ATCO NEWSLETTER

VOLUME 26 NUMBER 2 **April 2009**

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)

ATCO SPOTLIGHT TOPIC

Ahaaaaa, those springtime chores. This time I found John Perone's wife, Laura, KA8IWB high up on the tower polishing the antenna in preparation for this years DX activity. John, have you thought of the possibility that the RF could actually slide off the polished surfaces resulting in a few dB of added loss?

ACTIVITIES ... from my "workbench"

Well, the summer season is about to begin so get ready for antenna tune up time. I've got a lot to do but, as I did last year, it's easier to stare at the needed work rather than perform it. Let's hope it goes better this year.

I almost hate to mention it but, the 1260MHz repeater output has been running without a hitch since I repaired it last fall. I truly believe it's the circulator addition to the transmitter feedline that made the difference. A circulator (or an isolator as it's sometimes called in this application) as you may recall, is a device that lets the signal pass from port A (transmitter connection) to port B (antenna connection) with very little loss. However when any reflected signal due to antenna mismatch or filter rejection takes place, the return signal is diverted into port B and out to port C instead of going to port A. A dummy load connected to port C absorbs the return energy rather than going back into the transmitter. As a result, the transmitter survives!

The 10GHz transmitter needs a little attention but has been working OK for a while now. When I compare the received video to the others, I notice it is darker so on my next trip to the repeater, I'll boost the video gain a little. Other than that, the 10GHz signal is my best one overall (except when it's raining hard but that's to be expected).

I now have the ability to stream the ATCO signal to the internet through a streaming account with the BATC ATV group in England. Their server is capable of accepting a number of incoming streams and outputting it to a large number of viewers. Therefore during the Tuesday night net on 147.48MHz, you will be able to see all that check in via video. Just log onto the BATC site at WWW.BATC.TV and click on WA8RMC in "Members Streams" or WR8ATV in "ATV Repeaters". Many thanks to WB8LGA for his assistance in this effort. In addition, if you want to view the ATV forum at Dayton last year, click on "ATV in the USA, Comtech ATV modules, Balloon ATV or The California ATV" in the Film Archive category. Also, there are a number of other items of interest there. But wait, there's more! The subject matter in the other side bars is worth investigating also. There's lots of good stuff. The Dayton Hamvention ATV Forum **this** year will also be available shortly after the Hamvention. It's too much work to do it live. We also risk loosing information because too many things can possibly go wrong. More on that later.

My new 427.25MHz transmitter is now operational and undergoing a shakedown test here before taking it to the repeater. However, due to other priorities, the installation may have to wait till after Dayton. Too much stuff to do, not enough time, retired or not!

Well, that's just about it for this time guys. Not a lot to report is sometimes a good thing for it generally means things are working acceptably. I'll see you at the Spring Event on May 3rd.

…73, WA8RMC

OH, I almost forgot. Don't forget the Athens Hamfest coming up on Sunday April 26. I went to it for the first time last year and found it to be great. I like trunk sales because of the bargains so this one is good because they don't charge for parking lot trunk sales. It costs $8 for a table inside though if you're interested in selling there. Otherwise it's just $5 to get in the door. If you find it not too far to go travel to Nelsonville, it's only another 15 miles down US33 to Athens. The Hamfest is only a few hundred feet east from the East State street exit in the Athens Community Center so it's easy to find. See you there!

HAMS CAN STILL HELP WITH DIGITAL TV (DTV) CONVERSION

Even though the mandatory conversion date for television stations to switch from analog signals to digital has been delayed by four months <http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-9A1.pdf>, hams are still assisting the FCC and their communities by providing technical support to those who need assistance <http://www.arrl.org/news/stories/2008/12/10/10499/>. Although many TV stations won't turn off their analog signals until the new deadline, the law allows stations to apply to switch on the original date – February 17 -- or any time before June 12.

According to the FCC, there are nearly 1800 full-power televisions stations in the US. Of these, the FCC said that "220 will have terminated their analog signals before Tuesday [February 17] and another 421 will terminate their analog signals on Tuesday [February 17] before 11:59 PM, for a total of 641 stations, or about 36 percent of all full-power stations nationwide." The FCC has posted a list of stations making the conversion on or before February 17 on their Web site <http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-288530A2.pdf>.

ARRL Media and Public Relations Manager Allen Pitts, W1AGP, said he has been getting e-mails and phone calls from Amateur Radio operators concerning the digital TV conversion, now set to take place on Friday, June 12. "People are asking what's happening with the DTV conversion -- especially now that it's been delayed -- and wondering what we as hams can do to help," he said. "There has been considerable confusion concerning the extension of the date, but the role of Amateur Radio is simply to be helpful to the people in our communities."

Pitts advises those hams that are helping to provide technical educational assistance keep in mind the following troubleshooting pointers, provided by the FCC:

* Check Your Connections
Check that your digital-to-analog converter box (or digital television) is connected properly. Make sure that your antenna is connected to the antenna input of your digital-to-analog converter box (or digital television). If you are using a digital-to-analog converter box, ensure that the antenna output of the converter box is connected to the antenna input of your analog TV. If you are unsure of the proper connections, refer to your owner’s manual.

Make sure that your components are plugged in and turned on. If using a digital-to-analog converter box, tune your analog TV to channel 3. You should see a set-up menu or picture on your screen. If you do not see this, re-check your connections.

* Perform a Channel Scan
Digital-to-analog converter boxes (and digital televisions) have a button -- usually on the remote control -- that is labeled "Set-up" or "Menu" or some similar term. Press that button to access the set-up menu. Using the directional arrow buttons on your remote, scroll to the option that allows you to perform a "channel scan." The channel scan will search for digital broadcast channels that are available in your area. If you are unsure how to do a channel scan, please refer to the owner’s manual for your converter box or digital television (whichever applies).

Once the channel scan is complete, you will be able to tune to the digital channels received by your antenna.

* Adjust Your Antenna
As many hams know, small adjustments to an antenna can make a big difference; digital TV is no exception. If you have an indoor antenna, try elevating it and moving it closer to an exterior wall of your home. After adjusting your antenna, perform another channel scan to see if your reception has improved.

While adjusting your antenna, it may be helpful to access the "Signal strength meter" on your converter box or digital television set to determine whether your adjustments are improving the signals' strength. You can probably find your signal strength meter via the "Menu" function on your remote control, and your owner’s manual will provide detailed information on how to perform this function. Remember to do another channel scan after you have adjusted your antenna.

Make sure that you are using an antenna that covers both the UHF and VHF bands and that is connected properly (depending on what channels are in use in your area).

Late last year, the FCC requested assistance from the ARRL in providing educational support to local communities regarding the digital TV conversion.

"I really appreciate the willingness of the ARRL to actively participate in helping Americans with the transition to DTV and your helpful suggestions," said George Dillon, FCC Deputy Bureau Chief for Field Operations (now retired). "The DTV transition will be an historic moment in the evolution of TV. Broadcast television stations can offer viewers improved picture and sound quality and new programming choices. All-digital broadcasting also will allow [the FCC] to significantly improve public safety communications and will

usher in a new era of advanced wireless services such as the widespread deployment of wireless broadband. Our goal is to engage the amateur community on a cooperative basis to help with the DTV outreach and to educate consumers."

The FCC said that it is seeking to ensure that even where all or most stations in a market are terminating analog service, consumers who are unprepared for the switch will continue to have access to critical local news and emergency information. In a statement released by the FCC, the Commission "examined each market in which stations planned to end analog service to try to ensure that at least one affiliate of the four major networks -- ABC, CBS, Fox and NBC -- would continue broadcasting in analog after February 17. Many had such a station, but in those instances in which there would be no top-four affiliate remaining in a market, the FCC attempted to ensure that analog local news and emergency information would remain available -- generally through what is being called 'enhanced analog nightlight' service. Under 'enhanced analog nightlight,' the top-four affiliates must keep at least one analog signal on the air to provide programming that includes, at a minimum, local news and emergency information" <http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-288530A1.pdf>.

FCC Acting Chairman Michael Copps said that the Commission is "trying to make the best of a difficult situation. While this staggered transition is confusing and disruptive for some consumers, the confusion and disruption would have been far worse had we gone ahead with a nationwide transition on [February 17]."

For more information on the conversion to digital television, please see the DTV Conversion Web site <http://www.dtv.gov/>.
... The ARRL Letter Vol. 28, No. 7 February 20, 2009

AMSAT TEAM TRANSMITS, RECEIVES SIGNALS FROM VENUS

On March 25, a group from AMSAT-DL bounced radio signals off the surface of Venus, marking the first time Amateur Radio operators have bounced radio signals off another planet <http://www.amsat-dl.org/pic/gallery2/main.php?g2_view=core.DownloadItem&g2_itemId=7561>. According to AMSAT-DL President Peter Guelzow, DB2OS, the Earth-Venus-Earth (EVE) transmission is another step in preparing for a mission to Mars. According to an AMSAT-DL press release, the team's transmitter was generating about 6 kW CW on 2.4 GHz.

Guelzow said that signals were sent from a ground control station at the IUZ Sternwarte observatory in Bochum: "After traveling almost 100 million kilometers and a round trip delay of about 5 minutes, they were clearly received as echoes from the surface of Venus. This was the first German success to receive echoes of other planets. In addition, this is the farthest distance crossed by radio amateurs, over 100 times further than echoes from the moon (EME reflections)."

The EVE experiment was repeated on March 26 for several hours with "good echoes" from Venus, Guelzow said. "Morse code was used to transmit the well-known 'HI' signature known from the AMSAT OSCAR satellites."

For receiving the EVE reflections, Guelzow said that the team used a fast Fourier transform (FFT) analysis with an integration time of 5 minutes. "After integrating for 2 minutes only, the reflected signals were clearly visible in the display," he said. "Despite the bad weather, signals from Venus could be detected from 1038 UTC on until the planet reached the local horizon."

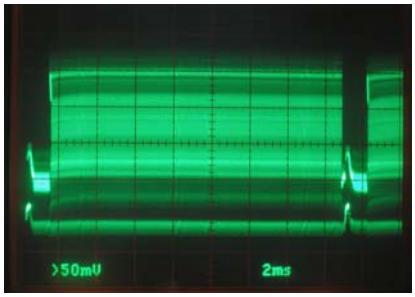
Guelzow explained that with the EVE reflections, the high power amplifier "has therefore passed this crucial test as a final key component for the planned P5-A Mars mission. By receiving generated echoes from Venus, the ground and command station for the Mars probe has been cleared for operational use and the AMSAT-DL team is now gearing up for building the P5-A space probe. AMSAT-DL wants to show that low-budget interplanetary exploration is possible with its approach."

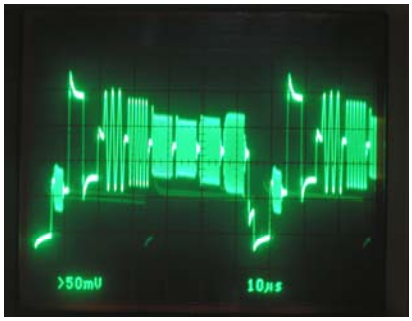
Development, design and construction of this first German Mars mission have been achieved by AMSAT-DL and its partner organizations, Guelzow explained. "Already a third of the total project costs were performed. More work shall follow during the mission. AMSAT-DL would like to demonstrate that their approaches to low-cost space missions are feasible." -- Information provided by AMSAT-DL

COMTECH 1200 MHz RECEIVE MODULE IMPROVEMENTS

Now that the transmit modules are modified (ATVQ 2009 winter issue) it's time to tackle the receive module. The deficiencies here are not nearly as severe as they were on the transmit module so the modifications needed are reasonably simple (except one).

The G1MFG or related modules are not perfect by scope analysis but do present a received picture well without modifications even though the existing de-emphasis circuitry is not correct for an NTSC system. Adding a standard de-emphasis network results in either no improvement or a further degraded signal so instead I concentrated on simple modifications. The existing filter combines a low pass filter (to block the 6 & 6.5MHz sound subcarrier) with PAL equalization so a simple modification is not possible. The waveform trace photos show the revised circuit better than the original, but not optimum. The received picture, however, is surprisingly good.



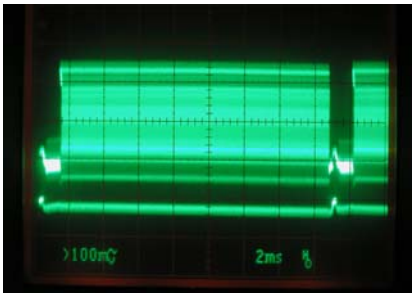


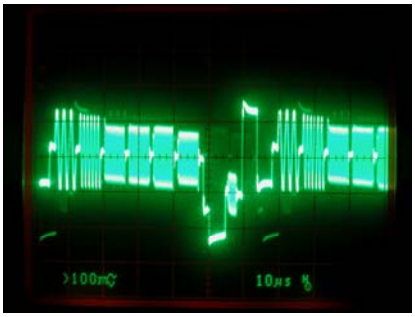
The left waveforms are before modification and right waveforms are after the mods. are made. All photos are with a multiburst receive signal.

Note the "spike" in the vertical interval in the upper left waveform. Also the lower left waveform horizontal frequency response is severely non-linear.

The upper right vertical waveform shows an "improved" reduction in the "spike" but it's still there. I was unable to reduce it further.

The lower right horizontal waveform now shows a more linear response but not perfect. A complete re-design of the de-emphasis filter would be needed to improve it more. Since it would not make the viewed picture better, it's not worth the effort!





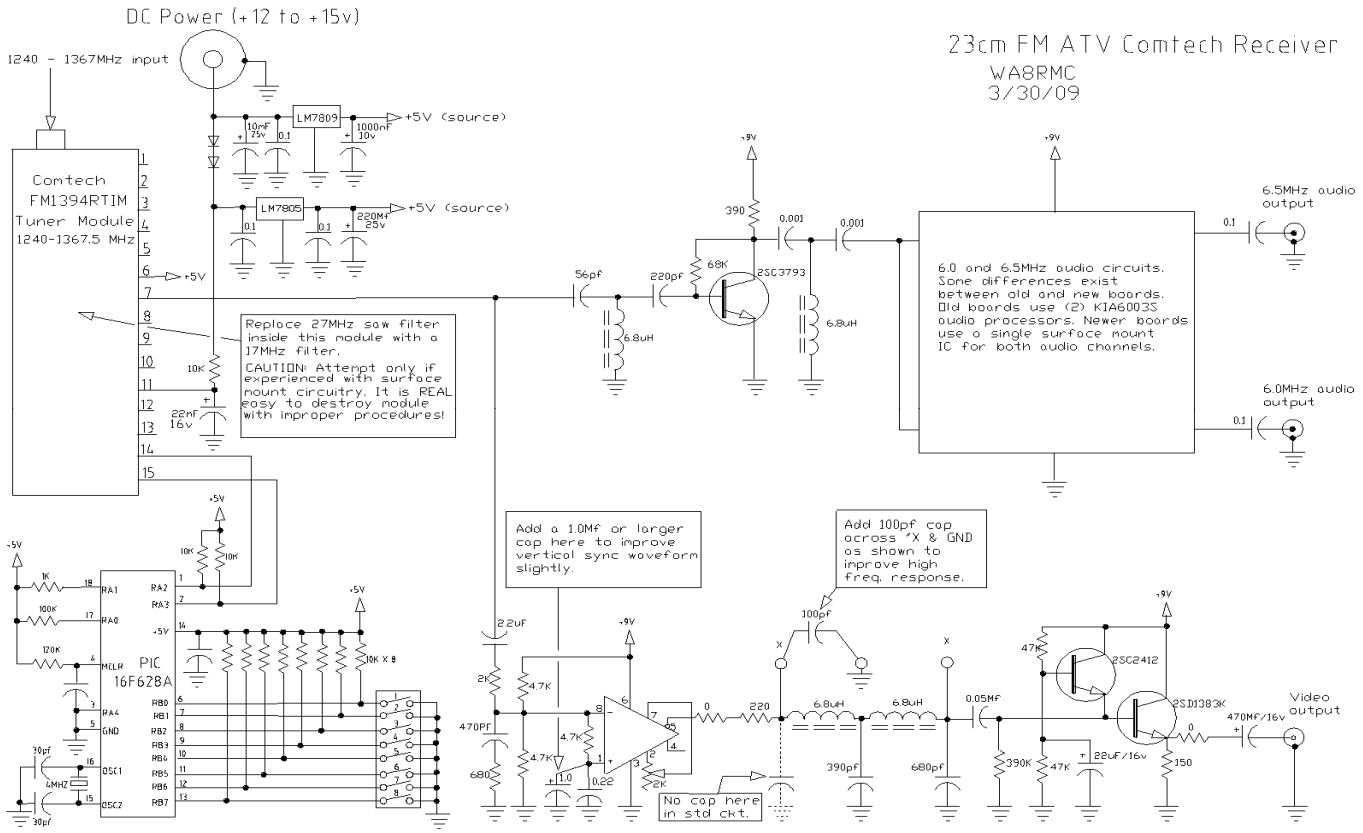
There are 4 basic modifications I consider worthwhile:

1.) Add a 1Mfd or larger bypass capacitor to pin 1 of the NE592D op amp. Add it directly across the existing 0.22Mfd cap. You can easily test for the need for additional capacitance here by putting a scope probe on pin 1 of the NE592 video op amp. If **any** AC signal is seen there, added capacitance is needed.

2.) Check the value of the surface mount resistor just downstream from the NE592D op amp pin 5. There is a zero ohm resistor directly on pin 5. The surface mount resistor in question is between the zero ohm resistor and a 6.8µH coil. The G1MFG boards have a 150 ohm resistor here and the unmodified board from Taiwan uses a 220 ohm resistor. If it is 220 ohms, leave it alone. (Increase to 470 ohms for a slight improvement.) If it's 150, replace with a 220 or 470 ohm resistor.

3.) There are 3 solder pads in a row on the board that have no parts on them. Add a 100pf capacitor across the first two pads. See photo and schematic. This improves the high frequency response making it a little more linear.

4.) The last and most difficult is to replace the 27MHz SAW filter inside the module can with a 17MHz filter. The original one degrades the signal to noise ratio of the received signal because it has a wider than needed bandpass. I do not know of anyone transmitting an FM signal wider than about 14MHz so narrowing the filter down as low as 14MHz or so would be best. Theoretically the video signal is 4-5MHz wide with a 6 or 6.5MHz sound carrier that takes it to at least 7MHz or so. Double that for the double sideband carrier and you get a ~14MHz wide signal. Digi-Key stocks a 17MHz wide filter at a 475.5MHz IF frequency so it is ideal. The Comtech IF frequency is actually 475.0MHz but being 0.5MHz off will not be noticed especially when the bandpass is still wider than needed. The S/N ratio improves by 3dB when the bandpass is halved so changing from 27MHz to 17MHz should yield a 2dB improvement. This will be noticed only at very weak signal conditions so if you use the module only to view a repeater, no improvement may be noted. In that case**, do not attempt to replace this filter!** It is located among other close fitting components so damage is likely for inexperienced people. In addition, one of the pins connects to the PCB ground plane sucking up heat when a de-soldering attempt is made. This makes it easy to damage the circuit board traces.



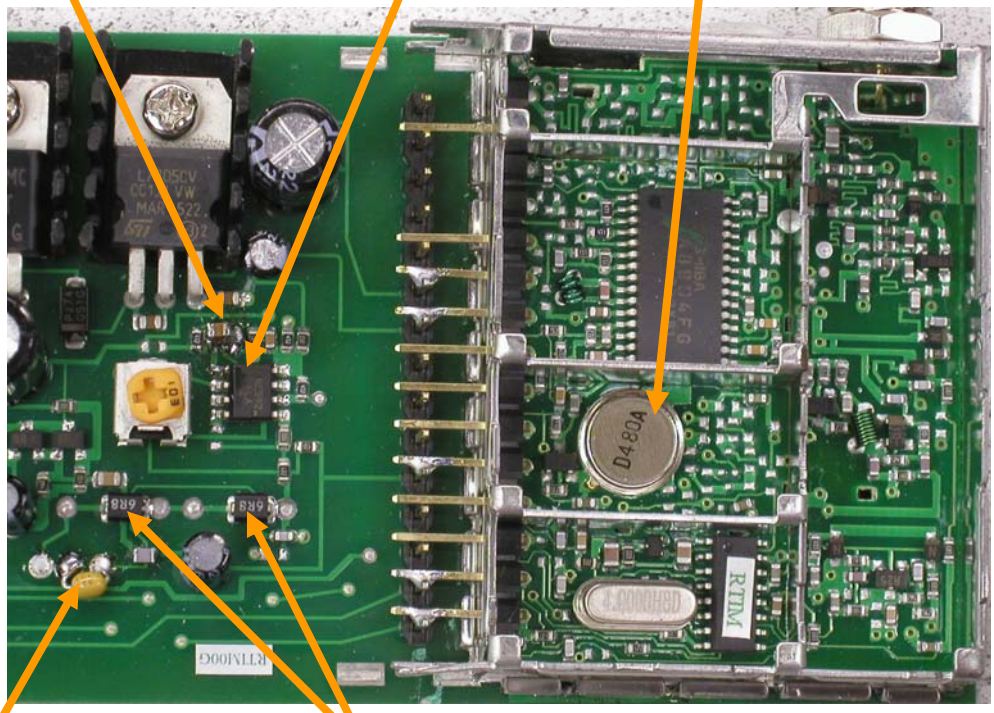
COMTECH RECEIVE MODULE PARTIAL SCHEMATIC

Added 1Mfd capacitor across the existing 0.22Mf cap. from pin 1 to ground. Do not remove the existing cap, but simply solder a 1Mfd unit on top of it.

NE592D op amp. Pin 1 is at the upper left.

This is the SAW filter inside the module can. Replace with DigiKey part number XC993-ND filter only if you have worked with surface mount circuitry.

DO NOT ATTEMPT IF INEXPERIENCED!!!



Add a 100pf capacitor across these circuit board pads. This modifies the existing de-emphasis circuit enough to improve the high frequency response.

Note the 6.8µh inductors here. Newer Comtech boards (shown) have surface mount inductors (and revised audio circuit). The older boards have through hole components here.

3-D TV SCHEME SEEKS TO REPLACE REGULAR TVS

PORTLAND, Ore. — As TV makers ready 3-D models, a company called Dynamic Digital Depth claims its automatic 2-D-to-3-D conversion algorithms could help replace conventional TVs.

Parent company DDD Group plc (Santa Monica, Calif.) argues that several dozen 3-D movie titles are not enough to persuade wary consumers to buy a dedicated 3-D display. By including automatic 2-D-to-3-D conversion for regular TV, PC games and even the user's own images, the company says 3-D TVs may be poised to eventually displace regular TVs altogether.

"There are not enough 3-D movie titles out there yet to justify purchasing a TV dedicated to stereoscopic," said Christopher Yewdall, executive director and CEO of DDD. "We are stuck in this Catch-22 situation where the TV manufacturers won't make many 3-D televisions until there is sufficient content available. And the content providers won't produce more 3-D programming until the 3-D televisions are available."

Putting a 2-D-to-3-D button on a TV remote control would break "the chicken-or-egg dilemma by allowing viewers to automatically convert existing 2-D to 3-D," Yewdall added.

Last year, DDD formed a partnership with Altera Corp. to embed its TriDef Core algorithms into the company's Arria-GX FPGAs, permitting DDD to license pc-board subsystems to major TV manufacturers. DDD is currently delivering its subsystem technology to such TV makers as Hyundai IT, Sharp, Samsung and Wistron. It provides both automatic conversion capabilities as well as the ability to sense and display native 3-D content in a variety of formats.

The TriDef Core algorithms provide user controls for "point-of-focus" and "depth." Users adjust the point-of-focus to determine which parts of 3-D images protrude from the front of the TV. The depth control determines how far it appears between the point-of-focus and the farthest object in a scene (often the horizon).

When users tune in to native 3-D content, DDD's algorithm senses and translates it into the 3-D format of the display. 3-D content can come from Blu-ray disks, DVDs, live broadcasts or PC game consoles. Supported displays include parallax barrier, lenticular, polarized and LCD shutter-glasses displays.

For high-end LCDs, digital light projectors and plasma TVs, Hyundai, Samsung, Wistron and others are using Altera FPGA versions of DDD's algorithms for automatic conversions to 3-D and to sense native 3-D content. It is then translated for display.
… R. Colin Johnson (03/04/2009) URL: http://www.eetimes.com/showArticle.jhtml?articleID=215800504

ATV GOING DIGITAL DOWN UNDER

The Brisbane, Australia amateur television repeater is going digital. Three Brisbane-based radio clubs are combining their resources to provide the improved service. These are the South East Queensland ATV Group, Brisbane Digital ATV Group and Queensland Digital Group.

Using their combined talents, the VK4RMG ATV repeater will undergo a major refurbishment. This includes the installation of an Australian-standard digital transmitter operating on 446.5 MHz.

Australia is among the latest nations moving its amateur television operations from analog to digital. Germany is believed to have been the first to begin making the digital ATV switch some time ago. (VK4YAR, WIA News, ARNewsline™)
…From ARNewsline and forwarded byWilliam Munsil <wmunsil@cox.net>

BROADCAST TV CAMERA MUSEUM

I have a Broadcast TV Camera site, "**The Museum of the Broadcast TV Camera"** that I have been building for a while now. It is still far from complete but it now contains a lot of information on American and European broadcast TV cameras. I keep adding new pictures to it as and when I can.

I have recently moved it to a new home to the new address **www.tvcameramuseum.org**. As a lot of TV hams are interested in the history of cameras and broadcast, it may be of interest to them if you wish to give the site a mention.
…Brian Summers G8GQS

ANTENNA, ANTENNA, IDENTIFY THE ANTENNA

Below are a number of antennas and towers from ATCO members. Let's see if we can identify who owns them. Write down who you think is the correct owner of each by number and I will collect them at the ATCO Spring Event. The one who has the most correct (greater than two because I expect you to recognize your own antenna) will get a year extension to their ATCO membership. In case of a tie, we will draw straws. If you save past ATCO Newsletters, one more will be a giveaway.

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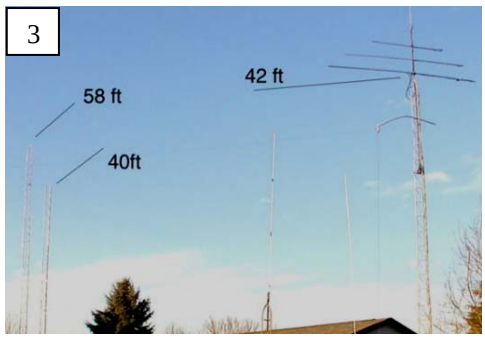

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FCC SEEKS COMMENTS ON PROPOSED 900 MHZ DEVICES

Starkley Laboratories submitted a petition for rulemaking asking the FCC to amend Section 15.247(a) of the rules to allow the use of devices with a minimum bandwidth of 100 kHz rather than the currently allowed 500 kHz minimum in the 902-928 MHz band. Starkley would maintain the current 8 dBm/3 kHz spectral power density limit specified in Section 15.247(c) of the rules.

As the power density isn't increasing, the narrower bandwidth operation should not cause any additional interference. And also, as Starkley pointed out, would allow more efficient use of the spectrum.

Starkley wants to use the spectrum for digital audio equipped assistive listening devices (ALDs). Its proposed revision to the rules would allow the use of ALDs to send digital audio information to hearing aid wearers for the purpose of improving the signal-to-noise ratio of audio information presented in a classrooms, auditoriums, airport terminals, and similar public venues.

The FCC Public Notice (DA 09-673) said that such an amendment would enable the operation of wireless devices for transmitting public service announcements and alarms, and also for hearing assistance devices to enhance the quality of life for the hearing disabled.

Hearing assistance devices currently have one megahertz of spectrum centered on 217 MHz. Starkley Laboratories said this allocation is limited to one-way communication and is allocated in 5-50 kHz channels, which makes control, wireless programming, and bi-directional communication impossible and is insufficient for supporting digital high fidelity information.

The 902-928 MHz spectrum is shared with a number of federal, non-federal, licensed and unlicensed spectrum users. Starkley Laboratories' requested operation could impact on both licensed and unlicensed users.

In addition to the request for the rules modification to allow narrower bandwidth operation under Part 15.247(a), Starkley Laboratories has also filed a request for a waiver of Part 15.247(a)(2) for unlicensed operation of systems using digital modulation in the 902-928 MHz band.

The FCC Office of Engineering and Technology is requesting comment on both proposals. See Public Notice DA 09-676 for information on the waiver request and how to file comments in that proceeding.
…Doug Lung, 04.03.2009 From TV Technology 4/3/09

ELECTRICAL ENGINEERING 101…Don't do this!!!!

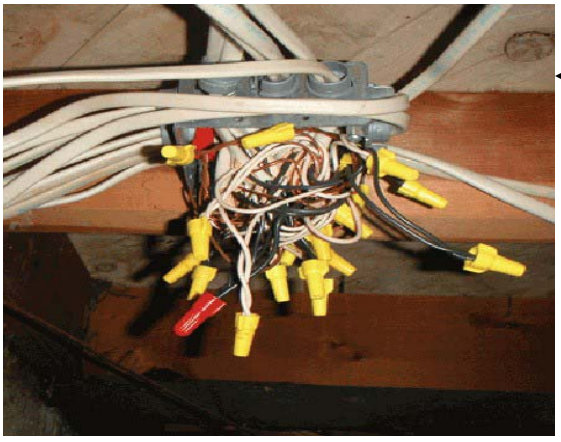
I came across these photos of "do-it-yourself" electrical improvements in the home. It really boggles the mind doesn't it? Enjoy the photos but don't get any ideas from it except for what NOT to do!

How novel. A fuse box from a cigar box. Since it is located under a kitchen cooktop, they were told there is no need to ground it so why not use something non-metalic? Oh, wait a minute, I think it looks like duct tape. Does that qualify as metal for grounding?

I can't even imagine what this guy was thinking. I wonder what will happen first, the plug prong touching the conduit or someone turning on the burner switch in the dark. Fear not, there's a caution label above it so I guess it's legal.

Now here's a novel way to take advantage of a little extra storage space. I'll bet he was looking for that hammer for a long time. He **does** get points for neatness though!

When you run out of pipe and there are some extra outlet boxes in the truck, see how creative one can get? This guy must be great at dominos.



OK, now that the breadboard version works, how can we clean this up? I guess it's either smaller wire or larger box. I wonder if it all goes to the same breaker? What are those red tips for, hummm?????

Here's the connection method for a ceiling fan. Seems to me that a switch installed in the cord "outlet" hole would have been easier. Of course, it looks a whole lot better when it's plugged in!

PIZZA…PIZZA…PIZZA!

April 11, 2009, Kingy's Pizza was the scene for one of a few pizza parties the ATCO ATV group has during the year. We get together for functions like this at random times, mostly spaced between our other activities and holidays.

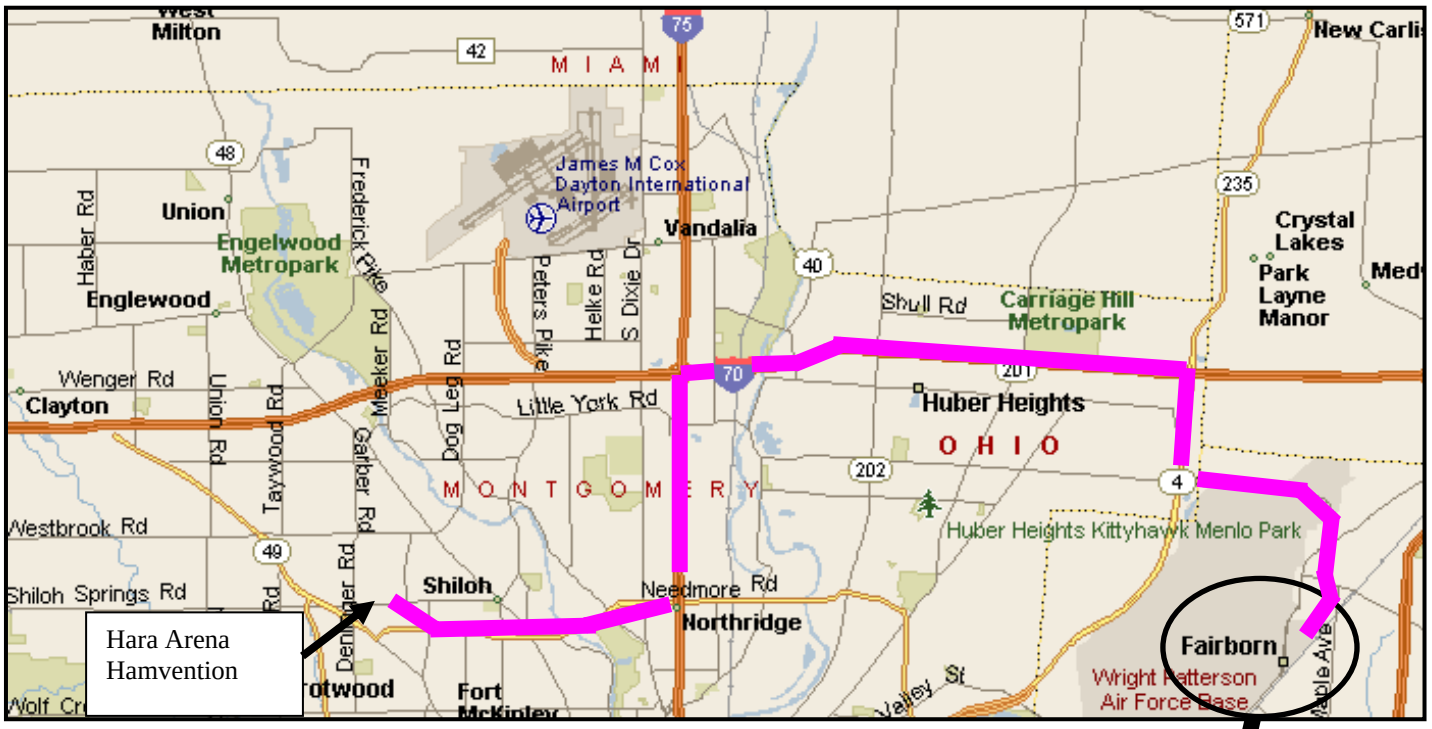
On this occasion, we assembled at Kingy's Pizza in Canal Winchester, Ohio (near Columbus) because we were told they have excellent pizza. We were not disappointed. It was a good opportunity to informally get together, share stories and enjoy some of our favorite food.

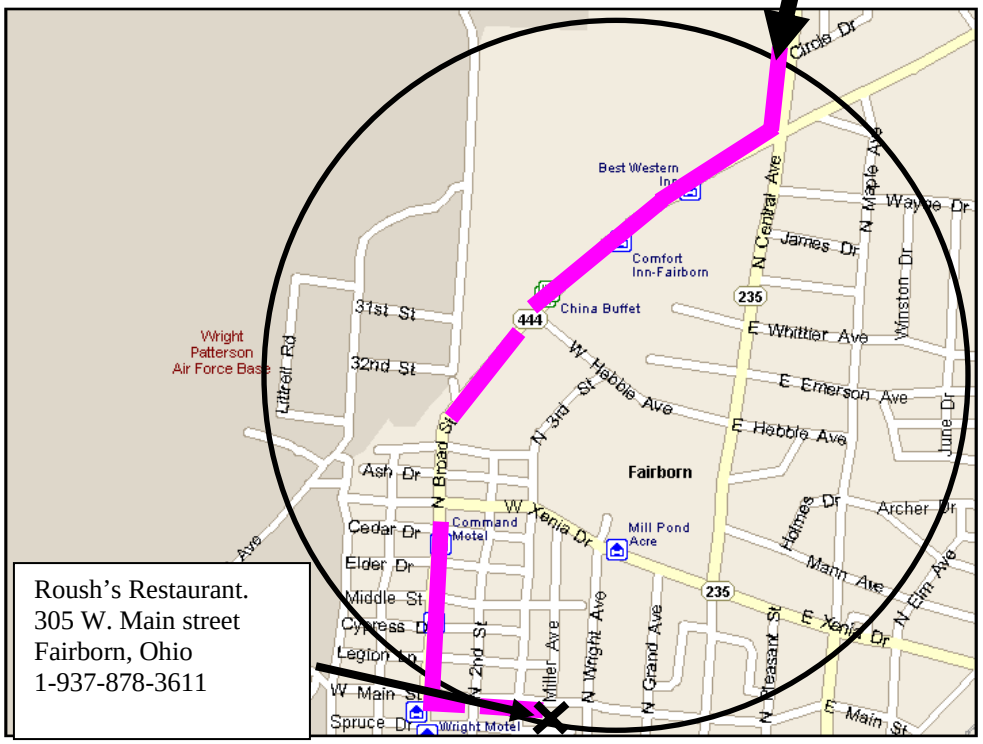
I counted 21 people there on this occasion, some prompted by the free pizza offer. It is customary for ATCO to foot the bill for activities like this as a way to provide a more value added part of our annual dues. As you can see in the photos, the event was well received! There were (7) 14" pizzas and this is all that was left!

ATV Friday Night Dinner 2009

The ATV Friday night dinner and discussion will be held on Hamvention Friday from 7 till 10PM at Roush's Restaurant 305 W Main St. in Fairborn, OH 45324 (at the north end of Wright Patterson airfield runway). The dinner menu is varied, moderately priced and ordered separately. We will enjoy a sit down dinner then have speakers talk about various ATV topics. We will also include door prizes for those present. The meeting terminates at about 10PM.

Directions: Take I-75 north then I-70 east. Exit SR 235/ SR4 south (Fairborn exit). South on 235 about 1 mile then left on Chambersburg Road (east & still SR235 past airport runway). Right on N. Broad Street for about 10 blocks. Turn left on W. Main Street for 3 blocks to Miller Ave. Roush's is on corner of W. Main and Miller. Parking in rear.

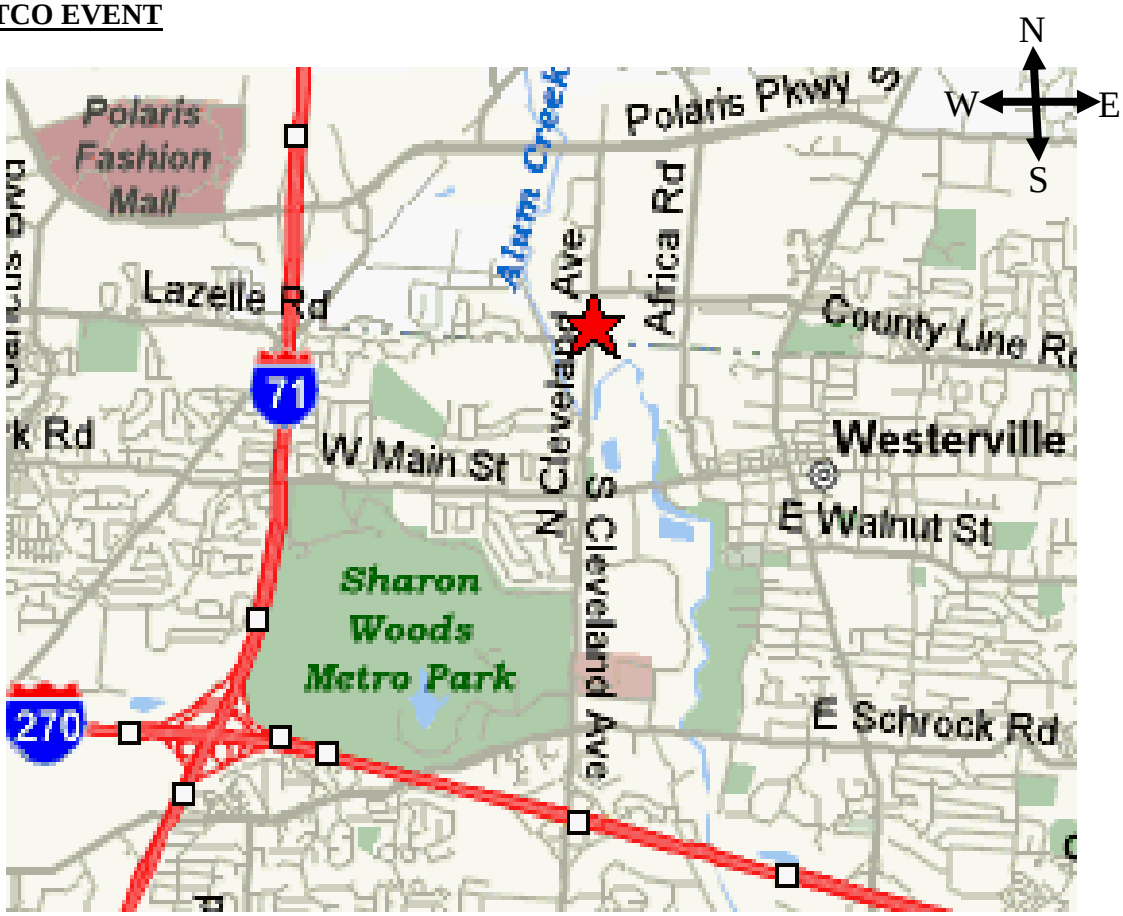




A T C O

2009 SPRING EVENT
12:30 PM – SUNDAY
MAY 3, 2009
ABB PROCESS AUTOMATION
CAFETERIA
579 EXECUTIVE CAMPUS DRIVE
FOR MORE DETAILS, CONTACT
ART – WA8RMC - 891-9273
LUNCH PROVIDED – DOOR PRIZES
BRING A FRIEND AND SEE OLD BUDDIES
MINI HAMFEST – SHOW AND TELL

DIRECTIONS TO THE ATCO EVENT



From I-70 WEST Bound:
Take I-270 Northbound around and turning to the west to Cleveland Ave. Exit north onto Cleveland Ave and travel north about 2 miles to Executive Campus drive. (It's the next street past Westar Crossing Street). Turn left (west) to the ABB building at the end of the street.

From I-70 EAST Bound:
Take I-270 Northbound around and turning to the east past SR 315 and past I-71. Get off on the Cleveland Ave second exit and travel north (to Westerville). Continue north on Cleveland past Schrock road and then past Main Street. Continue north about ½ mile past Main Street to Executive Campus Drive. (It's the next street past Westar Crossing Street) Turn left (west) to the ABB building at the end of the street

From I-71 NORTH bound toward Columbus:
Drive through Columbus on I-71 to I-270 on the north side. Take I-270 east to the first exit, Cleveland Ave. Get off the Cleveland Ave second exit and travel north (to Westerville). Continue north past Schrock road and then past Main street. Continue north about ½ mile past Main Street to Executive Campus Drive. (It's the next street past Westar Crossing Street) Turn left (west) to the ABB building at the end of the street.

From I-71 traveling SOUTH bound toward Columbus (North of I-270):
Exit the Polaris Ave exit and travel East about 1 mile to Cleveland Ave. Turn right on Cleveland Ave to Executive Campus Drive. Turn right again on Executive Campus Drive. ABB is on the right side of the street about half way around the semi-circle.

DAYTON HAMVENTION 2009 ATV FORUM

After considerable discussion, it now seems impractical to stream the event on a "live" basis as it takes a lot of things to go right to pull this one off without a hitch. I recognized this from the start so I wanted a backup in the event our selected method for some reason, did not work. If all transmission methods in place worked perfectly, there is still the logistics of getting them in place and having the personnel to operate the equipment correctly. Professional production companies set equipment in place days before the scheduled event. In this case, we won't have access to the forum room until the previous forum finishes and I don't want to leave expensive equipment in place unsupervised. More important, I don't see any advantage to streaming it LIVE as there is no function I know of that is dependent upon a live presentation.

Therefore, to make it easier and also allow us to see the rest of the Hamvention, we plan to record the forum with 2 independent cameras operated by N8NT and WA8HFK and edit it into a presentation the following week. That enables us to present a more professional and better quality video. We also plan to do a better job of audio recording this year as we will have wireless microphones available to capture audience participation. We will also record the Friday night dinner/ATV discussion in a similar manner.

The following is the formal list of presenters and the time schedule. Following that are the presenter biographies.

1530-1700(3:30PM-5:00PM)SATURDAY ATV(FAST SCAN AMATEUR TELEVISION) FORUM

TIME	SPEAKER / CALL	PRESENTATION TOPIC
1530-1535	Art Towslee WA8RMC	Introduction
1535-1540	Shari Harlan N9SH.	"A few words about Gene Harlan".
1545-1600	Ron Cohen K3ZKO.	"Introduction to ATV".
1605-1613	Mike Collis WA6SVT.	"ATVQ Magazine overview".
1613-1620	Bill Brown WB8ELK.	"ATVQ Magazine Website".
1625-1640	Henry Ruh AA9XW.	"Can You See Me Yet?".
1645-1700	Gordon West WB6NOA.	"Net Control of an ATV Net".

PRESENTATION TOPICS AND BIOGRAPHIES

Ron Cohen, K3ZKO will speak first about, "An Introduction to ATV" including equipment used in ATV and where to purchase it, how to assemble an ATV station and expected results.

Ron, in the 60's was on the prime Apollo recovery ship transmitting live splashdown TV to the world. Later he was involved in the two-way radio service business and has been in TV-Guide magazine and on NBC National news speaking about Amateur Television. He was the original publisher and editor of A5 Magazine, the forerunner of ATVQ Magazine.

Bill Brown, WB8ELK and Mike Collis, WA6SVT will talk about their newly acquired publishing duties at ATVQ Magazine. Bill will discuss the new web site and Mike will describe the features of the magazine and things to come.

Bill has been involved with high altitude ballooning with and without ATV cameras for many years. He's the designer of the famous Elktronics TV identifier PCB used by almost all ATV repeaters for on screen ID.

Mike has been licensed since 1972. By 1979 he built an ATV repeater for the Los Angeles area and by the 1980s worked with other ATVers to build and link more. His background is in Broadcast TV and currently is an engineer for CBS TV in LA.

Henry Ruh, AA9XW will speak about digital ATV titled, "Can You See Me Yet?". This involves setting up requirements and building techniques. A discussion about sensitivity requirements will also be discussed.

Henry is the former publisher/editor of A5 and ATVQ magazines and author of nearly a dozen books on TV technology with over 40 years broadcast experience including an Emmy for technical achievement, and several Ham Radio awards from ARRL. He became a ham in 1969 and put his first ATV station on the air in 1971. He has taught university level TV production, business management. He is currently the chief engineer for a Chicago TV station and a contract engineer for Qalcomm/MediaFLO.

Gordon West, WB6NOA will speak about the Net Control duties of an ATV Net discussing some of the novel approaches to get ATVers involved with their club.

Gordon is a nationally known ham licensed for more than 40 years holding an Amateur Extra class license. Gordon teaches evening Ham Radio classes and weekend licensing seminars nationwide for both entering and upgrading Hams. He has served on the faculty of Coastline College and Orange Coast College and contributes regularly to ham radio, marine and general aviation magazines. He is a fellow of the Radio Club of America

CONSTRUCTION ARTICLE INDEX

The following list is an index of all construction related material that has appeared in the ATCO Newsletter since its inception in the early '80's. This is a handy reference for that particular construction article that you knew existed but didn't want to wade through each issue to find it. All Newsletters below are listed in order in the ATCO homepage under "Newsletters". Once you locate the Newsletter section, the displayed list can be re-sorted as needed by clicking on the "date" in the header.

Issue	Page(s)	Article
Vol 1 II	5	439 Beam
Vol 2 I	4	439 Beam
Vol 2 II	8,9	439 Parabolic Ant
Vol 2 II	9	Video Modulator
Vol 2 III	7	1296 Ant 45 Ele loop yagi
Vol 2 III	10	RF Power Indicator (in-line) for 1296 MHZ
Vol 2 SE	2,3	Diode Multiplier for 23 CM
Vol 2 SE	4,5	1296 MHZ 10 Watt Solid State Linear Amp
Vol 4 I	3	RF/Video Line Sampler
Vol 4 II	3	P-Unit Meter
Vol 4 II	7,10,11	UHF Gated Noise Source
Vol 4 II	12	420 – 450 Broom Handle Rhombic Ant
Vol 4 III	4,8	25 Element 1.26 Loop Yagi
Vol 4 IIII	6	Video Modulator (Tube Type)
Vol 5 I	3	Video Modulator One Transistor
Vol 5 II	4,7	900 MHZ Yagi Ant
Vol 5 II	6	Video Modulator for 2C39 Final
Vol 5 III	3	440 MHZ Hidden Transmitter Finder
Vol 6 I	3	Video Line Amp
Vol 6 I	8	25 Ele 910 MHz Loop Yagi
Vol 6 II	4,6,7	Microwave Oven ATV Xmiter
Vol 6 II	5	Matching a Quad Driven Ele
Vol 6 II	8	Power Divider for 33CM
Vol 9 IIII	5,7	16 Ele Loop Yagi for 439.25 MHz
Vol 10		No Articles
Vol 11 II	4,5,6	439 48 Ele Collinear Ant
Vol 11 IIII	7	1280 MHZ Cavity Filter
Vol 12 I	6,7,8	439 & 1200 Horz Polarized Mobile Ant
Vol 12 II	5,6,7	ATV Line Sampler
Vol 12 II	10	439 & 1280 Interdigital Filter(s)
Vol 12 III	6,7,8	439 Cheap Attic Ant
Vol 13 I	9, 10	High Level Modulator for ATV
Vol 13 II	5	VGA to NTSC Converter for Computer
Vol 13 III	9, 10	AM Video Modulator
Vol 13 IIII	4	1200 MHZ Transistor Linear Amp
Vol 13 IIII	6	900 & 1200 MHz Loop Yagis
Vol 14 IIII	8	439 31 EleYagi
Vol 14 IIII	12, 13	1250 MHZ FM ATV 3 Watt Xmiter
Vol 15 I	16	427.25 Horz J-Pole Ant
Vol 15 II	14	2400 MHZ Loop Yagi
Vol 15 III	8	Wavecom Modification
Vol 15 III	12,13,14	2.4 Gig Antenna's
Vol 16 II	20	2.4 Gig Helix Ant
Vol 16 IIII	4	1280 MHZ Loop Yagi
Issue	Page(s)	Article
Vol 17 I	14, 15	Video Amp (Multi Output)
Vol 18		No Articles
Vol 19 IIII	4	Pwr Supply for 28 Volt Ant Relay
Vol 20 III	9, 10	Video Sampler
Vol 21 II	4	RF Pwr Amp for 900/1200 MHZ
Vol 21 II	14	10-14 Volt Doubler for 28 Volt Ant Relays

Vol 21 III	5	S-Video To Composite Adaptor
Vol 21 IIII	3,4	Video Noise Rejection Amp
Vol 21 IIII	14,15,16,17	“S” Meter For Comtech Boards
Vol 22 I		No Articles
Vol 22 II	10	1260 MHZ Cavity Filter
Vol 22 III		No Articles
Vol 22 IIII		No Articles
Vol 23 I		No Articles
Vol 23 II	5,6	Linear 60 Watt For 70CM
Vol 23 II	8,9	Video Modulator Update
Vol 23 III		No Articles
Vol 23 IIII		No Articles
Vol 24 I	13	RF Sniffer For 2.4 GIG
Vol 24 II		No Articles
Vol 24 III	3	Quantum 1500 Rec Tuner Mod
Vol 24 IIII	9	Battery Recharge Ckt
Vol 25 I		No Articles
Vol 25 II	6,7	Comtech TX Module Improvement
Vol 25 III	11	Comtech TX Module Improvement Correction
Vol 26 I	6	Isolator (Circulator) Modification 850 To 1260 Mhz

…Bob N8OCQ

LOCAL HAMFEST SCHEDULE

This section is reserved for upcoming hamfests. They are limited to Ohio and vicinity easily accessible in one day. Anyone aware of an event incorrectly or not listed here; notify me so it can be corrected. This list will be amended, as further information becomes available. …WA8RMC.

19 Apr 2009+ 55th Annual Hamfest, Electronics, & Computer Show Cuyahoga Falls Amateur Radio Club http://www.cfarc.org/hamfest2009.html Talk-In: 147.27 Contact: Ted Sarah, W8TTS 239 Bermont Avenue Munroe Falls, OH 44262 Phone: 330-688-2013 Email: w8tts@w8tts.com Cuyahoga Falls, OH Emidio & Sons Party Center 48 East Bath Road

26 Apr 2009+ Athens Hamfest 2009 Athens County Amateur Radio Association http://www.ac-ara.org Talk-In: 145.15 Contact: Drew McDaniel, W8MHV 61 Briarwood Drive Athens, OH 45701 Phone: 740-592-2106 Fax: 740-593-9184 Email: mcdanied@ohiou.edu Athens, OH Athens Community Center 701 East State Street

15-17 May 2009* ARRL National Convention (Dayton Hamvention) Dayton ARA http://www.hamvention.org Talk-In: 146.940 Contact: Mike Kalter, W8CI Phone: 937-776-7898 Email: w8ci@arrl.net Dayton, OH Hara Arena Shiloh Springs Road (Trotwood)

6 Jun 2009+ FCARC Hamfest and Tailgate Party Fulton County Amateur Radio Club http://k8bxq.org Talk-In: 147.195/147.795 Contact: Lindsay Infante, K8LI c/o FCARC PO Box 521 Wauseon, OH 43567 Phone: 419-822-4382 Email: lindsayinf@yahoo.com Tedrow, OH Roth Family Park 101 Hill Avenue

20 Jun 2009+ Milford Amateur Radio Club http://www.w8mrc.com Talk-In: 147.345+ (no tone) Contact: Jim Linn, WB8RRR 5110 Romohr Road Cincinnati, OH 45244-1023 Phone: 513-831-6255 Fax: 513-528-7270 Email: wb8rrr@arrl.net Milford, OH Eastside Christian Church 5874 Montclair Blvd

18 Jul 2009+NOARSFEST Northern Ohio Amateur Radio Society http://www.noars.net Talk-In: 146.70- (open repeater) Contact: Darlene Ohman, KA8VTS 4122 Bush Avenue Cleveland, OH 44109 Phone: 216-398-8858 Email: dfohman@att.net Elyria, OH Lorain County Community College (Spitzer Conference Center) 1005 North Abbe Road

19 Jul 2009+ Van Wert Amateur Radio Club http://www.w8fy.org Talk-In: 146.250 / 146.850 Contact: Stephen Kouts, WA8WKF PO Box 347 Van Wert, OH 45891-0347 Email: skouts@bright.net Van Wert, OH Van Wert County Fairgrounds Route 127 South

26 Jul 2009+ Portage Hamfair '09 Portage Amateur Radio Club http://Hamfair.com Talk-In: 144.790/145.390 Contact: Joanne Solak, KJ3O 9971 Diagonal Road Mantua, OH 44255 Phone: 330-274-8240 Fax: 330-274-8527 Email: kj3o@arrl.net Randolph, OH Portage County Fairgrounds 4215 Fairgrounds Road

NEW MEMBER(S)

Let's welcome the new members to our group! If any of you know anyone who might be interested, let one of us know so we can flood him or her with information. New members are our group's lifeblood. It's important that we actively recruit new faces aggressively.

W8ARE Larry Meredith III, Westerville, Oh

…WA8RMC

LOCAL HAM CLUB LISTING

Club/Organization	Web Site	In Person Meetings See the Club's Web Site for Location	Nets	ARRL Affliated ?
ARC OF OHIO STATE UNIVERSITY	http://arc.org.ohio-state.edu/	2nd Mon of the month at 18:00		Y
ATCO-AMATEUR TELEVISION IN CENTRAL OHIO	http://www.atco.tv	Last Sun in October First Sun in May	Tue's at 21:00 on 147.480 with Repeat Audio on 446.350	
BUCKEYE BELLES-OHIO LADIES AMATEUR RADIO CLUB	http://geocities.com/kc4iyd		Mon's at 09:00 on 3.945 Mon's at 21:00 on 147.060 Tue's at 20:00 on 3.972 Tue's at 20:30 on 7.236	
CCRA-CAPITAL CITY REPEATER ASSN	http://www.qsl.net/ccra/	2nd Sat of the month at 19:30	Mon's at 20:30, the Swap'n'shop Net on 147.24; followed by a Discussion Net	
CENTRAL OHIO SLOW SCAN TV	http://www.qsl.net/n8tut/sstv/		1st Sun at 19:00 on 145.490	
COARES-CENTRAL OHIO ARES	http://www.coares.org/	3rd Wed of the month at 20:00	Wed's at 20:00 on 147.060 except the 3rd Wed of the month.	Y
COLUMBUS FOX HUNTERS	http://www.qsl.net/cfh/			
COOKEN-CENTRAL OHIO OPERATORS KLUB EXTRA TO NOVICE	http://www.cooken.org/	2nd Sat of the month at 12:00	Wed's at 20:30. See web site for details on freqs.	Y
CORC-CENTRAL OHIO RADIO CLUB	http://www.corc.us/	Check web site		
COSHOCTON COUNTY AMATEUR RADIO ASSOC.	http://www.w8cca.org/	1st Tue of the month at 19:00	Sun's at 21:00 on 147.045	
COSWN-CENTRAL OH SEVERE WEATHER NET	http://www.severe-weather.org/		Tue's at 19:30 on 146.76 PL of 123.0hz Spring & Summer; 3rd Tue's Fall & Winter	Y
COTN-CENTRAL OHIO TRAFFIC NET	http://www.technology-corner.com/cotn/		Daily at 19:15 on 147.240	
CQRP-COLUMBUS QRP CLUB	http://www.qsl.net/cqrp/	1st Sat of the month at 10:30		
CRES-ARC	http://www.qsl.net/w8zpf	Check web site	Sun's at 21:00 on 146.070	Y
DELARA-DELAWARE AMATEUR RADIO ASSOCIATION	http://www.k8es.org/Home.html	3rd Wed of the month at 19:30	Mon's at 20:00 on 145.17	Y
LANCASTER & FAIRFIELD CTY ARC	http://www.k8qik.org/	1st Thu of the month at 19:30	Mon's at 21:00 on 147.030 Thu's at 18:30 on 147.030 is Radio Night.	Y
LICKING COUNTY ARES	http://www.licking-ares.org/		1st & 3rd Wed of the month at 21:00 on 146.88	
MOUNT VERNON ARC	http://mvarc.net/	2nd Mon of the month at 19:00		Y
NARA-NEWARK AMATEUR RADIO ASSOCIATION	http://nara.eqth.org/	2nd Sat of the month at 19:00	Tue's at 21:00 on 146.88	Y
OHIO NAVY-MARINE CORPS MARS	http://www.ohionavymars.org/			N/A
QCWA MID-OHIO CHAPTER	http://www.qcwa.org/qcwa212/	Check web site	Thu's at 20:30 on 146.76	
RUSTY ZIPPER HF & DX CONTEST CLUB	http://www.qsl.net/na8kd/			
SOUTH WEST COLUMBUS HAM RADIO CLUB	http://swchrc.com/		Fri's at 20:00 on 145.230 or 53.550	Y
VOICE OF ALADDIN ARC	http://www.qsl.net/w8fez/			Y
ZARC-ZANESVILLE AMATEUR RADIO CLUB	http://zarc.eqth.org/	1st Tue of the month at 19:00	Wed's at 21:00 on 146.610	Y

INTERNET ATV HOME PAGES (list verified 07/01/08)

Domestic homepages

http://www.atco.tv	Ohio, Columbus, homepage (ATCO)
http://www.w8bi.org/atv/atvresources.html	Ohio, Dayton ATV group (DARA)
http://www.citynight.com/atv	California, San Francisco ATV
http://atn-tv.org/ATN.htm	California, Amateur Television Network in Central / Southern
http://members.tripod.com/silatvg	Illinois, Southern, Amateur Television group
http://www.ussc.com/~uarc/utah_atv/id_atv1.html	Idaho ATV
www.bratsatv.org.	Maryland, Baltimore Radio Amateur Television Soc. (BRATS)
http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=10991	Michigan, Detroit Amateur Television System (DATS)
http://www.qsl.net/kd2bd/atv.html	New Jersey, Brookdale ARC in Lincroft
http://www.ipass.net/~teara/menu3.html	North Carolina, Triangle Radio Club (TEARA)
http://www.oregonatv.org	Oregon, Portland OATVA Oregon Amateur TV Association
?	Pennsylvania, Pittsburg Amateur Television
http://members.bellatlantic.net/~theojkat/	Pennsylvania, Phila. Area ATV
?	Texas, Houston ATV (HATS)
http://www.hotarc.org/atv.html	Texas, WACO Amateur TV Society (WATS)
?	Utah ATV
http://www.qsl.net/w7twu	Washington, Western Washington Television Soc. (WWATS)
http://www.shopstop.net/bats/	Wisconsin, Badgerland Amateur Television Society (BATS)
http://mysite.verizon.net/vzev3ql6/id9.html	Chesapeake Amateur Television Society (CATS)

Foreign homepages

http://atv.hamradio.si	Slovenia ATV **(BEST OF FOREIGN ATV HOMEPAGES)**
http://www.batc.org.uk/index.htm	British ATV club (BATC)
http://www.cq-tv.com	British ATV Club and CQ-TV Magazine
http://oh3tr.ele.tut.fi/english/atvindex.html	Finland ATV, OH3TR repeater.
http://www.darc.de/distrikte/g/T_ATV/atv.htm	German ATV

Misc other ATV related sites

http://www.atv-tv.org	The Amateur Television Directory
http://www.atn-tv.org	Amateur Television Network
http://www.hampubs.com	Amateur Television Quarterly Magazine
http://gb3lo.camstreams.com	"GB3LO" Repeater Camstream westoft, UK
http://www.ham-radio.com/sbms	"SBMS" San Bernardino Microwave Society
http://www.qsl.net/kc6ccc/	“METS" Microwave Experimenters Television System

TUESDAY NITE NET ON 147.48 MHz SIMPLEX

Every Tuesday night @ 9:00PM WA8RMC hosts a net for the purpose of ATV topic discussion. There is no need to belong to the club to participate, only a genuine interest in ATV. All are invited. For those who check in, the general rules are as follows: Out-of-town and video check-ins have priority. A list of available check-ins is taken first then a roundtable discussion is hosted by WA8RMC. After all participants have been heard, WA8RMC will give status and news if any. Then a second round follows with periodic checks for late check-ins. We rarely chat for more than an hour so please join us if you can.

ATCO TREASURER'S REPORT - de N8NT

OPENING BALANCE (01/20/09)…….$1568.61
RECEIPTS(dues)……. $ 121.89
Payments for ATV talk and ATVQ article……$ 50.00
Paypal expenses……$ (1.82)
Pizza party…… $ (214.35)
CLOSING BALANCE (04/20/09)…….$ 1524.33

ATCO REPEATER TECHNICAL DATA SUMMARY

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)
TV Transmitters: 427.25 MHz AM mod,, 1260 MHz FM mod,, 1245 MHz QPSK digital, 2433 MHz FM mod, and 10.350 GHz FM mod.
multipole filters in output line of 427.25, 1260 , 2433 and 10.35 transmitters
Output Power - 427.25 MHz :40 watts average 80 watts sync tip
1260 MHz: 50 watts continuous (Analog ATV)
1245 MHz 2 watts continuous (DVB-S digital ATV - 2 channels)
2433 MHz: 15 watts continuous
10.350 GHz 1 watt continuous
Link transmitter - 446.350 MHz 5 watts NBFM 5 kHz audio
Identification: 427, 1245, 1260, 2433, 10.35 GHz xmitters video identify every 30 min. with ATCO & WR8ATV on 4 different screens
1245 MHz & 10.35 GHz - Continuous transmission of ATCO & WR8ATV with no input signal present
Transmit antennas: 427.25 MHz - Dual slot horizontally polarized "omni" 7 dBd gain major lobe east/west, 5dBd gain north/south
1260 MHz - Diamond vertically polarized 12 dBd gain omni (Analog ATV)
1245 MHz - Diamond vertically polarized 12 dBd gain omni (Digital DVB-S ATV)
2433 MHz - Comet Model GP24 vertically polarized 12 dBd gain omni
10.350 GHz - Commercial 40 slot waveguide horizontally polarized 16 dBd gain omni
Receivers: 147.48 MHz - F1 audio input with touch tone control
439.25 MHz - A5 video input with FM subcarrier audio (**lower sideband**)
449.975 MHz - F1 audio input aux touch tone control
1280 MHz - F5 video input or DVB-S digital (digital input fed direct to 1245 MHz digital output channel 2)
2398 MHz - F5 video input
10.350 GHz - F5 video input (future – not installed yet)
Receive antennas: 147.48 MHz - Vert. polar. Hustler G6-270R 6dBd dual band (also used for 446.350 MHz output)
439.25 MHz - Horiz. polar. dual slot 7 dBd gain major lobe west
1280 MHz - Diamond vertically polarized 13 dBd gain omni
2398 MHz - Comet Model GP24 vertically polarized 12 dBd gain omni
10.450 GHz - Commercial 40 slot waveguide horizontally polarized 16 dBd gain omni (not installed yet)

Input control:

Touch Tone	Result (if third digit is * function turns ON, if it is # function turns OFF)
00*	turn transmitters **on** (enter manual mode-keeps xmitters on till 00# sequence is pressed)
00#	turn transmitters **off** (exit manual mode and return to auto scan mode)
264	Select Channel 4 Doppler radar. (Stays up for 5 minutes) Select # to shut down before timeout.
697	Select Time Warner radar. (Stays up till turned off). Select # to shut down.

Manual mode functions:

00* then 1 for Ch. 1	Select 439.25 receiver
00* then 2 for Ch. 2	Unused at this time
00* then 3 for Ch. 3	Select 1280 receiver
00* then 4 for Ch. 4	Select 2411 receiver
00* then 5 for Ch. 5	Select video ID (the 4 identification screens)
01* or 01#	Channel 1 439.25 MHz scan enable (hit 01* to scan this channel & 01# to disable it)
02* or 02#	Channel 2 (not in use at this time)
03* or 03#	Channel 3 1280 MHz scan enable
04* or 04#	Channel 4 2398 MHz & camera video scan enable
A1* or A1#	Manual mode select of 439.25 receiver audio
A2* or A2#	Unused channel at this time
A3* or A3#	Manual mode select of 1280 receiver audio
A4* or A4#	Manual mode select of 2398 receiver audio
C0* or C0#	Beacon mode – transmit ID for twenty seconds every ten minutes
C1* or C1#	449.975 MHz link receiver enable / disable
C2* or C2#	2433 transmitter for on/off. (C2* enables transmitter and C2# disables it)

Auto scan mode functions:

001	2398 receiver (normal mode - returns to auto scan)
002	Roof camera (select 001 when finished viewing camera so repeater will shut down)
003	Equipment. room camera (select 001 when finished so repeater will shut down)

ATCO MEMBERS AS OF April 20, 2009

Call	Name	Address	City	St	Zip	Phone	URL
KD8ACU	Robert Vieth	3180 North Star Rd	Upper Arlington	OH	43221	614-457-9511	rfvieth@yahoo.com
K8AEH	Wilbur Wollerman	1672 Rosehill Road	Reynoldsburg	OH	43068	614-866-1399	wilburapilot@yahoo.com
KC3AM	Dave Stepnowski	735 W Birchtree Ln	Claymont	DE	19703		kc3am@verizon.net
N4AK	Glen Farr	10 Autumn View Ridge	Travelers Rest	SC	29690-8024		
W8ARE	Larry Meredith III	6070 Langton Circle	Westerville	OH	43082-8964		lcmeredith@prodigy.net
KC8ASD	Bud Nichols	3200 Walker Rd	Hilliard	OH	43026	614-876-6135	kc8asd2@netzero.com
KC8ASF	Tom Pallone	3437 Dresden St.	Columbus	OH	43224	614-268-4873	kc8asf@sbcglobal.net
KC8BTX	Dudley Field	357 N. Ridge Heights Dr	Howard	OH	43028		kc8btx@37.com
W6CDR	Wynn Rollert	1141 Pursell Ave	Dayton	OH	45420	937-256-1772	w6cdr@hotmail.com
WB8CJW	Dale & Sharon Elshoff	8904 Winoak Pl	Powell	OH	43065	614-210-0551	delshoff@columbus.rr.com
N8COO	C Mark Cring	3941 Three Rivers Lane	Groveport	OH	43125	614-836-2521	n8coo@yahoo.com
N8CXI	Garry Cotter	2367 Northglen Drive	Columbus	OH	43224		gjcotter@aol.com
WB8CXO	Mike Young	289 Gaylord Drive	Munroe Falls	OH	44682		
WA2CZD	Jim Gilbert	1204 Aspen Pines Drive	Wilder	KY	41071-0404		jgilbert@fox19.com
N3DC	William Thompson	6327 Kilmer St	Cheverly	MD	20785		
N3DGE	Mike Trachtenberg	3777 Lankenau Avenue	Philadelphia	PA	19131-2816		mikect@verizon.net
WA8DNI	John Busic	2700 Bixby Road	Groveport	OH	43125	614-491-8198	jabusic@yahoo.com
W8DMR	Bill Parker	2738 Florbunda Dr	Columbus	OH	43209		w8dmratv@copper.net
K8DW	Dave Wagner	2045 Maginnis Rd	Oregon	OH	42616	419-691-1625	
WB8DZW	Roger McEldowney	5420 Madison St	Hilliard	OH	43026	614-876-6033	MHZ52525@aol.com
KC8EVR	Lester Broadie	108 N Burgess	Columbus	OH	43204		kc8evr@beol.net
WA8FLY	Rod Shaner	16012 London Rd.	Orient	OH	43146	740-279-3614	wa8fly@copper.net
W8FZ	Fred Stutske	8737 Ashford Lane	Pickerington	OH	43147		w8fz@arrl.net
KB8GHW	Mike Amirault	11354 Reussner Dr SW	Pataskala	OH	43062	740-927-5005	kb8ghw@ee.net
WA8HFK,KC8HIP	Frank, Pat Amore	3630 Dayspring Dr	Hilliard	OH	43026	614-777-4621	famore@wowway.com
W4HTB	Henry Cantrell	905 Wrenwood Dr.	Bowling Green	KY	42103	270-781-9624	w4htb@insightbb.com
WG8I	Chris Vojsak Sr,	3536 W Henderson Rd	Columbus	OH	43220-2232	614-203-6000	wg8i.ham@gmail.com
WB2IIR	Michael Anthony	370 Georgia Drive	Brick	NJ	08723		
N8IJ	Dick Knowles	1799 Homeward Ave	Lima	OH	45805		rgrant2001@yahoo.com
KD8JLO	David Nulter	510 Millag Drive	Sunbury	OH	43074	614-579-6425	davnul@wideopennetworks.com
K8KDR,KC8NKB	Matt & Nancy Gilbert	5167 Drumcliff Ct.	Columbus	OH	43221-5207	614-771-7259	k8kdr@arrl.net
W8KHW	Kevin Walsh	2396 Anson St	Columbus	OH	43220	614-442-7748	kwalsh@datrix.com
WA8KQQ	Dale Waymire	225 Riffle Ave	Greenville	OH	45331	937-548-2492	walkingcross@bright.net
N8LRG	Phillip Humphries	3226 Deerpath Drive	Grove City	OH	43123	614-871-0751	phumphries@columbus.rr.com
WB8LGA	Charles Beener	2540 State Route 61	Marengo	OH	43334		cbeener@columbus.rr.com
KA8LWR	Mel Alberty	1645 Olentangy Road	Bucyrus	OH	44820	419-468-2971	malberty@columbus.rr.com
W8MA	Phil Morrison	154 Llewellyn Ave	Westerville	OH	43081		w8ma@arrl.net
KA8MID	Bill Dean	2630 Green Ridge Rd	Peebles	OH	45660		ka8mid@qsl.net
W0MNE	Mike Doty	4300 Winchester Southern Rd	Circleville	OH	43113	740-420-9060	mcubed2@hughes.net
N8NT	Bob Tournoux	3569 Oarlock Ct	Hilliard	OH	43026	614-876-2127	n8nt@atco.tv
WD8OBT	Tom Camm	63 Goings Lane	Reynoldsburg	OH	43068	740-964-6881	mitchellb25@netzero.com
WU8O	Tom Walter	15704 St Rt 161 West	Plain City	OH	43064	614-733-0722	wu8o@emec.us
N8OCQ	Bob Hodge Sr.	3750 Dort Place	Columbus	OH	43227-2022		hodgerob@yahoo.com
KB8OFF	Jess Nicely	742 Carlisle Ave	Dayton	OH	45410		kb8off@sbcglobal.net
W6ORG,WB6YSS	Tom & Maryann O'Hara	2522 Paxson Lane	Arcadia	CA	91007-8537	626-447-4565	w6org@ arrl.net
KC8OZV	George Biundo	3675 Inverary Drive	Columbus	OH	43228	614-274-7261	kc8ozv@columbus.rr.com
W8PU	Gary Poland	3347 State Route 28	Midland	OH	45148		
K2PMS	Paul Schmitter	57 East Main Street	Springville	NY	14141		pschmitter@roadrunner.com
KE8PN	James Easley	1507 Michigan Ave	Columbus	OH	43201	614-421-1492	jeasley11@hotmail.com
W8PU	Gary Poland	3347 S.R. 28	Midland	OH	45148		gpoland1@cinci.rr.com
KC8QJR	Adam Burley	1796 Queensbridge Drive	Columbus	OH	43235	614-886-2326	adam@digitalcave.org
W3RCJ	Thomas Farrell	1912 Burnwood Road	Baltimore	MD	21239		w3rcj@operamail.com
WA8RMC	Art Towslee	180 Fairdale Ave	Westerville	OH	43081	614-891-9273	towslee1@ee.net
W8RRF	Paul Zangmeister	10365 Salem Church Rd	Canal Winchest.	OH	43110		w8rrf@copper.net
W8RRJ	John Hull	580 E. Walnut St.	Westerville	OH	43081	614-882-6527	jhull@wcmi.org
W8RUT,N8KCB	Ken & Chris Morris	3181 Gerbert Rd	Columbus	OH	43224	614-261-8583	w8rut@aol.com
W8RVH	Richard Goode	9391 Ballentine Rd	New Carlisle	OH	45334	937-964-1185	w8rvh@ctcn.net
W8RQI	Ray Zeh	2263 Heysler Rd	Toledo	OH	43617		zehrw@glasscity.net
KB8RVI	David Jenkins	1941 Red Forest Lane	Galloway	OH	43119	614-878-0575	kb8rvi@hotmail.com
W8RWR	Bob Rector	135 S. Algonquin Ave	Columbus	OH	43204-1904	614-276-1689	w8rwr@sbcglobal.net
W8RXX,KA8IWB	John & Laura Perone	3477 Africa Road	Galena	OH	43021	740-548-7707	jper@insight.rr.com
W8SJQ	Rocky Eramo	795 Riverbend Ave	Powell	OH	43065	614-207-2740	rockyeramo@aol.com
W8SJV, KA8LTG	John & Linda Beal	5001 State Rt. 37 East	Delaware	OH	43015	740-369-5856	w8sjv@nexgenaccess.com
KB8SSH	Mike Cotts	3424 Homecroft Dr	Columbus	OH	43224	614-371-7380	mcotts@wideopenwest.com
W3SST	John Shaffer	1635 Haft Dr.	Reynoldsburg	OH	43068	614-751-0029	w3sst@juno.com
K8TPY, K8FRB	Jeff & Dianna Patton	3886 Agler Road	Columbus	OH	43219		cqcqk8tpy@yahoo.com
KB8TRP	Tom Flanagan	1751 N Eastfield Dr.	Columbus	OH	43223		chuck78@wowway.com
NR8TV	Dave Kibler	243 Dwyer Rd	Greenfield	OH	45123	937-981-1392	s.crew@in-touch.net
KB8UGH	Steve Caruso	6463 Blacks Rd. SW	Pataskala	OH	43062-7756		dael4@columbus.rr.com
WB8UGV	Bruce Jaquish	22375 Montanna Drive	Lawrenceburg	IN	47025-7447	812-637-3805	brucewb8ugv@comcast.net
W8URI	William Heiden	5898 Township Rd #103	Mount Gilead	OH	43338	419-947-1121	wb8uri@earthlink.net
KB8UWI	Milton McFarland	115 N. Walnut St.	New Castle	PA	16101		kb8uwi@yahoo.com

Call	Name	Address	City	St	Zip	Phone	URL
WA8UZP	James R. Reed	818 Northwest Blvd	Columbus	OH	43212	614-297-1328	wa8uzp@yahoo.com
K8VKA	Ed Schleppi	5900 Bowen Rd	Canal Winchest.	OH	43110		ejs@comtech-ohio.com
N8WAC	Tony Everhardt	6512 Emch Road	Walbridge	OH	43465	419-666-5178	natewac@aol.com
KB8WBK	David Hunter	45 Sheppard Dr	Pataskala	OH	43062	740-927-3883	hiram@hiramhunter.com
KC8WRI	Tom Bloomer	PO Box 595	Grove City	OH	43123		ohiomec@aol.com
AA8XA	Stan Diggs	2825 Southridge Dr	Columbus	OH	43224-3011		sdiggs4590@aol.com
N8XYJ	Dan Baughman	4269 Hanging Rock Ct.	Gahanna	OH	43230		danohio@wowway.com
KB8YMQ	Jay Caldwell	4740 Timmons Dr	Plain City	OH	43064		kb8ymq@aol.com
KC8YPD	Joe Ebright	3497 Ontario St	Columbus	OH	43224		----------
N8YZ	DaveTkach	2063 Torchwood Loop S	Columbus	OH	43229	614-882-0771	
AB5ZJ	Tom Phillips	6712 Hickory Pl. Ct.	N Richland Hills	TX	76180		
K3ZKO	Ron Cohen	915 Rowland Ave	Cheltenham	PA	19012	215-828-1263	k3zko@verizon.net
KA8ZNY,N8OOY	Tom & Cheryl Taft	386 Cherry Street	Groveport	OH	43125	614-202-9042	ttaft@columbus.rr.com
KD8ACU	Robert Vieth	3180 North Star Rd	Upper Arlington	OH	43221	614-457-9511	rfvieth@yahoo.com
K8AEH	Wilbur Wollerman	1672 Rosehill Road	Reynoldsburg	OH	43068	614-866-1399	wilburapilot@yahoo.com

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 this newsletter quarterly in January, April, July, and October. It 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. As an option for those joining after mid July, they can elect to receive a complementary October issue with the membership commencing the following year Your support of ATCO is welcomed and encouraged.

NOTE: Dues records on your individual portion of the ATCO website are listed as the date money is received and shows due one year from that date. The actual expiration is on January of the following year so we can keep the dues clock consistent with the beginning of each year.

ATCO CLUB OFFICERS

President: Art Towslee WA8RMC
V. President: Ken Morris W8RUT
Treasurer: Bob Tournoux N8NT
Secretary: Frank Amore WA8HFK
Corporate trustees: Same as officers

Repeater trustees: Art Towslee WA8RMC
Ken Morris W8RUT
Dale Elshoff WB8CJW
Statutory agent: Frank Amore WA8HFK
Newsletter editor: Art Towslee WA8RMC

ATCO MEMBERSHIP APPLICATION

RENEWAL ○ NEW MEMBER ○ DATE _____
CALL _____
OK TO PUBLISH PHONE # IN NEWSLETTER YES ○ NO ○
HOME PHONE _____
NAME _____
INTERNET Email ADDRESS _____
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 N8NT 3569 Oarlock CT Hilliard, Ohio 43026. Or, if you prefer, pay dues via the Internet with your credit card. Go to **www.atco.tv/paydues** and fill out the form. Payment is made through "PayPal" but you DO NOT need to join PayPal to send your dues. Simply DO NOT fill out the password details and there will be no PayPal involvement.

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

FIRST CLASS MAIL

REMEMBER...CLUB DUES ARE NEEDED.
CHECK THE RIGHT CORNER OF THE MAILING LABEL
OR
MEMBERS PAGE OF ATCO WEBSITE FOR THE EXPIRATION DATE.
SEND N8NT A CHECK OR USE PAYPAL IF EXPIRED.