

# FEEDBACK



**MARCH 2002**

**VOLUME 47 NUMBER 3**



## MARCH MEETING

The meeting for the month of March will be held on March 1, 2002 at 8:00 PM at the Massillon Senior Center.

At this month's meeting, we will be discussing the future events to be held by the members of MARC, such as this year's Safety Breaks. I don't want to give out any big secrets but as of this writing there are two Safety Breaks being planned for this year. As you know the Safety Breaks have become the major fund raiser for the club. Everyone's help is needed each year to make these events successful. Last year's huge 6 day event was one of a kind. We did the entire year in just one event!

So come on down to the meeting and see what Gene and Rich have in store for us this year!!

## DUES ARE DUE!!!

This is it!! This is the last month that you will be able to pay your dues for the year 2002. We will not put another notice in the Feedback about dues for the Massillon Amateur Radio Club. We do not want to lose a single member! So hurry and be sure to send our Treasurer, Ann Ballinger, N8GAF the dues for the year. The price is only \$ 10.00 for the entire year! You will not want to miss out on all the fun you will have!

You can send her a check to :  
Anne Ballinger N8GAF  
2468 Bellevue Ave SW  
Massillon, Ohio 44647

So please while you are thinking about it, send the check or come to the March meeting, or at least inform her of your intentions and you will not miss a single exciting event this year!!

## - SHORT SKIP -

Icom has discontinued their IC-775 HF rig. Perhaps a IC-785 is in the works (?) ....

The Russian Federation has told the I T U that it considers there are good reasons for the Amateur Service to continue with Morse code as a license requirement for operation below 30 Mc. It therefore intends to make no change to its domestic license conditions whatever the outcome of the 2003 World Radio Conference.

**73 de WB80WM**

**HAPPY EASTER MARCH 31, 2002**



# MARC MINUTES

## February 1, 2002

The February MARC meeting was held at the Senior Center with 26 members present.

MARC President Gene W8KXR called the meeting to order at 8:05 P.M. The Pledge of Allegiance was given and a round of introductions was made. He then asked the December and January Minutes be accepted as stated in the FEED-BACK. They were accepted by Dan N8DZM and second by Steve WD8MIJ.

MARC Treasurer Anne N8GAF gave the financial report. A motion was made to accept it by Randy KD8JN and second by Don W8DEA.

MARC Vice President was absent so Gene W8KXR gave the correspondence report. He had newsletters from other Amateur Radio Clubs. Massillon Senior Center Director, Nancy Johnson, sent a very nice Thank You Card for inviting her and her husband to the Awards Banquet. We always enjoy having them at the banquet.

The Club received a DX Century Award and Pin from the ARRL made possible by Byron KF8UN for making over 100 CW contacts to different countries. President Gene also passed around some pictures brought in by Don W8DEF of the MARC Banquet.

### OLD BUSINESS

Congratulations goes to The Massillon Amateur Radio Club's **Ham Of The Year**. The Award was given to Dan Anastis N8DZM for all his work in promoting the hobby. He had missed the Banquet so he received it at the meeting.

Terry N8ATZ gave the Skywarn report. Doesn't sound to promising but he will keep us up to date on what's happening at the weather bureau.

Bruce, AB8FB gave the report on MARC'S library project. He noted that many books are still needed.

### NEW BUSINESS

Gary WC8W said while updating the directory Jeff KC8KIX reported about 100 "hams" have or about to have expired licenses. Technician (Entry Class) Classes are to start Feb.25th. at the Senior Center at 7:00 PM; Don W8DEF will help Gary WC8W to print postcards to notify those needing to test again or to renew.

Some members still need to pay their 2002 dues. Notify Anne N8GAF to stay on the mailing list. Anne N8GAF also wants anyone purchasing items for the club to get the MARC tax exempt number from her.

Perry W8AU said 300 contacts were made at the Massillon Special Event held in November. Certificates will be sent to those who sent SASE.

Bruce AB8FB said the copier in the shack is soon to need a new toner cartridge. He will try to find the best price and report back at the March meeting.

Contact Jack N8LCS if you can help with the MS Walk April 21st. It will be at Quail Hollow and also at the Towpath this year.

Gene W8KXR asked for suggestions on programs for the upcoming meetings.

The meeting ended at 8:55 P.M.

Congratulations goes to Don KC8RPE for winning the 50-50 for \$10.00.

**Minutes Linda K8MOO Secretary MARC**

### ... ARE HAMFESTS ON THE UPSWING ?...

Did you make it to the Tusco Hamfest in January ? What about the Mansfield Mid-Winter Hamfest last month ? If you didn't, you missed a couple of good hamfests. I thought both were pretty well attended. I know Tusco had to relocate from the National Guard Armory and the old Staples store at the New Town Mall; worked out great. Plenty of room, bright lighting, nice wide isles and even plenty of parking. It reminded me of the MARC's first year at the fairgrounds. Our hamfest was a hit and so was Tusco ! Maybe it was partly the new location but I think attendance was up. Congratulations to the Tusco Club for a fine hamfest.

What about Mansfield ? Traditionally the first "big" hamfest of the season usually made it pretty well attended but this year seemed even more so. Expanding to four separate buildings plus VEC testing and a forum made for a busy place by mid-morning. I arrived with Don - W8DEF by about 9:30 AM and the place was packed. Much better than last year from what I remember. I thought the selection was pretty even also. With the introduction of cheap computer gear, this will always be a part of hamfests from now on but I also saw lots of other radio related gear as well.

Is this a sign that hamfest attendance is on the upswing ? I would like to think so but it is a little early in the season to make a prediction. Amateur Radio needs a little jump start now and then and better hamfests are a great way to start !

### .... GET READY FOR A BUSY MARCH ....

March will be a pretty busy month for Amateurs here in Stark County thanks to two big events you won't want to miss. First up will be our Annual Skywarn Training meeting held this year on Wednesday - March 20th at 7:00 PM. As in previous years it will be held at Stark State College in Canton. Conducted again this year by Gary Garnett of the Cleveland National Weather Service, it has been revised to include lots of new material and Gary will also report on the restructuring of the Cleveland Skywarn Program.

Then one week later on Wednesday - March 27th make plans to join us for "Super Meeting". Hosted by the Canton Amateur Radio Club, this Super Meeting will feature ARRL Ohio Section Manager Joe Phillips - K8QOE as key note speaker. Joe will update everyone on the current state of Amateur Radio and its future. Numerous area radio clubs have also been invited to attend and take an active part in this meeting also. Our club will certainly be in attendance and I hope will address the crowd. We should talk about this at this month's club meeting. This would be a great opportunity for us.

### TIME FOR MID-WINTER LICENSE CLASSES

By the time you read this we will already be conducting our annual License Classes. Started February 25th, they will cover basic technical and rules & regulations necessary to pass the Technician Class license exam. Theory instructors Don Wade - W8DEA and Gary Kline - WC8W do a super job every year and again this year we hope to add several live

demonstrations during the classes in the fun parts of amateur radio. Operating the special modes of PSK 31, RTTY and ATV plus who knows what all else are in store again this year. Perry Ballinger - W8AU will also be providing study in Mores Code for those wishing to learn.

At last month's club meeting Gary announced that according to club records nearly 100 amateurs from in and around Stark County have either allowed their licenses to expire or are about to. I can't imagine getting out of the hobby so much that you would let your license expire. Have you forgotten what you went through to get it in the first place ? I do. You don't know what a long and lonely ride in a car is until you've rode all the way to Detroit, Michigan and back in the rear of a hatchback car only two miss the test by two questions. Several repeat trips to Cleveland later would bring success to me. Many of us have worked very hard to get our license and I expect to keep it forever. Yes, it's a little harder to renew your license these days and maybe that's part of the problem, but thanks to Gary and a few others it doesn't have to be such a problem. I'm not sure of the details just yet but I think we are going to try to sponsor a "Renew Your License Night" at a future club meeting. If you are within the two year grace period we can help you get back to current status. If not, why not consider retesting and getting back on board. The hobby is as exciting as its ever been with new modes and events happening nearly every day. Details will be posted on the club's website as soon as possible and post cards are already on their way to the 100 expired licensees. If you would like some additional information be sure to check out the club's VEC Page on our website. Recently updated, it contains dates and locations of the CARC/MARC VEC testing here in Stark County as well as a list of things to do and bring to your VEC test session and links to many other useful amateur exam information. Be sure to check it out.

That's all for this month, out of time and my fingers are tired !!!

**73's till next time**

**Terry - N8ATZ**

### St. Patrick's Day March 17



## MARC Emergency Preparedness Committee To Meet

The first meeting of the MARC's "Emergency Preparedness Committee" is meeting to discuss the Club's current status with regard to its Emergency Preparedness status and planning how we will function if we should be called upon to act. I selected a small committee, to keep it functional and able to do some real work. I've requested them to review where we are now, how and where we might go as a Club, as well as establish some guidelines for presentation to the membership.

Committee members were selected based on their actual real experience in emergency situations. They have all been 'involved' in local real life scenarios and bring their experience and expertise to the task of reviewing and mapping a plan for our Club's readiness to assist officials when the call is given.

The Emergency Preparedness Committee will report monthly to the membership, and I've asked that the committee select a spokesman to act as contact and report their progress. Their report will be entered into the monthly minutes by the secretary for record.

It is with the intent of organizing and laying out a 'game plan' for our Club, so that interested members can think about their own personal preparedness, and participation in our Club's support of our community if one so desires, in what has become more than a "let the other guy do it" scenario.

Please listen to the information that will be forth coming and support the efforts of these guys who have been in the real world for a time. It will bolster and grow yet another of the wide range of activities sponsored by our Club.

**DE W8KXR**  
**President, MARC**



## LIGHTNING

As presented on the Montgomery County  
RACES net on 28 May, 1997  
by Michele, WK3X

What is lightning? A lightning bolt is a transient high current electric discharge whose path length is measured in kilometers.

Thunderclouds, snow storms, sandstorms, erupting volcanoes, and "bolts in the blue" are all producers of lightning.

There are many types of lightning. "Cloud to ground" lightning is of the most concern since cloud to ground lightning causes the most damage. Cloud to ground lightning takes place between the cloud and the ground. It is the most thoroughly studied.

Intra-cloud lightning is the most common type however. Intra-cloud lightning takes place between oppositely charged centers within the same cloud.

Cloud to cloud lightning is lightning that takes place between oppositely charged centers of different clouds, passing through clear air.

Cloud to air lightning is a lightning bolt that has one end in a cloud, while the other end seems to end in clear air. There is generally much branching at the end with no cloud.

A bolt from the blue is a cloud to air lightning bolt in which the cloud that is responsible for the lightning is out of sight.

Heat lightning is a brightening of clouds that is caused by intracloud lightning or other types of lightning reflecting off a cloud. There is no associated thunder heard with this type of lightning.

Sheet lightning is an intracloud discharge that produces a large diffuse illuminated area.

Ribbon lightning is a series of closely-spaced lightning flashes that follow the same path to ground. The path shifts slightly between each stroke, giving a ribbon appearance. The path appear to be shifted by the wind.

Bead lightning is a lightning flash in which a lightning channel appears to have alternating bright and dark sections (generally about 10 meters long). It appears as a string of beads. This persists longer than a normal cloud to ground discharge.

Ball lightning is a luminous ball of light varying in size from a few cm to a meter or more. It may be caused by a cloud to ground stroke. It persists for a long period of time and moves slowly across the ground. It is not fully understood.

Saint Elmos Fire is a discharge off a pointed object in the presence of an electric field. This is the reason static balls are placed on antennas. This is also observed on the masts of

ships.

Lastly, rocket lightning is lightning that appears to move slowly along a channel.

The clouds in the typical ordinary thunderstorm may reach about 40,000 ft. However, a giant thunderstorm may have lightning-producing clouds as high as 70,000 feet.

In a thundercloud that has the potential to produce lightning, one finds a nonhomogeneous distribution of electrical charges. The cloud tends to be positively charged at the top and bottom - and negatively charged in the middle. This middle region is called the "N" region. The cloud is more strongly positively charged at the top than it is at the bottom. Hence, the top region is noted as the "P" region and the bottom as the "p" region.

Different types of atmospheric conditions contribute to cloud lightning. These include cold dense air aloft when there is warm moist air at lower levels. The warm air at the lower level rises aloft rapidly in strong updrafts. Moisture in the air condenses into clouds. The cool air aloft descends.

In addition, weather conditions can contribute to conditions that promote the formation of lightning. Such conditions are especially found when cold polar air masses overrun regions of warm air - ground that had been strongly heated by the sun then transfers heat energy to the air of the lower atmosphere.

The rising moist air and falling cool air carries or distributes the electric charges within the cloud. When the region between the N and the p (bottom) begins to break down, a "step leader" begins. The step leader is a faintly luminous predischARGE beginning in the N-p region and leaving the cloud working its way to the ground. It advances, stops, advances, stops, repeatedly, in sequence until it reaches the ground.

As the stepped leader approaches the ground, potential gradients are set up along the ground around the point where the step leader is about to contact the ground. Current in the leader during period of its advancement are on the order of 100 amperes.

Sparks can emanate from taller objects in the path of the step leader followed by those closer to the ground.

When the leader touches the ground, a much more luminous return stroke goes from the ground up to the cloud. This stroke can be likened to current along a lossy transmission line. The channel opened by the leader essentially brings ground potential up to the base of the cloud. In the channel, the electrons in the cloud flow from to the earth, and the current flow from the earth to the cloud.

The stroke continues until it is terminated when the lower region of the cloud is drained of charge. The cloud may or may not quickly provide new charge at this time. If it does, another leader called the "dart leader" starts down the channel. The dart leader is characterized in that it is faster and straighter as it reaches the ground. Another return stroke then forms, and so on. More than one dart leaders may form.

The stepped leader may take 20 msec to reach the ground while its return stroke occurs in 70 micro seconds. After about 40 msec while the dart leader forms, the dart leader that follows may take only 2 msec to reach the ground and provide a return stroke.

Prior to striking, the cloud to ground potentials are between 100 million and 1 billion volts. The amplitude of lightning current is measured by adding the currents flowing in multiple tower power transmission systems during the strike. Stroke currents as high as 300,000 amperes have been measured by this method.

The average flash of lightning could light a 100-watt light bulb for more than 3 months. Your chances of being struck by lightning are estimated to be about 1 in 600,000 but could be reduced by following safety rules.

In recent years, people have been killed by lightning while boating, swimming, golfing, bike riding, standing under a tree, riding on a lawnmower, talking on the telephone, loading a truck, playing soccer, fishing in a boat and mountain climbing.

It is a myth to say that lightning cannot strike if it is not raining. Lightning often strikes outside of heavy rain and may occur as far as 10 miles from any rainfall.

Also, it is a myth that rubber soles or shoes or rubber tires on a car will protect you from being struck by lightning. These provide no protection from lightning. However, the steel frame of a hard-topped vehicle provides increased protection if you are not touching metal.

Although you may be injured if lightning strikes your car, you are much safer inside a vehicle than outside.

It is a myth that heat lightning poses no threat. Heat lightning may simply indicate a thunderstorm that is too far away for thunder to be heard. However, the storm may be moving in your direction.

It is a myth that people struck by lightning carry an electrical charge and should not be touched. Lightning-strike victims carry no electrical charge and should be attended to immediately.

When a thunderstorm approaches, remember - if you can hear thunder, you are close enough to the storm to be struck by lightning. Move to a sturdy building or car. Do not take shelter in a small shed, under an isolated tree, or in convertible automobile. If lightning is occurring and a sturdy shelter is not available, get inside a hard top automobile and keep the windows up.

Telephone lines and metal pipes can conduct electricity. Unplug appliances not necessary for obtaining weather information. Avoid using the telephone and any electric appliance. Use phones ONLY in an emergency. Do not take a bath or shower. Turn off air conditioners. Power surges from lightning can overload the compressors.

If you are caught outdoors and no shelter is nearby, find a low spot that is away from trees, fences, and poles. Make sure the place you pick is not subject to flooding. If you are in the woods, take shelter under the shorter trees. If you feel your skin tingle or your hair stand on end squat low to the ground on the balls of your feet. Place your hands on your knees with your head between them. Make yourself the smallest target possible and minimize your contact with the ground.

Disconnect outside antennas from your radios.

**WK3X**

## DIGITAL SCANNERS

Uniden has revealed its new line of digital scanners for 2002. These scanners are unlike any other currently on the market. They will have the capability to monitor conventional, trunked and APCO-25 conventional and trunked systems. According to Uniden, the Bearcat BC250D handheld and BC785D base/mobile will be available in late 2002. It will offer 1,100 channels in 10 banks and have a frequency range of 25 – 1300Mhz. The BC785D is very similar to the BC780XLT handheld, but offers an additional 600 channels and APCO-25 capability. In order for both models to receive APCO-25, the user must purchase an APCO-25 card separately; the BC250D. This APCO-25 decoder card gives the user the ability to monitor standard signals used by many departments, but does not allow monitoring of encrypted or scrambled signals.

APCO-25 is a project headed by The Association of Public Safety Communications to create a common standard for digital two-way radios. The goal of APCO-25 is to reduce bandwidth requirements not to prevent listening from scanners.

So what really is APCO-25? APCO-25 is a new mode of modulation where the user's voice is converted into digital modulation. This digital modulation converts voice into binary 1's and 0's very similar to the new PCS cellular phones. To receive these transmissions a digital to analog (D/A) converter is needed to convert the digital 1's and 0's back into standard analog voice. This is known as a Vocoder. Uniden's new model will be able to monitor Motorola's APCO-25 and some ASTRO systems. These scanners do not have the capability to monitor other types of digital modulation like Motorola's VSELP, Ericsson's ProVoice or AEGIS.

Here are some different types of digital modulation.

Motorola ASTRO IMBE The IMBE stands for Improved Multi-Band Excitation. This is one of Motorola's APCO-25 compliant systems. It is also known as "ASTRO Digital CAI (Common Air Interface). There are currently two types of APCO-25 systems. Systems that have older non-digital radios and need the system to be backwards compatible must use the Motorola Type II 3.6Kb control channel. This is the most common system in use today. A totally digital system with all digital radios will use a 9.6Kb control channel. This system is rarely used.

Motorola ASTRO VSELP The VSELP stands for Vector Sum Excited Linear Prediction. This is not APCO-25 compliant. Motorola VSELP exclusively uses the Type II Motorola 3.6Kb control channel. The city of Cleveland is one user of ASTRO VSELP.

Ericsson currently has two different types of digital modulation, Ericsson's Pro Voice and Ericsson's AEGIS. Both of these systems are not APCO-25 compliant.

Here are a few local departments that are or will be going 800MHz digital.

### Akron PD

On August 25, 1997 Akron signed a 3.1 million-dollar contract with Motorola for a brand new state-of-the-art radio system. This system which was operational in 1999 provides each car with a Mobile Data Terminal for running LEADS and license plates. The system also has Computer Aided Dispatching and Automatic Vehicle Locators in all cars, which is interfaced with GPS. This new system will also allow Akron PD officers to fill reports electronically. It is a Motorola ASTRO system. The Public safety is digitally scrambled, but some city services are analog. This is APCO-25 compliant and can be monitored with Bearcats new digital scanners. Akron PD's frequencies are as follows: 851.3125, 851.4875, 852.0875, 852.1125, 852.3625, 852.3875, 853.1125, 853.3625, 853.5125, 854.2625, 854.3625, 854.4875, 854.5125, 855.0875, 855.2625, 855.3125, 855.5125, 856.0125, 866.0375, 866.2875, 866.5625

### Canton

The City of Canton is currently on an analog trunking system. This can be monitored with any scanner that receives 800MHz. You don't need to have a "trunk tracker" scanner to receive trunking. Just program all the frequencies into the scanner and listen. You will have to lock out the data channel. This data channel usually changes frequencies around midnight. Canton is currently using Motorola's Type I Analog system. Canton police, fire and other city services are users of the system. They have been talking about updating their older system with a newer 800MHz digital trunking system in the next few years. This will mean that current scanners will not work. Depending on what system they go to will depend if the Uniden APCO-25 scanners will work. The frequencies are as follows:

860.2875, 852.5375, 853.0375, 854.0375, 854.5375, 855.0375

### Stark County Sheriff

For the last few years Stark County has been saying it will go to a newer 800Mhz digital trunking system. The change over was to happen as of November 2001, but is not currently ready for use. Stark county even has newer 800MHz frequencies, so I believe that this new system is a reality. That is all I know about the new system as of now. Currently Stark county can still be found exclusively on their VHF frequencies.

### Multi Agency Radio Communications System (MARCS)

This system is a newer 800MHz, voice and data network for the Ohio Highway Patrol and 11 other health, safety

and emergency agencies. The comprehensive system, called the Multi Agency Radio Communications System or MARCS, will provide interagency communication in emergencies and improve communication abilities overall. This system was started in 1998 and is still under construction. (See the August 2001 Massillon Amateur Radio newsletter for the full story) This system uses a Motorola Type II ASTRO Digital system. This will be APCO-25 compliant and will be able to be monitored with Bearcat's new scanners. The System ID will be 712d & 6f0f. The connect tone is 128.57Hz. There are about one hundred sites in just about every county in Ohio. There are too many to list here. The local sites are in Canton / Massillon (WPQF787) and one in Akron (WPQF760). I will see if I can get a copy of the system talkgroup numbers and put them in a further article.

CANTON / MASSILLON (WPQF787)

TX STREET: 1255 Albrecht St Massillon

866.425 MHz 100watts

867.275 MHz 100watts

867.8375 MHz 100watts

TX STREET: Rear 301 Cleveland Ave SW Canton

866.6125 MHz 100watts

867.475 MHz 100watts

867.8 MHz 100watts

867.075 MHz 100watts

Thanks to [www.trunkedradio.net](http://www.trunkedradio.net) and [www.uniden.com](http://www.uniden.com) for the information.

**73 until next month,  
Jason Stroll (KC8LIN)  
2002 Jason Productions**

## ARRL NEWS

### ARLP008 Propagation de K7VVV

ZCZC AP08

QST de W1AW

Propagation Forecast Bulletin 8 ARLP008

From Tad Cook, K7VVV

Seattle, WA February 22, 2002

To all radio amateurs

Average daily sunspot numbers and solar flux were both down this week. Fortunately, geomagnetic indices were low as well. The average daily planetary A index dropped from 10 to 6. This contrasts with last week's warning of possible geomagnetic activity for the weekend, although the bulletin did hedge a bit, stating effects could miss earth and conditions turn out mild, which they did. The result was very good conditions for the contest weekend.

Last week's bulletin suggested a rising solar flux toward the 240-245 level around February 24-28, but the latest projection shows flux values around 200 for the next few days, gradually declining toward 180 around March 6. There isn't much visible sunspot activity, and holographic images show nothing substantial on the sun's far side.

Geomagnetic conditions could become unstable by Saturday with a planetary A index around 20. This is because of a coronal mass ejection that left the sun on February 20, erupting from sunspot 9825. This area is right at the northwestern edge of the visible solar disk, so any effect on earth is uncertain.

Check out this interesting set of links from the Solar Physics Department at the Royal Observatory of Belgium. The URL is <http://sidc.oma.be/html/ClickMaps.html>, and the department's home page is <http://sol.oma.be/homepage.php3>. Sunspot numbers for February 14 through 20 were 209, 156, 134, 121, 103, 130 and 157 with a mean of 144.3. 10.7 cm flux was 196.1, 195, 193.5, 196.6, 192.8, 189.4 and 193.4, with a mean of 193.8, and estimated planetary A indices were 4, 4, 5, 8, 9, 4 and 8 with a mean of 6.

**NNNN  
/EX**

## ARLD008 DX news

ZCZC AE08  
 QST de W1AW  
 DX Bulletin 8 ARLD008  
 From ARRL Headquarters  
 Newington CT February 21, 2002  
 To all radio amateurs

This week's bulletin was made possible with information provided by Tedd, KB8NW, the OPDX Bulletin, QRZ DX, KK9A, W4WX, The Daily DX, WA7BNM and Contest Corral from QST. Thanks to all.

VIETNAM, 3W. Coly, 3W2FM has been QRV on 80 meters around 1200z. QSL via UA0FM. Meanwhile, Hans, 3W2LWS has been QRV using RTTY on 10 meters around 0000z and on 20 meters around 1915z. QSL via WA1LWS.

SAMOA, 5W. Michel, F6COW and Dominique, F6EPY are on the air from Upolu, IOTA OC-097, signing 5W0MP and 5W0DA, respectively, until February 28. Activity is on 80 to 6 meters, including the newer bands, using CW and SSB. QSL to home calls.

NEPAL, 9N. Lawrence, 9N7RB is usually QRV on 10 meters between 0130 and 0230z. QSL via W4FOA.

EASTER ISLAND, CE0. Hartmut, DM5TI is planning a trip to Rapa Nui, IOTA SA-001, from February 23 to Mar 2. He will sign CE0Y/DM5TI using CW, SSB, RTTY, SSTV, Pactor and PSK31. QSL via operator's instructions.

ANGOLA, D2. Joao, CT1BFL is signing D2U for the next two years. His activity will be on 160 to 10 meters using CW and SSB. QSL to home call.

ETHIOPIA, ET. Paul, W4PFM will be here for 6 months and has just received the call ET3PMW. He has been active on 15 and 10 meters just after 0700 and 1400z, respectively. QSL via W7KEU.

FRANCE, F. The Council of Europe ARC will participate in the REF Contest as TP3CE/99. QSL via F6FQK.

GUANTANAMO BAY, KG4. Bill, W4WX will be QRV as KG4DX from February 22 to 27. His activity will center on PSK31 and 6 meters. QSL to home call.

SAUDI ARABIA, HZ. Joe, W5FJG will be working in Jeddah until April 2002. In his spare time look for him to be QRV as 7Z1AC. QSL via WA4WTG.

SOUTH ORKNEY ISLAND. Claudio, LU1ZA likes to operate RTTY on 20 meters between 0600 and 1000z. QSL via LU4DXU.

BELGIUM, ON. OP1A is QRV until December 31 to promote all activities for the "Brugge, cultural capital of Europe 2002" event. QSL via ON5TO.

ARUBA, P4. John, KK9A will be QRV as P40A from February 23 to March 9 on 160 to 10 meters using CW and SSB. He will be active in the CQ 160-Meter contest. QSL to home call.

ST PETER AND PAUL ROCKS, PY0S. Joaquim, PS7JN plans to be here from February 23 to March 10 signing ZY0SAT. Activity will be on 40 to 10 meters using SSB. QSL via operator's instructions.

TRINIDADE AND MARTIM VAZ ISLANDS, PY0T. The Araucaria DX Group is QRV as PW0T from Trindade Island until March 2. Activity is on 160 to 6 meters, including the newer bands, using CW, SSB, RTTY, SSTV and PSK31. QSL via KU9C.

WESTERN SAHARA, S0. The IARV team is QRV as S07U. Activity is on 160 to 10 meters. QSL via JA1UT.

COCOS ISLAND, TI9. The TI9M operation is up and running. Activity is on all bands and modes until March 2. QSL via AK0A.

NICARAGUA, YN. H7DX has been QRV using RTTY on 10 meters from 1800 to 1840z. QSL via DL7CM.

THIS WEEKEND ON THE RADIO. The CQ WW 160-Meter SSB Contest, REF French Contest, UBA CW Contest, CQC Winter QSO Party, High Speed CW Club Contest and the North Carolina QSO Party are all scheduled for this weekend. Please see February QST, page 110 for details.

**NNNN**  
**/EX**

## MARC LIBRARY UPDATE

We want to acknowledge Skip Westrich, WB8OWM, for his contribution of Reflections II by Walt Maxwell as well as club friend Mark WB0IQK for his donation of some interesting QRP magazines.

Incidentally, Reflections II is a follow - up of Mr. Maxwells' famous Reflections articles in QST ( and subsequent reprint in book form). It is an easy reading book yet very informative essay about transmatters, feedline concerns and plenty of good dope concerning the Myths and Truths about SWR.

As always, the copier is available to Members without charge for any available article and you may take out issues for a month or so by signing them out / back in the clipboard mounted on the shelf.

**73's de Bruce AB8FB**

# March 2002

## Monthly Planner

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																											
					<b style="color: red; font-size: 1.5em;">1</b> BD KB8LWP Massillon ARC Meeting	<b style="color: red; font-size: 1.5em;">2</b>																																																																																											
<b style="font-size: 1.5em;">3</b> Stark County Mutual Aid Net 146.520 11:30 AM	<b style="font-size: 1.5em;">4</b> Sloppy Fist Net every Monday thru Friday at 9PM on 28.138	<b style="font-size: 1.5em;">5</b>	<b style="font-size: 1.5em;">6</b> BD KC8LYG	<b style="font-size: 1.5em;">7</b> 7:30 PM QCWA (Chapter 21) Net, 147.180	<b style="font-size: 1.5em;">8</b> West Stark Info Net 147.180 at 8:00 PM	<b style="font-size: 1.5em;">9</b> VE Exams Akron call Bruce@330-929-2766																																																																																											
<b style="font-size: 1.5em;">10</b> BD N8FEB Stark County Mutual Aid Net 146.520 11:30 AM	<b style="font-size: 1.5em;">11</b> BD WB8OWM	<b style="font-size: 1.5em;">12</b>	<b style="font-size: 1.5em;">13</b>	<b style="font-size: 1.5em;">14</b> 7:30 PM QCWA (Chapter 21) Net, 147.180	<b style="font-size: 1.5em;">15</b> BD WA8GXM West Stark Info Net 147.180 at 8:00 PM	<b style="font-size: 1.5em;">16</b>																																																																																											
<b style="font-size: 1.5em;">17</b> Hamfest Maumee, OH call Paul@419-385-5056 Stark County Mutual Aid Net 146.520 11:30 AM	<b style="font-size: 1.5em;">18</b>	<b style="font-size: 1.5em;">19</b> BD W8DEA	<b style="font-size: 1.5em;">20</b> Canton ARC Meeting 7:30 PM	<b style="font-size: 1.5em;">21</b> 7:30 PM QCWA (Chapter 21) Net, 147.180	<b style="font-size: 1.5em;">22</b> West Stark Info Net 147.180 at 8:00 PM	<b style="font-size: 1.5em;">23</b>																																																																																											
<b style="font-size: 1.5em;">24</b> BD K8KIP Hamfest, Madison, OH call Roxanne@440-209-8953, 9am to 9pm Stark County Mutual Aid Net 146.520 11:30 AM	<b style="font-size: 1.5em;">25</b> Sloppy Fist Net every Monday thru Friday at 9PM on 28.138	<b style="font-size: 1.5em;">26</b>	<b style="font-size: 1.5em;">27</b>	<b style="font-size: 1.5em;">28</b> 7:30 PM QCWA (Chapter 21) Net, 147.180	<b style="font-size: 1.5em;">29</b> West Stark Info Net 147.180 at 8:00 PM	<b style="font-size: 1.5em;">30</b>																																																																																											
<b style="font-size: 1.5em;">31</b> Stark County Mutual Aid Net 146.520 11:30 AM	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p style="margin: 0;">February</p> <table style="margin: 0; font-size: 0.8em;"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr> <tr><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td></tr> <tr><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td></td><td></td></tr> </table> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p style="margin: 0;">April</p> <table style="margin: 0; font-size: 0.8em;"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td></tr> <tr><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> <tr><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td></tr> <tr><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td></tr> <tr><td>30</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> </div> </div>					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			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							
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Please contact KA8ZQH to add, delete or change Calendar