

# ATCO NEWSLETTER

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APRIL 1996

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Re-publication of ATCO newsletter material is encouraged as long as source credit is properly given.

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## ATCO WA8RUT REPEATER UPDATE

Not a lot of construction activity has occurred since the last Newsletter but a number of things are in the works. I guess the winter months slowed things a bit. However now that better weather is upon us, things may start to happen. Turn to the inside pages to see what's in store for us!

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## ATCO HAM IN THE SPOTLIGHT

This month the ATCO Newsletter honors Richard Burggraf W8PGP who has been a ham for **60 years!** Dick keeps a very neat hamshack but if one was to ask, he'd say it was messy. Boy! He must see mine before he can legitimately say that. In any case it is very well equipped to communicate on many other bands as well. I believe that I saw a 20 meter beam neatly nested among the 439 and 1280 MHz beams on the tower. Keep up the good work providing quality ATV pictures into the repeater, Dick.



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## ACTIVITIES ..... from my workbench

I've noticed from looking back at past newsletters that I start out by talking about the upcoming weather *warming* trend. The need to think about antenna work also seemed to magically slip into the conversation. However, that usually led into some sort of daydreaming episode so I **won't** talk or think about any of these this time. No sir! Just the facts and no tangents. Here goes!

The winter has been quite brutal as far as HAM related activity goes. I must confess that not a lot of significant activity has taken place. However the repeater did get a facelift during the Christmas holiday with the addition of a 925 MHz FM input. But, because of the need to multiplex the input with the existing 910 MHz input, interaction problems surfaced. A short time later it was removed until we can find a way to make it work without either adding another antenna or extra scanning input for the controller.

We have been having quite a lot of desense problems with the 147.45 MHz input from the close proximity of the 146.76 repeater output. In short, if the 146.76 machine is up, we can't access our repeater on 147.45! Fortunately the 146.76 machine is not up frequently for any extended period of time so the inconvenience has not been too significant. To fix this problem I have built 2 147.45 MHz bandpass cavities and assembled them in series. The result has produced a bandpass filter with about 1.5 dB loss at 147.45 MHz while causing about 21 dB loss at 146.76 MHz. I hope that will be enough rejection to prevent desense at our 147.45 MHz input. If not, the cavities can be rewired to make one of them "band reject" at 146.76 MHz. This will produce better than 40 dB rejection at 146.76 MHz but the rejection of other unwanted signals would suffer. (There isn't any free lunch here folks). One feature must be compromised in favor of another. If the dual cavity bandpass approach works, it's the best arrangement.

The 446.35 MHz link output is interfering with the 439.25 MHz input under weak signal conditions. This, I believe, is caused from inadequate shielding of the 446.35 MHz cable within the cabinet. I have a length of hardline ready to replace the existing RG8 on the next trip. Testing of touch tone signals passing through the 446.350 output demonstrated that the deviation is too high to reliably activate satellite receivers so it will be turned down slightly.

I've spent a significant amount of time trying to secure permission to rebroadcast local radar video on our repeater during a weather watch. This has turned into a mini nightmare as dealings with the FCC about legality issues have cropped up. The FCC rules (part 97.113E) state that only "Government originated" signals are allowed to be rebroadcast. Since the local signal is TV station originated, it seemed that it would not be allowed. The ARRL offered no encouraging details so my effort was directed toward the FCC office in Washington DC. There the official stated that it WAS permissible to retransmit non-government signals and that we need to *interpret* the rules differently. After all, he stated, the FCC allows the Amateur Radio community to do pretty much as they please as they are a responsible group of people and for the most part police themselves. The FCC would not get involved in any way unless someone filed an interference complaint. I asked if he would give me a written interpretation of that part which was met very quickly with "Absolutely not! The FCC has not, will not and cannot offer any written interpretation of its own rules. We can only point out the area in the official rules where the question arises". Seems pretty ignorant to me but it's a Government operation so I guess that says it all. The official then told me that this is an acknowledged public service and they fully condone the effort when public safety is involved. (I wished that if they condoned the practice, they'd give written approval but NO. Rules are rules!) The TV station then said that they'd look into it further if I could produce evidence of other ATV groups in the USA presently doing the same thing. I found two, sent the info to the station and awaiting the results. It's a rough road but hope to reinstate a radar signal soon!

On the construction front, I'm building a VGA to NTSC video adapter that will allow computer graphics to be transmitted on ATV. It works, is not costly and a welcome addition to the hamshack if you're a builder. See my article elsewhere in this newsletter.

A side project that I'm looking into is how to create my own Elktronic ID'er PCB EPROMS. The IBM computer should be able to do this but I'm no software expert so help is encouraged. If anyone has any info on this subject, let me know. If all else fails, I got a Radio Shack color computer originally used for the purpose. Now to find out how it is done. The plan is to create many ID's so I can scroll through all possibilities without starting the computer. (If I only had **one** to do, the best way would be to send WB8ELK the money and have him do it!)

Well, that's all for now. More next issue when we have a chance to get outside and start working on antennas. Oh by the way, don't forget to attend the ATCO Spring Event to be held on April 28th. Details elsewhere in this Newsletter. See you there!!!

Art...WA8RMC

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## VS-100 REPEATER CONTROLLER MODIFICATIONS

Dale, while working on a remotely switched arrangement for the bulletin board system located at ABB, has discovered worthwhile improvements to an already well operating repeater controller. We invite anyone else who has done similar work to share it with us.

“Programming of the MCC VS-100 control codes has been performed using the same codes as the unit at the repeater site - the exception being the USER codes and the PROGRAM ENABLE. We should review codes to be used for AUX selection when enabling camera control, etc. so that they don't conflict with the other controllers.

The video channel for the ELK ID was programmed as channel 10. Since the VS-100 switches channels of the MUX to ID, it causes the TIME-OUT to reset. This apparently is a programming oversight since the output of the 567 sync detector does not change states - enough output filtering exists to hold the output true when switched to pick up the ID video.

This discovery means that if it is programmed to ID every 8 minutes and the TIME-OUT is set for 10 minutes a TIME-OUT will never occur! It was reset during the ID sequence. To remedy this situation I set the ID time to 10 minutes and the TIME-OUT to 9:59. This doesn't meet the 10 minute rule (worst case approx. 20 min.) but at least provides some protection in case of a continuous video input or a 567 failure. Even after the TIME-OUT occurs the transmitter comes back on the air for one last ID.

I found that the TAIL TIME-OUT (at least if used in the "REPEATER MODE") should be 3.9 seconds (1D HEX). This is equal to the fixed interval selected for holding the ID channel before the current mode selected is resumed and any new video is allowed to pass and yet not allow the transmitter to shut down momentarily. It was noticed that if a video input is removed and replaced (approx. >1 sec.) the ID sequence occurs, then the current channel for video is reselected but passed up - even though the sync detector is on. It must scan through the other channels before it turns the transmitter on again.

The biggest deficiency was the sync detect circuit. Feeding broadcast video into the VS-100 with the video channel level adjusted for a good picture on the monitor - the 567 output would drop out on low contrast or fade-to-black pictures. Setting the level control lower allowed a small range of continuous capture for the 567 but the video output level wasn't satisfactory. Comparing the schematic with the circuit showed a number of discrepancies. I found other errors previously, so I called MCC. He will send an updated copy and also offered information on how to interface the controller to a phone line. The program is functional in the controller and with a few parts can be operated if desired. Anyway, he suggested looking at the output of the 2N3904 buffer to see if any clipping of the signal was occurring. I had probed around but couldn't really see any problem, it just looked like the video was probably more prominent than the sync pulses. I tried changing the gain of the buffer and reducing the coupling but noticed that the level of the video output was being loaded and the color phase would change. Since the MUX ON resistance is about 400 ohms and the current is so low I decided to move the coupling to the LH0002 output where plenty of drive is available. Doing this, optimizing component values and the addition of a .005 MFD capacitor to the 567 input solved the problem. It even holds on the Commodore 64 graphic screens that it rejected before modification! I am tempted to try installing this unit at the repeater site and put the one downtown on the bench to perform the same tests.”

Dale...WB8CJW

(Ed note: Sounds like a good idea to me Dale. Lets go for it. Good detective work!)

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## REPEATER 439.25 INPUT MODIFICATION?

An interesting suggestion was made by Ken WA8RUT the other day which deserves serious consideration. Because of the close proximity of the repeater 439.25 input to the FM repeaters just above it (440-450 MHz), often there is received signal interference in the form of diagonal bars. Because the ATV signal actually utilizes 439 to at least 444 MHz, some simplex and repeater links at 443 to 444 MHz cause all of the trouble because they're inside the passband of our receiver. Now, if all of our ATV signals were according to vestigial sideband rules, the energy would only be on the + side of 439.25 MHz. But in reality, all transmitters that I know of actually produce a double sideband signal whereas the signal 4.5 MHz *below* 439.25 MHz has the same and equal strength to the one 4.5 MHz *above* 439.25 MHz. Therefore, if we retuned our input cavity filter to accept the lower sideband and reject the upper one most of the unwanted interference from 440 MHz would be eliminated. Other ATV repeater groups are already doing just that. On the downside, it moves the input passband closer to our 427.25 MHz output increasing the likelihood of interference from our own transmitter. It deserves a try because all that's required is to retune the interdigital input filter. We'll try it soon and let everyone know how it turns out. Comments are welcome.

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## **INTERNET “GOOD NEWS/BAD NEWS”STORY...**

I don't know how many of you have done any Internet “surfing” but for me, it always turns out in a time consuming exercise in frustration before any benefit is achieved. Case in point...The other day I decided to add the ham equipment modification section that I had previously discovered, to our Internet section of expanding interesting places to look. My second motive was to see if my Icom R7100, which has the 800-900 MHz section blocked, was listed with a way to unblock it.

First, it came as no surprise to find that the address previously listed was now gone. Frequently the addresses move around as the owners get new facilities or are forced to not share the existing space with others. So the hunt was on to search for the new address. Because the Internet is not controlled by any regulatory agency, the contributors are allowed to “do as they please” so to speak. As a result no single search engine will look for the same items in the same way. (I was looking for any record that contained the words “equipment modifications”). Many matches were found but the tedious task of searching subdirectories usually produced dead ends. It was only after about two hours of searches that I found a www directory that pointed to a ftp account that had a group of directories with modification information in them. Paydirt!!! Not only was my search to find “the long lost directory” located but I found a listing that described how to unblock my receiver. I tried the modification (which was accomplished by simply unsoldering a jumper inside)and it worked as expected. The only thing that the article failed to mention was that the process erased all memories and required reprogramming. In my case this was no problem but if the majority of the 1000 memories available were programmed, it would be met with an unhappy surprise if not known beforehand. The mod is simple and takes about 5 minutes. It makes me wonder why a company charges \$40 to do the same thing and Icom charges \$200 extra to the US Government for an unblocked version. Sounds like “easy money” to me. Heck, I'd do it commercially for only \$150.

Bottom line. Good things await those surfing the Internet if they are persistent and patient. Sometimes though, it's faster to look it up at the local library but not possible in my specific case. Can someone produce a good search engine???? Happy surfing!!!

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## **DAYTON ATV SEMINAR SCHEDULE**

We are honored this year to have Bill Parker W8DMR as moderator for the Fast Scan Television seminar at the Dayton Hamvention. It will be in room #3 on Saturday from 3:00 to 5:00 PM. The speakers for this year will be:

Dr. Don Miller W9NTP from Wyman Research will speak about “Let's Experiment on ATV”.

Ed Mitchel KB6BFR from Micro Video will give an “Airborn ATV Video Review”.

Henry Ruh KB9FO from ATVQ Magazine will talk about our “Good Spectrum Neighbors”.

Ken Morris WA8RUT of our ATCO group will discuss “A High Profile ATV Repeater” (Guess which one?).

Each speaker will talk for about a half hour. Sessions are informal so questions/answers will be entertained. It's a great way to become more familiar with this portion of our hobby so I hope that you will make a point to stop by and participate in the fun.

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## **ATCO DUES ARE NEEDED!**

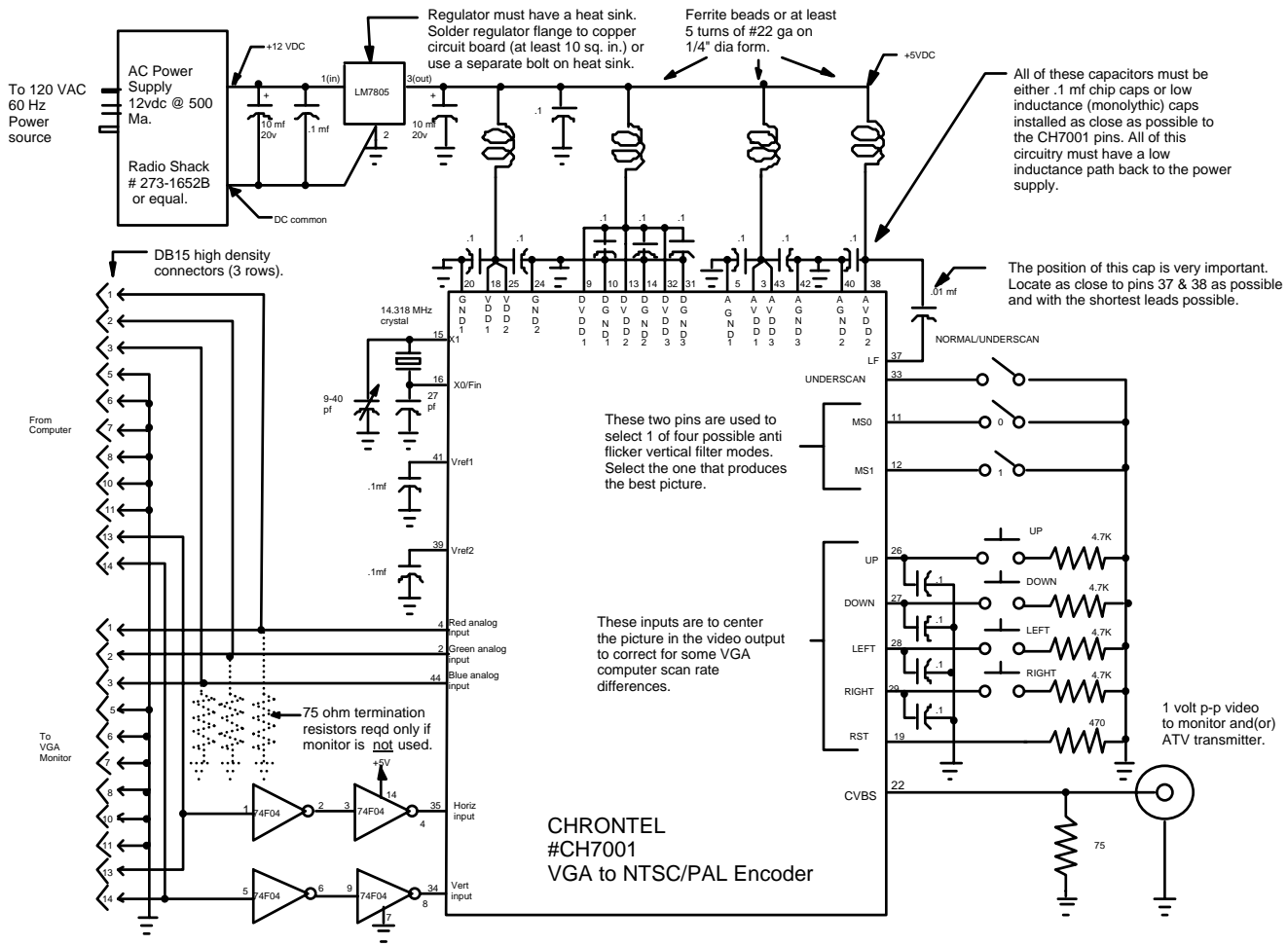
In case it might have slipped your mind, the ATCO dues were due in January. Most of us have renewed, but some of you have not. So if you enjoy this Newsletter and you would like to continue being informed of the local ATV activity, please send Bob Tournoux your \$10. If you don't remember whether or not you renewed, check the mailing label on this issue. If it says 12/96, your OK. For the rest of you, this will be the last newsletter. Please help support our ATV hobby and renew! Better yet come to the Spring Event and pay at that time. (You get a 32¢ discount that way).

# BUILD A VGA TO NTSC CONVERTER FOR YOUR COMPUTER

Here is something that I've been working on for a couple of months. It looks like it has promise for use with the chip computer to convert the VGA video signal that goes to the computer monitor to NTSC video so it can be transmitted through the ATV transmitter. All circuitry is outside of the computer so no internal card or special software is needed. Simply plug this circuit into the VGA computer connector and plug the computer monitor into this circuit. The computer monitor is still useable while the circuit is connected. If that isn't enough, the converted video has resolution superior to many of the store bought units.

The heart of the design is a single chip converter that accepts the computer VGA red, blue, green, horizontal sync and vertical sync signals directly and outputs a high quality 1 volt NTSC composite video (in fact S video and PAL outputs are also available). The chip is made by Chrontel and costs about \$25.00. Sound good? There **IS** a down side for the average constructor however. First, it's only available as a PLCC surface mount chip. Second, since there are high speed analog to digital conversions going on inside, circuit layout is very critical - especially the power supply leads. Very short direct wiring is dictated and proper bypassing with low inductance capacitors is dictated. It's very easy to mix the ground currents of the digital circuitry with the sensitive analog inputs. In operation the analog RGB input signals are digitized on a pixel by pixel basis by three 8 bit video a/d converters for 24 bits/pixel processing producing up to 16 million colors. The digitized RGB inputs are fed to a block where scan rate conversion and programmable 3 line filtering is performed. The vertical filter eliminates flicker at the output while the scan rate converter converts the VGA horizontal scan rate to NTSC or PAL scan rates.

To help overcome the difficulty of reproducing this circuit, I am working on a printed circuit board but it's not finished yet. If there is enough interest, I'll finish it and make it available to anyone interested. I present the circuit here only to demonstrate the simplicity of the design and see if there is enough interest for me to continue. The manufacturer does have "evaluation" circuit boards that he said could be purchased. I've not asked price but will follow up if needed. The IC is not available through any distribution-only direct from the manufacturer and they are not willing to accept individual orders. However, the marketing manager is a ham and understands so he will work with us if we would buy greater than single quantity devices. I'll have to wait and see who is interested.



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## **THE ATCO SPRING EVENT IS UPON US**

It's that time of year again. Boy, the time crept upon us quickly. So quickly in fact that by the time we decided upon a good date (Dayton helped to complicate things a bit along with Mother's day) that May 5 was already booked! So April 28 is the day. I hope it's warm enough. Weather permitting, I'll bring our antenna plotting and measurement equipment so we can check some antennas.

1. I'm looking for a volunteer to do the outside grill work this year. I did brats for the last 2 years so it's time for a change. Any suggestions? Bring it up at the Tuesday night net.

2. Also, we'll need some door prizes. Will anyone be willing to talk to Universal Radio to see if they'll donate anything? Sift through your junk boxes to see if there is something that you can part with but is highly prized by others. If so, let me know so we can add it to the list.

3. It's officer election time again. Our constitution dictates that we do this once a year so we know if we're doing a good job or if there is someone who would like an active job in the club. A sample ballot is shown below so if you'd fill it out indicating your choice, we'll count them during the short business meeting.

## *Amateur Television in Central Ohio*

### *ATCO Officer Elections 1996/1997 Official Ballot*

#### *For ATCO President (Check One)*

\_\_\_\_\_ *1. Art Towslee WA8RMC*

\_\_\_\_\_ *2. \_\_\_\_\_ (write in)*

#### *For ATCO Vice President (Check One)*

\_\_\_\_\_ *1.. Ken Morris WA8RUT*

\_\_\_\_\_ *2. \_\_\_\_\_ (write in)*

#### *For ATCO Secretary (Check One)*

\_\_\_\_\_ *1. Rick White WA3DTO*

\_\_\_\_\_ *2. \_\_\_\_\_ (write in)*

#### *For ATCO Treasurer (Check One)*

\_\_\_\_\_ *1. Bob Tournoux KF8QU*

\_\_\_\_\_ *2. \_\_\_\_\_ (write in)*

# ATCO

## 1996 SPRING EVENT

1:00 PM - SUNDAY

APRIL 28, 1996

ABB PROCESS AUTOMATION  
(ACCURAY)

\*\*\* SHELTERHOUSE \*\*\*

650 ACKERMAN ROAD

FOR MORE DETAILS, CONTACT  
RICK - WA3DTO 877-0652

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

### 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.

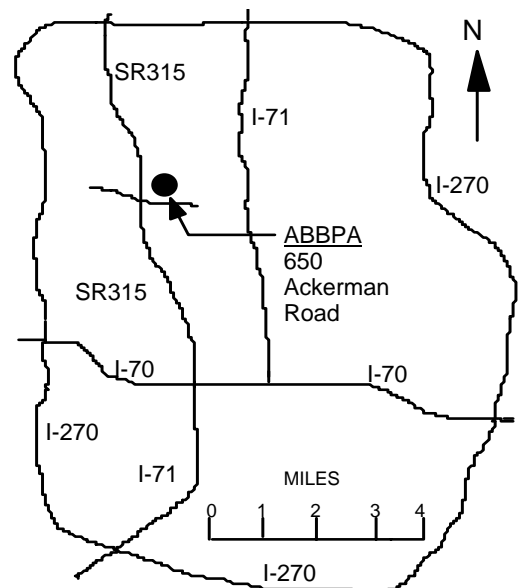
#### From I-71 traveling NORTH bound toward Columbus:

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.



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## NEW MEMBER SECTION

Let's welcome the following new members to our group! It's a good start but we need more people interested in ATV. If any of you know someone who might be interested, let one of us know so we can flood them with information.

KB8YMQ Jay Caldwell, Plain City

KC8BKD John Miller, Mansfield Ohio

W8BJN Gene Kirby, Marysville Ohio

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## HAMFEST CALENDAR

This section is 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	TALK IN FREQ	COST	ARRL EVENT?
Medina, Ohio	Medina 2-M group	May 12	147.630/147.030	# adv/\$4 door	yes
Dayton, Ohio	Dayton ARC	May 17, 18, 19			
Youngstown, Ohio	Twenty Over Nine ARC	May 26			
Akron, Ohio	Goodyear ARC	June 9	146.385+ & 146.52	\$5 door	yes
Milford, Ohio	Milford ARC	June 15			
Monroe, Mich	Monroe County ARC	June 16	-----	\$4 adv/\$5 door	no
Bowling Green, Ohio	Wood County ARC	July 14	147.180+ & 443.275+	?	yes
Van Wert, Ohio	Van Wert ARC	July 21	-----	\$4 door -10% adv	yes
Xenia, Ohio	-----	July 28	-----	\$2 adv/\$3 door	no
Marysville, Ohio	Union County ARC	August 18	-----	\$4 adv/\$5 door	
Fort Wayne, Ind	Fort Wayne RC	September 7	146.160+	\$4 adv/\$5 door	yes
Wheeling, W. Va.	Triple States ARC	September 15			
Cincinnati, Ohio	Greater Cincinnati ARC	September 22			
Berea, Ohio	Hamfest Assoc of Cleve.	September 29			
Fort Wayne, Ind	Allen County ARC	November 16,17	146.180+	\$5 door + \$2 park	yes

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## OHIO AREA ATV REPEATER LISTING

The following list is compiled from actual repeater sightings in the Columbus, Ohio area. We need to keep an up-to-date and accurate listing so the newer operators know what to look for when the band is open. Our repeater is obviously the best so I'll list it first.

LOCATION	CALL SIGN	INPUT FREQ	OUTPUT FREQ	BEAM HEADING	NOTES
Columbus, Ohio	WA8RUT	439.25	427.25	~	A signal on any listed input causes an output on both listed frequencies
		910.25	1258.25	~	
		1280		~	
Xenia, Ohio	KB8GRJ	443.25	421.25	240	*10 on 144.36 = tone up for 1
Dayton, Ohio	W8BI	439.25	426.25	250	*10=ID, *71= bul board, on 147.45.
		1245	1287		
		1249.5	1291.5		
Lima, Ohio	WB8ULC	439.25	421.25	315	
Ashland, Ky.	WA4GSS	439.25	421.25	180	
Elizabethtown, Ky.	W4BEJ	439.25	421.25	210	
Bowling Green, Ky.	W4HTB	439.25	426.25	200	
			1280		
Wheeling, W. Va	WB8QHO	439.25	426.25	080	
Acme, Pa	W3PVH	439.25	421.25		
Pittsburgh, Pa	W3KWH	439.25	426.25	090	



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## 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 is updated periodically so be sure to check often for late breaking NEWS. The addresses listed below are case sensitive, so type exactly as shown below. (If anyone has comments or would like additional listings contact me via EMAIL at [towslee@mtwo.mt.com](mailto:towslee@mtwo.mt.com)).

ATV home pages:

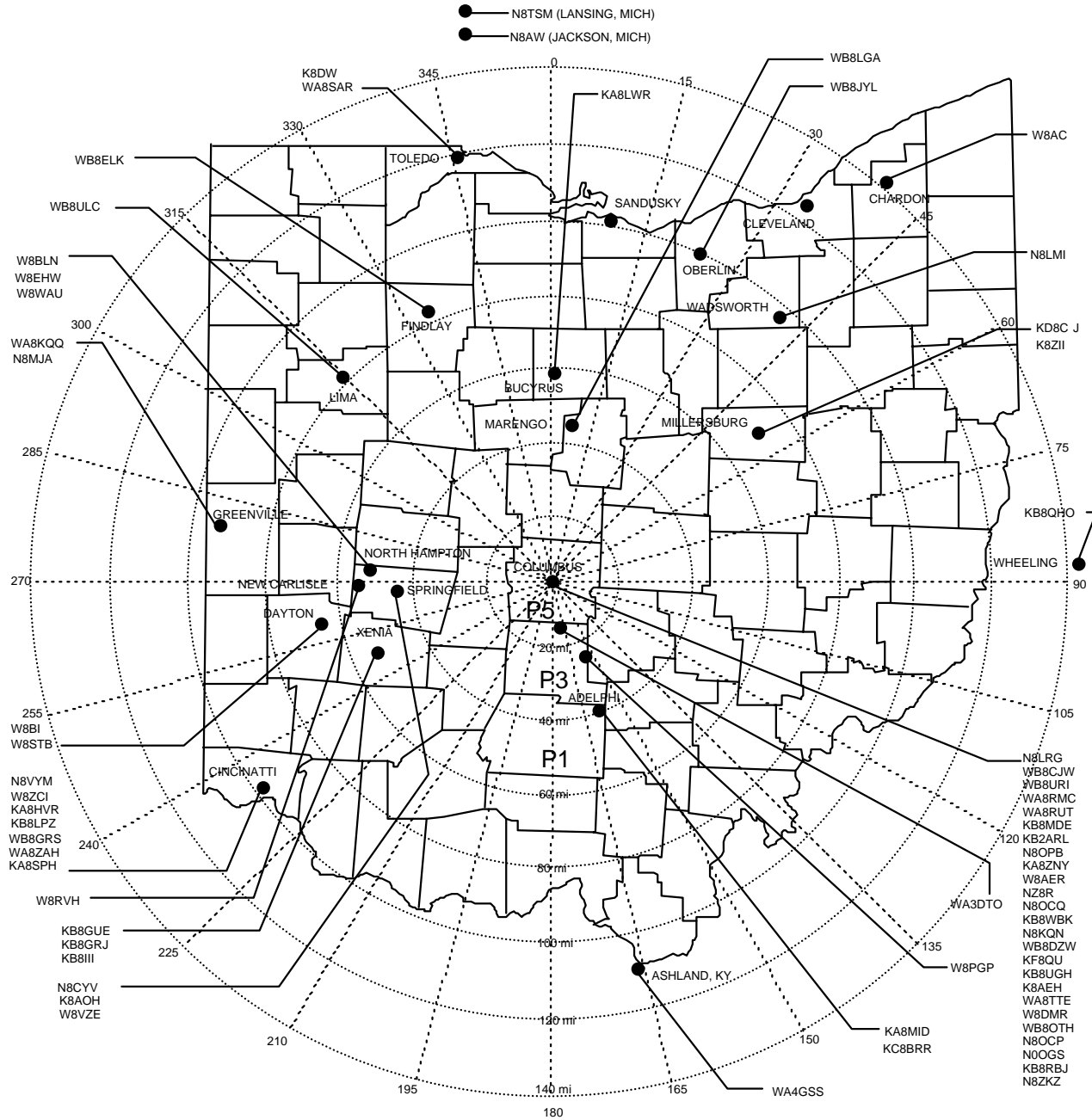
<a href="http://psycho.psy.ohio-state.edu/atco">http://psycho.psy.ohio-state.edu/atco</a>	ATCO ATV home page.
<a href="http://www.geopages.com/SiliconValley/1242">http://www.geopages.com/SiliconValley/1242</a>	East Tennessee ATV home page
<a href="http://www.portal.com/~jpawluk/KB6MMF.html">http://www.portal.com/~jpawluk/KB6MMF.html</a>	California ATV home page
<a href="http://www.ladas.com/ATN">http://www.ladas.com/ATN</a>	Amateur Television Network in Central / Southern California
<a href="http://www.mindspring.com/~rwf/aatn1.htm">http://www.mindspring.com/~rwf/aatn1.htm</a>	Atlanta, Georgia ATV home page
<a href="http://calvin.ksc.nasa.gov:1080/lisats.html">http://calvin.ksc.nasa.gov:1080/lisats.html</a>	NASA ATV home page
<a href="http://www.stevens.com/HATS/home.html">http://www.stevens.com/HATS/home.html</a>	Houston Texas ATV home page
<a href="http://geopages.com/SiliconValley/1242/wb7fid.html">http://geopages.com/SiliconValley/1242/wb7fid.html</a>	Salt Lake City Utah ATV home page
<a href="http://www.prostar.com/~Richard.Keller/ham-tv.html">http://www.prostar.com/~Richard.Keller/ham-tv.html</a>	Washington ATV home page
<a href="http://www.hayden.edu/Guests/AATV">http://www.hayden.edu/Guests/AATV</a>	Phoenix Arizona Amateurs
<a href="http://citynight.com/atv">http://citynight.com/atv</a>	San Francisco California ATV
<a href="http://www.njln.net/~magliaco/atv.html">http://www.njln.net/~magliaco/atv.html</a>	Brookdale ARC in Lincroft New Jersey

The following addresses are helpful in searching for many different Ham Radio topics on the Internet. I have found them be very powerful search engines for ham radio and television topics. At any point when logged onto the Internet, type the following:

<a href="http://www.yahoo.com/Entertainment/television/Amateur_television">http://www.yahoo.com/Entertainment/television/Amateur_television</a>	listing of the available ATV home pages.
<a href="http://www.yahoo.com">http://www.yahoo.com</a>	table of contents pointer for a vast variety of topics.
<a href="http://www.acs.ncsu.edu/HamRadio">http://www.acs.ncsu.edu/HamRadio</a>	General ham radio info- satellite track, call sign database etc.
<a href="http://www.wolfe.net/~daydream/html/ftpsites.html">http://www.wolfe.net/~daydream/html/ftpsites.html</a>	Ham radio equipment mod. / problem listing directory.
<a href="http://www.arrl.org/hamfests.html">http://www.arrl.org/hamfests.html</a>	Current yearly hamfest directory.
<a href="http://amsat.org">http://amsat.org</a>	AMSAT satellite directory/home page.
<a href="http://www.arrl.org">http://www.arrl.org</a>	ARRL home page
<a href="http://asp1.sbs.ohio-state.edu">http://asp1.sbs.ohio-state.edu</a>	Local & global weather map information (good detailed info)
<a href="http://www.ualr.edu/doc/hamualr/callsign.html">http://www.ualr.edu/doc/hamualr/callsign.html</a>	Search by call sign or name.
<a href="http://psycho.psy.ohio-state.edu/w8lt">http://psycho.psy.ohio-state.edu/w8lt</a>	Ohio State University W8LT radio station.
<a href="http://www.acs.ohio-state.edu">http://www.acs.ohio-state.edu</a>	Ohio State University home page. Lots of neat stuff.

# 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. It also contains mile circles & 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.



## 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 1258.25 MHz FM modulation  
vestigial sideband filter in output line of 427.25 & 1258.25 transmitter  
Power - 40 watts average 80 watts sync tip (427.25) 15 watts (1258.25)  
Link transmitter - 1 watt NFM 2.5khz audio (446.350 MHz)

Transmit antenna: 427.25 MHz - Dual slot horizontally polarized 7 dbd gain major lobe west  
1258.25 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 with FM subcarrier audio  
910.25 MHz for A5 video link data from remote sites  
920.25 MHz for F5 video general purpose input (disabled at this time)  
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  
910.25/920.25 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	#
		*Local radar(5 min)	264	#
		User repeat 1 minute	*45	*22
		Touch tone pad tester	#0	#5
		Manual mode (ID)	#7790	*22
		(910 input)	#7791	*22
		(439 input)	#7792	*22
		(1280 input)	#7793	*22
		(future)	#7794	*22
		NASA Select	*70	*20
		5 second ID	#9	*22
		Bulletin board	285	#
	Reset to scan mode	D37 or #437		
	* inactive at this time			
Remote sites:	*Local radar	(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)		

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## 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 and at the same address 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 1<sup>ST</sup> to December 31<sup>ST</sup>. 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.

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## ATCO CLUB OFFICERS

President: Art Towslee WA8RMC  
V. President: Ken Morris WA8RUT  
Treasurer: Bob Tournoux KF8QU  
Secretary: Rick White WA3DTO  
Corporate trustees: Same as officers

Repeater trustees: Art Towslee WA8RMC  
Ken Morris WA8RUT  
Dale Elshoff WB8CJW  
Statutory agent: Rick White WA3DTO  
Newsletter editor: Art Towslee WA8RMC

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## 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  MONEY ORDER

Make check payable to ATCO or Bob Tournoux & mail to:

Bob Tournoux KF8QU  
3569 Oarlock Ct  
Hilliard, Ohio 43026

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## ATCO TREASURER'S REPORT - de KF8QU

CASH BALANCE (1/10/96).....	\$896.75
RECEIPTS (dues).....	\$210.00
OTHER INCOME (bank interest).....	\$7.23
EXPENDITURES(postage) ( \$.32 x 65).....	\$(20.80)
BALANCE (4/10/96).....	\$1093.18

## ATCO MEMBERS AS OF 10 APRIL 1996

K8AEH	Wilbur Wollerman	1672 Rosehill Road	Reynoldsburg	Ohio	43068	866-1399
W8AER	Dave Sears	1678 Kaiser Dr	Reynoldsburg	Ohio	43068	861-0904
K8AOH	Charley Tucker	4546 Laredo Street	Springfield	Ohio	45503	513-390-0693
WB4BBF	Randall Hash	212 Long Street	Bluefield	Va.	24605	
W8BJN	Gene Kirby	13613 US 36	Marysville	Ohio	43040	513-644-0468
KC8BKD	John Miller	4419 Park Ave West	Mansfield	Ohio	44903	
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
WA3DTO	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/N8ZTL	Shaun Miller/Greg MacCartney	3469 Oakcrest Rd	Columbus	Ohio	43232	238-0918
W8MTJ	George Hoadley	956 Miller Ave	Newark	Ohio	43055	614-522-5069
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	
N8SFC	Larry Campbell	316 Eastcreek Dr	Galloway	Ohio	43119-8914	
KG8SN	Paul Ernst	67 Richards Road	Columbus	Ohio	43214	267-5758
W8STB	John Hey	894 Cherry Blossom Dr	West Carrollton	Ohio	45449	
N8TBU	Ed Latham	8399 Fairbrook Ave	Galloway	Ohio	43119	
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
KB8UU	Bill Rose	2685 Kropp Road	Grove City	Ohio	43123	878-8964
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
KB8YMQ	Jay Caldwell	4740 Timmons Dr	Plain City	Ohio	43064	
KA8ZNY,N8OOY	Tom & Cheryl Taft	386 Cherry Street	Groveport	Ohio	43125	836-3519

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

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**FIRST CLASS MAIL**

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**DON'T FORGET OUR NET AT 9:00 PM ON TUESDAY NIGHT ON 147.45 MHZ**  
**ITS DUES TIME GUYS! CHECK THE MAILING LABEL. IF IT DOESN'T SAY 12/96 WE NEED \$10.**  
**THANKS!**

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