FEEDBACK

VOLUME 51 ISSUE 8 AUGUST 2006

MASSILLON AMATEUR RADIO CLUB OFFICERS

PRESIDENT
Igor Nikishin
K8INN

VICE PRESIDENT
Ralph Bugg
K8HSQ

SECRETARY
Linda Finley
K8MOO

TREASURER
Anne Ballinger
N8GAF

Contents

-- SHORT SKIP --

A new exhibit at the Rock and Roll Hall of Fame in Cleveland will honor the extraordinary work of Bob Heil, K9EID. Bob was responsible for designing the pioneering sound equipment used by many of the biggest rock stars including the Eagles. Needless to say, many, many, amateur radio operators have benefited from Bob's ingenuous designs as well.
Congratulations Bob !

73 de WB8OWM

AUGUST MEETING

The meeting for the month of August will be held on August 4th, 2006 at 8:00 PM and of course it will be held at the Massillon Senior Center, 39 Lincoln Way west in downtown Massillon, Ohio.

At this month's meeting we will be discussing more items for the upcoming Hamfest in October. But probably the main topic will be Field Day. As promised, here are the Field Day Results for 2006.

	CW	DIGITAL	PHONE
80M	312		86
40m	299		78
20M	81	14	145
6M			75
2M			6
GOTA	7		69
TOTAL	737	14	459

TOTAL QSO POINTS: 1,961
POWER MULTIPLIER X2 = 3,922
CLAIMED 950 BONUS POINTS

GRAND TOTAL ; 4,872 POINTS.

The bonus points are actually an estimate, The ARRL will determine the actual points that we claim. Results of Field Day are printed in QST, usually in the December issue (kind of an early Christmas present).

By comparison, last year we had: 619 CW contacts, 351 Phone contacts, 3 digital (RTTY) but we had 1 Satellite contact which gave us 100 "extra" points which we did not have this year. With the X2 multiplier we had 3,190 points and 1,100 Bonus points gave a grand total of 4,290 points. This year's score reflects a 582 point increase this year over last year. This increase is probably due to better band conditions this year than last. As you probably remember last year the bands were really bad for this time of year. As this Solar Cycle continues it will only get better as we are approaching the bottom of the cycle and start the long awaited "up-swing" ! Experts say the "bottom" of this cycle will occur in December and will start to swing the "other" way starting early next year, although it will be sometime before the bands really start to "get hot" !

MARC MINUTES
July 7, 2006

The Massillon Amateur Radio Club meeting was held at the Massillon Senior Center with 24 members and guests present.

MARC President Igor K8INN opened the meeting at 8:00 P.M. The Pledge of Allegiance was given and a round of introductions was made.

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

MARC Treasurer Anne N8GAF gave the financial report including expenses from Field Day

Vice President Ralph K8HSQ gave the correspondence report. He had the usual newsletters from other Amateur Radio Clubs.

Committees

Repeater - Jim WA8GXM reported that the 10 meter repeater is back up and working.

Fox Hunt - Dan N8DZM Since most are too busy during the nice summer moths, the Fox is going to sleep for a few months.

Classes - We had someone stop by the Field Day site and left their name and number to be contacted when classes are given again.

Old Business

Perry W8AU Reported that the Icom 706 radio was purchased. We were not able to get any good deals in Dayton this year. It will be mounted in the ECOM trailer.

We had a discussion about Field Day and WinLink. Ralph and Terry set up a WinLink station and passed several messages as a demonstration. There were only 35 such stations set up across the US using WinLink. A very nice picture of the teardown crew was taken and submitted to the ARRL for possible publication. The Bandpass filters that were purchased this year worked very well. The shelter was reserved again for next year.

New Business

HOF Parade – Terry needs volunteers to help out. The HOF would like all volunteers to attend a class being given on Tuesday July 11th, and Thursday July 13th at 6:00 pm at the Canton Chamber of Commerce.

Hamfest – It will be at the Boys Club again this year. The cost to use the Boys Club will be to purchase 12 round tables. Jim WA8GXM will take care of that. A discussion about what we learned from our first time there last year and improvements that could be made. We are going to give away the same prizes, FT8900, Antenna Analyzer, 3 HTs, 3 ARRL Memberships and door prizes. JimWA8GXM made a motion to purchase 2 HTs, Analyzer, and 3 ARRL Memberships with Gary WC8W Seconded the motion. Motion passed by voice count. We already have a FT8900 and one HT left from last year.
On June 22nd the trailer was used in Pike Township for emergency communications for storm damage there. Jim and Don was at the Trailer and Bill KC8FLT went to the Red Cross. North Royalton had requested its use during Field Day, but the trailer was reserved for Field Day use. North Royalton was able to use the WinLink nodes set up by Ralph, Terry, and Jim.

The Beam Antenna at the Senior Center needs repaired.

The 146.955 repeater just had a firmware upgrade and is open to all who wants to use it. You have to use PL 110.9 for access.

Congratulations to Leonard KC8RPB for winning the 50/50 for $12.50. Thank You Leonard for donating it back to the Club.

By a very close voice vote, the meeting was adjourned at 9:10 pm.

A slide show of many pictures that were taken during Field Day was shown after the meeting.

Minutes by Dan N8DZM sitting in for Linda K8MOO

… MARC Field Day Comments …

By the time you read this, Gary will have completed and submitted this years Field Day results to the ARRL. He may even have them included in this months issue.

Did everyone have a good time ? I hope so, many members participated in our event this year and worked very hard to make it successful. I hope you had a chance to drop by to operate or just to lend a hand with setup or teardown. Speaking of teardown, this year's crew was one of the largest ever. We certainly appreciated the help as some folks were running on empty having stuck around for the entire weekend without very much rest.

Make sure you checkout the clubs website for a story about this years event. You will also find a link there to some great pictures from Field Day weekend that are courtesy of several folks. Our Field Day story is also currently posted on the ARRL website on their Contest Soapbox section. I have provided a direct link to this page on our site so you can give it a look. A few pictures were also included.

I sent a few pictures to the ARRL in hopes they might use a few of them in their annual Field Day results issue this November or December. I did receive an email response from Joel Kleinman, N1BKE the Managing Editor of QST Magazine who thanked us for the pictures and with any luck we may end up in a future issue of QST !

I think Ralph, K8HSQ is working on completing some video he took from Field Day. They should be ready to view at the club meeting and we may even have a few copies available if you would like one.

.. Some Kind Words ..

At the recent National Council of Volunteer Examiner Coordinators Michael Wilbelm, Chief of the Public Safety and Critical Infrastructure Division in the FCC's Wireless Telecommunications Bureau (WTB) was in attendance.

He said that of all the services the WTB administers, Amateur Radio is the only one that's self regulated. He added that Amateur Radio's best strategy for the future is to continue serving in disasters and emergencies. He also applauded the ARRL's Amateur Radio Emergency Communications' Courses.

.. Speaking of FCC News ..

The ARRL recently covered several instances where Amateur Radio operators failed to provide correct mailing address information to the FCC.

Did you know that Section 97.23 of the Commission's rules states that each license grant shall show the grantee's correct name and mailing address, and that "Revocation of the station license or suspension of the operator license may result when correspondence from the FCC is returned as undeliverable because the grantee failed to provide the correct mailing address."

I had no idea that the penalty was so severe on this matter. Many years ago when I moved into my current house, I didn't update my station address for many months after I moved in. A word to the wise, if you need to update your mailing address information, don't hesitate. If you're not sure how to do this contact our VEC Gary Kline, WC8W who will be able to help you out with this.

Don't jeopardize your hard earned amateur license because of a simple mailing address update !

.. Massillon Summertime Festival ..

The club was once again part of Massillon's Summertime on Fourth Street Festival a few Sunday's back with club members Perry – W8AU, Scott – N3JJT and Igor – K8INN taking part in this years event. I have posted a short story complete with a few pictures on the club website, make sure you have a look at our "Western Union Operators"

That's it for this month, see you at the meeting
De Terry – N8ATZ

Our three "Western Union Operators" (L-R) Scott N3JJT, Igor K8INN, and Perry W8AU. (Another picture on page 8. Photos courtsey of N8ATZ)

ARES ---- FLORIDA STYLE

Last month I had the opportunity to travel to the "sunny" state of Florida. Since it was Field Day weekend, I was hoping to participate with the local amateur radio club in the city where I was staying. This did not work out as planned as I did not arrive there until after 4:00 PM Sunday and Field Day was over by then. However I did contact and set up an interview with one of the members of the Flagler Beach Emergency Communications Association, Mr. Jim Billings, KB8LXC, who is the Flagler County ARES Assistant

Above : Mr. Jim Billings, KB8LXC

Emergency Coordinator. Mr. Billings is a software analyst and is a "transplant" from the state of Michigan, hence the "8 " call.

Flagler County is comparable in size and population to Holmes County, here in Ohio. There is a considerable amount of new construction going on in Flagler County, new homes, condominiums and a major reconstruction to I 95 in the county, so maybe in the future the county will become more like Stark County, our home County.

There are actually two Amateur Radio Clubs in Flagler County. The first is the Flagler/Palm Coast Amateur Radio Club. Palm Coast is a city about 10 miles north of Flagler Beach and seems to have "exploded" in size and population in just the 4 short years since I was there last. The Flagler Emergency Communications Association, which is the A.R.E.S group, is on their own. Their meetings are held in the Flagler Beach Main Fire Station (pictured below) . There are approximately 200 Hams in the Flagler County. The ARES split from the Flagler Palm Coast group about five years ago..

The purpose of the ARES Group is to back up Emergency and Public Service Communications to the community. Their primary mission is to link the shelters and the Emergency Operations Center, other critical facilities and locations. The EOC, is located in the city of Bunnell (just west of Flagler Beach, across I 95 the main north - south highway in Flordia) which is the County Seat of Flagler County.

During the 1998 wildfires the Amateurs provided communications to the EOC and at various shelters set up throughout Flagler County. The same is true for the various hurricanes that ravaged South Florida and other areas. In 2004, the group assisted with the Hurricanes Charlie, Frances and Jenne. Flagler County is "lucky" in that they haven't sustained the direct "brunt" of a hurricane, however they have been on the receiving end of the hurricanes after they came ashore on the West Coast of Florida, which can be just as deadly. Last year a hurricane "brushed" the shore line, knocking down the pier that juts out into the ocean in the downtown area of Flagler Beach.

I was suprised to learn that the group is not affiliated with the Red Cross. The Red Cross prefers it that way. However the ARES Group is really pushing their members to complete the ARRL Levels 1,2, and 3 Emergency Communications Course, likewise the FEMA courses. They now have about a 15% completion. If any of you have read the Level 2 and 3, you will notice that the main editor and writer was Mr. Rick Palm K1CE, who is a resident of Palm Coast and a member of the ARES Group (no the city wasn't named after him!) Mr. Palm's name & call appears in many ARRL publications. Mr. Palm was on the ARRL Headquarters Staff from 1979 to 1999. He was the Region 2 Coordinator and now he is also a Flagler County Assistant EC. He is also the editor of the ARES E-Newsletter. Nice to have a celebrity in the neighborhood !

In summary, it seems to me that the group is really intent on helping the community and under the fine leadership of the EC, Mr. Merrill Musikar KG4IDD, they are ready and willing to be the leaders in their community. Congratulations to the Flagler Beach Emergency Communications Association and to the Flagler/Palm Coast Amateur Radio Club.

73's de Gary WC8W

Parting shot: The Alantic Ocean & part of Flagler Beach. Dont ya just love it?

" Caught " At the Akron air show, Charile Scherger KB8STV in his full Civil Air Patrol uniform. (Photo by K8INN)

MASSILLON ARC PROJECT: OHIO QSO PARTY.

Hey Gang... Let's try something traditional and fun that most of us, in our busyness, have forgotten.

The Ohio QSO Party is a short fun contest that lets us sharpen our FD skills plus give Ohio counties to those needing them.

From noon until midnight, Saturday, August 26th. you can participate as a single operator, Multi-Op, or Mobile Rover (going from county to county).

You can use manual logging and dupe sheets, or use a logging program that handles RST, Contact number, and State/Province. Ohio stations send RST, Contact #, and County. For those without a PC or logging program, we can supply copies of our old hand copied dupe sheets (that work almost as fast as typing on a PC).

As in FD, CW contacts are 2 points and Fone=1. Multipliers for OH stations are the 49 states, 13 Provinces, and 88 Counties.

Power multipliers are 5X for 5 watts or less, 2X for 100 watts or less, 1X for higher power. Multiply by power multiplier and then by section multiplier.

CW frequencies are 3545, 7045, 14045, 21045 and 28045. (Call "OQP") FONE frequencies are 3850, 7225, 14250, 21300 and 28450. As with FD, start on 20, then 40, and 80 for hours of darkness. If 15 or 10 is open, use them during daylight.

Although awards can be gotten by turning in scores to the sponsoring group, (Mad River Radio Club) MARC will also recognize top efforts in a few categories.

So, take the fun of FD home with you, without the grunt and groan of erecting a portable setup. 12 hours means you won't lose a whole weekend, and Fun and Experience will be the result.

Here is a condensed list of rules for OQP:

See ya on the air Saturday, August 26!

W8AU

Ohio QSO Party (OQP)Ohio QSO Party (OQP)

Sponsored by the Mad River Radio Club

Sponsored by the Mad River Radio Club. 16:00 UTC August 26th to 04:00 UTC August 27th. Categories – single-op , multi-op and mobile rover. Ohio stations exchange RST, serial number, and county. Outside Ohio, exchange RST, serial number, and state or province.

Suggested frequencies ; CW – 3.545, 7.045 ,14.045, 21.045, 28.045 SSB - 3.850, 7.225, 14.250, 21.300, and 28.450 . Work stations once per band and mode. Score 2 points per CW QSO and 1 point per phone QSO. For Ohio stations multipliers are 49 US states, 13 VE provinces and 88 Ohio counties. Outside of Ohio multipliers are 88 Ohio counties.

Multipliers are counted once per mode. If contacts were made using < 5 watts multiply final QSO point total by 5. If power is l00 watts or less multiply by 2. Final score - Multiply QSO points by power multiplier and then by total multipliers. For complete rules and awards program check http://qsl.net/mrrc/oqp.html Send logs to Jeff Clarke, KU8E, 2896 Minerva Ave. Columbus, Ohio 43231 or email to KU8E@msn.com .

Grounding in RF Environments

By William D. Chesney,N8SADirector of CommunicationMichigan Wing, CAP Dec. 2003

Proper grounding of radio stations is probably one of the least understood aspects of ham radio. It almost has a certain aura of mystique or magic about it instead of being the pure science it should be. This is a very important aspect of any radio installation. There are two major criteria we need to consider when doing the planning for this installation. The primary reason has to be safety, both for ourselves as the operator who will be seated at the controls, but also for our equipment and possibly the structure….probably our home. The second of course has to do with the performance of our antenna system and it's ability to radiate an efficient signal. Let's treat these separately for now and they will combine into a total plan at the end.Surge (or Safety) grounding.

We need to protect our installation and ourselves from lightning.**There is no protection against a direct lightning hit!** It has way more power than we can shunt to ground safely or our budget can handle. That is what insurance is for. We CAN however make our installation an unattractive target to lightning. We can also take care of any secondary surges and static build up that can destroy equipment and give healthy zaps enough to more than get your attention. There is nothing more frustrating than trying to talk on a radio and you keep getting zapped on the chin while doing so! I speak of personal experience here. Let's let it go at that. The Safety ground has to consist of enough ground contact surface area to safely dissipate the surges into the soil safely. Multiple ground rods connected with solid 1 ott ground wire is best. You should have one rod where your antenna support structure is, whether it be a tower or mast or roof tripod, etc. It must have at least 4 gauge bare or insulated, NOT stranded wire. These surges can easily be hundreds of amps. DO NOT scrimp on the wire. This is your life you are dealing with. If stranded wire is used it should be no more than 8 conductors. Heavy bolt type connectors should be used for all connections. You should also employ a non corrosive type coating. All of these connectors and grease are available at your good home supplies or electrical supply houses. All grounds for the installation should be bonded together at the ground. NEVER daisy chain grounds. ALL connections from devices should go DIRECTLY to closest ground point. Use eight foot copper ground rods for all. Bond the rods with single ott solid bare copper wire. Drive a ground rod for electrical supply to house if you do not already have one. Bond it to others with aforementioned wire. If you have overhead service to house, run wire direct to neutral wire at feed point and use split bolt connections with grease for corrosion. If you have underground service, ground at meter box. If your power company objects, run it to your service panel. You need a minimum of one eight foot ground rod for every protected structure, ie, every mast, tripod, vertical antenna, etc. These must all be connected together AT THE GROUND. Run bare copper between the separate ground rods to form a ground system. The bare copper provides additional surface contact area for the ground system.

It should be underground, but does not need to be deep for any engineering reasons. Make sure you make yourself a map of the runs for future projects to avoid hitting and digging up the system in the future. Use heavy duty bolted connectors designed for this service. If you have access to a ground megger or ground tester the system should be less than 15 ohms. In sandy soil this can take several rods to achieve. I have had to put down 3 32 foot rods (consisting of four 8 foot rods with couplers and driven in with a power driver) in sand to get the measurement needed. This should take care of our safety grounds.

RF Grounding.

Rf grounding is considerably different than surge grounding. First thing is you are working with RF. Since it is an AC signal it has impedance. The length of the ground runs has much more to do with the fraction of a wavelength at the frequency involved than the DC resistance of the wire. While the DC resistance of a ground wire may be only a fraction of an ohm, the impedance (or the AC resistance at RF frequency) can easily be hundreds or thousands of ohms on the same wire. This can make it pretty difficult to get an effective RF ground. Remember an RF ground wire is just a short antenna! We want to make it as LOUSY an antenna as possible! We really don't need it radiating extra RF inside our shack. It is supposed to remove this stuff not cause it. An effective RF ground needs to be less than a quarter wave length at the highest frequency used. As you can see there is no such thing as an effective ground for VHF or UHF. We will concentrate our efforts to 10 meters and above. This means our ground wire from radio to ground must be about 9 feet or less! This is still pretty difficult. All radios, tuners, meters, etc in radio system should be grounded in a star ground configuration. The common point should be at the tuner if one is used, otherwise a ground bus bar can be purchased at an electrical house. All Connections to radios should be with either insulated or bare wire with as few strands as possible. RF likes smooth surfaces best. DO NOT USE braid for RF connections. This is an old wives tale! Your ground run should go directly to the ground where you should have a ground rod for the connection point, (which will be connected to all your other ground rods in the system as discussed above). This run must be less than nine feet to be effective. If you are on the second floor this will make this length impossible. Use of a shielded ground* wire can stop radiation of the ground wire but you will still have a lousy ground. Nothing can change this. Ground wire tuners only turn your ground wire into a counterpoise for your antenna, meaning it WILL radiate. This will only ensure that the low voltage point of your antenna will be at your radio. Next we need to form our RF counterpoise outside at our ground system. You will next need to add some bare copper wire at the RF feedpoint where your shack ground wire connects to. I prefer to use bare 8 gauge copper ground wire here. It is single conductor, bare copper and easily bent and run around house. Single strand is best but it should definitely be bare even if you have to strip insulation off wire. Run it around the house or anywhere it will stay out of the way fo lawn equipment but not buried deeper than ½". This is CRITICAL. RF will not penetrate soil deeper than this at these frequencies. Those bonding wires you have between ground rods and ground rods do not exist to the RF! Burying this

wire under wood chips or similar non conductive landscaping, etc is the way to go. This counterpoise should be as long as the wire antennas you have in the air. For most hams this will be about 130 feet. Longer is better. I run all the way around my house. I have found the eight gauge will push into the spacing used between driveway and foundation when persuaded with the proper tool, (READ HAMMER). You can connect the loop back on itself at the feed point.

This can add several S units to the receive signal and dramatically reduce noise on the signal, though nothing will help all the noise on 80 or 160 meters. Years ago I installed a long wire antenna that was about 250 feet long and about 50 feet in the air. This should work fantastic you say. I had three ground rods outside window of shack with single ott solid copper ground wire direct to tuner. Ground wire length was only six feet. All three rods were spaced about eight feet apart with connecting bare wire interconnecting them….in other words, a really good surge ground. What I did not realize at that time was how lousy my RF ground was. We could not tune the antenna on most frequencies and we kept getting zapped from the radio or microphone when we transmitted. Also, our signal reports were lousy. SO, after consulting some experts, I added 250 feet of counterpoise around the building consisting of some bare 6 gauge copper wire I had. The radio was on while I rolled it out and a friend was listening to the broadcast on 40 meters, (OK it was night time—best time to do antenna work right!) Anyway he reported the broadcast was only about S 4-5 on meter. As I rolled out the counterpoise it rose to 40 over S9 and came in much clearer. We were able to tune everything easily now and SWR was rock stable. **When we did a signal test, the station we had talked to before accused us of running a contest amplifier. We could not convince them it was only 100 watts, same as before and the same antenna!**

SUMMARY.

Don't underestimate the importance of a good ground system. Include it into the planning of that ultimate shack you are working on. Don't scrimp on good copper wire and connectors. Aluminum can be used above ground but never in ground. Add one size to aluminum to achieve same current capability. Ground everything to the system. A ground run to ductwork in house can alleviate a lot of noise. A run to water pipes should go direct to ground….NEVER to radios, NEVER connect radios to ANYTHING inside the house for ground purposes. Always run all grounds from everything to ground directly. In other words, your furnace ducts will get one run, your water pipes will get one, etc. Don't daisy chain to save wire. If you have a chain link fence in back yard, run a bonding wire underground from ground system to it and bond well. A solid aluminum or copper wire run along bottom of fence as a bonding device will make it a great addition to the system. Weave it through the bottom fence fabric and bond every few feet with a split bolt connector. The power company does this with all their fences around their power stations. * A shielded ground can be made using RG 8 or similar coax to replace the ground wire. Connect both inner and outer shields to the Ground rod and connect the center only to the radio. Add a .1uf 1000 volt cap between ground and shield at this end.**73 Bill -**

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NEW WEBSITE !

There is a new website that you may want to visit. Three hams (KC8LIN - Jason, K8MAT - Matt, and N8DVS - Bob) have created a new website that people can go to for information. The web address is: www.starkham.com .

If they have permission they will have a link to the Massillon club's website.

NEW CONTEST

Greetings local clubs!

PCARS 2 Meter Simplex Sprint

Contest to be held on Saturday August 12th. This is a 2 meter FM simplex FUN contest running for 12 hours (noon till midnight). No pressure, just fun! Please pass this on to your club members - all are invited to participate! Let;s have some fun with amateur radio!

Any questions, please contact Joe-W8KNO he can be reached at : w8kno@portcars.org

All rules, log sheets, and summary sheet are available for download from the PCARS web site at: www.portcars.org

Hope to hear you on 2 meter simplex on August 12th!

Tom - KB8UUZ
Portage County Amateur Radio Service, Inc.
(PCARS)
Secretary

AN INVITATION

Scott N3JJT says all memberws are invited to his house right after the meeting on Friday August 4th . All the left over hot dogs and hamburgs from Field Day will be roasted . Scott says he will provide directions at the meeting. This is of course, weather permitting.

MARC PICTURE PAGE

SENDING

Perry sending

RECEVING

Ahhh -So ! zounds rike old Morse Telegraph code from stateside!

FIELD DAY PICTURES

The “group”. This photo was submitted to the ARRL in hopes of it being published.

MARC 1 ready for flight.

MARC trailer with both masts fully erected and ready for “business”

CW tent with the portable mast extended also very impresive !

(Field Day photos courtsey of Mike WA8MKH, Telegraph photos courtsey of Terry N8ATZ

August 2006

W8NP Monthly Planner

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Upcoming Events: Sept. 10 - Findlay Radio Club Hamfest Sept. 10 - Butler Hamfest and Computer Show, Butler PA Sept. 24 - Cleveland Hamfest and Computer Show		*1* Massillon Radio Net - 3650 @ 1930 VE Test Session, Pioneer AR Fellowship, 1900, Ctc: Ronald Lieving, 330-724-5981, Akron Baptist Temple	*2*	*3* Massillon Radio Net - 3650 @ 1930	*4* Massillon ARC Meeting, Massillon Senior Center, 8:00pm	*5* Ham "OH" Rama Hamfest, Voice of Aladdin ARC, Ctc: James Morton, 614-846-7790, Columbus, OH
6 Massillon Radio Net - 3650 @ 1930	*7*	*8* Massillon Radio Net - 3650 @ 1930 VE Test Session, Wayne ARC, 1930, Ctc: Elmer Steingass, 330-465-6206, Comm Center of Wayne County	*9*	*10* Massillon Radio Net - 3650 @ 1930	*11* BD KC8ZEH	*12* Northwest Ohio ARC Hamfest, Ctc: Gary Clements, 419-227-6573, Lima, OH
13 Massillon Radio Net - 3650 @ 1930	*14*	*15* Massillon Radio Net - 3650 @ 1930	*16*	*17* Massillon Radio Net - 3650 @ 1930	*18*	*19*
20 BD KF8EB Massillon Radio Net - 3650 @ 1930 Warren Amateur Radio Association Hamfest, Ctc: Jacqueline Williams, 440-669-8267, Warren, OH	*21* BD KC8LIN	*22* Massillon Radio Net - 3650 @ 1930	*23*	*24* Massillon Radio Net - 3650 @ 1930	*25*	*26* **VE Test Session, Canton / Massillon ARC, 0900, Ctc: Gary Kline, (330) 837-2927, Massillon Senior Center**
27 BD W8JT Massillon Radio Net - 3650 @ 1930 Skyview Radio Society Hamfest, Ctc: Robert Livrone, 412-860-7642, Lower Burrell, PA	*28* BD WA8DRT	*29* Massillon Radio Net - 3650 @ 1930	*30*	*31* Massillon Radio Net - 3650 @ 1930		

Sep 2006

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Please contact K8INN for updates, changes, or additions.