

ATCO NEWSLETTER

VOLUME 11 NUMBER 3

JULY 1994

The ATCO newsletter is the official publication of a group of amateur television operators known as "AMATEUR TELEVISION IN CENTRAL OHIO Group Inc." and is published quarterly (January, April, July, and October)
Re-publication of ATCO newsletter material is encouraged as long as source credit is properly given.

ATV REPEATER UPDATE

The ATV repeater has been operational for about 8 months now and is still working OK. Some improvements are being made as well as repairs to existing equipment. Be patient... (I said that last time) as it's hard to do intense repeater work during the summer when so many other chores must be attended to. A major repeater rebuild is in the works as well as receive site enhancements so "stay tuned" and look inside for details.

ATCO HAM IN THE SPOTLIGHT

This month the lucky ATCO ham is Bob Tournoux KF8QU. Bob has been working very hard building antennas so he can work thru the repeater at his location. This may seem like a trivial thing to accomplish but...consider this: He can't have an outdoor antenna due to building restrictions, he lives in *rural Hilliard*, the repeater receive antenna is still only 75 feet off the ground and his transmitter can only squeeze out about 5 watts on a good day! Well, I've got news!!! During a recent band opening I saw his signal for a short time thru the repeater P1. (Normally he's P4 direct). Bob has also volunteered to be the ATCO treasurer to replace Fred K8JGY who moved to South Carolina. Let's give Bob a hearty welcome for being so brave.



ATCO SPRING EVENT MINUTES

The first annual ATCO ATV Spring Event party on May 15, 1994 was a success. We had 16 participants with some who came from as far away as the Dayton Ohio area. Food was provided by Rick, WA3DTO with some assorted goodies by others. A number of donated door prizes were handed out to everyone. Everyone went home with some treasures.

After we got our fill of the delicious food, we held a short meeting mainly to bring everyone up to date with the things we're working on and to discuss the possibility of having a "Summer Event". All agreed that it would be a good thing if we could coordinate it with the Columbus Hamfest.

We were informed that Fred Yost K8JGY is moving to South Carolina so we needed a new Treasurer. Bob Tournoux accidentally raised his hand to scratch his back and before he could finish, a treasury log book was planted in it. He agreed to assume the duties nevertheless.

The event participants are as follows:

Rick White WA3DTO

Jake Fuller W8WAU

Art Towslee WA8RMC

Charles Beener WB8LGA

Bill Heiden WB8URI

Bob Tournoux KF8QU

Dick Goode W8RVH

Phil Morrison WA8TTE

Foster Warren W8EHW

Tom Taft KA8ZNY

Ken Morris WA8RUT

Greg MacCartney N8ZTL

Shaun Miller KB8MDE

Roger McEldowney WB8DZW

Martha Yost KA8GWX

Fred Yost K8JGY

Below are some of the pictures taken that day.



REPEATER ACTIVITY from my workbench

Well, I wished for warmer weather and got it. So should I complain when it happens? Maybe not but I don't think it'll change anything so here goes...**ITS TOO #!@*#\$ HOT NOW - BACK IT OFF A LITTLE!!!** There. I feel a lot better. Now where was I? Oh yes, the grass has just been cut and I'm enjoying my reward. Only one clue... the can has a picture of a team of horses on it. Tastes good at this point too. After this I need to paint the house, fix the car and...OK, I've thought about it enough now so on to the good stuff.

The airport radar unit is finished and installed at Columbus airport. Although it is not as good as I had hoped for it is about as good as I expected it to be at this time. The unit took much too long to design and build. Someday I'll learn that when I start from scratch, things don't always go together correctly the first time. I was helped along by the supplier of the RF amplifier brick which turned out to be bad and had to be shipped back for a new one. A month later it arrived. Even after I got the final unit working and had sufficient run time to consider it defect free, roadblocks (tree in this case) stood in the way. I found that the best line-of-sight path from the National Weather Service to downtown had a 40 foot oak tree in the way. Since the antenna elevation is about 30 feet, all it sees are leaves. The transmitter output is about 8 watts which I felt was sufficient at the time but unless we find a willing person with a chain saw, we'll have to settle for a P4 picture for now. I'll continue to work on the decoder so the radar signal won't have to be watched with a TV camera. More on this unit later.

I've also been working on the new receive site 439 and 1280 Mhz antennas. Thanks to Shawn KB8MDE who built the dual slot antenna, only fine tweaking was required to put the gain where it should be. In fact, when I finished, it turned out to have more gain than any of the designs I've tried. This is the case in spite of the fact that he used a smaller diameter pipe. He used 3 inch nominal aluminum electrical conduit which has an outside diameter of 3.5 inches. The gain turned out to be an honest 8 DB. I was so amazed that I tried numerous locations around the yard to take a new gain check. Each time I got 8 DB so now I believe it. More on this later.

The 1280 Mhz antenna was not quite so easy. After wearing a track in the grass going back and forth from test position in the yard to workshop and back many times, I finally got an acceptable gain of 4 DB for a single slot design. Again, more on this one later.

Amid all of the repeater work, I've managed to squeeze in a bit of other workshop handy work. First of all the bench got a good cleaning. To my surprise I found some tools that I've been blaming the kids for loosing long ago. Should I tell them?... Nope! Next, I fixed the VCR. Now I've got something to record proof of that next rare DX that's going to show up any day now. The next thing to do is build a tall shelf for a couple of monitors so I can watch more than one frequency at a time like Rick WA3DTO does. That's all for now. Back to work.

Art...WA8RMC

FRED YOST K8JGY MOVES SOUTH

I believe we all know Fred the former flurry of activity in Gahanna. He is now a resident of Gilbert South Carolina. A month or so ago he asked Rich Budd NK8F and myself to help take down his tower so I knew something was in the works. I said "no problem" but when I saw his 40 meter beam up close I changed my mind. Unfortunately we were already up the tower so there was no backing down(no pun intended). He told me that he found a peaceful secluded spot in South Carolina for that tower, antenna and ATV gear that he'd had his eye on for some time now so when the opportunity presented itself, he responded in a most positive way. We'll all miss Fred's antics with Pete the parrot and I assume that Fred will write to us from time to time and keep us informed of the ATV activity down there. Good luck Fred. Anyone wishing to correspond with Fred may reach him at: 234 Schofield Road Gilbert, South Carolina 29054.

WE'VE GOT A NEW ATCO TREASURER

Since Fred has resigned his treasury duties, Bob Tournoux KF8QU has graciously agreed to take over this post. Let's all applaud Bob's support for taking on this critical job. He started right out by opening a checking account at the credit union where he works. Now we will have personalized ATCO checks and an interest bearing account. The only sad thing at this time is that the monthly maintenance charge nearly wipes out the interest. We'll have to acquire more members so we can reverse this effect. All monetary correspondence should be addressed to Bob. His address is: 3569 Oarlock Court Hilliard, Ohio 43026.

ATV SIGNAL TRAVELS 225 MILES & PRODUCES A BANG

Dick W8RVH in New Carlisle, Ohio was transmitting ATV on 1280 Mhz using FM modulation and was received by W9NTP in Waldron, Indiana south of Indianapolis. Don simultaneously retransmitted the video back to Dick on 439 Mhz so he could see how well it was being received.

W8DMR in Columbus Ohio, monitoring the activity, could **not** see W8RVH on 1280 or W9NTP on 439 but **could** see the Dayton repeater on 426 Mhz which was repeating W9NTP's ATV signal. Much to my surprise I could see W8RVH's test pattern P3.

W8RVH's signal had to travel 75 miles to W9NTP, back 75 miles to the Dayton ATV repeater and finally another 75 miles to Columbus. During its journey of approximately 225 miles, it passed thru three transmitters, three receivers and changed frequency three different times employing both AM and FM modulation techniques.

Dick and Don were not aware that I was monitoring the DARA ATV repeater in Dayton. It turns out that there is more than one way to get a bang out of the 4th of July at 7:30 AM without using explosives.

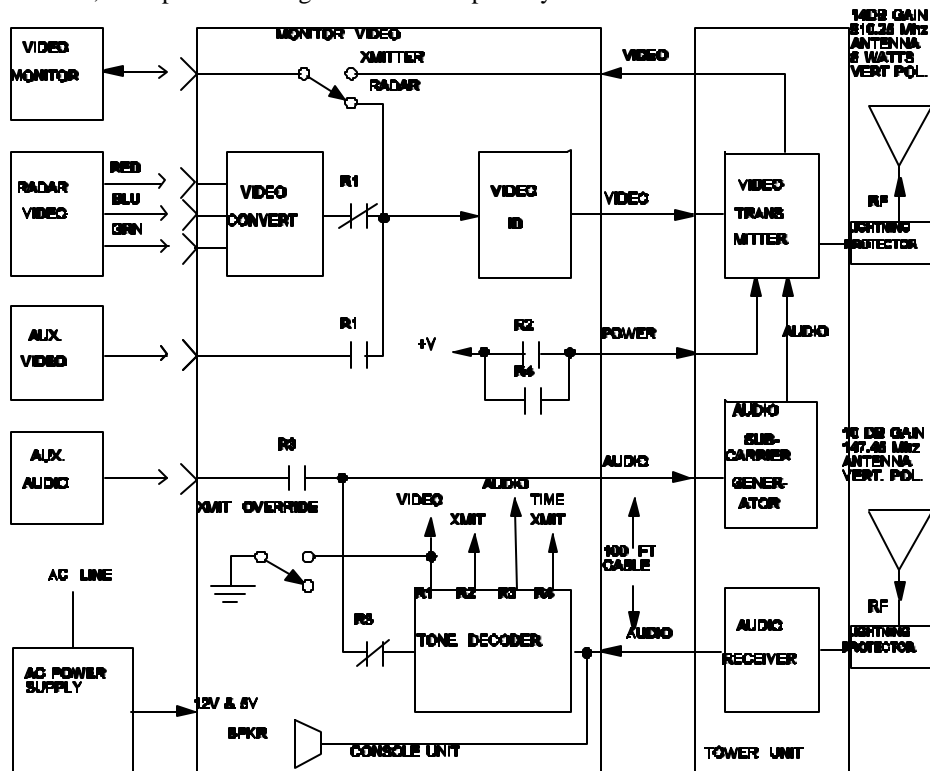
Bill...W8DMR

THE COLUMBUS AIRPORT RADAR LINK IS UP AND WORKING

I finally finished the airport radar link transmitter to the repeater. As I mentioned earlier in the newsletter, the build process did not go as smoothly as I had hoped. However, that's behind us now so let's look forward. The digitizing converter required to make the radar signal NTSC video compatible is not complete yet, however. To fill in in the meantime is my B/W camera pointed at the radar screen monitor at the National Weather Service. Even that is not the best till we get the better monitor pointed at the camera. This is easy to rectify for all that's needed is a better shelf to put it on.

The up code is CMH (264) to bring it up for 5 minutes. To shut it down before the timeout simply punch #. Note that after punching the up code there is a 2½ second delay before the transmitter goes on the air. This is done to allow code sequences with 264 in them to not bring up this signal. The logic looks for the 3 digit 264 sequence and if it finds more following tones it resets.

For those that are interested, a simple block diagram of the complete system is shown below.



ATV ACTIVITY IN CLEVELAND

Well, here's the scoop from the Greater Cleveland area. All the activity is on the 439.25 frequency due to the line "A" situation up here. There is some dabbling in the 900 band, but only a little for experimenting. The talk frequency is the standard 144.34 along with 144.31 and 144.37 due to heavy activity in the area. During an evening session there will be three or more different QSOs going on at the same time, so the other frequencies are necessary to keep the peace. All of the ATV antennas are horizontal beams along with two-meters, this has been great since we all beam at each other anyway, there is never a problem working into the noise on two-meters (DX).

There are about fifty active ATVers in the greater Cleveland area; some of them will be listed later. There is plenty of daytime operation with a good portion of the senior folks retired and they are really active in building antennas, preamps, tube tx amps, and filters. This has been helpful for the folks that work all day and enjoy ATV at night, but the day crew still comes on in the evening which keeps us informed of any good band openings that may have come up. Along the North-Shore area there are some great band openings that are due to the lake effect, some times the folks along the lake up to five miles inland will work stations 200 to 300 miles while the folks that live up in high country 1300 ft. away from the lake won't see a thing except a sync bar or two.

Cleveland is blessed with line "A" as mentioned before. This was originally for the Canadians benefit, but low and behold money bought the frequency space from 420 to 430 and this is now loaded almost full with commercial user's, mostly cities surrounding Cleveland. We have had the same problem as most with the FM repeaters moving down the band into the ATV passband 438 to 444. There was one incident recently that really was great, A repeater operator requested a freq. pair and the Ohio council originally gave him 443 something and he did not want to interfere with the ATV'ers, so they finally gave him a splinter pair above 444 and all are happy now.

The Cleveland group is going to keep horizontal on ATV so this will help with the interference problem both ways. Many of us are using band-pass and notch filters to help out in this situation also. There are a good portion of us that have as much money or more in equipment than most of the repeaters could ever come up with for this mode of operation and we hope to be able to keep on using the mode for a long time. The majority of folks are using PC Electronics, along with AEA, Wyman, and some of the other gear around. I would say most all have 50 to 100 watts with 14 db gain antennas at 50 feet or so along with preamps and such. There are about half that are using computers for graphics displays, along with three that have the Video-Toaster married to their Amiga Computer (WoW what a show). Overall there is a good feeling up here and we are having a good time with this great mode. Since Dayton there are three new folks that have come on line and I'm sure more will come soon.

For all you folks that thought there were only fish up north get your fishing poles out and let's catch some DX. Here is a list of some ATVers in the Cleveland area:

N8IXU - BOB	W8AC - JIM
K8JAS - JOE	W8DOE - JOE
KB8ZW - BILL	WA8EYG - GEORGE
W8RRA - HANK	WD8DAH - KEN
N8MGU - LARRY	WA8ZUM - CHARLIE
KB8FKM - MARK	N8NBC - DAN
W8KDT - FRENCHY	WA8ARY - BOB
KE8YX - GEORGE	KE8WU - SHAWN
WD8RPT - JIM	N8RPX - ERIC
N8ZTZ - MICHELLE	WA8WOJ - DALE
N8MXR - ROD	KO4QN - HOWARD
KB8MTZ - AL	WA8SAJ - JEFF

These are just a few off hand that I thought of during my writing of this article. Hopefully we will work some of you folks when the band opens up towards the south. So here's looking at you.

Jeff Covelli...WA8SAJ

FIELD DAY EXPERIENCE

I'm a relatively new ham (only licensed since 1991), so I've only attended a few Field Days. However, this year's event was a little different for me since I was the nut who suggested we do it! Somehow I found myself president of the recently re-awakened ABB Radio Club, so I felt we ought to try Field Day this year for a club event. Several of the ABB Radio Club members are also ATCO members, so I suggested we try ATV at field day.

Well, several of us showed up at the ABB shelter house at 9AM Saturday morning. Ken (WA8RUT) brought a variety of his ATV equipment. We ran 3A class so our first chore was to put up the antennas. Ken pulled out his six meter beam from its hiding place in his attic (or maybe it was his garage) anyway it was dusty! But it worked. We all talked to Cuba on six meters! I brought my Kenwood TS830S for the CW station and we brought our ABB Radio Club HF and 2 meter rigs. Ken supplied the six meter rig. Another one of our ABB members, Paul, N8XQV supplied his rig and call for the novice station. As soon as we can get Paul off of his horses, maybe we can get him into ATV... Well, it was fun erecting the antennas. We tried using a sling-shot, but when that didn't work so well, we went real high tech and used a 3/4 inch box wrench. That had some authority.

Since my boy showed up to camp, I had to put up the Field Day Tent. This tent was handed down to me from my cousin, W8TNK, (Bill Andrews) who got me interested in Ham Radio when I was about 8 years old. Bill used this particular tent for field days back in the 60s and 70s. I've used it the last two years at Delaware with the DELARA group, but this year decided it must be with me at ABB Radio Club Field Day. I placed a VCR & TV in it for my son for those times when he wasn't watching me try to make contacts (which was most of the time).

This was a neat place to have field day, especially since it rained! The shelter house didn't get very wet and we even had a big charcoal grill on which to cook. (McDonald's was just a block down the road too!) However, the place had one drawback - we didn't really have enough big trees for all of the antennas that we erected (an 80-meter dipole, a 40-meter dipole, a 10-meter dipole, a multi-element 2-meter yagi, a 6-meter yagi and several ATV yagis). We were fortunate to get the use of the company 12KVA generator. We used a little over 10 gallons of diesel fuel!

It seems that not all hams think of Field Day as an ATV event. I think we only had one contact, but then that might not be too bad. You see, that one contact reminds me of my first field day. For some odd reason (I must be a nerd) I enjoy morse code. But, I've always been hesitant to get on the air; I feel I ought to really be able to receive fast so I won't be able to miss anything. Well, anyway, my first time at field day I told the one ham operating CW that if he needed a break to let me know so I could try it. Well, the break came about 6am. I went into the CW tent eager to make two or three hundred contacts. Well, I sat down and was completely dumbfounded when I heard all that gibberish. He even had an electronic keyer with memory, but I couldn't even make one contact! Boy was I depressed! Well the next year (last year) I couldn't attend field day, so I had to wait till this year. And, lo and behold I finally started to get the hang of it. I made about 70 CW contacts. So, what the heck, maybe in a year or two we could make 70 ATV contacts!

Our ABB club did pretty well.. We had Jeff Mass, K8ND, (Our ABB point man) step in so we could get some real CW points; he made nearly ten times as many contacts as I did. Jeff might yet get into ATV; we watched a tape of a gun shooting contest that Jeff happened to bring along for the weeeee hours of the morning when things got a little dead. I reckon that using a VCR is a pre-requisite to ATV... Anyway, I think we accumulated around 3500 points.

About that tent... Sunday we used Dale - WB8CJW's weather radar link to determine that - yes, I should take the tent down on Sunday morning before the rain came! Trying to roll up a wet tent and stuffing into the truck after more than 24 hours without sleep seems to ask for trouble. My nine-year old was the sole occupant of the tent, but he willingly moved to the ever so comfortable front seat of my 1988 F-150 pickup truck. It wasn't 10 minutes after I folded up that tent that the rains came, and they stayed most of the day!

Well that's about it for field day 1994. Next year I hope to make at least 100 CW and at least 10 ATV contacts.

Bob...KF8QU

DUAL SLOT ANTENNA UPDATE

I've had a chance to experiment more with the 427 Mhz dual slot antenna that I described last year in the ATCO newsletter. Since then, Ron WA4GSS has built 2 of these antennas for his repeater in Ashland Kentucky and asked me questions about them. As a result of the discussions, I offered to test them in my back yard if he would bring them here. He seemed anxious to determine if the gain was as expected so we had our chance.

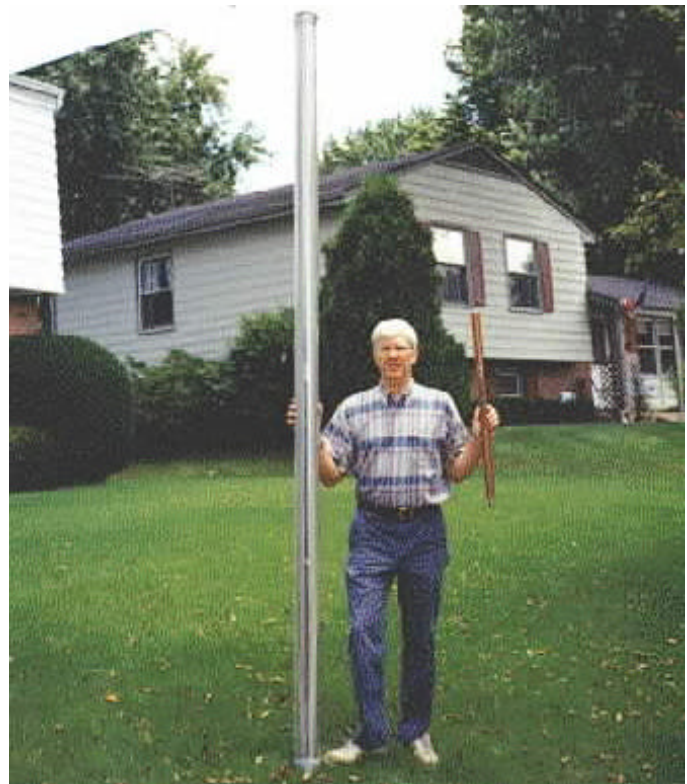
He built each antenna out of 3½" aluminum electrical conduit (3_"OD) which has a ¼" wall so it is very sturdy. This stuff is great because it is not only has a thick wall, but it's readily available at electrical supply houses, it comes in ten foot lengths (a perfect length without cutting) and is threaded on each end. Connect a cap to one end a coupling and reducer to 2" pipe on the other end and a perfect mounting section is formed.

The first antenna tested out good but needed a little capacitance at the feed point of each section to bring it up to about 7 DB of gain. (My antenna tested to be 7½ DB). The next antenna wasn't good at all. We played with it for quite awhile till we discovered it was resonant at about 430 Mhz and we needed 421 Mhz. Replacing the phasing harnesses with pieces that were each about ½" longer did the trick. Important point here: an error of ½" makes a great difference to the gain. Also, it's hard to cut the lines exact the first time because it's hard to determine how to measure exactly to the true feed point. It's best to build it a little long then test the gain at various frequencies to find where its resonant and trim from there. After installing the new harnesses and adding some feedpoint capacitance the gain also was about 7 DB.

Since then I tested our repeater receive dual slot antenna (built by Shaun KB8MDE) and found it to have even more superior gain. He used 3" electrical conduit which has about a 3½" outside diameter instead of 3_". After trimming the phasing line lengths and adding some feedpoint capacitance the gain showed a true 8 DB. I didn't believe this at first so I tried several test points around the back yard and got the same result each time. **So it is possible to get 8 DBD gain from a dual slot antenna at 439.25 Mhz.** To date I've not seen any other omni horizontal antenna with gain figures greater than this. If there are I'd like to hear about them!!!

Since I have seen good success with slot antennas, I decided to build another 1280 Mhz single slot for the second input to our repeater. I duplicated the design I used for our 1258 Mhz repeater transmit antenna I built last year. Testing proved that the 4:1 balun I used before didn't work this time. I decided to determine exactly just what the feed impedance of a single slot antenna at 1280 Mhz was. To do this I built ¼ wave coaxial matching sections of various impedances till I found the one with the best match. The best match occurred with a ¼ wave section impedance of about 60 ohms. Therefore the antenna impedance was somewhat less than 75 ohms. I was surprised for all text articles I've read stated impedances of 100 to 200 ohms for antennas like this. Nevertheless I decided to trust my data and feed the antenna directly with 50 ohm coax. It worked fine, however, I found here that a balance to unbalance stub at the feed point helped the final gain by about 1 DB. After cleaning it up and adding some feedpoint capacitance tabs, the gain was about 4 DB. This is a little lower than I had hoped for but I was tired of playing with it. Case closed.

Art...WA8RMC



UPCOMING HAMFESTS

THE UNION COUNTY AMATEUR RADIO CLUB HAMFEST NOTIFICATION

MARYSVILLE, OHIO: 21 August 1994, at the Union County Fairgrounds (near Columbus, Ohio): The Union County Amateur Radio Club is holding our 18th Annual Hamfest. Radio equipment, computer products, and Flea Market. 10x10 spaces are \$15.00 for indoor space, including electricity, and \$5.00 per outside space, electricity (where available) for an additional \$5.00 per space. Admission to the Hamfest is additional, with the admission for all being \$5.00 per person, with children 9 and under admitted free. Advance Sale Group Discount: 6 admission tickets for \$25.00.

Due to circumstances beyond our control, set-ups will begin at mid-night, rather than the late Saturday evening set-ups as was the case in previous years. Contact Gene Moore (N8YRF) at 24461 Claibourne Road, Marysville, Ohio 43040. [513] 246-5943.

ATCO SUMMER EVENT AND HAMFEST

During the "Spring Event" and since we all had a great time we decided to try for a "Summer Event". If this works out well, we'll have a Spring, Summer and Fall Event each year from now on. To help entice more people to attend, we planned this year's Event to run concurrently and at the same location as the Columbus Hamfest. Ken WA8RUT will give a talk about the repeater at 1:00pm in the Shrine Temple meeting room after which we can have our ATCO meeting. Many other things may be planned. Stay tuned to the ATCO net on Tuesday nites (9:00PM) between now and August 6TH for the latest details. For sure we will have an antenna contest so bring your best (and worst) antennas for testing and a prize. Bob KF8QU wrote a great program for antenna plotting and Dale WB8CJW built the connecting hardware last year so we've been anxious to try it out. The contest will be open to all so tell your friends to come, enjoy the hamfest and participate in the antenna measurements.

The 4TH Annual COLUMBUS HAMFEST (and ATCO SUMMER EVENT)

Sponsored by the Voice of Aladdin Amateur Radio Club

When: Saturday, August 6, 1994
Vendor setup from 6:00-8:00AM
Public admitted from 8:00AM-3:00PM
FREE PARKING ON SITE.

Where: The Aladdin Shrine Temple
3850 Stelzer Road, Columbus OH 43219

Directions: From I-270, exit westbound onto Morse road
proceed ½ mile west to Stelzer road & turn south onto Stelzer (at the lite).

Talk-In: 147.84/147.24 and 147.45 simplex.

Join us at our beautiful, air conditioned facility!
Commercial exhibits, Flea market, door prizes, refreshments.
Free Seminars on Packet Operations and Weather Spotting.
VE Session: Advance registration requested but not required.
(Please be on site by 8:00AM if you are planning to take an exam)

Admission tickets are \$3.00 in advance, \$5.00 at the gate. (children under 12 are free)
Indoor Display tables (6ft) are \$5.00 each, in advance, \$7.00 at the door.
Outdoor flea market spaces are \$2.00 each, advance or gate.

For advance tickets/tables/registration contact Jimmy Caines, 1056 Erickson Ave, Columbus OH 43227
tel# 614-235-4506 eves. Advance requests must be received by July 30, 1994 for advance rates.

HAM SEES BALL OF FIRE!

Something really eerie happened to me this past Thursday. Art WA8RMC was supposed to drop by, so I thought I'd tidy up the shack. There wasn't much to do anyway since it was thundering and lightning. I walked into the shack and just then KABOOM! FLASH! BANG! An enormous bolt of lightning and clap of thunder fell upon Hilliard Ohio! At that very instant I saw with my very own eyes a white ball of fire about 6 inches in diameter emanating from my electrical outlets where my TS830S rig gets its power from! Oh no! (and a few other expletives) I thought. What now? I turned on the rig, but no power! Had I been had? At about that time Art rang my doorbell and I invited him into the shack. I explained to him about my most recent episode with the bolt; he was sympathetic but tried to assure me that the rig would be ok. I decided to check the fuse; I found that what once was a tube of glass with two metal end caps is now a puzzle with several pieces of glass and a couple of loose end caps. I tried a new fuse and to my surprise it worked. Then I decided to turn on the ATV receiver to check the weather radar. I wanted to see how bad this storm looked but the ATV receiver wouldn't come on.

My first thoughts were that my antenna had been struck. It was not plugged into anything, but it was lying on the floor about a foot away from the outlet. When I looked at the PL259 connector, I could see a small area which appeared to be melted metal. Art told me about the vicious lightning he'd seen on the way over. Just then my son asked me what I had done to kill the TV in the living room. About this time I started to think that the old homestead had been "touched" by a mean streak! We decided that I had suffered a near strike, at least.

After Art left, my wife and I decided to go outside to see if we could see any evidence of a lightning strike. She noticed a discoloration on the corner of the chimney. I got up onto the roof and inspected it; it was dark, and it did look like a char mark. But, there was no physical damage to the chimney. I thought that since my 40-meter dipole feed point was on the chimney, perhaps the blitz bug lightning arrester had changed the path of the lightning down to ground and that I'd only received part of the charge at the other end of the antenna. While we were inspecting, we noticed that the fountain pump was not running. I checked all of breakers inside and found only one that was tripped. I reset it and the fountain pump still did not work; neither did the ATV receiver.

I went back to the shack and took the back off the ATV receiver. The fuse was good. Oh boy, now what! I decided to start checking the rest of the equipment. My computer was plugged in but not powered up at the time of the strike. When powered it was ok. I guess the surge suppressor helped! Next I decided to see if the ATV transmitter was still functioning so I retrieved my son's portable TV (he won it at the spring ATCO event) so that we could see if the transmitter was still running and guess what! it wasn't! I took some measurements and found that the exciter seemed to be functional, but the power module was definitely zapped.

The next day I called the insurance company and reported the incident. I was puzzled though as to how the lightning got from the outlet where I saw the flash to all the other outlets that seem to be affected. And why did only two of our four TV's get affected? And why didn't everything else that was plugged into the same circuits get hit? I began to consider another possibility. One of my friends at work who lives about two miles from me said he saw a power transformer struck which made a REALLY HUGE FLASH! After a bit of thought I came up with this scenario. The lightning probably struck the power lines and sent a vicious surge. The big flash I saw was a power module that was plugged in to the wall; it couldn't handle the surge so it blew! (In fact its plastic case is quite melted.) The two TV's that were hit were both remote control operated, so they would have had power connected to part of the circuitry whereas the other TV's in the house were switched off, so the surge probably didn't get past the switch. The ATV transmitter was plugged into a power supply which was plugged into the wall, but the receive antenna was connected to the TV that I use for the ATV receiver. It turns out that the fountain pump was not damaged after all; there was another GFI outlet outside on that line. When I reset the GFI breaker, the fountain pump started to work. And I suppose the surge was enough to break the glass fuse in the HF rig, but since the power was not on, the damage was limited to the fuse.

The last part of this episode came last night when I tried to play a video for my son using the VCR connected to the downstairs TV that got hit. The sound worked, but no video! I guess we'll be getting a new VCR as well.

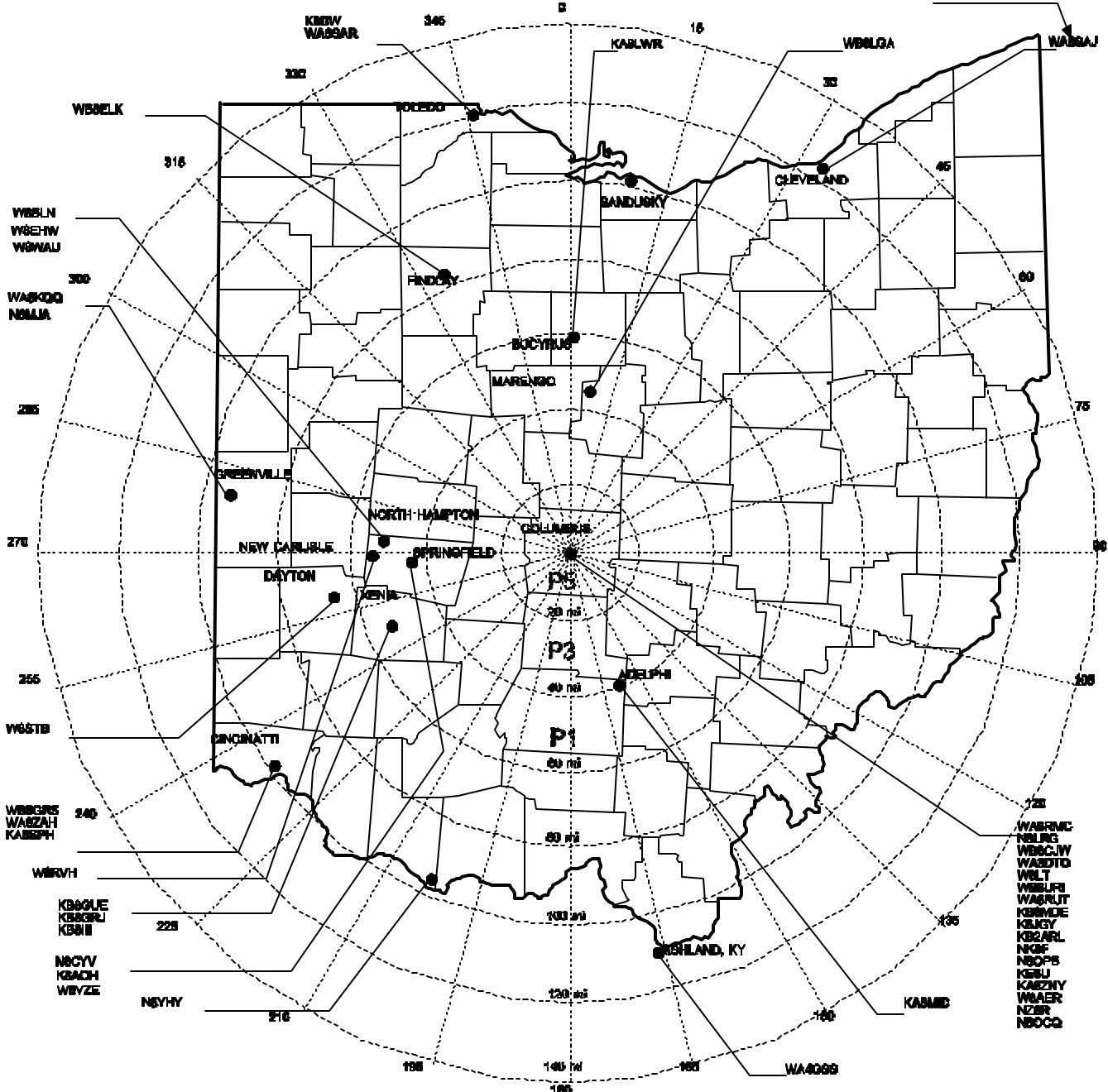
To summarize, I think that my surge suppressor on the computer saved it. I'll have to install surge suppressors everywhere now and I think it will be cheaper than the \$250.00 deductible I found out that I had on my insurance! I'm also connecting up a Transorb to my incoming power. Maybe that will stop the BOLT!

Bob...KF8QU

ATV LOCATOR MAP

Below is an Ohio map complete with counties, main cities, beam heading (from Columbus) and all of the hams known to have had video on the air recently. Please report anyone that has had video on and seen recently. If video is not reported for a given individual in about a year, I will remove them from the map. Let's see if we can make Ohio near the top for ATV activity. The map also contains mile circles with approximate P levels expected. Generally the signal drops by 1 P unit each time the distance is doubled if all other factors remain unchanged. The P numbers are typical reported values under average (non band open) conditions.

Not seen yet but hoping he will tell others in the Cleveland area to check the activity in the Columbus area.



ATCO REPEATER TECHNICAL DATA SUMMARY

This space of each publication of the ATCO Newsletter will include the technical information of our repeater. Each time a new feature is brought on line it will be added here. Use this "table of information" as a quick reference for up/down access codes as well as some of the more important parameters of our system. Comments both pro and con are welcome.

Main repeater:

Location: Downtown Columbus, Ohio

Coordinates: 82 degrees 59 minutes 53 seconds (longitude)
39 degrees 57 minutes 45 seconds (latitude)

Elevation: 630 feet above average street level
1460 feet above sea level

transmitters: 427.25 mhz AM modulation and 1258.25 mhz FM modulation
vestigial sideband filter in output line of 427.25 transmitter
average power = 50 watts (427.25) 10 watts (1258.25)

transmit antenna: 427.25 mhz - Dual slot horizontally polarized 7 dbd gain Major lobe north
1258.25 mhz - Single slot horizontally polarized 3 dbd gain Major lobe west

receivers: 147.45 mhz for input control of touch tones
910.25 mhz for link data from remote sites

receive antennas: 147.45 mhz - Vert. polar. Hi Gain "Comet" 12 dbd (also for 440 mhz input)
910.25 mhz - DB Products vert. polar. 10 dbd

		<u>UP</u>	<u>DOWN</u>
input control:	Touch tones as follows:		
	beacon (10 min)	439 #0	
	weather radar	697	#
	airport radar(5 min)	264	#
	NASA Select	*70	*20
	1 minute ID	*38	#D
	Bulletin board	*77	*22

remote sites: Airport radar at Port Columbus airport (910.25 mhz link output 8 watts)
NASA select at KA8ZNY QTH (910.25 mhz link output 5 watts)
Aux link at WA8RUT QTH (910.25 mhz link output 1 watt)
Aux link at WB8CJW QTH (910.25 mhz link output 1 watt)
Aux link at WA8RMC QTH (910.25 mhz link output 10 watts)

Main repeater input:

location: Downtown OSU area *
input freq. 439.25 mhz (and 1280.25 in near future)
input antenna: Zig-zag at 75 ft elevation *
link freq. 910.25 mhz output 1 watt
link antenna: 15 el loop yagi 13 dbd gain

*Note: Sometime during the month of July, we hope to move the receive site to the old WBNS ch 10 tower located in the near downtown Columbus area. Elevation there will be about 350 feet. Antennas (already built) will be a dual slot for 439.25 mhz and a new 1280 mhz single slot for inputs on 1280.25 mhz.

ATCO MEMBERSHIP INFORMATION

Membership in ATCO (Amateur Television in Central Ohio) is open to any licensed radio amateur who has an interest in amateur television. The annual dues are \$10.00 per person payable on January 1 of each year. Additional members within an immediate family are included at no extra cost.

ATCO publishes the ATCO newsletter quarterly in January, April, July, and October. The newsletter is sent to each member without additional cost.

The membership period is from January 1ST to December 31ST. New Members will receive all ATCO newsletters published during the current year prior to the date they join ATCO. For example, a new member joining in June will receive the January and April issues in addition to the July and October issues.

Your support of ATCO is welcomed and encouraged.

ATCO MEMBERSHIP APPLICATION

RENEWAL NEW MEMBER DATE _____
OK TO PUBLISH PHONE # IN NEWSLETTER YES NO HOME PHONE _____
NAME _____ CALL _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

FCC LICENSED OPERATORS IN THE IMMEDIATE FAMILY

COMMENTS _____

ANNUAL DUES PAYMENT OF \$10.00 ENCLOSED CHECK CASH
Make check payable to ATCO or Bob Tournoux & mail to:

Bob Tournoux KF8QU
3569 Oarlock Ct
Hilliard, Ohio
43026

ATCO FINANCIAL STATEMENT

CASH BALANCE (as of 4/8/94).....	\$ 838.08
RECEIPTS (dues).....	\$170.00
OTHER INCOME	\$0.00
EXPENDITURES (postage for April newsletter).....	\$17.40
(Spring event food costs).....	\$150.95
(checking account costs).....	\$54.31
BALANCE (as of 7/5/94).....	\$785.42

ATCO MEMBERS AS OF 05 JULY 1994

K8AEH 866-1399	Wilbur Wollerman	1672 Rosehill Road	Reynoldsburg	Ohio	43068	
W8AER	Dave Sears	1678 Kaiser Dr	Reynoldsburg	Ohio	43068	861-0904
KB2ARL	Dave DiGiuseppe	2081 Elmore Ave	Columbus	Ohio	43224	478-4539
WB4BBF	Randall Hash	212 Long Street	Bluefield	Virginia	24605	
WB8CJW	Dale Elshoff	8904 Winoak Pl	Powell	Ohio	43065	766-5823
N8CYV	Blaire Standley	721 West North St		Springfield	Ohio	45504
K8DW 1625	Dave Wagner	2045 Maginnis Rd		Oregon	Ohio	42616
WA3DTO	Rick White	5314 Grosbeak Glen	Orient	Ohio	43146	877-0652
WB8DZW 6033	Roger McEldowney	5420 Madison St	Hilliard	Ohio	43026	876-
W8EHW	Foster Warren	124 East Clark St	No. Hampton	Ohio	45349	
WA8EOY	Jonh Schlaechter	3199 Lewis Rd	Columbus	Ohio	43207	491-4470
KB8EWX	Cris Bauer	6227 Arapahoe Pl	Dublin	Ohio	43017	761-3567
NK8F 5354	Rich Budd	734 Hager Court	Gahanna	Ohio	43230	471-
W8FB 1625	Paul Wagner	2045 Maginnis Rd		Oregon	Ohio	43616
N8FFO	Edward Hauff	2716 Columbus Ave	Columbus	Ohio	43209	253-5794
KB8GRJ	Adrian Oakes	155 Lower Hillside Dr	Bellbrook	Ohio	45305	
WA4GSS	Ron Curry	229 West Green Hill Rd	Ashland	Ky.	41101	
N0IKJ 5354	Ruth Budd	734 Hager Court	Gahanna	Ohio	43230	471-
K8JGY	Fred Yost	234 Schofield Rd	Gilbert	SC	29054	
N8KCB	Chris Morris	3181 Gerbert Rd	Columbus	Ohio	43224	261-8583
WA8KQQ	Dale Waymire	225 Riffle Ave	Greenville	Ohio	45331	
WB8LGA 419-864-7224	Chuck Beener	2548 State Route 61		Marengo	Ohio	43334
N8LRG	Phillip Humphries	3226 Deerpath Drive	Grove City	Ohio	43123-4100	
WD8LXX	Rob Peebles	PO Box 1334	Dublin	Ohio	43017	
KA8MID	Bill Dean	PO Box 458		Adelphi	Ohio	43101
KB8MDE	Shaun Miller	3469 Oakcrest Rd	Columbus	Ohio	43232	238-0918
WD8OBT 9807	Tom Camm	1634 Dundee Court		Columbus	Ohio	43227
N8OCQ	Robert Hodge	3689 Hollowcrest	Columbus	Ohio	43223	875-7067
N8OOY	Cheryl Taft	386 Cherry Street	Groveport	Ohio	43125	836-3519
N8OPB	Chris Huhn	146 South Hague Ave	Columbus	Ohio	43204	
WB8OTH	Perry Yantis	1850 Lisle Ave	Obetz	Ohio	43207	491-1498
KE8PN	James Easley	1507 Michigan Ave		Columbus	Ohio	43201
KF8QU	Bob Tournoux	3569 Oarlock Ct	Hilliard	Ohio	43026	876-2127
N8QLD	Rick Callebs	P.O. Box 266	Jackson	Ohio	45640	
NZ8R	Greg Radcliff	1763 Hess Blvd	Columbus	Ohio	43212	
WA8RMC	Art Towslee	180 Fairdale Ave	Westerville	Ohio	43081	891-9273
WA8RUT	Ken Morris	3181 Gerbert Rd	Columbus	Ohio	43224	261-8583
W8RVH	Richard Goode	9391 Ballentine Rd		New Carlisle	Ohio	45334
WD8RXX	John Perone	3477 Africa Road	Galina	Ohio	43021	
WA8SAR	Gary Obee	3691 Chamberlain	Lambertville	Mich	48144	
N8SFC	Larry Campbell	5483 Wescott Dr	Columbus	Ohio	43228	
WA8TTE	Phil Morrison	154 Llewellyn Ave		Westerville	Ohio	43081
N8TUU 5986	Maxine Duemmel	3488 Darbyshire Dr		Hilliard	Ohio	43206
KE8U	John Greene	7585 Central College Rd	New Albany	Ohio	43054	855-1475
WB8URI 4402	William Heiden	4435 Kaufman Rd	Plain City	Ohio	43064	1-873-
WB8VJD	Rick Morris	3830 Doyle Street	Toledo	Ohio	43608	261-8583
W8WAU	Jake Fuller	PO Box 117	No. Hampton	Ohio	45349	
KA8WGX	Martha Yost	234 Schofield Rd	Gilbert	SC	29054	
KA8ZNY 3519	Tom Taft	386 Cherry Street		Groveport	Ohio	43125
N8ZTL	Gregory MacCartney	3469 Oakcrest Rd	Columbus	Ohio	43232	

ATCO Newsletter
c/o Art Towslee-WA8RMC
180 Fairdale Ave
Westerville, Ohio
43081

FIRST CLASS MAIL

**I HOPE EVERYONE IS ENJOYING THE SUMMER!!!
CUT THE GRASS, PAINT THE HOUSE, WEED THE GARDEN...
BUT MOST IMPORTANT OF ALL
ENJOY YOUR ATV HOBBY AT LEAST SOME OF THE TIME.**
