FEEDBACK

VOLUME 52 ISSUE 8 AUGUST 2007

MASSILLON AMATEUR RADIO CLUB OFFICERS

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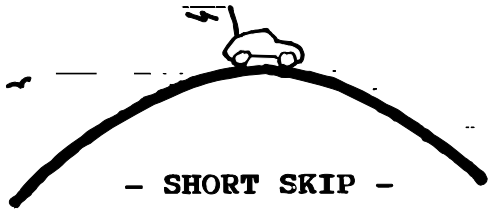


-%A_30-

OKay. We got Worked All States, DXCC, and Islands On The Air awards. I'm propos'n a W. A. H. award - that's short for Worked All Hills. Just imagine the prestige of achieving W. A. H. ! I can see it now; DXpeditions to West Virginia Why, it could make you sort of a " King of the Hills" Bunkey ! (HI)

de
WB80WM

AUGUST MEETING

The meeting for the month of August will be held at the Massillon Senior Center in downtown Massillon on August 3rd, 2007 at 8:00 PM.

The meeting promises to be a very busy one. Not only are we going to hear the final report on Field Day (as promised; results on page 4 this issue), we are going to hear the final report on the week long Safety Break ! Field Day was held on the weekend of June 23 & 24th, and the results were finished by June 11th and mailed to the ARRL. Comments on Field Day will be made at the meeting.

Safety Break financial results will also be discussed at the meeting. I'm sure no one will want to miss this meeting. See you there !!!

MARC CLUB SHACK

As reported last month in Feedback and a discussion at the meeting on the condition of the club shack, much has been accomplished in this last month. At last month's meeting, a committee was formed and volunteers were Byron KF8UN, Rich KA8ZQH, Gary WC8W and Perry W8AU.A plan has been formulated for the future use of the shack.

The shack has been cleaned, coax has been labeled, and the radio's returned to operable condition.Thanks to Jim WA8GXM, a broken 2 meter antenna has been replaced, the club's log periodic antenna has been repaired and installed on the tower (a problem still remains with the antenna). With the exception of the newly rebuilt rotor, all work was done at no cost to the Club ! More on this at the meeting !

MARC MINUTES
July 6th, 2007

The Massillon Amateur Radio Club meeting was held at the Massillon Senior Center with 22 members and guests present. MARC President Ralph K8SHQ opened the meeting at 8:00 P.M. Our VP Scott N3JJT was AWOL. The Pledge of Allegiance was given and a round of introductions was made.

The June minutes were accepted as stated in the FEEDBACK with no changes or additions.

Ann N8GAF gave the treasurer report.

Old Business

The West Stark Net is currently run by Roger, Gary, and Rex. They need more volunteers.

Jim tried to replace the rotor and antenna at the senior center. But the Center was closed due to floor refinishing.

New Business

Our big holiday safety break is still under way until Sunday night. There will be a report at next meeting.

ARRL is having a convention in Cleveland on September 22, 2007. WWW.2007gldc.com for more information.

July 28th will Islands on the air contest.

The July Fox Hunt was cancelled.

Igor made a motion and seconded by Rex to get the Club's generator tuned up and gone over. Approved by voice vote.

The new Field Day logging program worked out well for us at Field Day.

A committee was formed to evaluate the club's hamshack for upgrades. Perry will chair with Rich, Byron, and Gary also serving on the committee.

Mike WA8MKH donated an ARRL Antenna Handbook to the club.

50/50 was won by Rex KD8ELX for $12.50.

Minutes by Dan N8DZM

… MARC Field Day Report …

Thanks to lots of hard work by many club members Field Day 2007 was another big success with everyone enjoying good company, really nice weather, lots of contacts, some especially great food and loads of FUN !.
From setup Saturday morning to teardown Sunday afternoon, we enjoyed yet another great weekend communications exercise.
As always lots of great memories are generated with each Field Day and many of which are captured in “Kodiak Moments”. I hope you enjoy this special Field Day Memories Page, I have also included a few pictures from the archive from past Field Days !
We also wish to thank the Canton Repository and staff writer Denise Sautters (denise.sautters@cantonrep.com) for the great story they did on our Field Day exercise. The story appeared in the Sunday, June 24, 2007 edition of the paper in the LOCAL section.
Click on the Field Day graphic to go to our annual Field Day webpage. I also have a whole bunch of great Field Day pictures from several club members including Gary - WC8W, Jason - KC8LIN, Don - W8DEF, Ric - K8RIC including some of my own that I hope to post as time allows. Jason currently has many pictures posted from Field Day on his website. Go directly to www.kc8lin.com to have a look !
A special thanks to everyone who participated in this years event, if you didn’t make it this year you missed out on another great Field Day !. Have a look at our Field Day page to see what all you missed ! You can find it at www.marcradio.org/FieldDay.htm.

.. The Portable J-Pole Antenna Revisited ..

A couple of years ago I authored a short series of articles about the construction of a portable 2-meter J-Pole antenna that used a bungi cord to make it fully collapsible. It used ½ inch copper tubing and was based on a design featured in the March 2005 issue of QST magazine. The article is still posted on the club website if you’re interested.

I recently discovered a website that has posted a video movie that covers the complete construction of this antenna. It’s very well done and covers all aspects of this very simple antenna. The website is at http://www.aprs.com. To view the video you will need the latest version of Shockwave Flash player or Apple’s Quicktime viewer. Also have a look at the Archives section of this website for some additional videos covering other topics such as a weather balloon launch, the construction of the Open Tracker APRS unit plus several other selections.

.. MS Pedal to the Point ..

The Northeast Ohio Medical Reserve Corps, Inc (NEOMRC) is currently seeking communications volunteers to participate in the 2007 MS Pedal to the Point Bike Ride on the weekend of August 18th & 19th. This is a large event which has about 2,000 cyclists riding from Brea to Sandusky and back.

Volunteers will be placed in teams that include EMT’s and Ham Operators. Each day will run from approx 6 AM to about 5 PM. Volunteers are needed for both days all or part of the weekend.

Volunteers can contact T. J. Powell – N8IUR, President of NEOMRC. Phone is 440 – 897 – 8122 or via email to tpowell@neomrc.org. Additional information can be found at http://www.neomrc.org.

73’s for now, see you at the meeting..
De Terry – N8ATZ

Jason KC8LIN and Bob N8DVS racking “em up at the phone station this past Field Day ! Jason (blue shirt) is our youngest member of the club. At 21 years old he carries a full time college schedule, home life and still finds time to spend with his “ham buddies” at Field Day !

FIELD DAY RESULTS

As promised here are the Field Day results for 2007. I have included the results from last year for comparison purposes.

2007 Results

Band	Contacts
80 Meter CW	332
40	240
20	106
15	36
6	2
Total CW contacts	716
80 Meter Phone	61
40	50
20	201
6	37
2	4
Total Phone contacts	454

There were 5 Satellite Contacts, 8 digital (RTTY) for a total of 13 digital contacts.
There were 101 GOTA Station contacts.
This figures to 1912 total QSO points with a multiplier of X2 (power multiplier) equals a claimed score of 3824 points

We are claiming total bonus points of 1260 points. This is to be determined by the ARRL

This figures out to a Grand Total of 5,084 points !

2006 Field Day

Total CW Contacts - 737

Total Phone (including GOTA) Contacts 459

Total Digital Contacts 14

Total QSO points - 1961
Power multiplier X2 = 3922 Claimed points

Total Bonus Points = 950

Grand Total Points = 4, 872 Points

VOLUNTEERS NEEDED

The MS-150 Pedal to the Point is August 18th and 19th of this year. The route consists of a Saturday 75-mile leg from the Berea Fairgrounds to Sandusky High School and an option 25-mile extension for those who choose to ride it. Sunday consists of a 75-mile leg from Sandusky High School back to Berea. The route winds through Cuyahoga, Medina, Lorain, Huron and Erie counties. This ride gets between 1500 and 2000 riders every year. There are rest stops every 10 to 15 miles.

We are looking for hams to staff the usual... rest stops, SAG Wagons (for those who need to be picked up), etc. Anyone who wants to volunteer their vehicle as a SAG wagon, Jeff Garvas (N8YNR) would be thrilled. Having hams in SAG wagons is usually something we don't have enough of.

I encourage everyone to have a mobile and an external antenna... an HT on an external antenna @ 5-watts is going to have a hard time in some spots. An HT on the rubber duck is going to be of very limited use. Primary frequency is 146.625- pl 110.9. Secondary freq is 443.6+ pl 131.8.

Permission has been secured to use both repeaters. (I'm a control op on .625 and I talked to John Paul Jones about using 443.6). These repeaters pretty much cover the entire course, but they can be difficult to hear at Sandusky High School. I am considering putting up a repeater at the site for that weekend, or using the Berlin Heights UHF machine that belongs to John Paul - I need to drive out and see how it covers. Details on that will be forthcoming if we do something like that. It's not at the top of the priority list but one of those things I've noticed in years past.

This request was sent to me by Wade WD8MIU. I assume he is going to handle the volunteers for the Club. Be sure to sign up at the meeting on August 3rd.

Underground Radio™ revolutionizes subterranean emergency rescue capabilities

Vital Alert Technologies Inc has signed two exclusive licence agreements with the Los Alamos National Laboratory for Underground Radio™, a technology that will provide Through-The-Earth Communication™, (two-way voice and text) for first responders, rescue and security teams, underground miners and the public in critical emergency situations around the world.

Underground Radio, originally developed by Los Alamos for the Department of Energy, is being commercialized by Vital Alert Technologies for use by emergency rescue crews in urban centres and by the mining industry.

"The new technology is a breakthrough in digital and wireless communications," said Joe Miller, president and CEO of Vital Alert. "As a pre- and post-emergency warning, evacuation, and rescue communication system, it solves RF (radio frequency) radio failure problems and eliminates systems downtime complications in difficult environments such as subways, tunnels, skyscrapers, and mines. The new technology will also greatly enhance the ability of mining companies to protect their workers."

Underground Radio is a through-the-earth communications mechanism that offers high-level security to critical government, industrial, military, commercial, and public infrastructure. It can also be used to respond to threats of terrorism and natural disasters such as hurricanes, earthquakes, and fires. It uses very low frequency (VLF) electromagnetic radiation and digital audio compression technology to carry voice and text data. The VLF signals also can transmit tracking and location data for radio users in the case that they are unable to respond.

"This is a technical solution to the problem of voice communication in underground areas. It is also inexpensive to build," said David Reagor, the principal investigator of the Los Alamos team who originally developed the technology.

Funding for Underground Radio came from the US Department of Energy's Office of Industrial Technology and from Laboratory Directed Research and Development - a program in which a portion of the Laboratory's operating budget is used to fund outstanding, emerging or innovative science and technology.

Daily Amateur Radio RSS News Service:

http://www.southgatearc.org/

(Thanks to Rick K8RIC for submitting this article)

What Are the Major Sources of CO?

Carbon monoxide is produced as a result of incomplete burning of carbon-containing fuels including coal, wood, charcoal, natural gas, and fuel oil. It can be emitted by combustion sources such as unvented kerosene and gas space heaters, furnaces, woodstoves, gas stoves, fireplaces and water heaters, automobile exhaust from attached garages, and tobacco smoke. Problems can arise as a result of improper installation, maintenance, or inadequate ventilation.

http://coheadquarters.com/CO1.htm

Carbon Monoxide is highly dangerous. You can't see it or smell it. In fact it is often called "the silent killer". You can protect your home from the dangers of this deadly gas by taking preventive measures and by learning to recognise the symptoms of carbon monoxide poisoning. Check out the menu below for more information and keep your home safe from the build-up of dangerous carbon monoxide.

http://www.cpsc.gov/CPSCPUB/PUBS/466.html

(This article also submitted by Rick K8RIC)

Navy Finds a Use for Old Tech

By Bob Brewin | Thursday, June 28, 2007 | 04:04 PM

Naval Amphibious Base, Little Creek, Va. When the USS Harry S. Truman carrier strike group deploys this fall it will use communications that have a high-tech twist on one of the oldest forms of radio communications that the Navy used in the days of Morse Code, said officials of headquartered here.

Instead of the "dits" and "dahs" transmitted by Morse Code, the Truman, along with the nine other ships in the strike group, will communicate over high frequency (HF) by sending Internet Protocol-based traffic such as text messages, said Paul Dixon, allied coalition networks action officer for the Naval Network Warfare Command (NETWARCOM).

The highest levels of the Navy have endorsed the use of high frequency IP communications for intra-strike group communications for one simple reason, Dixon said: It's much cheaper than satellite communications systems that the Navy embraced in the late 1980s, when the service all but abandoned high frequency as its standard means of communications.

Dixon also said its makes no sense to use expensive and often leased satellite communications systems that require a 44,400 mile trip – from a ship to a satellite and then back down to another ship five to ten miles away – when high frequency can easily bridge that gap over free spectrum in the 3 to 30 Megahertz frequency band, Dixon said.

Dixon said that high frequency has roughly the same speed as dial-up modems used in the 1980s compared with satellite bandwidth that is as much as 100 times greater. But it is fast enough to meet the command and control needs of today's strike groups, which are run by text messages and over chat groups based on Internet Relay chat standards.

The Navy also has provided the Truman strike group with the ability to send IP traffic over UHF channels, which provides better throughput than the high-frequency band, about 64 kpbs, or slightly more than the dial-up modems built-into most personal computers.

Eric Johnson, a professor at New Mexico State University whose specialty is high frequency and wireless networking, said the high frequency's low throughput is due to the noise inherent on that spectrum band, which is apparent to anyone who has listened to the short wave spectrum.

The high-frequency modems the Navy uses – which New Mexico State University helped develop – punches data through that noise with a stable
signal thanks to sophisticated error checking protocols, Johnson said.

Dixon said that the Navy plans to outfit 25 ships with high-frequency IP systems through 2008 under a "fast track" project backed by the Chief of Naval Operations. Much of the work involves adding computer servers and firewalls to work with high-frequency radios already on the ships, Dixon said.

The high-frequency IP project will also make it easier to communicate with allied navies, which rely heavily on high frequency because they cannot afford satellite communications, Dixon said.

The Navy's trip back to high frequency will require going back to offering high-frequency training to the service's school curriculum, said Chuck Tabor with the NETWARCOM spectrum management division. It's been so long time since the Navy has used high frequency "hardly anyone [in the Navy] even knows what it is anymore," Tabor said.

(Thanks to Perry W8AU for submitting this article)

Lightwave QSO

SUMMARY

Light is a legitimate Amateur Radio band as defined in Part 97 of the Code of Federal Regulations. The American Radio Relay League has a contest rule that specifically allows lightwave contacts. Lasers are required for transmitters and electronic detection is required in the receivers. While Helium Neon lasers have long been under $100 on the surplus market, new diode pen-pointer lasers have just hit the $50 level making for small and inexpensive transmitters. A voice modulated Diode laser transmitter circuit using a $50 pen-pointer laser is shown here. Lightwave receivers are simple devices. This paper shows a photodiode-based receiver that is both inexpensive and performance competitive with a photomultiplier tube. Also discussed are transmitter and receiver construction, and operating techniques based on actual experience.

Light is a Legitimate Amateur Band

The U.S. Code of Federal Regulations, Title 47, Part 97, Subpart C - Technical Standards, 97.61 Authorized emissions, lists the frequencies and emissions allocated to the Amateur Radio Service. The last entry in this table begins with: "Above 300.000 [GHz]." Above 300 GHz, among other things, contains light. Therefore, according to the FCC, light is an Amateur Radio band.

Of course, all of the other FCC rules apply here too, Amateur Radio communications are defined to be between Amateur Radio licensees, you have to ID, etc.

In spite of this entry in Part 97 some Amateurs are resistant to the notion that they can use light in their hobby. I ran into opposition from the American Radio Relay League when I submitted lightwave contacts for ARRL VHF contests beginning in June 1979. After several unexplained rejections I took my cause to the ARRL Contest Advisory Committee. In mid 1980 I sent them several suggestions for rules. They adopted the most stringent set of rules submitted:

> "Above 300 GHz, contacts are permitted for contest credit only between licensed amateurs using coherent radiation on transmit (e.g., laser) and employing at least one stage of electronic detection on receive."

The ARRL VHF contest rules also state:

> "While no minimum distance is specified for contacts, equipment should be capable of real communications (i.e., able to communicate over at least 1 km)."

This is not a problem at light frequencies, my very first laser contacts were over a 24 km (15 mile) path!

The League also now awards VHF UHF Century Club certificates for laser communication. Five grid squares are required.

It should go without saying that all equipment used for contest points or records should be Amateur owned, if not also Amateur built. In comparison, there would be no technical challenge or feat in borrowing a NASA tracking dish to make a 432 MHz moonbounce contact.

In summary, the FCC says light is a legitimate Amateur Radio Service band. The ARRL requires lasers for transmitters and opto-electronic receivers (no "eyeball" receivers!)

What is the difference between RG6 copper clad steel and RG6 copper?

What is the difference between RG6 copper clad steel and RG6 copper? Before we discuss all the disadvantages and the advantages of copper clad steel conductors versus solid copper center conductors, we For RG-6 coaxial cable, the main issue for copper is whether the center conductor is solid copper or copper-clad steel. Since an installation of RG6 cable may later need to be moved or switched to another use that requires some power, it's definitely better to use a solid copper center conductor.

Copper-clad is referring to a center conductor that is made from steel, and then the steel gets a very thin coating of copper. Copper-clad has the distinct advantage of greater cable stiffness to withstand insertion forces repeatedly. The cable is less likely to kink or bend when the cables are being pulled around during their installation. With copper clad steel, the signal travels on the surface of the conductor, not in the center of the conductor.

The invention and construction of copper-clad steel coaxial cable came about because of a few key reasons. For one reason, copper clad steel uses a phenomenon named the "skin effect", which is the tendency of a signal to migrate to the surface of a conductor at a given frequency, and to travel along the surface of the conductor once the surface is reached. Put simply, as the frequency increases, the signal travels to the conductor's skin.. Another key reason is cost reduction factor, because copper costs quite a bit more than steel. It is cheaper to manufacture the conductors using mostly steel and only using a thin coat of copper. The last key reason is that copper does not have as much tensile strength as steel does. This means that even though steel may not be as flexible, it can withstand a higher load than copper can before failure happens.

Nowadays there seems to be a trend toward the solid copper conductor. A solid copper center conductor is just what the name implies it is, a conductor that has a solid copper conductor, or wire, in the center of the conductor, or cable. A solid copper center conductor offers some advantages over a copper-clad steel conductor. The copper center conductors have more flexibility than the copper clad steel conductors, which reduces the hassles and the time needed for installation. RG6 solid copper center conductors also have the advantage of being able to carry a frequency current that is low to enable a remote device, like a camera in the bedroom or nursery.

RG6 copper conductors also have better conductance than RG6 copper clad steel conductors do. This is because copper has more conductivity than steel, so a solid copper conductor will obviously have more conductivity than one that is steel as well as copper.

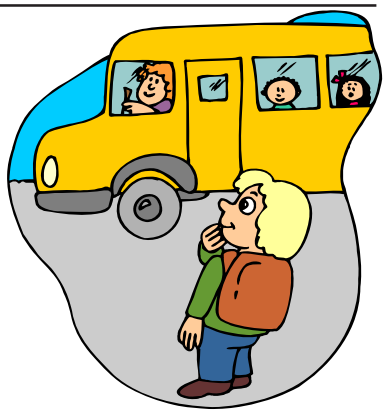
There are quite a few differences between RG6 copper clad steel and RG6 solid copper. The very first difference between the two is the manufacturing materials, because one conductor has steel as well as copper in the conductor and is mostly made of steel, and the other conductor only has copper in the conductor and is 100% copper. The next difference between RG6 copper clad steel and RG6 copper is the way the signal travels along the conductor. The copper clad steel conductor makes use of the "skin effect" and the signal migrates to and travels along the surface of the "skin". With the RG6 copper center conductor, the signal travels along the middle, or center, of the conductor. Another difference in the two types of conductors is the flexibility of the conductor. RG6 copper clad steel is considerably more flexible than RG6 solid copper is. This is a big difference between these two conductor types. One other difference between these two conductors is the conductance of the coaxial cable. The RG6 solid copper center conductor has considerably more conductance than the RG6 copper clad steel conductor does.

This is because copper naturally has more conductivity than steel, so any conductor that has more copper than steel will have more conductivity.

As outlined above, there are several differences between the RG6 solid copper conductor and the RG6 copper clad steel conductor. The conductor that is used should finally be decided based on the applications that the cable will, and may, be used for. If there is a question of needing a cable for multiple purpose uses or applications, now and later, then choose the highest specification cable you may possibly need.

(Thanks to Rick K8RIC for submitting this article)

DON'T FORGET ! BACK TO SCHOOL FOR MOST KIDS THIS MONTH !



Perhaps one of the most famous Ten*Tec radios of all time. Still called the "Triton" even years after Motorola forced Ten*Tec rename it to avoid a lawsuit. This is the beautiful 544 "DIGITAL" display version. Put a 544 next to any of the quasi-military-styled Japanese rigs of the same period, and you'll wonder, "What were they thinking?" The analog Model 540 was my first Ten*Tec, bought to celebrate my new Advanced license in 1979. The first popular 100w solid state transceiver. Taught the Japanese how to do it, but they still don't have it quite right, 25 years later. Finest QSK of any rig. Tons of optional accessories, including a voice synthesizer (in 1977!). Just try to find a prettier ham radio.

Found in the Unusual Museums of the Internet
http://mywebpages.comcast.net/w8kc/tentec.html

Does the picture above look familiar ? Well in case you do not recognize it; it is a picture of the Field Day rigs that we use and rely upon every year. I could not find a picture of it anywhere, including the Ten Tec web site because they quit making the radio quite some time ago. I have to admit, this radio has been quite reliable. Where can you get a radio to take the kind of punishment we give it every year at Field Day? They operate nonstop for 24 hours through all kinds of weather, both heat and rain; cold; etc.. and still work just fine. In fact they may go for another 30 years !

Rick K8RIC sent me this web site on another matter so I looked around and found the Ten-Tec information. I had an idea that the radio was manufactured in the 60's and 70's and this proves it. Parts are still available for the radio by contacting Ten-Tec. Try looking this site up as you will find many interesting facts on just about anything you can imagine !

August 2007

W8NP Monthly Planner

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Jul 2007 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Sep 2007 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30			*1*	*2*	*3* Massillon ARC Meeting, Massillon Senior Center, 8:00pm	*4* Columbus Hamfest, 614-846-7790 Hall of Fame Parade, 0800 VE Test Sessions, Portage County ARS, 1000, Ctc.: James 330-297-7979, Center of Hope, Ravenna
5	*6*	*7* Stark County ARES Net on 147.12 at 7:00 PM VE Test Session, Pioneer AR Fellowship, 1900, Ctc: Ronald Lieving, 330-724-5981, Akron Baptist Temple	*8*	*9*	*10*	*11* BD KC8ZEH
12	*13*	*14* Stark County ARES Net on 147.12 at 7:00 PM	*15*	*16*	*17*	*18*
19 Warren Amateur Radio Association Hamfest, Ctc: Christopher Brister, 330-240-6015, Warren, OH	*20* BD KF8EB	*21* BD KC8LIN Stark County ARES Net on 147.12 at 7:00 PM	*22*	*23*	*24*	*25* **VE Test Session, Canton / Massillon ARC, 0900, Ctc: Gary Kline, (330) 837-2927, Massillon Senior Center**
26	*27* BD W8JT	*28* BD WA8DRT Stark County ARES Net on 147.12 at 7:00 PM	*29*	*30*	*31*	**Upcoming Events:** **9/9 - Findlay Hamfest** **9/21 - 9/21 - Cleveland Hamfest**

Please contact K8INN for updates, changes, or additions.