



VOLUME 12 NUMBER 4

OCTOBER 1995

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.

ATCO WA8RUT REPEATER UPDATE

Well, we've worked on the repeater again! the antennas have been moved to a slightly different location on the same structure and they've received a new radome. Some cleanup of equipment has occurred and I hope that by the time you read this, the 443 mhz link will be in operation. Check the inside pages for details.

ATCO HAM IN THE SPOTLIGHT

This month the ATCO Newsletter honors Bill Dean KA8MID. Bill has been very persistent with his pursuit of bettering his ATV signal. Even though he says he hasn't done anything to improve it lately, I believe he's holding back on us! His signal now is consistently P2-P3. Six months ago I rarely saw him above a P1 level. Come on now Bill, confess. We congratulate him on his hard work. He's now got his son, Jason KC8BBR and wife interested in ATV. Look out, now you've got competition.

ACTIVITIES from my workbench

Lets see, the last time I sat down to report on my activities, the air conditioner was not performing up to par and I had to “sweat it out”. Well, now its fixed (\$60 bucks later) and it’s late in the evening so I just closed the window because it is too cold outside. What a difference the seasons make around here. Fortunately, I plan no more antenna work this year so I guess it can start cooling down now (as if mother nature needs my permission). What’s accomplished this summer? Here goes.

Much “ham radio” time has been spent designing the RF tight transmit control box for the repeater. this sounds on the surface like a simple task...cut some sheet metal, bend it into a box shape, weld the sides, cut holes for the components, mount the parts, test and finally install it downtown. Right? Wrong! In as much as I always seem to “big deal” everything, the better part of the summer was spent with that box on my workbench. Now, I’ll be honest. It wasn’t the *only* thing I worked on this summer for working on it steady till it’s finished would be contrary to all ham radio practices. I believe there is a code of ethics somewhere prohibiting that sort of activity. Anyhow, as other project ideas floated through my mind, the transmitter rebuild project seemed to find its way toward the back of the bench only to be swiftly brought to the front after another project became too boring to continue. I’m sure that we all have been guilty of that activity at one time or another so you now find out that I’m no exception. Gosh, I feel much better now! Well, to not make this story any longer, I need to tell that it’s finished, tested and waiting at the repeater site for installation. “Why hasn’t it been installed?” you may ask. Well, its a long story but I’ll keep that one for another time. Suffice it for me to say that I’m not quite sure which wire goes where. Most of the time while Ken was working on repeater wiring, I was busy doing something else like antenna work or cable routing. So I guess I’ll wait till Ken comes back from Europe to give me a hand.

While I’m still on the repeater topic, the antennas did get a thorough checking. First, the 1280 antenna is now remounted on the top of the structure and away from the internal girders. This gives the signal a boost in the west direction and is confirmed to be better by W8RVH. Dick, let us know if it is consistently better and by how much. Next, I rotated the 427 antenna to favor the guys in the Dayton and Cincinnati area. When I rotated it, I was able to see the slot side of the tube and noticed that the mylar radome had come off. The problem area was just low enough to reach so I wrapped it with black electrical tape to keep out the rain until I could return to replace the entire radome. This is where things got bad! Everything seemed OK at the time, so we cleaned up and left the site. After returning home I was told that the signal had dropped at least 2 P units. Impossible I said because rotating the antenna could change the signal by no more than 2 dB maximum! But my signal was down at my place also. The “fix” would have to wait till I got some new radome material so the signal remained poor for a couple of weeks. A number of theories surfaced as to exactly what was wrong with the antenna including a comment that black electrical tape is a very poor insulator at 400 Mhz and above.

I obtained some clear copolyester sheet to construct a new radome. I am told that this stuff is very resistant to ultraviolet radiation and does not become brittle. It is called KODAR ® PETG Copolyester #6763 and is used as the base for making movie film. Only time will tell if the recommendation was correct. Also, as we (my son and I) removed the antennas for rework, I found about 2 feet of water inside the receive antenna. Just my luck! The end I sealed DIDN’T, and the end that wasn’t supposed to hold water DID. We cleaned it out, installed the radome, resealed it and then re-installed the antenna. It looks good now. The transmit antenna received a similar treatment (no water was inside this one). After it was re-erected we checked the SWR. Not bad, 45 watts forward and about 1 watt reflected. We left. Upon returning home I found the signal was back to its original strength. Sometimes things DO go right! My conclusion is that the electrical tape was as bad as I was told but somehow this was hard for me to believe. Later the actual reason suddenly hit me. It WAS caused by the electrical tape but not because of its electrical characteristics. The antenna is made of thin wall tubing about .062 thick. The tape was wrapped around it at the feed point in the middle of the slot. The slot compressed causing the two feed points to short together. This problem will indeed cause a 2 P unit (12 dB) drop in signal. Mystery solved!!!

My next project is to rebuild the video modulator for my 4CX250B final amplifier. The tube finally went belly up after about 10 years and when I replaced it, the video modulation really stinks with no easy way to fix it. The color burst is not as good as it should be and stability leaves quit a bit to be desired. I’ve obtained a couple of hybrid power amplifier modules from National that have 250 volt voltage ratings and 300Mhz bandpasses which are intended as CRT drivers in high resolution computer monitors. The specs look good for video modulator drivers so this looks like a good winter project. I’ll report on it next time.

That’s about it for this summer. I never did get to an intended antenna project so maybe I’ll work on that next year. More stuff next issue.

Art...WA8RMC

IS THE 420-450 BAND ON THE WAY OUT???

The following proposal if adopted, would ban ATV activity as we now know it on the 420-450 Mhz band. I have my opinions but read through the proposal and digest it before any strong conclusions are formed. The MACC proposals are reprinted here with permission from ATVQ magazine I will try to summarize MY views at the end of the articles.

MID-AMERICAN COORDINATION COUNCIL, INC. FREQUENCY COORDINATORS' MEETING SUMMARY

April 28, 1995

The meeting was called to order at 2:10 PM by Chairman, Whit Brown, WBCJX.

- A) ATV activity on 70 cm was discussed at length, in particular:
1. ATV 434/439.25 Mhz incompatibility with satellite operations in the 435-438 Mhz spectrum. (Satellite ops are confined to 435-438 Mhz by law.)
 2. ATV 439.25 Mhz incompatibility with long established, coordinated repeater inputs/outputs from 440-445 Mhz.
 3. ATV 421.25 Mhz incompatibility with repeater/remote linking and control.
 4. Unfiltered 421.25 MHz operation extending out-of-band below 420 Mhz.
 5. ATV 427/439.25 MHz incompatibility with packet operations, including wide-band channels recommended by ARRL Board in January 1988.
 6. ATV's inherently inefficient consumption of spectrum, i.e., one ATV QSO consuming 6/12 MHz of spectrum Vs over 200/400 25 kHz conventional channels carrying separate traffic simultaneously.
 7. Just three ATV QSOs, on 421, 426, 439 Mhz consuming 60% of entire 70 cm band.

Therefore, due to these incompatibilities and in an effort to pursue a more responsible and efficient utilization of spectrum in 70 cm, and to displace the FEWEST number of operators in the band, the Committee unanimously voted to cease any further coordination and assignment of ATV activity in 70 cm and to encourage present ATV operations to populate those ATV allocations on 902 Mhz and above.

Further, the Committee recommends that this transition be completed by December 31, 1999. A sub-committee has agreed to write a letter to all known commercial ATV equipment vendors explaining our position and request their cooperation in providing equipment in this effort.

- B) To accommodate late-comers with repeater channels in already saturated regions, coordinators of states sharing common borders are encouraged to work together to find possible unused or under utilized channels that could become candidates for common Shared Not Protected (SNP) multi-occupant channel(s) that would coexist by utilization of CTCSS.
- C) The ARRL's "Single Point of Contact" proposal was discussed along with attendant concerns. It was decided to query ARRL Directors Quiat and Mendelson for clarification. (During following board meeting, Director Quiat stated that this proposal was at the request of the FCC.) Director Mendelson added that this was in pursuit of the "Holy Grail" and that the details would be revealed and discussed at the upcoming ARRL/Coordinator meeting . . . "we are to stay tuned"???? It was implied that the FCC perhaps felt that the time was right to bestow official recognition and sanction to coordinators.
- D) Concerns of proposed date of June 10, 1995 for ARRL/Coordinator meeting was discussed and deemed too soon to accommodate many key representatives and conflicted with many established events. We would clearly make our concerns known and suggest the ARRL reconsider this date.

The meeting was attended by the following representatives:

Whit Brown, WBCJX, Colorado Council of Amateur Radio Clubs; Neil Rapp, WB9VPG, Indiana Repeater Council; Paul Wynne, AF5M, Arkansas Repeater Council; Wayland McKenzie, K4CHS, Missouri Repeater Council; Paul Gilbert, KE5ZW, Texas VHF Society (Guest); Harold Reasoner, K5SXX, Texas VHF Society (Guest); Jerry Temple, N8MTZ, Ohio Area Repeater Council, Jeremy Ruck, WM9C, Illinois Repeater Association, John Gebuhr, WBCMC, Nebraska Repeater Council, Scot Thompson, WBWOT, Wisconsin Association of Repeaters; Dennis Crabb, WBGGI, Iowa Repeater Council; Tom Crabb, NJLU, Iowa Repeater Council, Dick Isely, WD9GIG, Illinois Repeater Association; John Mackey, KASSF, Western Washington Amateur Relay Association.

There being no further business, Chairman adjourned the meeting at 3:30 PM.

MID-AMERICAN COORDINATION COUNCIL, INC. FREQUENCY COORDINATORS' MEETING SUMMARY

(Including Henry's comments) October 7, 1995

ARRL sent pres, VP, K1ZZ, general counsel Chris Imlay, several directors, other honchos from HQ. They ran the meeting after Ralph Hallor of FCC gave his talk. Agenda of meeting was not published. ARRL pushed the group into a SPOC (single point of contact) especially Director Mendelson (NJ). At lunch, ARRL honchos were not pleased with the results and appointed Dick Isley to run the meeting. He is on tape saying (at Dayton and here) that he was not interested in the job of "big honcho" for the Super MACC) despite being president of MACC. An election was held, SPOC was chosen to be ARRL sponsored. 13 people volunteered to be on the committee to generate a "memo of understanding" of how a super coordinator group would operate. ARRL cut this to 5 without discussion. The 5 elected were all ARRL badge holders including Isley. So ARRL is now the defacto super coordinator. Their (super group and FC's/IRC's) agenda is :

1. Remove ATV from 70 cm band
2. No coordination no repeater.
3. Legal immunity from suits so they cannot be questioned about capricious, arbitrary and unreasonable actions.
4. Make a new band plan for FM modes from 420-450 except OSCAR and 432 weak signal portions of band. Digital coordinators were frozen out by election process.

Prior to the meeting MACC again voted to expel ATV from entire 70 cm band (all ATV, simplex and repeater). LOTS OF LUCK! MN says they voted for resolution but will not follow it. Figure that out.

Indiana was #!&#@# at MACC and group as a whole and will likely withdraw from MACC and join SERA.

SERA was also not happy with the groups decision. The attendance was nearly all ARRL badges, including about 60% of the spectrum management committee. And ARRL is saying it is not in the band plan business and will not make band plans. BS . Bob Bennett W3WCQ is doing research right now for a n ARRL bandplan for 440 band. He is an ATV'er (thank goodness) and we don't want him squeezed out like a pimple between ARRL/MACC. We need to give him as much support as we can "behind the scenes". ARRL did not go to this expense (at least \$10 grand) to put this meeting together (the only one they will have) and have Haller of FCC be there (no small expense) without a 95% knowledge of the outcome. This was not an "exploratory meeting".

The agenda sheet said "in response to FCC REQUEST" When asked by Indiana if FCC requested the SPOC Haller said there was NO REQUEST BY FCC.

who's zooming who! they made several anti republican statements and wants FCC to change rules, as does the MACC.

At lunch ARRL made mostly OJ jokes and reformulated a plan to put Isley in charge. Their plans worked.

73 Henry KB9FO

OK...HERE ARE MY COMMENTS ABOUT THE MEETINGS!

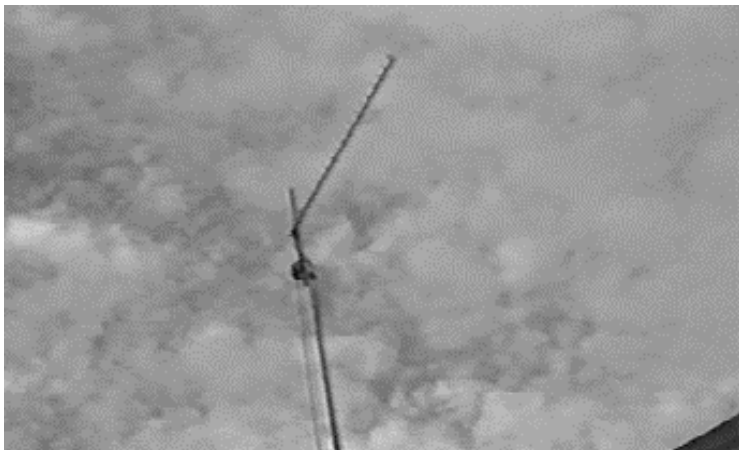
The whole thing sounds finger pointing to me. Bear in mind that I was not at either meeting and can only sense the feelings voiced in ATVQ magazine and the meeting notes, but there must be a better way to resolve conflict of this sort! I really don't want to take sides at this point but rather suggest that a compromise is in order.

Sure I realize that a typical ATV signal takes up a large amount of spectrum . I also recognize the fact that the airwaves are being squeezed to what seems to be approaching the limit. However it is also extremely irresponsible for one group to suggest that a second group cease operations because there isn't enough room for the first group. Look at the situation...I've been operating ATV since the mid 1960's...there weren't any FM repeaters or packet operators then! Now all of a sudden up pops these groups and feels that they were there FIRST and can command the most attention because their activity is more important. Lets get a grip on reality folks! Somehow we have to convince the "policy suggesters" that other hams are out here trying to enjoy their individual focus of the same hobby. All of us have equally important activities in this arena.

Now, lets try and solve this thing working together rather than pointing fingers. How about the ATV'ers retreat slightly and restrict their operation to the lower portion of the 420-450 band while the packet and FM operators go to the upper portion of the band? Yes I know it...how will the ATV'ers operate an in-band repeater if this is done? I guess maybe it'll have to be a cross band system. I may be way off base but how's that for starters? Suggestions invited.

Art...WA8RMC

KF8QU STEALTH ANTENNA RISES TO THE OCCASION!



I wonder how many would be ATVers might be out there who don't get involved simply because they cannot have an antenna. In this article, I'll describe how I got around that problem. If you have any more ideas along these lines, send them in to Art so we can publish them too!

A lack of an antenna tower or even a legal roof-top certainly has made operating ATV at the KF8QU shack difficult. But thanks to the club repeater and a little ham ingenuity, I too have been able to enjoy this facet of our hobby. And, getting an indoor antenna to work has been very challenging. Having already experimented with HF indoor antennas, and being somewhat successful (no DXCC yet, but I have made contacts with several countries!) I had high hopes for indoor antennas for *all* of the ATV bands. Since ATV frequencies are much

higher than those for HF, it seemed to me that any indoor VHF antenna wouldn't have much of a chance. Never saying die, I did build a 6 element quad for 439.25 out of half inch copper pipe that seems to work pretty well from inside the attic. I found that I needed every joule of energy out of whatever signal reached my antenna so I used new (and short) runs of 9913. This has worked quite well -- I see the repeater P5 in color and have seen many other stations through the repeater quite well. I've even seen some of you direct, but there's room for improvement on my end in that mode. Finally, being able to hear other hams say they could see me on the repeater was and is great, but I wanted to be able to see myself -- so I knew I needed the next step -- 1200 MHz

Well, once again I was going higher in frequency, but this time I think it finally got me. I borrowed WA8RUT's 1200 MHz loop yagi, and set it up in my second floor shack. I fired up my 439 ATV signal, but I couldn't see anything on 1200 but a few sync bars! I keyed up a the repeater ID, but didn't see much more. I then put the antenna outside on the lower roof, and I could see the repeater about P3. I figured that I needed to get the antenna out of the dirt and into the air! Yes, it was time to go outside! But how? I live in a neighborhood that is really into deed restrictions. I really would like to remain a ham and at the same time be a good neighbor. One thing that is not disallowed is a flagpole. So, I decided to put in a modified flag pole. It turns out that for \$69.00 Radio Shack has a 36 foot telescoping mast (four sections about 10 foot each). I purchased one of these and used a post hole digger to put a 4 foot hole next to my deck. I then dropped another pipe into the hole and poured concrete around it. That pipe sticks out of the ground about 2-feet so that I can slip the telescoping mast down into it. I mounted it so that it would be about a half inch away from one of the 4 by 4 posts that make up the railing posts on my deck. I tie the telescoping mast to that post when I raise up the antenna.

When I stand on my deck next to the "flagpole", I can be eye-to-eye with the top of the device! I put together a five foot mast with a rotor and made a 35 foot cable with a mate-n-lock connector which attaches to the rotor. I run this cable to a mating connector which is mounted into a metal box near the basement wall. I also routed two runs of 9913 and a run of RG8 to the box from my second floor shack.

I put female N-connectors on each of the ends of those cables so that I could connect another run of 35 feet of 9913 to an antenna or two mounted on the 5-foot rotor mast. Well the big day came and I finally attached the 5-foot mast with the rotor to the telescoping mast. I connected the rotor cable and a 9913 cable to the antenna. Then I extended two sections of the telescoping mast. The total height then was about 31 feet -- much higher than any antenna at KF8QU had ever been. I ran up to the second floor shack and keyed up a test pattern. At first I didn't see much, but after rotating the antenna, the signal came in P5 color! Great! Now I thought I better try my 439 signal. To my amazement, it too came in a good P5, but no color! Can't have everything in one shot....





When I was finished for the day, I lowered the masts, removed the antenna & rotor then put a bag over the pipe and just left it in the ground. This has become a habit for Tuesday nights and other times when I want to mess around with ATV. I also have a couple of designs for some HF Loop antennas made of copper pipe that I'm going to try out maybe this winter. And, oh yeah, I do use it as a flagpole every Saturday during the Buckeye games. So far it has worked great for that too!

We are 6 and 0! Go Bucks!

SOLVE THESE PUZZLES!

An author named Clifford Stoll was shown a series of letters written on a blackboard in an office of the FBI. He was asked to determine the next letter in the series. After a brief moment he was able to provide it. Can you?

The letters on the blackboard are: O, T, T, F, F, S, S

Once you find the next letter in the series, finding the next two letters should be very easy. A first grade student knows everything he needs to find them.

After successfully solving the first puzzle Cliff was then shown a series of numbers on the blackboard. He was asked to determine the next number in the series but was unable to do so and it remains a mystery to this day. Can you help?

The numbers on the blackboard were 1, 11, 21, 1211, 111221

See if you can determine the next number in the series. Remember that your answer must explain the logic that validates how you arrived at the correct solution. Cliff will appreciate it.

Bill..W8DMR

(The answer and possible prize if correct will be revealed at the ATCO fall event November 5th)

NEW MEMBER SECTION

No new members since last newsletter. Lets get out there, guys and promote our great ATV activities. Bring a guest with you to the ATCO fall event. Maybe they'll get "hooked".

HAMFEST CALENDAR

This section will be reserved for upcoming hamfests for as far in advance as we know about them. The listings will be limited to Ohio and vicinity and easily accessible in one day. I trust that anyone who is aware of an event that is not listed here or incorrectly listed will notify me so it can be corrected. The list will be amended as further information becomes available.

LOCATION	SPONSOR	DATE
Springfield, Ohio	Independent Radio Association	October 8
Marion, Ohio	Marion ARC	October 29
Massillon, Ohio	Massillon ARC	November 5
Dover, Ohio	Tusco ARC	January 14, 1996
Cincinnati, Ohio	Great Lakes Conv.	February 24, 25
Mansfield, Ohio	?	?

Toledo, Ohio	Toledo MRA	March 17
Dayton, Ohio	Dayton ARC	April 28, 29, 30
Medina, Ohio	Medina 2-M group	May 12
Youngstown, Ohio	Twenty Over Nine ARC	May 26
Milford, Ohio	Milford ARC	June 15
Van Wert, Ohio	Van Wert ARC	July 21
Wheeling, W. Va.	Triple States ARC	September 15
Cincinnati, Ohio	Greater Cincinnati ARC	September 22
Berea, Ohio	Hamfest Assoc of Cleveland	September 29

INTERNET INFO

If you have access to the INTERNET, you may be interested to know of some of the HAM related information that is available. We've tried to start a list of interesting places to look in case you get in the "surfing" mood. If any of you find different places to look, I'd appreciate having the info passed on to me so I can include it in this list. The ATCO home page will be updated periodically so be sure to check often for late breaking NEWS. The addresses listed below are case sensitive, so make sure you type exactly as shown. (If anyone has comments or would like additional listings contact me via EMAIL at towslee.@mt-two.mhs.compuserve.com)

http://www.ualr.edu/doc/hamualr/callsign.html	Search by call sign or name.
http://asp1.sbs.ohio-state.edu	Local & global weather map information (good detailed info)
http://www.arrl.org	ARRL home page
http://www.acs.ohio-state.edu	Ohio State University home page. Lots of neat stuff.
http://psycho.psy.ohio-state.edu/atco.html	ATCO home page.
http://www.geopages.com/siliconvalley/1242	East Tennessee ATV home page
http://www.realm.net/~jpawluk/kb6mmf.html	California ATV home page
http://www.mindspring.com/~rwf/aatn.htm	Atlanta, Georgia ATV home page
http://calvin.ksc.nasa.gov:1080/lisats.html	NASA ATV home page
http://www.stevens.com/hats/home.html	Texas ATV home page
http://geopages.com/siliconvalley/1242/wb7fid.html	Utah ATV home page
http://www.prostar.com/web/ham-tv.html	Washington ATV home page
http://www.arrl.org	ARRL home page (not much now but they're new to the net)

Art...WA8RMC

THE "FALL EVENT" APPROACHES

On November 5th we will have our 9th annual "Fall Event" where as many of us as possible get together to exchange facts (and lies) about our typical ATV experiences. All are invited to attend (member or not) and join in with the fun. We will have free food and maybe I can be talked into cooking Brats again this year (pre soaked in beer to enhance the flavor) and door prizes. After we eat we'll have a short business meeting, draw for prizes and then try some antenna measurements that we didn't complete last year. Bring your best and (or) worst antenna designs for 439 or 1280 Mhz and we'll compare gains. Successfully solve the puzzle shown above for a chance at an additional prize! (If you're the only one to solve it, you're automatically a winner!)

Hope to see you there !!!



ATCO

1995 FALL EVENT

1:00 PM - SUNDAY
NOVEMBER 5, 1995

ABB PROCESS AUTOMATION
(ACCURAY)

*** SHELTERHOUSE ***

650 ACKERMAN ROAD

FOR MORE DETAILS, CONTACT
RICK - WA3DTC 877-0652

LUNCH PROVIDED - DOOR PRIZES - MEETING
BRING A FRIEND AND MEET OLD FRIENDS
SHOW AND TELL- ANTENNA MEASUREMENTS

DIRECTIONS TO THE ATCO EVENT

From I-70 either EAST or WEST Bound:

Take Route 315 (runs north and south and is just west of Columbus) and head NORTH. Get off at the Ackerman Road Exit and turn RIGHT on to Ackerman Road. Turn LEFT just beyond the first traffic light at the ATCO sign.

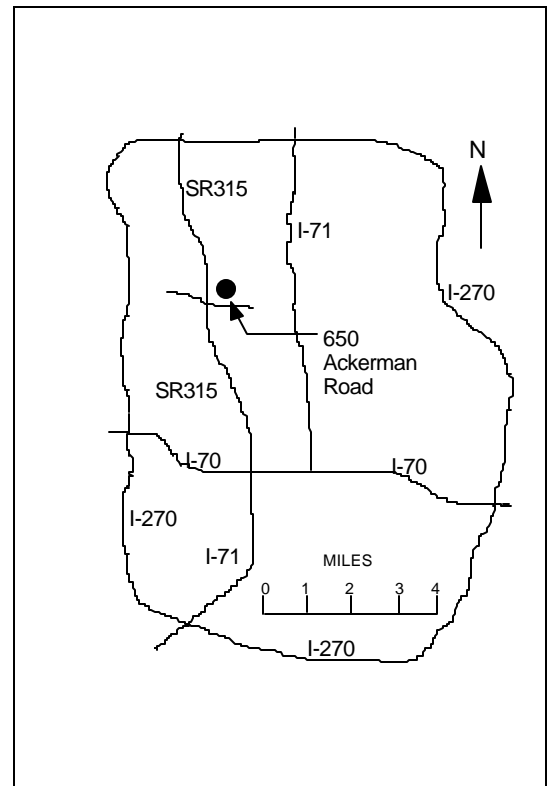
From I-71 traveling NORTH bound toward Columbus:

While traveling north on I-71, watch for the split to Route 315 just south of Columbus. Take 315 and head NORTH to the Ackerman Road Exit. Get off at this exit and turn RIGHT to Ackerman Road. Turn LEFT just beyond the first traffic light at the ATCO sign.

From I-71 traveling SOUTH bound toward Columbus:

(DIRECTIONS IF YOU'RE "NORTH" OF I-270).

Take I-71 SOUTH to I-270 Bypass Loop & head WEST on I-270. At the Route 315 Exit, turn LEFT to Head SOUTH on Route 315. Exit at Ackerman Road and turn LEFT (head east). Proceed through 1 traffic light & turn LEFT at the ATCO sign.



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.

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 1250.25 MHz FM modulation
vestigial sideband filter in output line of 427.25 & 1250.25 transmitter
Power - 40 watts average 80 watts sync tip (427.25) 15 watts (1250.25)
Link transmitter - 2 watts NFM audio (446.350 MHz)

Transmit antenna: 427.25 MHz - Dual slot horizontally polarized 7 dbd gain major lobe west
1250.25 MHz - Single slot horizontally polarized 3 dbd gain major lobe west

Receivers: 147.45 MHz for F1 audio input control of touch tones
439.25 MHz for A5 video input
910.25 MHz for A5 video link data from remote sites
1280.25 MHz for F5 video input

Receive antennas: 147.45 MHz - Vert. polar. Hi Gain "Comet" 12 dbd (also for 446 MHz output)
439.25 MHz - Horiz. polar. dual slot 8 dbd gain major lobe west
910.25 MHz - Vert. polar. dB Products 10 dbd gain
1280.25 MHz - Horiz. polar. single slot 3 dbd gain major lobe west.

		<u>UP</u>	<u>DOWN</u>
Input control:	Major Touch tones:	beacon (10 min)	*439 *22
		regional weather radar	697 #
		*CMH airport radar(5 min) 264	#
		User repeat 1 minute	*45 *22
		Touch tone pad tester	#0 #5
		Manual mode	#77 *22
		NASA Select	*70 *20
		5 second ID	#9 *22
		Bulletin board	285 #
		* inactive at this time	
Remote sites:	*Airport radar at Port Columbus	(910.25 MHz link output	8 watts)
	NASA select at KA8ZNY QTH	(910.25 MHz link output	10 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	5 watts)

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 CLUB OFFICERS

President: Art Towslee WA8RMC	Repeater trustees: Art Towslee WA8RMC
V. President: Ken Morris WA8RUT	Ken Morris WA8RUT
Treasurer: Bob Tournoux KF8QU	Dale Elshoff WB8CJW
Secretary: Rick White WA3DTO	Statutory agent: Rick White WA3DTO
Corporate trustees: Same as officers	Newsletter editor: Art Towslee WA8RMC

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 TREASURER'S REPORT - de KF8QU

CASH BALANCE (7/15/95).....	\$ 981.89
RECEIPTS (dues).....	\$ 20.00
OTHER INCOME (bank interest).....	\$ 7.43
EXPENDITURES (film and processing).....	\$(6.03)
(postage) (\$.32 x 60).....	\$(19.20)
BALANCE (10/15/95).....	984.09

ATCO MEMBERS AS OF 15 OCTOBER 1995

K8AEH	Wilbur Wollerman	1672 Rosehill Road	Reynoldsburg	Ohio	43068	866-1399
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	Va.	24605	
WB8CJW	Dale Elshoff	8904 Winoak Pl	Powell	Ohio	43065	766-5823
N8CYV	Blaire Standley	721 West North St	Springfield	Ohio	45504	
K8DW,W8FB	Dave & Paul Wagner	2045 Maginnis Rd	Oregon	Ohio	42616	419-691-1625
WA3DTP	Rick White	5314 Grosbeak Glen	Orient	Ohio	43146	877-0652
WB8DZW	Roger McEldowney	5420 Madison St	Hilliard	Ohio	43026	876-6033
W8EHW	Foster Warren	124 East Clark St	No. Hampton	Ohio	45349	
WA8EOY	John Schlaechter	3199 Lewis Rd	Columbus	Ohio	43207	491-4470
N8FFO	Edward Hauff	1001 Parkview Blvd Apt 330	Columbus	Ohio	43219-2273	253-5794
KA8HAK	Jim Reese	1106 Tonawanda Ave	Akron	Ohio	44305	
N8KQN	Ted Post	1267 Richter Rd	Columbus	Ohio	43223	276-1820
WA8KQQ	Dale Waymire	225 Riffle Ave	Greenville	Ohio	45331	513-548-2492
N8LMI,N8SIR,KB8UVK	Phil,Jim,Phil jr Buckholdt	153 East Bergey St	Wadsworth	Ohio	44281	
N8LRG	Phillip Humphries	3226 Deerpath Drive	Grove City	Ohio	43123-4100	871-0751
KA8MID	Bill Dean	PO Box 458	Adelphi	Ohio	43101	614-655-2454
KB8MDE	Shaun Miller	3469 Oakcrest Rd	Columbus	Ohio	43232	238-0918
WD8OBT	Tom Camm	1634 Dundee Court	Columbus	Ohio	43227	860-9807
N8OCP	John O'Bryant	3139 ElPaso Drive	Columbus	Ohio	43227	274-5410
N8OCQ	Robert Hodge	3689 Hollowcrest	Columbus	Ohio	43223	875-7067
N8OPB	Chris Huhn	146 South Hague Ave	Columbus	Ohio	43204	
W6ORG	Tom O'Hara	2522 Paxson Lane	Arcadia	Cal	91007-8537	818-447-4565
WB8OTH	Perry Yantis	1850 Lisle Ave	Obetz	Ohio	43207	491-1498
KE8PN	James Easley	1507 Michigan Ave	Columbus	Ohio	43201	
W8PGP,WD8BGG	Richard, Roger Burggraf	5701 Winchester So. Rd	Stoutsville	Ohio	43154	614-474-3884
KF8QU	Bob Tournoux	3569 Oarlock Ct	Hilliard	Ohio	43026	876-2127
N8QLD	Rick Callebs	761 Standpipe Road	Jackson	Ohio	45640	
NZ8R	Greg Radcliff	1763 Hess Blvd	Columbus	Ohio	43212	
WA8RMC	Art Towslee	180 Fairdale Ave	Westerville	Ohio	43081	891-9273
WA8RUT,N8KCB	Ken & Chris Morris	3181 Gerbert Rd	Columbus	Ohio	43224	261-8583
W8RVH	Richard Goode	9391 Ballentine Rd	New Carlisle	Ohio	45334	513-964-1185
WD8RXX	John Perone	3477 Africa Road	Galina	Ohio	43021	
WA8SAR	Gary Obee	3691 Chamberlain	Lambertville	Mich	48144	
W8STB	John Hey	894 Cherry Blossom Dr	West Carrolton	Ohio	45449	
KB8TRP	Tom Flanagan	1751 N. Eastfield Dr	Columbus	Ohio	43223	272-5784
WA8TTE	Phil Morrison	154 Llewellyn Ave	Westerville	Ohio	43081	
KE8U	John Greene	PO Box 64	Presque Isle	Wi	54557	
KB8UGH	Steve Caruso	39 South Garfield Ave	Columbus	Ohio	43205	461-5397
WB8URI	William Heiden	4435 Kaufman Rd	Plain City	Ohio	43064	614-873-4402
WB8VJD	Rick Morris	203 Merton Street	Holland	Ohio	43528	
W8WAU	Jake Fuller	PO Box 117	No. Hampton	Ohio	45349	
KB8WBK	David Hunter	45 Sheppard Dr	Pataskala	Ohio	43062	927-3883
KB8YMN	Mark Griggs	2160 Autumn Place	Columbus	Ohio	43223	272-8266
KA8ZNY,N8OOY	Tom & Cheryl Taft	386 Cherry Street	Groveport	Ohio	43125	836-3519
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

DON'T MISS THE ATCO FALL EVENT NOVEMBER 5TH!

DON'T FORGET OUR NET AT 9:00 PM ON TUESDAY NIGHT ON 147.45 MHZ
