEETINGS -

3rd Tuesdays, 7:30 PM (Doors open at 7:00 PM)
Community Meeting Room (in the front) of the
Tredyffrin Township Municipal Building, 1100
DuPortail Road, Berwyn, PA 19312-1079.
Guests Welcome, Smoke Free, Handicapped-
accessible.

BOARD MEETINGS -

2nd Tuesdays of even months, 7:00 PM
Paoli Hospital, Willistown Meeting Room, Paoli, PA.
Members may attend as observers.

WB3JOE REPEATERS (CTCSS or PL = 131.8 hz) -
145.130 - / 147.060 + / 147.360 + / 224.420 - / 224.5 -
/445.675 - /444.050 -

The 145.13 and 147.06 2-meter repeaters are linked. The
147.36 MHz, the 224.50 MHz and the 444.050 MHz
repeaters are linked.

WEBMASTER -

Dennis Silage K3DS
k3ds@marc-radio.org 610-353-4829

2-METER NETS -

Club Net, Sundays and Wednesdays, 8:30 PM
Roundtable Net, Thursdays, 8:30 PM
These nets occur on linked 145.13 - / 147.06 + Repeaters

NET MANAGER –

Brenden McNeil W3VD
w3vd@marc-radio.org 302-319-3536

NET CONTROL OPS –

Alan K3WWT, Bob N3JIZ, Steve N1HDP, Miguel
KC2HMG, Yak N3MQM, Rob KB3WIR, Brenden W3VD,
Mike WB2UQV and Bob WB3T

DUES – Payable at the March Meeting

\$15 Full (licensed Amateurs)
\$5 Associate (unlicensed persons)
Family rate \$5/ham - after first member pays full
dues

NEWSLETTER -

The REMARCS editor is Steve KS3K
610-662-2768 ks3k@marc-radio.org
Do you have anything for REMARCS?
Please let me know.



MARC Board Meeting of February 12, 2013

Members Present

WX3I Lou Ruh
 NE3U Doug Wilkens
 KB3VZL Rich Russo
 KS3K Steve Ikler (by phone)
 K3TF Tom Freeman (by phone)
 KD3WK Steve Werner
 N3JIZ Bob Palin

Not Present

K3DS Dennis Silage
 K3DK Dieter Hauer
 W3DCL Jim Biddle
 W3VD Brenden McNeil

The meeting commenced at 7:02PM

Minutes from the October 9, 2012 Board meeting were approved

TREASURY REPORT

Income

Dues	\$175.00
Un-cancelled check from L.P.F.D.	\$150.00
Total Income	\$325.00

Expenses

Riley Hollingsworth travel costs	\$155.40
Riley Hollingsworth dinner group	\$373.02
Holiday Party	\$229.75
Insurance	\$505.00
Total Expenses	\$1263.17

Current Balance \$15,308.26

Treasury report accepted

ACTION ITEM

Currently equipment is not insured. Equipment list needs to be completed and put together before we can secure a quote for coverage so it can be insured. Bob Palin is putting together a list. Lou is to contact Bob to complete the list.

ANNOUNCEMENT

Steve KD3WK. WA2EAJ receives his new Extra call sign KS3K.

GENERAL MEETING SCHEDULE

February meeting- Martin AA3A will present "Motorola Digital Mobile System"

March meeting- Alan W2AEW will present "Measuring coax properties with an oscilloscope"

April meeting- MARC Auction. Dennis K3DS will run it.

MARC Board of Directors 2012-2013

PRESIDENT

Steven Werner KD3WK
kd3wk@marc-radio.org 610-574-6836

VICE PRESIDENT

Stephen Ikler KS3K
ks3k@marc-radio.org 610-662-2768

SECRETARY

TREASURER

Lou Ruh WX3I
wx3i@marc-radio.org 610-630-9146

PUBLIC SERVICE

Bob Palin N3JIZ
n3jiz@marc-radio.org 610-687-4587

TECHNICAL SERVICE

Dennis Silage K3DS
k3ds@marc-radio.org 610-353-4829

MEMBERSHIP SERVICES CHAIRMAN

Chris Ruhl N3GBJ
n3qbj@marc-radio.org

PUBLIC RELATIONS CHAIRMAN

Jim Biddle W3DCL
w3dcl@marc-radio.org 610-353-0880

PROGRAM CHAIRMAN

Richard Russo KB3VZL
kb3vzl@marc-radio.org 610-539-2999

MEMBERS-AT-LARGE

To 9/30/2012 -
 Doug Wilkens NE3U
ne3u@marc-radio.org 610-692-6819

To 9/30/2013 -

Brenden McNeil W3VD
w3vd@marc-radio.org 302-319-3536

CALLSIGN TRUSTEES

- WB3JOE
k3ds@marc-radio.org 610-353-4829
 Dennis Silage K3DS

- W3NWA
k3dk@marc-radio.org 610-489-1920
 Dieter Hauer K3DK

May meeting- Tom K3TF will present "Building home brew equipment. A digital VFO replacement for older tube equipment"

Future possible meetings include:

- Working with power poles
- Additional home brew projects
- Soldering techniques

CONTRIBUTIONS FROM DENNIS K3DS

Dennis could not make the board meeting due to scheduling conflicts at work.

1. Although there was an indication for tower work for 147.06 antenna two weeks ago this did not happen again.
2. 147.06 remains on exciter power, all other repeaters are normal.
3. The equipment loaner program: I vote yes for some reasonable equipment as indicated in the REMARCS article. I could serve as the repository. To save some money I already have a PowerPole clamping tool (~\$50).
4. Website revisions include mailing list and the gray shading for membership renewals.
5. I will be at the February meeting and will return the VGA projector then.

ACTION ITEM

Proposed loaner equipment to new hams. Steve KS3K will put out an e-mail to MARC membership concerning a request for loaner equipment. Newer type equipment that is easy to use with possible auto tuners is preferred. Loaner antennas such as G5RV, books on ham radio.

ACTION ITEM

Rich will contact ARRL concerning material available to be used as free handouts to club members. Possibly older handbooks, etc.

ACTION ITEM

Steve KD3WK to contact MFJ concerning the purchase of an antenna analyzer for use by the club. Possible models include the MFJ 259 and MFJ 269 (better unit with UHF coverage).

PROPOSAL

Tom K3TF will draft a guideline for use of loaner Equipment that is available to club members such as filters, etc. Dennis currently holds the equipment. Initially, the Club would set up 1 month loaners which would be picked up and returned at the general meetings. If a club member wants to keep a piece of equipment for a second month and no one else needs it he may keep it for another month. Loaner equipment would also be available on a priority basis for Field Day.

ACTION ITEM

Tom K3TF to generate a set of rules for the loan of club equipment to be presented to the board. Concerns include 1-month loan, club member is responsible for the equipment, and equipment must be returned before Field Day Contest.

ASHBRIDGE SENIOR LIVING CENTER

Steve KD3WK gave a presentation at the Ashbridge Senior Living Center in Downingtown about Amateur Radio. Included

was information on the origins of ham radio, examples of QST magazine, ARRL call sign maps, etc. There was some possible interest of becoming a ham. They will get back to Steve.

SKYWARN TEST

Skywarn test to take place March 9th and 10th.

Lou will put future dates of sky warning on Facebook.

CONCERN ABOUT A POSSIBLE HF and 6 METER BACKUP RIG FOR FIELD DAY

Loaner equipment pool equipment can be added for backup at the next Field Day event.

ACTION ITEM

A better method of follow up with for new hams after taking MARC VE tests was discussed. MARC would contact the new ham for any Elmer or other support issues. Rich will develop a sign in sheet when a new candidate goes to a VE Session providing contact information for MARC to follow up with and getting approval from candidate for MARC to contact them later. Rich will also contact Bob Lees W3ZQN to get the form and update it.

PROPOSAL

A general agreement was made to repeat the MARC QSL service every 6 months. The next QSL service will be handled by Steve KS3K at the April club meeting.

AWARENESS OF HAM RADIO

Lou will continue to provide Facebook updates on the ham radio awareness site. So far we got 56 "likes."

BOY SCOUT INVOLVEMENT

The board wants to come up with a method of getting the Boy/Girl Scouts more involved in Amateur Radio. This will be followed up by Steve KD3WK.

MARC MEMBERSHIP SERVICES POSITION STILL OPEN

Steve brought up the fact that we still do not have a replacement for the membership services position. Steve will bring this up at the next club meeting. Steve KD3WK will write up a description of the position and distribute it to club members.

PUBLIC SERVICE EVENTS - NEW HATS AND VESTS ACTION ITEM

There was a discussion of getting new hats and vests using the standardized colors for safety to be used by our members at various club events. Bob will follow-up with ARRL on any suggestions they may have and provide a list of needed hats, vests, etc. Once a decision is made the club will purchase new hats and vests.

FIELD DAY

Steve KS3K is Field Day Captain. MARC will operate class 2A on June 22, 23. This year we will promote Field Day as both Field Day and a MARC picnic. We need to add a Food Chair Person for the event. The food chairperson can be a regular MARC member. Additional items include verifying equipment works for the event and using laptops with WIFI capability for logging during the contest.

Meeting closed at 8:12PM

Respectfully submitted,
Tom Freeman K3TF
MARC Secretary

Field Day and Annual MARC Picnic June 22-23 2013



The annual ARRL Field Day will be held this year on June 22-23, 2013. If that sounds early, it is. The event is held annually on the fourth full weekend of June, not the last full weekend. This year there is another full weekend after Field Day (the fifth full weekend). That's what has caused some confusion.

MARC will participate again this year at the same location as last year: the Lower Providence Fire Company, located at Ridge Pike and Mount Kirk Avenue, Eagleville, PA. The big change this year is that we are combining the Field Day event with a MARC picnic. The details are still being worked out but we hope to have **Yak N3MQM** in charge of the food and beverage. **Steve KS3K** will again serve as our Field Day Captain. We plan to operate in the 2A category with a separate VHF and Get-on-the-Air (GOTA) station.

All MARC members and their families are invited to attend. There will be no charge to members and their family members for the picnic. Please bring your appetites and lawn chairs. There is limited seating at the Fire Co site. And as always, pray for good weather. Your prayers have worked in the past.

Upcoming General Membership Meetings

April 16, 2013, 7:30 PM – Annual Junque Auction and Outgoing QSL Bureau collection. **Dennis K3DS** will once again be our auctioneer. For the auction rules, see: <http://www.marc-radio.org/news.htm> - [MARC%20Auction](#)

May 15, 2013, 7:30 PM – Home Brew Night - Demonstrations of members' homemade equipment or accessories. **Tom**

K3TF will show us his home brew VFO.

June 2013 – No regular meeting due to Field Day on June 22-23, 2013

MARC usually meets the third Tuesday of the month in the Large Meeting Room (in the front) of the Tredyffrin Township Municipal Building, 1100 DuPortail Road, Berwyn, PA 19312-1079. If unavoidable changes in the date or location of the MARC meeting is anticipated, the details will be announced on the Nets and posted on the Calendar.

Beginning at 7:30 PM and following a short round of introductions, announcements, Club reports and business, a lively technical program is provided. See the Calendar on the MARC website for details.

The schedule of Club meetings is interrupted in June because of Field Day and in December with a joyous MARC Holiday party. The current schedule of Club meetings and the topic of discussion is announced on the weekly MARC Nets.

Bring Your ARRL Outgoing QSL Bureau Cards to the April 16 Meeting

Don't forget to bring your Outgoing ARRL QSL Bureau cards to the MARC meeting on April 16, 2013 at 7:30 PM. If you are a member of the American Radio Relay League (ARRL) you are permitted to use the ARRL Outgoing QSL Service to conveniently send your QSL cards overseas. Cards sent via this service are sorted by the Outgoing QSL Service staff who ships QSL cards to QSL Bureaus throughout the world. Sending QSL cards via the Bureau takes a little while longer than mailing them directly, but keep in mind that what you might lose in speed is more than made up in the convenience and savings of not having to address and mail each QSL card separately.

Since MARC is an affiliated club with the ARRL, individual MARC members may use the ARRL Outgoing QSL Bureau service and have the fees and postage paid for my MARC. MARC can send QSLs for its members to the ARRL in bulk by "pooling" members' cards together in one package and indicating MARC's name inside the package. In a "pooled" package, each club member using this service must also be an ARRL member.

We will be collecting members' cards for distribution to the ARRL at our regular April 16, 2013 General Membership Meeting. To take advantage of this club and ARRL membership benefit, please bring your outgoing DX QSL cards (completely filled out) to the meeting along with proof of your current ARRL membership. This can be in the form of a photocopy or cutout of the address area from your current copy of QST. You can also write the information from the label on a slip of paper and use that as proof of membership. A copy of your current membership card is also acceptable. The ARRL QSL Service cannot be used to exchange QSL cards within the 48 contiguous states (US to US). However, you may also send QSLs via the bureau to any QSL manager who manages a non-U.S. callsign. However, you must look up the QSL manager and clearly indicate the QSL manager's callsign on your outgoing card. For example:

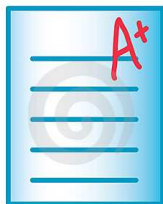
Example 1: 8P8P via NN1N. Sort this card in with other cards going to U.S. managers.

Example 2: 6Y1V via OH3RB. Sort this card in with cards to Finland.

MARC will pay the fee to the ARRL as well as pay the shipping costs to the ARRL. Complete information about the service can be found at:

[http://www.arrl.org/files/file/On the Air/QSL Bureau/Outgoing QSL Bureau 2011.pdf](http://www.arrl.org/files/file/On%20the%20Air/QSL%20Bureau/Outgoing%20QSL%20Bureau%202011.pdf)

MARC Sponsored VE Test Sessions



A MARC VE Test session was held on February 2, 2013 at the First Presbyterian Church, 113 East Airy Street in Norristown, PA.

Technician earned	6
General earned	1
Extra earned	0
Passed an element but did not upgrade	0
Did not pass an element	0
Total candidates served	7
Total elements administered	11

No MARC members took advantage of the free test session. The following VE's took part in the session: **Bob W3ZQN, Doug NE3U, Ron W3ZV, Steve KD3WK, Jim AB3OM and Jeremy N2ZLQ.**

The test takers that got their first licenses or upgraded were:

James Worthington - Upper Darby
Kyle Turk - Mount Laurel, NJ
Paul Masters - Malvern
Stephen Schmidt - Penn Valley
Ryan Kreisler - Ardmore
Aaron Ram - West Chester
Chris Toensing - Newark, DE

Congratulations to all.

The next test session will be on May 4, 2013 in Norristown.

Bob W3ZQN

Public Service Events

The next Public Service Event that MARC will provide support for is the MS Walk on Sunday, April 21, 2013. More details will follow. After that will be the Radnor Memorial Day Parade on Monday, May 27, 2013 in Wayne, PA. If you are able to volunteer for either of these events, please contact our Public Service Events chairman, **Bob Palin N3JIZ** at 610-687-4587.

MARC Badges From The Signman

Due to a change in the availability of the old blue MARC badges, the Signman has had to switch to a new darker blue badge. The MARC logo and everything else about the badges are the same. The price of the badges has also changed. They are now \$10.50 plus \$3.50 for shipping. For ordering information go to the membership page on the MARC website at <http://www.marc-radio.org>.



The new color is on the left and the old color is on the right.

High Speed Multi-Media (HSMM-MESH™): The Next Big Thing in Amateur Radio?

By Steve Ikler KS3K

Many people in amateur radio firmly believe that High Speed Multi-Media (HSMM) already IS the next big thing. Basically, HSMM-MESH is the broadband hamnet. It is the implementation of wireless data networks over amateur radio frequencies using commercial off-the-shelf (COTS) hardware such as 802.11 access points². Did you know that some of the standard channels in a wi-fi router in the US share their frequencies with a ham radio band? We have an allocation of 2.390 Ghz to 2.450 Ghz and wi-fi channels 1-6 fall into that range.

Wi-fi devices operate under FCC Part 15 rules and therefore must use very low power and low-gain antennas. However, we US hams are regulated by FCC Part 97 rules which allows us to use much higher power and high gain antennas. The HSMM-MESH™ project takes standard wi-fi routers and changes the firmware to make it a Part 97 device. Flashing the firmware totally reconfigures the router and basically turns it into a repeater with extra functionality.

So now we have wi-fi on steroids. What can we do with this? We can create high-speed data networks with a range that far exceeds standard wi-fi networks. When I say high speed I

mean HIGH SPEED. PACKET can do 1.2Kb/sec or 9.6Kb/sec. 802.11b wireless routers can do 10 Mb/sec. 802.11g wireless routers can do 54 Mb/sec! With high gain antennas and a little more power these networks can communicate up to 10 miles (line-of-sight). The 802.11g standard uses OFDM (Orthogonal Frequency Division Multiplexing) so that allows power outputs of 1500 W PEP when operated as a Part 97 device by licensed amateurs. The 802.11b standard uses Direct Sequence Spread Spectrum (DSSS) so that limits hams to just 10 W PEP. When the firmware of the device is changed, it uses the 802.11g standard so we aren't limited to the Spread Spectrum speeds.

Each device on the network is called a node. Mesh nodes use peer-to-peer connections. This means each node connects to all others, not the star configuration where all users connect to a single access point³. If one node cannot see its desired destination, but CAN see nodes in between, the data will hop from one to the next until the final connection is made. All of this is done automatically. If one repeating node falls out, the software automatically re-routes traffic through other available nodes. Mesh nodes don't need any computer to be attached to pass data to other mesh nodes. Just plug one in and it will expand the mesh.

All HSMM-MESH™ nodes use channel 1 to insure interoperability. Unfortunately, not all brands and models of wi-fi devices are capable of being modified into HSMM-MESH™ nodes. Also, the software that changes the firmware is only compatible with select brands and models. For the most part, hams are using Linksys WRT54G (version 1-4) wi-fi routers. HSMM-MESH™ is a high speed, self-discovering, self-configuring, fault tolerant, wireless computer network. Any resource made available to one of the nodes on the network becomes available to all nodes. These resources can be:

- Computers
- External Drives
- Webcams
- IP Cameras
- Internet Connectivity * (see below)
- VoIP Phones
- Servers
- Anything that 'talks' over a computer network

The main use of HSMM-MESH™ nodes has been in the area of emergency communications. You can connect an IP camera to any node on the network and event coordinators can see the video of the event in real-time. VoIP phones can be used to provide voice communications throughout the network.

Many operators of Mesh networks are tempted to include internet access. Internet access on one node provides internet access to all nodes. Using this network, you can provide internet access to remote facilities where phone lines or cable TV lines would be prohibitive. Sounds great, right? Not so fast. Remember, these devices are no longer

operating under Part 15 rules. They operate under Part 97 rules; you cannot use ham radio to transmit commercial data (i.e. advertising). Most websites include advertising or other data that is prohibited by amateur radio so transmitting that data over an HSMM-MESH™ network is illegal. Many websites use HTTPS to encrypt sensitive data. Ham radio cannot transmit encrypted data.

The question of liability is an open issue. Suppose the network is used to transmit (or re-transmit) illegal data. Who is the control operator? This data may travel through several nodes operated and owned by different licensed hams. You may not even know which nodes pass the data through. The network automatically routes the data using the least number of hops.

More Gotchas ...

At the frequencies in use, coax losses are extremely high. Runs must be kept very short. In many cases, even direct line-of-sight may not work. Buildings, trees and other structures can impact signal strength greatly.

Mesh Node Examples:

Here are examples of how to make stand alone mounts for a mesh node. The white pole is an Omni antenna. The enclosure is a plastic sprinkler controller box from a major home improvement chain store.



Mesh Node on a Van



Uni-directional node

Learn more about it at:

<http://www.hsmm-mesh.org>

References:

- 1) The HSMM-MESH trademark is owned by the workgroup at HSMM-MESH.org
- 2) <http://hsmm.wikispaces.com/>
- 3) Courtesy hsmm-mesh.org, used with permission

Solar Cycle 24 May Have “Double Peaks,” Says NASA Solar Physicist

From ARRL: 03/14/2013

According to NASA, the current solar cycle -- Solar Cycle 24 -- should hit its “solar max” sometime in this year, but so far, solar activity has been relatively low. According to an article by NASA’s Dr Tony Phillips, this period of quiet has led some observers to wonder if forecasters missed the mark. But solar physicist Dean Pesnell of NASA’s Goddard Space Flight Center has a different explanation: “This *is* solar maximum. But it looks different from what we expected because it is double peaked.” Pesnell noted similarities between the current cycle and Solar Cycle 14, which happened between February 1902 and August 1913 and experienced a double peak. If the two cycles are in fact twins, he said, “It would mean one peak in late 2013 and another in 2015.”

Solar activity tends to swing back and forth: At one end of a solar cycle, there is a quiet time with few sunspots and flares, while at the other end, solar max brings high sunspot numbers and solar storms. Even so, astronomers -- who have been counting sunspots for centuries -- have noticed that a solar cycle is not perfectly regular, with the swing in sunspot counts taking anywhere from 10-13 years to complete. In addition, the amplitude of each cycle can and does vary, with some solar maxima being very weak (such as Solar Cycle 6), while others can be very strong (such as Solar Cycle 19).

“The last two solar maxima, around 1989 and 2001, had not one but two peaks,” Pesnell explained. Phillips’ article explained how “solar activity went up, dipped and then resumed, performing a mini-cycle that lasted about two years.” Pesnell said that the same thing could be happening now. Even though sunspot counts jumped in 2011 and dipped in 2012, he said he expects them to rebound again in 2013: “I am comfortable in saying that another peak will happen in 2013 and possibly last into 2014.”

Pesnell is a member of the NOAA/NASA Solar Cycle Prediction Panel, a group of solar physicists that assembled in 2006 and 2008 to forecast the next solar max. “At that time, the Sun was experiencing its deepest minimum in nearly a hundred years,” Phillips’ article explained. “Sunspot numbers were pegged near 0 and x-ray flare activity flat-lined for months at a time.” The panel issued the following statement at the time, explaining its prediction:

“The Solar Cycle 24 Prediction Panel has reached a consensus. The panel has decided that the next solar cycle (Cycle 24) will be below average in intensity, with a maximum sunspot number of 90. Given the date of solar minimum and the predicted maximum intensity, solar maximum is now expected to occur in May 2013. Note, this is not a unanimous decision, but a supermajority of the panel did agree.”

But according to Pesnell -- given the lack of solar activity in February 2013 -- a maximum in May now seems unlikely. “We may be seeing what happens when you predict a single amplitude and the Sun responds with a double peak,” he said. -- Thanks to NASA, Dr Tony Phillips and Science@NASA for the information

Hamfests and Contests

The following hamfests and contests will be held in the next two months.

Hamfests

Greater Baltimore Hamboree and Computer Fest & Maryland State Convention

Date: April 6, 2013

Location: Maryland State Fairgrounds, Timonium, MD, I-83 to Exit 17, Padonia Rd East

Sponsor: Baltimore Amateur Radio Club, P.O. Box 120, Reisterstown, Maryland 21136

Website: <http://www.gbhc.org/>

Opens: 9 am (8:30 for advance tickets) to 4 pm

Cost: \$8 in advance, \$9 at gate; Vendor rates Basic \$20 per space, Flea Market is \$30 a space, Commercial \$75 a space

VE Testing: Test takers should go to the Cow Palace main entrance (glass doors). Follow the posted signs to the testing facility. Registration begins at 9:00 am. Examinations begin at 9:30 am.

QSL Card Checking: DXCC, WAS and VUCC card checking 9am - 12pm

54th Annual York Springfest and Computer Show

Date: April 13, 2013

Location: Porters Community Fire Company, 1199 Porters Road, Spring Grove, PA

Sponsor: York Hamfest Foundation

Website: <http://www.yorkhamfest.org/>

Opens: 8 am to 2 pm; Vendor setup 5 pm to 8:30 pm Friday, 6 am Saturday

Cost: \$5, XYLs, kids U16 free; Tailgaters \$5 outside plus admission; Indoor Tables \$15 per table up to 3, \$5 each additional

VE Testing: 11 am; Registration 10:30am Walk-ins OK; FREE

QSL Card Checking: DXCC/WAS/VUCC Card Checking 9 to 10 am only

RF Hill Amateur Radio Club, Auction

Date: April 25, 2013

Location: Hilltown Township High School, 319 Blooming Glen Road, Blooming Glen, PA 18911

1/4 mile east of Rt 113; Look for yellow “Hamfest” signs

Sponsor: RF Hill ARC, PO Box 336, Perkasio, PA 18944
Website: http://www.rfhill.ampr.org/Docs/Auction_Back.pdf
Opens: 6:30 pm, Auction starts at 7:30 pm
Cost: free (Club retains 10% of auction sales)

Warminster ARC Hamfest (WARC)

Date: May 5, 2013
Location: Middletown Grange Fairgrounds, 576 Penns Park Road, Wrightstown (Newtown), PA, just south of junction of Rt 232 & Rt 413
Sponsor: Warminster ARC, PO Box 113, Warminster, PA 18974
Website: <http://www.k3dn.org/hamfest.htm>
Opens: 7 am (vendors at 6 am; Rain or Shine)
Cost: \$5 (ULS/kids U13 free) at gate; Vendors: Tailgate \$10/Table \$15, plus admission
VE Testing: 10 am; call Larry Abbot, WA3ELQ, at 215-443-7521 for more info; Walk-ins welcome
QSL Card Checking: WAS Field Checking of QSL cards

Dayton Hamvention and ARRL National Convention

Date: May 17-19, 2013
Location: Hara Arena, 1001 Shiloh Springs Road, Trotwood, Ohio
Sponsor: Dayton Amateur Radio Assn
Website: <http://www.hamvention.org/>
Opens: 8 am (Fri, Sat, Sun); closes 6pm Fri, 5pm Sat, 1pm Sun
Cost: 3-day ticket \$20 in advance (14 May), \$25 at door, kids 12U free, HS students free at Will Call window
VE Testing: Free; Friday 2:30, Saturday 9:30 am and 1:30 pm; contact exams@hamvention.org (NOTE: Pre-registration is required only if special testing accommodations are needed)

Contests

CQ WW WPX Contest, SSB
0000Z, Mar 30 to 2359Z, Mar 31
Find Rules at:
<http://www.cqwp.com/rules.htm>

PODXS 070 Club PSK 31 Flavors Contest
1200-1800 local, Apr 6
Find Rules at:
<http://www.podxs070.com/31-flavors>

CQ WW WPX Contest, CW
0000Z, May 25 to 2359Z, May 26
Find Rules at:
<http://www.cqwp.com/rules.htm>