ATCO NEWSLETTER

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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 HAM IN THE SPOTLIGHT

This time we honor John Shaffer, W3SST. John is no newcomer to ATV as he was operational here in the 1980's. He then moved to the York, PA area where he became very active in the ATV activities of that area. Now that he's retired, he decided to move back to the Columbus area so he can be near his relatives. That's lucky for us because he brings a wealth of knowledge about ATV with him.

John's antenna arrangement presently gives him limited access to the repeater but the reception on 1250 is near P5. That's pretty good considering the 35 foot antenna height. He says that more projects are in the works as time permits. Great! Welcome back to ATV land, John.

ACTIVITIES ... from my “workbench”

Well, time for another ATCO Newsletter, just as I was getting into a real neat design project! The design project doesn’t have a time schedule on it and the ATCO Newsletter does. Hmmm, which one do I work on first. OK, OK, I’ll go against my first instinct and do the Newsletter. There, happy now?

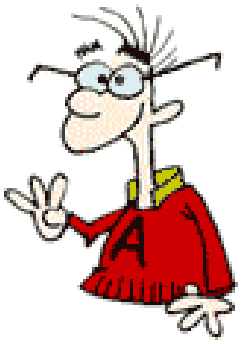
It’s been a relatively quiet summer with few ATV projects so the reporting will be a little thin. I’ve had a few issues with the repeater but it seems to be working OK for now. I swapped out a malfunctioning 1280 receiver and replaced it with a spare PC Electronics 900/1200 receiver to keep it up and running. As of this date, I have not dug into the original 1200 unit to see what isn’t working. I’d like to convert it to a Comtech unit as soon as I get one working the way I think it should be. I have one set aside from the lot I purchased for ATCO distribution a few weeks ago. When in place, the sensitivity should be better. More details on that later.

There seems to be something wrong with the 915 MHz input receiving Channel 4 radar information. I’ve reported this before but now I’m convinced that the existing antenna isn’t working right. After all a 10 watt signal should be able to travel 6 miles and be received as a P5 signal. I have a replacement antenna and the day was sunny last Sunday but much too wind to be out on girders 650 feet above the street swapping antennas. The next Sunday was MUCH better so I replaced both the 1280 and 915 receive antennas. The 1280 replacement is a Diamond tri-band antenna for 144, 450 and 1200 MHz operation. We plan to add 434 MHz digital ATV and need an antenna for this purpose so I decided to do the swap while the weather is still good. The 915 MHz reception is very poor so I replaced it with a Comet 915 MHz single band antenna at the same time as the 1280 swap. Bad news. The 915 reception is no better with the new antenna. Everything else checks out OK so I now suspect we are being de-sensed by the “trash” in the area there. In the upcoming weeks I’ll take a spectrum analyzer there to track it down.

While I’m up at the repeater replacing antennas, I want to swap out the 1280 MHz antenna for a 144/432/1200 tri band antenna. The 1280 reception should be unaffected but the 433 MHz capabilities allow us to transmit 434 MHz vertically polarized digital ATV for tests. The digital ATV transmitter is ready to go but lacks proper documentation to be able to set it up properly. The manufacturer promised valid documentation by next month.

Work on the ATCO/DARA link project has been quietly progressing. We finally got 915 MHz antennas installed at the South Vienna and Dayton repeater sites. Tests have been conducted and I have good news and bad news. The good news is that we can now see ATV signals sent between the two sites…and it’s a P5 signal. The bad news is that WiFi signals at the Dayton end obliterate the signal at times. It’s worse during the day but still very noticeable at night. A spectrum analyzer indicates most interference is concentrated between 912 and 920 MHz so we are going to try to operate between 902 and 912 MHz chopping off part of the upper sideband with the carrier centered at 910 MHz. I expect some audio carrier suppression and subsequent loss of some audio volume but hope it will not be too severe. Tests to determine the feasibility will commence as soon as the Newsletter is complete.

That’s about it for this time guys. I’m also working on a sensitive sync detector design for the repeater link but details will have to wait for next time. In the meantime the Fall Event is coming up so plan to attend and enjoy the fun. Details are on the pages inside.
…WA8RMC



ZAP VIDEO COMMON MODE NOISE IN INDUSTRIAL ENVIRONMENTS

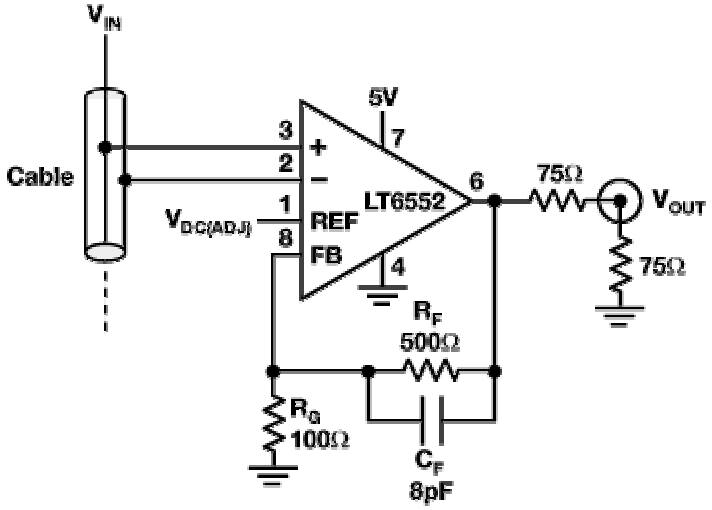
The following circuit and description theory may be somewhat advanced for most of us but nevertheless is interesting. It illustrates just how a twisted pair of wires found in telephone circuitry can be used to carry video. It is very exciting for me as that is exactly how the signal is conveyed from rooftop to EOC at the Red-White-Boom surveillance we do. We HAVE had level shift problems so this circuit may compensate for that. There is plenty of time to construct it and check it out. Ed.

By Jon Munson, Applications Manager, Linear Technology

URL: http://www.planetanalog.com/showArticle?articleID=23901983

The circuit shown in Figure 1 is effective in removing ground noise from video signals in vehicular and industrial applications, as shown in Figure 3. This particular design kills common-mode noise by over a factor of 1000 and is far simpler than other op-amp-based topologies. The design is a high CMRR difference amplifier where only two resistors are required to set the difference gain (Gain = 2 in this example). For unity-gain, no additional components are required. Single supply operation usually requires a means of output offset control so that signals aren't clipped. The dual input structure of U1 (an LT6552) makes this easy (see VDCADJ in Figure 1).

Figure 1: Noise rejecting sense amplifier with DC adjust.



One specific application of this circuit is for the delivery of closed circuit TV (CCTV) signals over twisted pair which picks up common mode noise where coax doesn't.

Figure 2: All-in-one twisted-pair video line receiver, cable equalizer, and display driver.

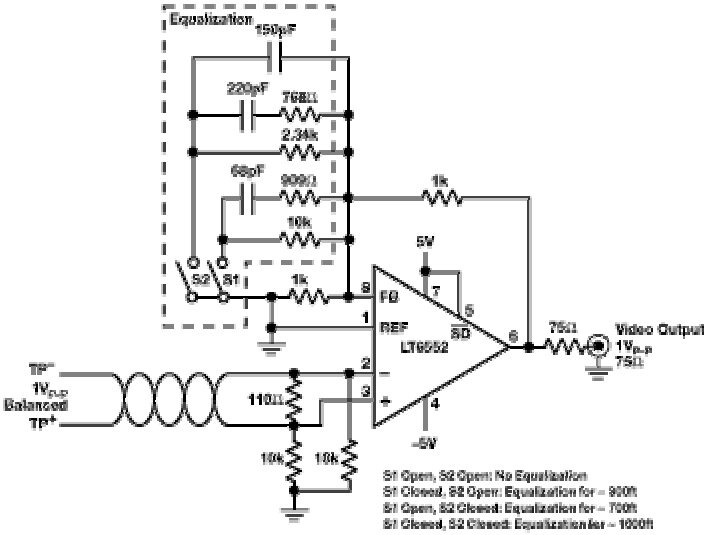
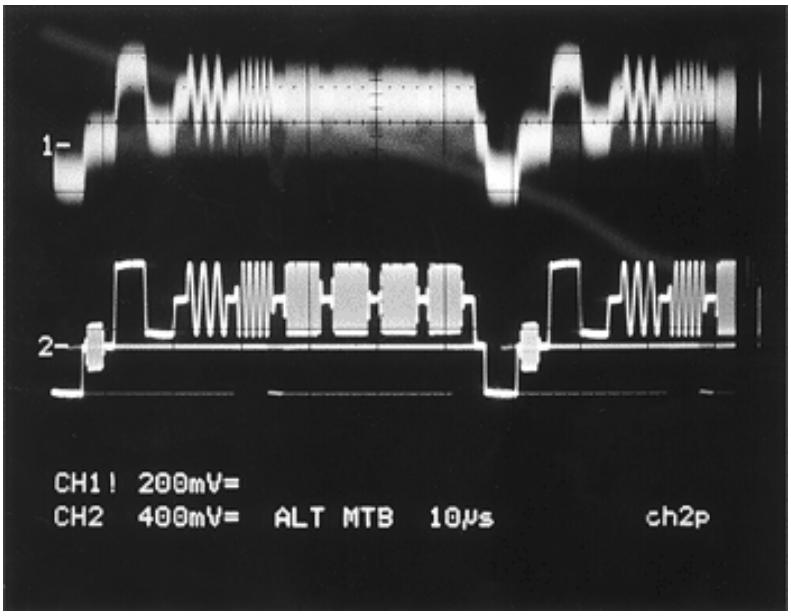


Figure 3 shows a combination twisted-pair line receiver, cable equalizer, and coax driver. The input wire pair is differentially terminated with 110Ω, and the output is back terminated with 75. The circuit accepts 1VP-P differential input and delivers single-ended 1VP-P to a 75Ω display or video capture system input.

Figure 3: Multi-burst video sent through 1000 ft. of CAT5 twisted-pair.



The nominal gain is 2.0, set by the 1kΩ feedback resistors, and this alone is satisfactory for short cable runs (up to 300′) The additional RC networks provide three selectable loss equalizations (EQ) for use with various run lengths of CAT5. Slight under-equalization is not very noticeable on-screen, while over-equalization is rather apparent. One of the four selections is acceptable for various cable runs up to about 1300′. A continuously adjustable EQ circuit could be used instead of the fixed networks shown.

Figure 3 shows the response to a multiburst video test pattern, where the upper trace is the TP+ input after 1000′ of cable and the lower trace is the recovered output at the load, both with respect to local (receiver) ground. The LT6552 CMRR of ≥ 75dB across the video band (DC to 4MHz) completely eliminates the stray pickup evident in the upper trace, which includes AM radio signals (≈ 1MHz). The 1000′ equalization network accurately corrects the cable rolloff to produce a nearly perfect video response. This circuit operates with supplies as low as 2.5V/-1.7V (assuming an AC-coupled video source), but 5V is shown in order to maximize the available common-mode input range. The inputs are returned to ground through 10k ohm resistors so that appropriate circuit bias is assured during input disconnections.

JOHN D. KRAUS, W8JK, SK

Radio astronomer, antenna designer, cosmic explorer and author John D. Kraus, W8JK, of Delaware, Ohio, died July 18. He was 94. While he enjoyed a worldwide reputation, Kraus is perhaps best known in Amateur Radio circles for his bi-directional wire beam antenna--often dubbed the '8JK array. Other important Kraus designs include the corner reflector and helix antennas.

The Michigan native was a pioneer of radiotelescope design and the father of the "Big Ear" radiotelescope. Following an early fascination with radio, Kraus first became licensed as 8AFJ. He later was granted the now-famous W8JK call sign. A graduate of the University of Michigan, he joined the faculty of the Ohio State University 1946, serving as a professor of electrical engineering and astronomy and founding and directing the OSU Radio Observatory. In that capacity, Kraus designed and oversaw construction of the Big Ear on land owned by Ohio Wesleyan University.

In 1978, after the "Big Ear" detected the still-unidentified "Wow!" signal that suggested the possibility of intelligent life elsewhere in the universe, Kraus launched Cosmic Search, a magazine devoted to the search for extraterrestrial intelligence. The Big Ear fell victim to development pressures and was torn down in 1998.

Kraus's classic textbook Antennas, now in its third edition, has been an engineering school staple for decades. Among his other titles are Electromagnetics, Radio Astronomy, Big Ear, Big Ear Two and Our Cosmic Universe. Kraus also wrote several articles for QST. He did a "recap and update" of his W8JK antenna in the June 1982 issue. An article in the July 1970 edition describes a "W8JK 5-Band Rotary Beam Antenna." A 1934 QST article by Kraus highlights "Amateur Radio in the Soviet Union."

Kraus was a fellow of the IEEE and a member of the National Academy of Engineering. In 1996, Dayton Hamvention honored Kraus as the recipient of its Special Achievement Award. In 2001, CQ named Kraus to the inaugural class of its Amateur Radio Hall of Fame.

ATVQ REPEATER PROGRESS…in Gene Harlan's words

As some of you may know, but most do not, I became aware of Gene's hard work trying to put together an ATV repeater for the Rockford, Illinois area. Rockford is a town of about 20,000 northwest of Chicago by roughly 50 miles. Now, it goes without saying that it will be easy to work Chicago with ATV but Rockford to Columbus is much more of a challenge. Impossible you say? Not so for I personally have worked someone just across the Illinois/Wisconsin border simplex before so it CAN be done! So, our chore is to watch for those band openings and when they occur, especially look for the Rockford repeater when it becomes active. I'm sure Gene will announce the happy event in ATVQ! Ed.

Gene writes,

"It is a go! I had a meeting at OSF St. Anthony hospital to meet the person that we will deal with on a day-to-day basis (well not really, but when we need to meet), visited the site on the roof again (took pictures all 360 degrees around), talked about exactly

where we can put our antenna (middle penthouse in place of the antenna that is in the South position.

He offered to put a couple of holes in the wall for our hardline to come through, which could take a week. Other than that, he told us what to do to get in after hours and we had a nice discussion about amateur radio and life in general over lunch.

We are able to have a couple of people other than myself have access to the site, as I will be out of town from time to time. Of those that volunteered, I picked Dan Hunt, KA9ATR, and Chuck Blum, N9XUG. I hope that everyone with think those choices are OK. Chuck helped build the controller box, so he has a familiarity already with what is happening, and Dan has been around to see how everything should go together and has helped with antennas.

The antenna system is already down (thanks Wayne for climbing) and needs some bracket work which I hope to work on Saturday. I have not talked with the crew yet, but maybe they can be installing antennas while I am gone next week.

Brian Martens, KA9PMM, visited last night and we worked on a couple of odds and ends that needed to be taken care of. He has the 2 meter FM receiver and a 440 FM receiver to see if he can make them work. It seems to be the same problem with both in that the batteries are bad which keeps any voltage from getting into the radio. He will keep us informed as he makes progress.

I am thinking that, once it is running, we give out a certificate to anyone receiving the signal. As proof, they could submit a video tape (we can return it) along with the report. This offer would be to anyone, even non-hams. We may get more reception reports by having something like this as an incentive as well as raise the interest level in ATV. More ideas are welcome.

I still need volunteers to be control operators, even though I consider each one of us a control op. I have not had one volunteer! Anybody read these emails?????

For those copied on this email that do not know the details, our ATV repeater will be 1253.25 MHz FM Vertical input, 421.25 MHz AM Horiz. output, with a secondary, non-coordinated input on 434 MHz (after we buy that receiver) AM Horizontal. Actual measured output is about 70 watts, but the amplifier has two 100 watt amplifier chips inside. With the unit powered up, our 28 volt 15 amp power supply drops to 22-24 volts and does not want to go any higher. Heat sink gets plenty hot, but we have two fans so it will keep it's cool. See you on the air soon!"
…Gene Harlan - WB9MMM - 9/9/04.

ATV ON THE SPACE STATION?…Check this out!

Below is a request for suggestions to the HATS group about a design proposal to provide a form of digital ATV to and from the International Space station. This is VERY exciting indeed! Look at the person requesting it; he's one of the Space Station hardware managers. It looks like the interest is for real! His request follows. Ed.

"To all those on this reflector,
There have been several suggestions for flying a ground controllable ATV system on ISS. Some specific proposals have been submitted. Our link analysis shows that it would not work very well with the standard data rates associated with digital TV or with analog video rates. That is with a reasonable antenna (no more that 3 ft.) on the ground and a zero dB antenna on ISS. We are talking about 1.2Ghz up and 2.4Ghz down.

I am wondering if anyone here has any suggestions on how to get a decent video rate and yet stay below 200kb/s. We want something that would be available to the largest ham community as possible."
Lou McFadin<w5did@amsat.org>
W5DID ARISS US Hardware manager

OK, I'm not suggesting that everyone stop what you're working on to see if you can design a workable system. What I AM saying is that if there is anyone out there with ideas that could help promote this kind of activity, please speak up. As it looks like someone with authority is open to suggestions, we should be as responsive as possible in order to keep the ball rolling. I will take the initiative to contact him if anyone within our group has any ideas. Gene Harlan is addressing the issue also as indicated below. Ed.

"Hi Lou,
I do not know if you remember me, but I used to publish OSCAR Satellite Report and still publish Amateur Television Quarterly. I would love to say I had the answer, but unfortunately do not. However, you have whatever support ATVQ and I can give to try and find an answer of something that might work.

Among others, I have copied this to Mike Collis, WA6SVT. He and I were talking about this just a couple of nights ago on the phone. I think that if we all do some thinking and share ideas, we may come up with what might work.

Also, as I stated, you have all the support from ATVQ that I can give, publicity, fund raising, whatever, just let me know."

Gene Harlan - WB9MMM

SIXTH ANNUAL ANTENNA PARTY

Here we are at the (I think) sixth annual antenna party at Ted's place on July 25th. Twenty five people attended where we brought antennas to test and measure the gain thanks to the test equipment of Charlie, WB8LGA. Actually, most people just had a good time being able to discuss the "problems" of the day and enjoy the good food. Notice the "chef" in the bottom right picture! Jim, WA8UZP, even brought his apron for the occasion! Thanks Ted for the wonderful accommodations at your place. As a bonus, George, KC8OZV, donated the ATCO sign you see below. We will use this at our Events and Hamfests we attend. Great donation, George. Thanks a lot!

ATTENTION! THE TALLAHASSEE ATV REFLECTOR IS BACK

After over a year of absence, the Tallahassee ATV reflector is back! This is a popular Internet reflector where many ATV'ers all over the country share ideas and experiences. I used to receive over 4 messages per day…then all at once they stopped. Now after a year they started coming in again .The reflector administrator vowed to improve the efficiency in the coming months so maybe we can nationally share ideas once again. It's great to see it again.

If you would like to join in, send an Email message to Majordomo@www.kd4moj.org with the word SUBSCRIBE in the body of your Email message. The following messages are the typical comments from various people.

……..

Testing 1234 Testing 1234
I added an e-mail address since first subscribing... I THINK I have it straightened out now.

I live in ATV Hell... I have two complete xcvrs and a fairly decent antenna... Just no one interested in anything new around here.... Camera fright?

New Mexico, to my west, has MOUNTAINS all over the place, but, so far as I know, not a single ATV repeater.
73 all,
…WA5ETK, Gene Amarillo, Texas

…….

ATV has all but died here in Southern Ontario. Well, with all this talk of ATV dying, I guess I need to share what's happening here in central Texas.

We have a revival of SSTV via 2 meters here. One ham set up a 2m repeater which is advertised as a SSTV repeater (so it won't time out after 2 minutes). Local hams here (from three to eight or more) are on the air EVERY night swapping photos and other interesting graphics. They have lots of clever ways to make each night special...but that's another story.

The reason I bring this up is that they have coupled the SSTV images with ATV. In addition to those who can transmit ATV, one fellow (KC5UOZ) has set up an ATV studio from which he can do all kinds of cool things. Among all those cool things, KC5UOZ transmits the received SSTV images over ATV--a continuous running slide show. (Haven't you ever wanted to see what your SSTV mage looks like on the received end?) To that end, KC5UOZ has built dozens of $10 yagi antennas with 75-ohm F-connectors for receiving the ATV-repeater output with any cable-ready TV (channel 57 here).

So, in a nutshell, ATV is alive here because everybody (who wants to) can watch it! And when they're not watching SSTV slide shows, they can watch NASA-TV, a Club meeting, or other ham-related special events coming across on ATV.

I hope this inspires some of you to not give up on ATV just yet. ATV is still one area where hams can do something that the general public can't do with a cell phone! Let's do it!!
…John, AC5CV Waco, TX * EM11jm http://www.qsl.net/ac5cv/

……..

Hey - It's working! Thanks to all for responding. It's almost like plumbing... if you haven't used the pipes for a while, you just need to get some volume through them to clean them out! I've even heard from two hams in ZL land (ZL1ABS and ZL1VFO)! Thanks guys!

Rather than reply to all the individual messages received thought I would address as many as possible publicly. First, thanks to all who replied with their input on the PC TV card interference. Seems like a lot of you are using these cards but I don't recall much conversation about them. Maybe this can spur some interest with those who are turning to their computer over their radio?

I am really happy to see all this activity. Now, let's see if we can keep it up! There may in fact be problems with the reflector but I think the best thing is for everyone to keep at it and see what happens. By the way.... who is the "Owner"?

TOM (W6ORG) - I do see my own e-mail come back every time. But sometimes an hour or so later. Great input (as usual) on how to get clubs interested. My thoughts on it are below.

…….

Tedd (Southern Ontario ATV)..... Beam towards Buffalo, NY. We are very active here at 10 am, 3pm and 10 pm. Sometimes are more active than others so keep trying! Weekend mornings are the best time overall to find us. Whenever I am near a radio I am monitoring 144.34. Call!!

……

Re: Getting clubs and other interested..... Just go and show! I do live point-to-point contacts when practical. Nothing better than showing a real contact over some miles. If you can't do that, have someone mobile drive down the road a bit. (See my new 6V rotor and 4 element yagi to make it work!) The hard part is getting those who get excited at the club to continue after the fact. I am trying to

collect some equipment to lend. I think what keeps people away are they don't know what to buy to get started. I was lent equipment when I started which really got me excited and, once active learned what I needed to buy. Tom's papers and info are very helpful!!
…Henry (AA9XW KB9FO K9ATN)

……..

I know I have missed a few responses but thanks to all who replied. GO ATV!
73!
Craig - K1CRA www.HAMbulance.com & www.k1cra.com

……

I, too, would like to take this opportunity to get a general word out to the group, especially those in Texas. While I don't wish to "compete" with this list, there is another list that focuses on ATV in Texas, and in the absence of this (the kd4moj) list, got some nation-wide posts. We have more than 50 subscribers, and hope to encourage ATV everywhere. Please check out our list at http://www.k4ttt.tv .

…….

I'm glad to see mailings again from kd4moj, after a long time. I regard this as the pre-eminent national ATV mailing list, and I've missed it for about a year now. I'd still like to know what happened.

……

Greetings to all, and for those of you interested in the DFW area, there's been not much going on for a long time now. Please see http://www.hamtv.org for the North Texas info, but understand that it hasn't been updated for a long time – i.e., since the last time that anything changed. Our two ATV repeater trustees are sitting on their coordinations and not doing anything with them. (Oh, yeah – there has been one change. I no longer get anything on the 2.4 GHz repeater from Denton, about 30 miles NNW of Dallas. I used to get it pretty good.)

I'm going to copy this to the Texas list. Guys and gals here in Texas, you should also try to subscribe to the national (Tallahassee) list (and vice versa). I got it for a couple of years, but have not gotten it for the last year or so. I've missed it greatly. Still don't know why it went away, but it seems to be back now. (But please don't stop subscribing to atv@k4ttt.tv.)

…Rik. K4TTT-TV

……

And now a word from the owner of the Tallahassee list server…..

Greetings Folks on the ATV list:

Sorry for the poor performance of this list software. I'm going to be moving the server to the house and then switch the mailing list software over to Mailman. That should eliminate the problems that I've been having with it. Glad to see all the activity on the list these past couple of days!
…Doug Ferrell, KD4MOJ
Tallahassee Fire Department
Public Safety Computer Systems & Applications Coordinator
(850) 891-4937 Office * (850) 509-5270 Cellular

ATCO REPEATER CALL, WR8ATV…THERE ARE VERY FEW LIKE IT!

FCC no longer issuing certain 2x3-format vanity call signs: The FCC has ceased issuing 2x3-format Amateur Radio vanity call signs that begin with the prefixes WC, WR, WK and WT (eg, WR1AAA, WC4ZZZ). The Commission erroneously granted more than 150 WR and WC-prefix 2x3 vanity call signs from 1997 through September 2003, after which it began rejecting such call sign requests. In the late 1970s, the FCC announced a new Amateur Service call sign assignment system. It provided four standard call sign groups, designated Group A, B, C and D, delineated by license class and issued sequentially with no backfilling. The FCC's Bill Cross, W3TN, recently told the nation's volunteer examiner coordinators (VECs) that the FCC also had a "Group X." These included WC (RACES), **WR (repeater)**, WK and WT-prefix 2x3-format call signs reportedly reserved for special-use licenses. The FCC stopped issuing repeater call signs in 1983 and ceased renewing RACES licenses in 2000. After the current vanity program began in 1996, several ham clubs sought new and formerly held repeater and RACES-type call signs. When the Universal Licensing System came along in August 1999, however, the FCC encountered some licensing system programming shortcomings, including the anomalous assignments of WC and WR-prefix 2x3 call signs as acceptable formats. When the FCC implemented programming corrections that halted the issuance of Group X call signs in September 2003, it did not advise the amateur community. As a result, several amateurs who filed for 2x3 WC or WR-prefix call signs had their applications dismissed with the explanation that the applicant's call sign choice was unavailable. That remains the case. The FCC has not indicated whether it plans to address the WC and WR-prefix 2x3 call signs it's already issued.
…From ARRL Newsletter August 8 Vol 23 No 31.

I sure hope we can keep our call in the long run. It serves us well! Ed.

SONY BEGINS MASS PRODUCING OLED DISPLAYS

By Spencer Chin EE Times September 14, 2004
MANHASST, N.Y. — Sony Corp. announced Tuesday (Sept. 14) it would begin mass production of full-color, Organic Light Emitting Diode (OLED) displays this month, with the first application being the company's CLIE PEG-VZ90 handheld personal entertainment device.

Measuring 3.8 in. diagonally, the display provides a resolution of 480 x 320 pixels, and shows 262,144 colors. Brightness is 150 candelas per square meter, and viewing angle is 180 degrees.

According to Sony, the OLED display measures 2.14 mm thick and can show TV content and digital still images. As with other OLED displays, the device does not require a backlight and can be made thinner than liquid crystal displays.

Sony announced plans to build active-matrix OLED displays 18 months ago, partnering with Toyota Industries as the company aggressively pursues advanced display development.

Besides its OLED venture, Sony struck a deal with Korea's Samsung to form S-LCD to develop and build LCD panels for flat-panel TVs. The joint venture company began operating in July.

KODAK, IBM TEAM ON DIGITAL CAMERA SENSORS

By Spencer Chin , EE Times September 16, 2004
MANHASSET, N.Y. — Eastman Kodak Company (Rochester, N.Y.) and IBM (Armonk, N.Y.) have signed a multi-year agreement under which both companies would collaborate on developing and manufacturing image sensors for consumer products such as digital still cameras and camera phones.

The agreement would leverage Kodak's portfolio of image sensor technology and IBM's complementary metal oxide semiconductor (CMOS) processing expertise. It would allow Kodak to commercialize a new family of CMOS image sensor (CIS) devices as the company attempts to accelerate the growth of its digital businesses.

IBM would expand its value-added foundry offerings to include the design and high-volume production of image sensors for digital consumer imaging applications.

"Worldwide demand for image sensor devices is expanding at an explosive pace," said Chris McNiffe, General Manager of Kodak's Image Sensor Solutions business, in a statement. "Our collaboration with IBM now allows Kodak to deploy our core competencies in image science and sensor research into high-volume consumer applications, thereby significantly expanding the market opportunities for our products."

A key technology element is Kodak's CIS pixel technology, including proprietary pinned photodiode and 4T cell architectures. These technologies, licensed to IBM as part of this agreement, permit the manufacture of CIS pixels that reportedly approach the size of the smallest CCD pixels offered today, with improved photosensitivity and lower noise.

Kodak also expects to leverage design resources and intellectual property acquired from National Semiconductor Corp. to produce advanced CIS devices for products that can capture multi-megapixel still images as well as fast-moving videos under low light.
The agreement would also leverage IBM's 0.18-micron CMOS copper manufacturing process at its Burlington, Vermont, semiconductor facility, where the image sensors will be produced.

HITACHI, TOSHIBA, MATSUSHITA JOIN ON LCD TV PANELS

By Spencer Chin , EE Times August 31, 2004
MANHASSET, N.Y. — Japanese display makers Hitachi Ltd., Toshiba Corp. and Matsushita Electric Industrial Co. Ltd. have agreed to establish a joint venture to manufacture and sell LCD panels for flat-panel TVs that would begin operating January 2005. The three companies have reportedly been negotiating to form a joint venture to compete with Taiwanese and Korean LCD suppliers that have established next-generation fabs to build LCD TV panels.

The joint venture will build an amorphous thin-film-transistor LCD panel production line at the Mobara facility of Hitachi Displays Ltd., Hitachi's wholly-owned subsidiary. The plant will begin mass production the latter half of 2006 and ramp production in stages, reaching the equivalent of 2.5 million 32-inch TV LCD panels a year by early 2009.

The joint venture will focus on 26- to 32-inch panels for LCD TVs. "The joint venture will concentrate on this size, the mainstream sizes in large panels," said Etsuhiko Shoyama, president of Hitachi. "Among the various size panels, this size range is the most sellable. By concentrating on this zone, the joint venture will be able to offer the panels with competitive cost." Total capital investment for the joint venture is about $1 billion (¥110 billion). Hitachi will own 50 percent of the venture, Toshiba and Matsushita between 21 to 25 percent each, with the remainder to divided up among other device makers and material suppliers solicited to manufacture the LCD panels.

With analysts projecting global demand for LCD TVs increasing five-fold from 3 million in 2003 to 15 million by 2006, display suppliers have come under mounting pressure to establish fabs that can handle large glass substrates for flat-panel TVs. Moreover, TV makers targeting high-end markets seek to differentiate their products not just with proprietary image processing technologies, but also by using LCD panels with outstanding picture quality.

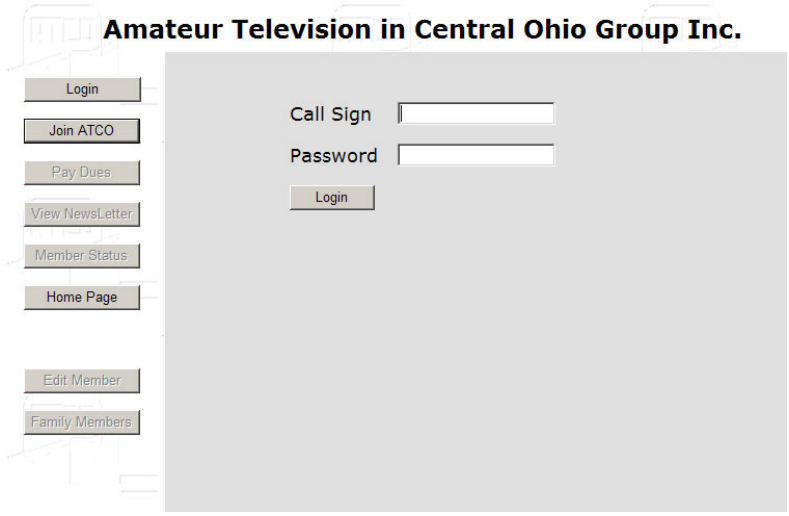
Display suppliers have responded by forming partnerships and alliances to pool financial, manufacturing and technology resources. In July, Samsung Electronics Co. Ltd., launched a joint venture with Japanese rival Sony Corp. called S-LCD Corp., likely raising the urgency for other Japanese suppliers to team up.

Hitachi, Toshiba and Matsushita expect to realize synergies in their LCD TV panel collaboration. For instance, the joint venture would utilize Hitachi Displays' IPS mode system technology, which reportedly provides a 170-degree viewing angle and good color reproduction for high-resolution, digital TV broadcasts.

LCD panels produced by the joint venture will be shared mainly among the partners, although the proportion used by each company will not necessarily depend on the ratio of the investments, said Fumiaki Yonai, president and CEO of Hitachi Display. While the joint venture will supply each company, all three will be free to purchase panels from other suppliers, the partners said.
—Yoshiko Hara contributed from Tokyo.

ATCO WEBSITE ADDS PERSONAL TOUCH

I (N8NT) had a desire to become more familiar with C# and .NET so I decided to create a database and some utilities for the ATCO membership on our www.atco.tv website. From this site you can now join ATCO if you are not a member, or you can view your current status if you are a member. Currently members can pay dues, view status, add family members and go to the ATCO home page. As soon as we get the new newsletter current paid up members will be able to view the current newsletter online from this website.

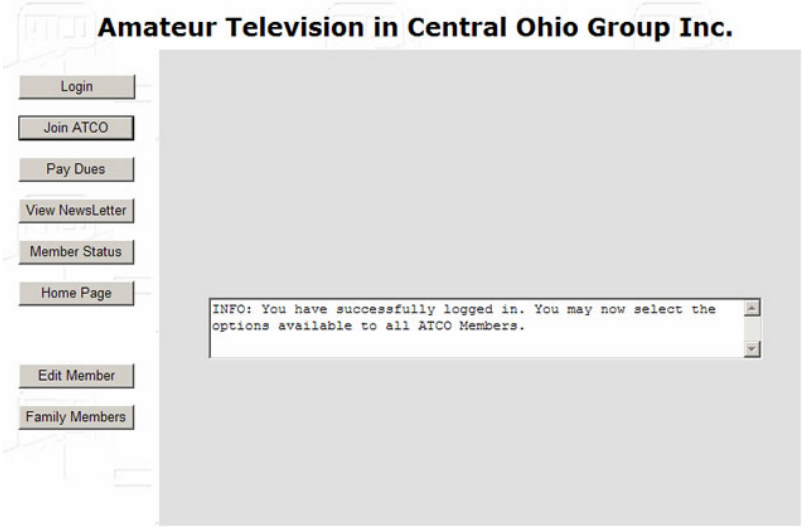


I have also created a page for Art so that he can log visitors to the ATCO Net Night. These entries will be maintained in the database so that when a member logs in he can see the checkins that were logged for him.

Eventually members will be able to view the roster so that they can lookup phone numbers, email and addresses of fellow members. This information will be limited to paid up members only - it's just like having the newsletter in front of you.

In order to use the system, just point your browser to www.atco.tv. You will get a page similar to that shown on the left.

Just enter your call sign and password. If you logged in before and changed your password, use that password. If not, then just use "password" (without the quotes).

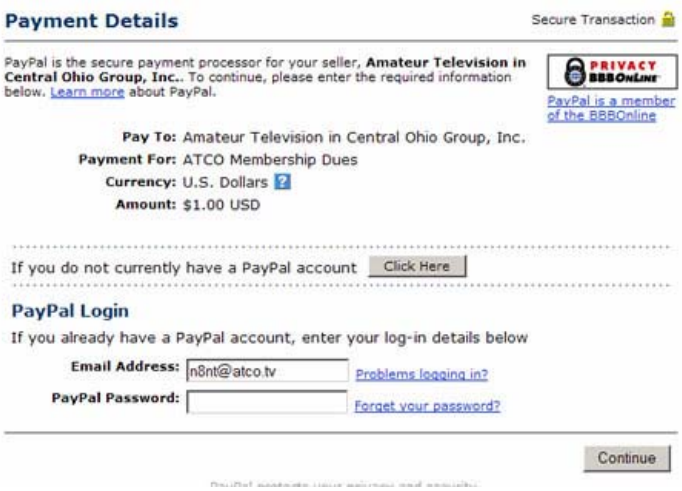


Once you've logged in you'll get a message indicating that you've successfully logged in. You can then choose one of the options shown on the left.

The two things that you will be most likely to use are the "Member Status" and the "Edit Member". You may also wish to pay your dues via PayPal, so you might be interested in the "Pay Dues". You can also add family members to your membership by pressing the "Family Members" button. You can add as many family members as you wish - the only requirement is that they all reside at your location.

The "Member Status" page will summarize all invoices, payments and check ins. An initial invoice is created when a member joins. Additional invoices are created once per year on January 1 for that year. Some members pay ahead, so they will have a credit shown. The Member Status page shows each invoice and each payment.

The "Edit Member" page allows a member to update the address, phone number and email. The "Family Member" page allows a member to include family members in the membership. The "Pay Dues" option lets a member pay dues through the PayPal. If a member uses this option to pay dues, the dues will be credited into the database as soon as the transaction is completed.



If you elect to pay via PayPal, you can enter the amount you wish to pay, then click on the Pay Online button. You will see the page at the left.

If you don't have a PayPal account, just click the "Click Here" button. You will be taken to a page that asks for your credit card info but it won't ask you to sign up for a PayPal account. Otherwise, just complete the login info for the PayPal account.

In either case, be sure to click the "return to merchant" link when finished. Otherwise, your payment will not be credited with ATCO. However, if that happens, I will still receive an email from PayPal and will manually enter in your payment.

The "View Newsletter" option doesn't do anything at the moment, but as soon as I get the current newsletter in electronic form I'll make it viewable to paid members through this button.

Well, that's a quick summary of the new www.atco.tv website. Feel free to email me your suggestions, wishes, complaints or whatever and I'll try to address them.
…N8NT

GOOD JOB, BOB!!!
…WA8RMC

ATCO

2004 FALL EVENT

1:00 PM - SUNDAY

OCTOBER 31, 2004

ABB PROCESS AUTOMATION

*** SHELTERHOUSE ***

650 ACKERMAN ROAD

FOR MORE DETAILS, CONTACT

ART - WA8RMC 891-9273

LUNCH PROVIDED - DOOR PRIZES -

BRING A FRIEND AND SEE OLD BUDDYS

MINI HAMFEST - SHOW AND TELL

DIRECTIONS TO THE ATCO EVENT

From I-70 either EAST or WEST Bound:

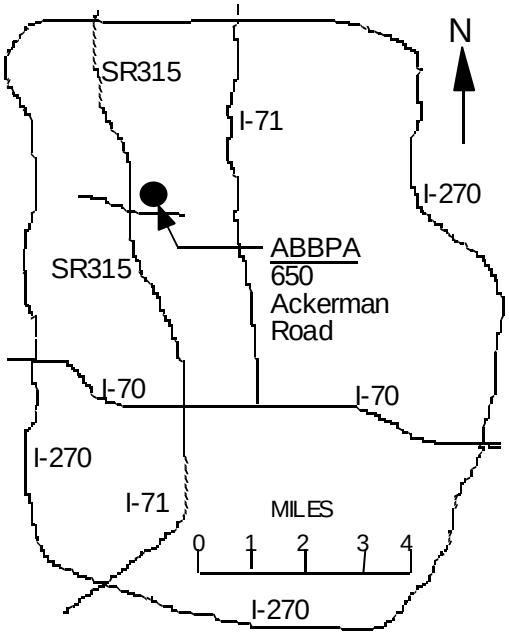
Take I-70 to SR-315 near downtown Columbus. Exit onto SR-315 north about 4 miles to Ackerman Road. Turn east on Ackerman about 200 yards to first driveway on left.

From I-71 traveling NORTH bound toward Columbus:

While traveling north on I-71, continue past I-70 and onto SR-315 north. Travel on SR 315 north about 4 miles to Ackerman Road. Turn east on Ackerman about 200 yards to first driveway on left.

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 to SR 315. Take SR 315 south about 5 miles to Ackerman Road. Turn east on Ackerman (under SR 315) about 200 yards to first driveway on left.



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.

KA8ACU Robert Vieth Upper Arlington, Ohio.
KC8EVR Lester Broadie Columbus, Ohio.

…WA8RMC

COMTECH MODULE INFORMATION

As many of you know by now, I have been getting 1200 and 2400 MHz transmit and receive modules from Comtech in Taiwan for our use on the 23 and 13 CM bands. These modules are ideal for our use because they are simple, very sensitive (receive modules) and inexpensive. I have noted some problems however. These units do not have any pre-emphasis or de-emphasis networks built into them. Although they will work without the circuits, the signal to noise ratio will be improved significantly if they are in place resulting in much better reception when used under weak signal conditions. If the received signal is essentially noise free (P5), then I doubt any difference will be noted. Since I've noted that the use of the circuits seemed to degrade the signal noticeably, I asked Dale, WB8CJW, to possibly look into the matter. It seems he researched it exceedingly well. What follows is what Dale has found so far and bears further study. Good detective work, Dale! I also plan to do some "bench testing" myself but haven't had time yet. Dale provides a number of Internet links to check out in the meantime. I encourage further investigations by all and, if you do, report your findings to the rest of us. Dale's comments go like this…

"Hi Art,
I tested out the 23cm transmit module and found that the video quality wasn't too great with no pre-emphasis. I did not use the on-board trim-pot so I terminated the video input to the module with a 75 Ohm resistor. The video appeared to be over driven so I backed off the deviation trimmer in the module but colors weren't right, the video was distorted or lacking definition. I added the PC Electronics version of the CCIR 405-1 circuit. The result was some washed out color/phase and loss of vertical sync when the deviation pot was increased to where the brightness level appeared correct - fully clock-wise.

Knowing that others have had various problems with sync I did some searching on-line and found some decent information. Look at http://www.sbszoo.com/ve6atv/5hw.htm this guy, Barry VE6SBS, is in Alberta, Canada and has done some extensive work on the Comtech modules he got from Giles, G1MFG. Follow the link to the modification page (turn your volume down on the speakers because the Twilight Zone tune will play briefly). Also, because this page loaded fairly slowly due to graphics or a bad path, it takes a little bit to display. I found if I opened other links from this page it is more efficient to right-click and select "Open in New Window" so I wouldn't have to wait for the main page to reload when jumping back and forth between an illustration and a schematic. I may have had a dozen separate windows open at once but it made it easier to switch around plus I didn't get the Twilight Zone reruns. Wow, lots of detail, great illustrations and a lot of effort put into his web site!

A lot of sites I found are selling these same modules - usually $85 and more. A special purchase was made by a group by Lee AB5IG. At http://tvham.com/ they have a schematic for CCIR pre-emphasis that looked really strange! Kind of a mix between pre-emphasis and de-emphasis - series RC AND series LC to ground along with RC bridging between input and output but also an inductor "L1" labeled 100mH/270R. One hundred millihenries with a DC resistance of 270 Ohms, I guess. Whew! That is rather chunky but the note says, "Remove the existing deviation preset resistor to fit the circuit" - referring to the pot on the pc board that has the RCA connectors and PLL stuff.

Turns out TVHAM was established in 2001 and is the international on-line trading arm of G1MHG (est. 1999) in Hedge End, England. They have LCD display/PLL controllers and also found http://lea.hamradio.si/~s51kq/UNI.HTM has display/controllers as well and for various module manufacturers.

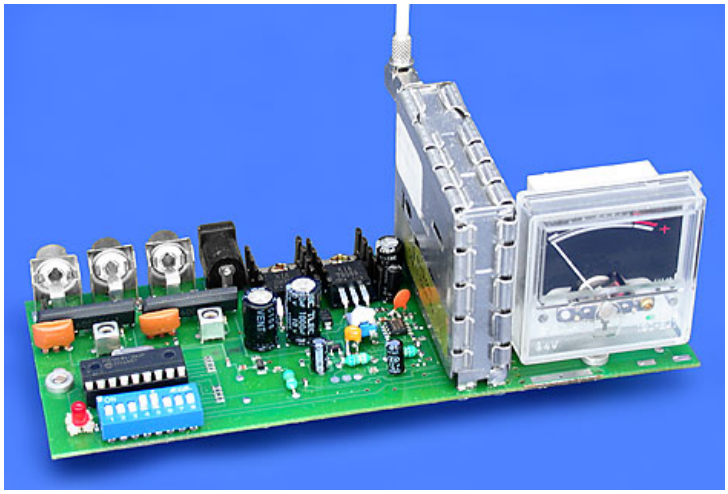
Also http://www.4atv.com/ =EZATV (~1998?) and has two dealers that sell the Comtech modules, both hams, one in Utah and one in South Carolina.

Well, looking at the modifications described by Barry, VE6SBS, a few components need to be changed inside the module. Problem is I don't have any SMD's smaller than 0805 that I know for sure what the value is. I will try to add at least one capacitor, if it will fit, to improve the modulator coupling and see how that works out.

73,
Dale WB8CJW
The web site mentioned above by Dale is packed with Comtech module information including modifications to both the transmitters and receivers. It's a super web site with much detail on the modifications. The author did a great job of documentation along with schematics of all modules. Check it out. One of the modifications is shown on the next page. Ed.

ADD AN “S” METER TO YOUR COMTECH RECEIVE MODULE

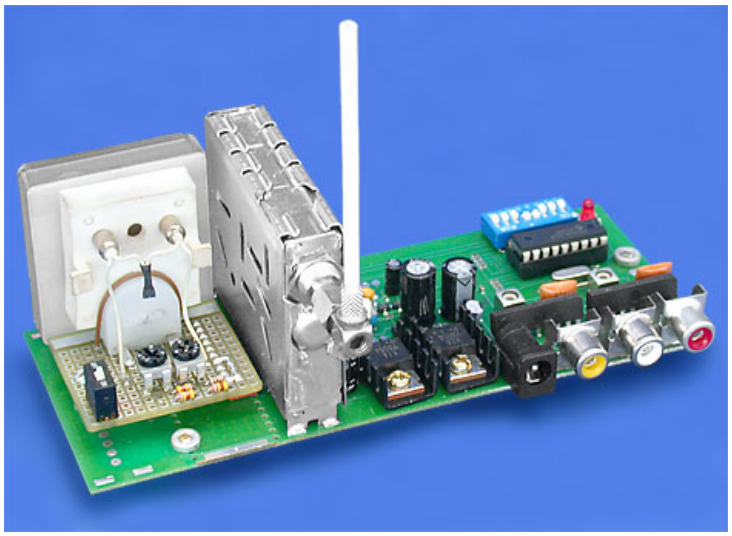
Here is just what we’ve been looking for. Many have asked if it’s possible to add an S meter to these modules. Answer – “YES”. I’ve known for some time now that the receive module has an “AGC” output suitable for a meter but haven’t had the time to create a circuit for it. It turns out Dale, WB8CJW, found the mod on the Internet and is shown here. There are a number of additional mods to these modules on his web site (detailed above) but space doesn’t permit them to be shown at this time. If anyone tackles any of them, I’d appreciate a report. Ed.



If the receiver tuner is installed upright, a perfect space is created for an "S" meter.

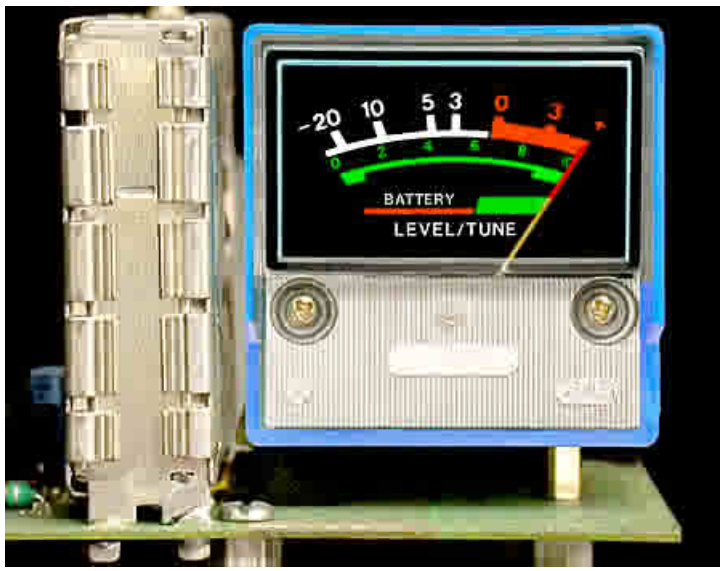
If you wish to monitor battery voltage, you can add an expanded voltmeter function to the meter also.

Small audio level meters can be salvaged from old equipment and are perfect for this use. The more sensitive meters are best. The ones I used were 200 uA.



Meter lighting is controlled by a switch on the meter board.

(left) An "S" meter only board.



For dual function use, a second switch selects between "S" Meter and Expanded Volt Meter.
This expanded volt meter begins to indicate
at 10.8 volts, the battery scale red to green transition occurs at 12.0 volts and full scale indicates 13.8 volts.

Start by removing the tuner and the 15 pin header strip from the receiver circuit board.

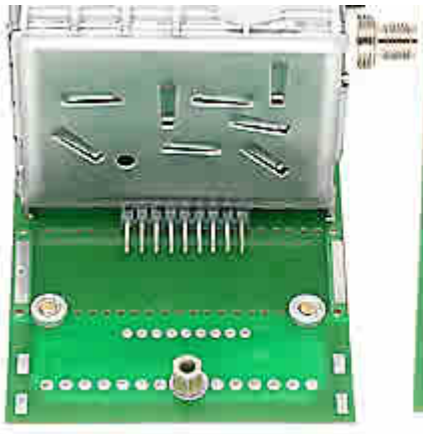
For 23cm receivers only -

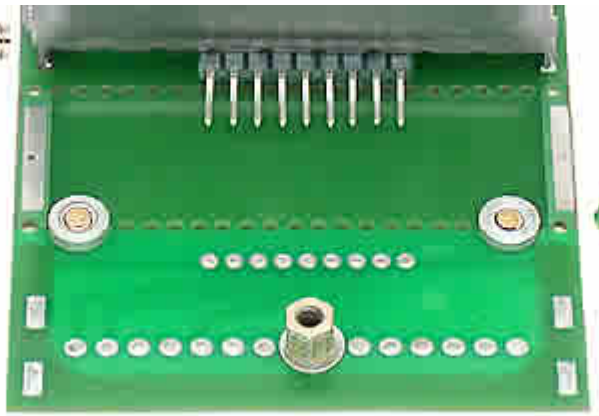
(1) See 23 cm Receiver Mod's for how to make the signal strength voltage available on one of the tuner pins.

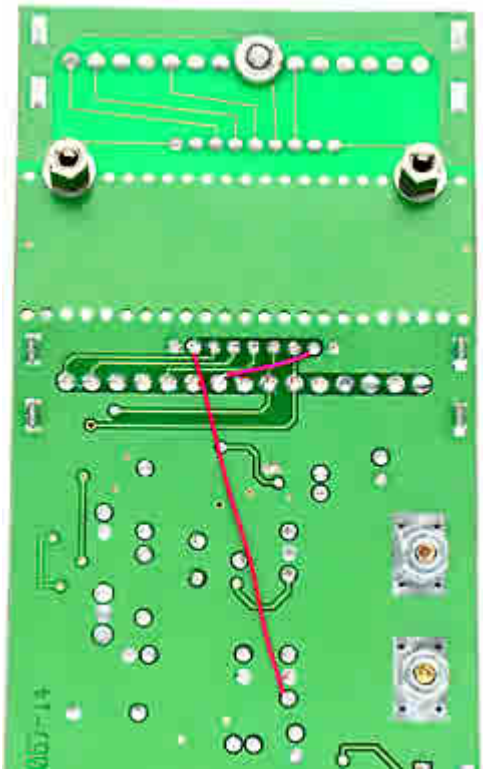
(2) The 220 uF capacitor (circled in yellow) needs to be replaced with one no larger than 1/4" in diameter to permit the tuner to be installed vertically.
The new capacitor voltage can be anything greater than 6 volts.

A 220 uF, 10V, 1/4" diameter capacitor with 1/8" lead spacing was used here.

Next install a 9-pin right angle header strip in the circuit board holes, which will end up under the outer edge of the tuner when it is installed.
The meter assembly is attached to the receiver by this header strip and one 4-40 screw.
The tuner can now be installed vertically; in it's new location.



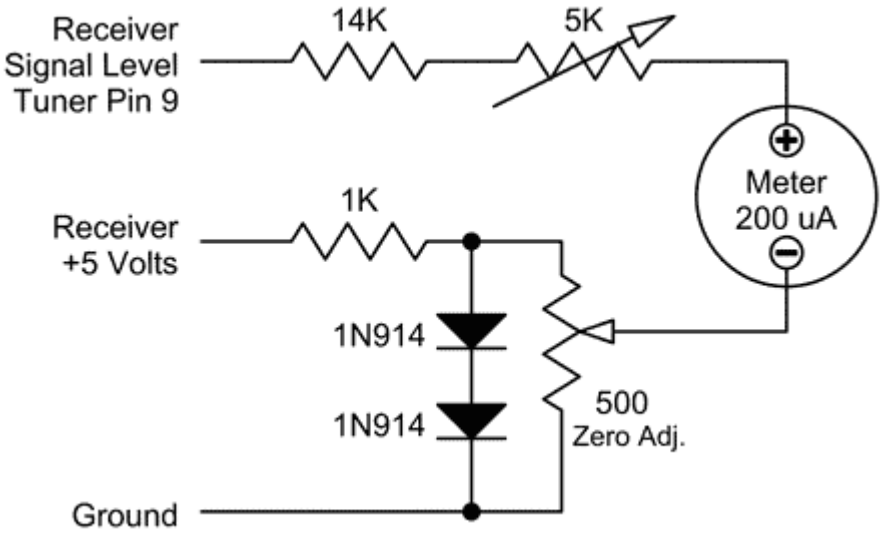




Next drill holes and install four #4-40 standoffs on the topside of the board and one on the bottom as seen in the photos. I used blind nuts, removed from old equipment, to install the standoffs. The four bottom standoffs serve as receiver feet or they can be used to fasten the receiver into an enclosure. The upper standoff will be used to secure the meter assembly. The standoffs were salvaged from old computer D-sub type data connectors.

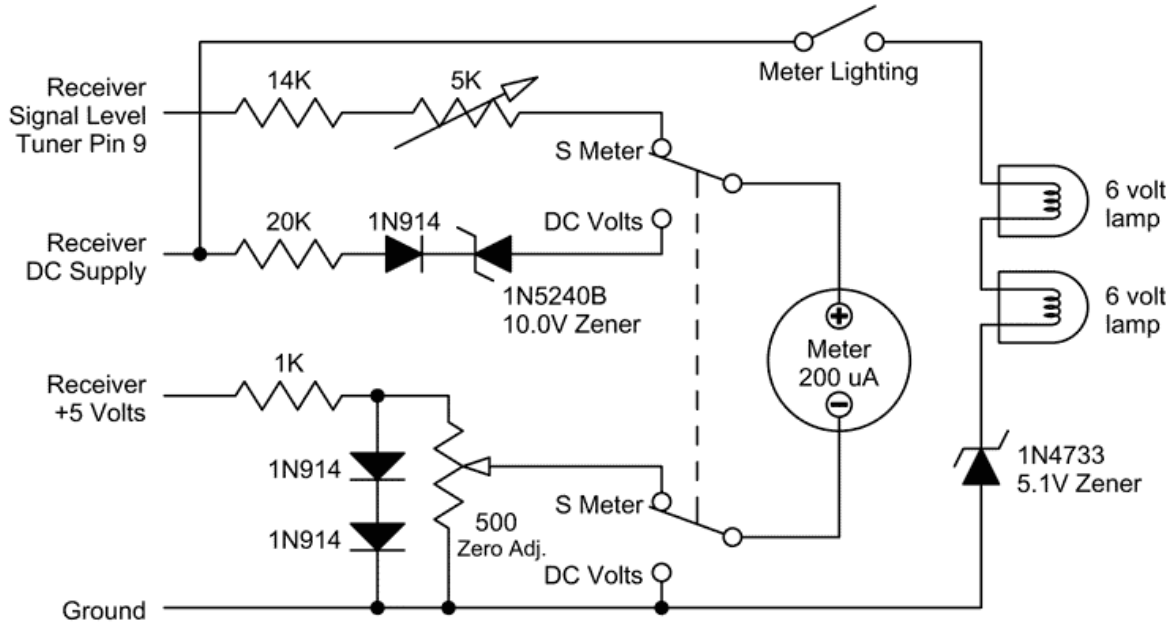
(left) Two jumpers are required to connect the "S" meter signal and the receivers supply voltage to the meter header strip.

(right) A Molex side entry board connector is used to mate with the receiver header strip.



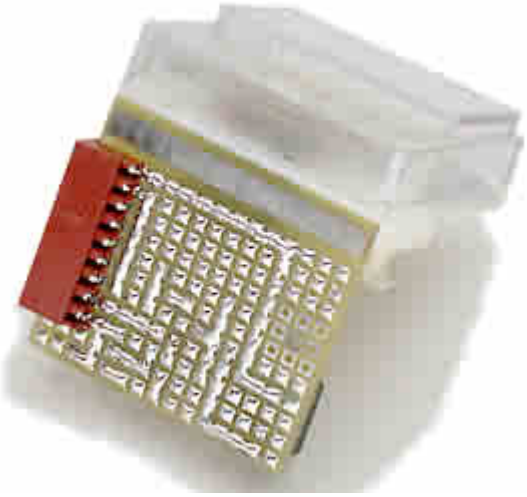
Basic "S" Meter Circuit
You may need to select a higher or lower value for the 14K resistor if using a more or less sensitive meter.
With no received signal, the signal level voltage will be between 0.8 and 1.4 volts, depending upon the receiver. The 1K resistor, diodes and 500 ohm trimmer provide an adjustable offset voltage to allow the meter to be set to read zero.
The 5K trimmer can then be adjusted for a full scale meter indication while receiving a strong signal.

"S" Meter and Expanded Volt Meter Circuit



The series diode and zener provide the expanded voltmeter function by preventing the meter from indicating voltage until the receiver supply voltage exceeds the diode's forward voltage and the zener's breakdown voltage.

"S" Meter



"S" Meter Circuit Board

"S" Meter / Battery Voltage Meter

HAMFEST CALENDAR

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.

31 Oct 2004 Massillon ARC http://www.marcradio.org **Contact:** Terry Russ, N8ATZ 3420 Briardale Circle NW Massillon, OH 44646 Phone: 330-837-3091 Email: truss@sssnet.com Canton, OH

6 Nov 2004 Grant ARC http://www.geocities.com/garcohio/ **Contact:** Rodney Crawford, WD8CTX PO Box 76 Buford, OH 45110 Phone: 937-446-2338 Email: wd8ctx@juno.com Georgetown, OH

15 Jan 2005 SWOH Digital Symposium DIAL Radio Club http://www.swohdigi.org Talk-In: 146.61, 224.96, 444.825 Contact: Hank Greeb, N8XX 6580 Dry Ridge Road Cincinnati, OH 45252 Phone: 513-385-8363 (after 6 PM) Email: n8xx@arrl.net Middletown, OH Miami University, Middletown Campus, Thesken Hall 4200 East University Blvd.

16 Jan 2005 SCARFest 2005 Sunday Creek Amateur Radio Federation Talk-In: 147.150, 147.225 Contact: Russ Ellis, N8MWK 8051 Oregon Ridge Glouster, OH 45732 Phone: 740-591-2232 Email: n8mwk@arrl.net Nelsonville, OH Tri County Joint Vocational School State Route 691

23 Jan 2005 Tusco ARC Contact: Gary Green, K8WFN 32210 Norris Road Tippecanoe, OH 44699 Phone: 740-922-4454 Email: k8wfn@tusco.net Strasburg, OH

13 Feb 2005 Mid*Winter Hamfest and Computer Show InterCity ARC http://www.iarc.ws Talk-In: 146.94 (PL 71.9) Contact: Deane Wrasse, KB8MG 1094 Beal Road Mansfield, OH 44905 Phone: 419-522-9893 Email: deanwrasse@yahoo.com Mansfield, OH Richland County Fairgrounds 750 North Home Road

19 Mar 2005 Great Lakes Division Convention Toledo Mobile Radio Association http://www.tmrahamradio.org Contact: Brenda Krukowski, KB8IUP 9408 Salisbury Road Monclova, OH 43542-9700 Phone: 419-260-4310 Email: kb8iup@arrl.net Toledo, OH

20 Mar 2005 TMRA Hamfest Toledo Mobile Radio Association http://tmrahamradio.org Contact: Brian Harrington, WD8MXR 4463 Holly Hill Drive Toledo, OH 43614 Phone: 419-385-5624 Email: bharrington@mco.edu Maumee (Toledo), OH

LOCAL HAM CLUB LISTING

Capital City Repeater Association (CCRA)
Ned Raybould, N8OIF, Secretary
e-mail: ccra@qsl.net
Web Site: http://www.qsl.net/ccra

Central Ohio Radio Club (CORC)
Joe Hahn, W8NBA, Membership Chairman
e-mail: membership@corc.us
Wed Site: http://www.qsl.net/corc

Lancaster & Fairfield County ARC
Charlie Snoke – President
(740) 653-9092 e-mail: k8qik@qsl.net
Web Site: http://www.qsl.net/k8qik

Columbus QRP Club (CQRP)
Web Site: **http://www.qsl.net/cqrp**

Central Ohio Severe Weather Network
John Montgomery, N8PVC, President (614-231-0590)
e-mail N8WX@severe-weather.org
Web Site: www.severe-weather.org

Central Ohio ARES (COARES)
Rich Jordan, AA8DN – President
e-mail: aa8dn@arrl.net
Web Site: http://www.qsl.net/coares/

Hocking Valley ARC
Mel Myers AA8BJ – President
Sunday Creek Amateur Radio Federation
Russel Ellis N8MWK – President

Rusty Zipper HF & DX Contest Club
Contact Name: Mark Harvill
e-mail: na8kd@qsl.net or kg8dp@aarl.net
Web Site: http://www.qsl.net/na8kd

Delaware Amateur Radio Association (DELARA)
Bob Brown, W8BOB, President
160 Curly Smart Circle, Delaware, OH 43015
e-mail: bobb@midohio.net

HAM GEAR FOR SALE!

Dave Kibler, KB8ZLB, is helping a fellow HAM sell his equipment and asked our help. We list the material below and ask you to contact Leo Schaaf, KD8SI 2648 North Aragon Ave Kettering, OH 45420 E-mail: ljschaaf@sbcglobal.net Phone: 937-294-8425, Work Phone: 8am-5pm 937-429-7470 ext 124 if you are interested.

Qty	Price-Ea.-$	Item
4	90	M2 432-13WLA antenna, 30' 8" long 2 were on the tower, 2 were stored in the garage
1	40	432 MHz 2 way power divider
1	40	432 MHz 4 way power divider
1	125	1296 MHz antenna array, consisting of 4 Tonna F9FT, 23 element antenna, 1296 MHz 4 way divider, phasing lines and H-Frame-some missing elements but they are available
100’	125	Andrews LDF 7-50 1 5/8” LDF-Heliax with Andrews N female connectors
91’	115	Andrews LDF 7-50 1 5/8” LDF-Heliax with Andrews N female connectors
113’	70	Andrews LDF 5-50 7/8” LDF-Heliax with Andrews N female connectors
97	60	50 ohm ½” hardline with N connectors, TFC p/n AA-3928
89’	50	50 ohm ½” hardline with N connectors, TFC p/n AA-3928
76’	45	50 ohm ½” hardline with N connectors, TFC p/n AA-3928
36’	25	50 ohm ½” hardline with N connectors, TFC p/n AA-3928
65’	30	Beldon 9913 50 ohm coax
65’	30	Beldon 9913 50 ohm coax
107’	40	Beldon 15 conductor, 16ga control cable (rotors-etc)
70’	30	Beldon 15 conductor, 16ga control cable (rotors-etc)
60’	30	Beldon 15 conductor, 16ga control cable (rotors-etc)
6	80	Rohn 45 straight 10’ tower sections
1	125	CDE Ham IV Rotor and control box
1	60	Rohn 45 straight 7’ tower section
1	35	Top plate for tower with thrust bearing for 2” OD mast pipe
1	20	Rotor plate for tower
1	25	Rohn 45 Torque Arm stabilizer
1	8	Cushcraft? 4 element 2 meter beam
1	10	2 GHz MDS antenna and down converter
1	45	12’ 7” 6061-T6, 2”OD, ¼” thick wall Alum Mast pipe
1	25	Spectrum International PSF432 Band Pass filter
lot		Various aluminum pipes, tubing, etc
1	15	Aluminum 10’ section of tower
1	1000	FT-736R Yaesu with 144, 432 and 1296 MHz modules installed, Operators manual, service manual 25w out on 144 and 432 and 10w out on 1296
1	50	SP-102 Yaesu External Speaker with audio filters
1	50	MD-1B Yaesu Desktop Microphone
1	125	RFC2-117 RF Concepts 2 meter amp, 10w in/170 watts out
1	100	D-1010 Mirage 432 amp, 10w in/100 watts out
1	175	G-5600 Yaesu Az/EL Rotor system
1	65	TNC-200 Pac-Comm PSK modem for packet radio
1	65	NB-96 Pac-Comm FSK modem for packet radio
1		WEPIX 2000-B Vanguard Weather Satellite receiver
1	65	KLM 435-40CX Circular polarized satellite antenna with CS-2 switch
1	55	KLM 143–150-14C Circular polarized satellite antenna
1	25	KLM Fiberglass cross boom for satellite antennas
1	60	1296 MHz Mast Mount preamp, ICOM AG-1200
Lot		Misc ½” Hard Line, 9913, Heliax connectors
1	35	Bird 500E slug, 500 watt, 400-1000 MHz
1	35	Bird 100E slug, 100 watt, 400-1000 MHz
1	35	Bird 5E slug, 5 watt, 400-1000 MHz
1	35	Bird 1000C slug, 1000 watt, 100-250 MHz
1	50	Bird sampling slug, 50db, 25-1000 MHz, 500 watt max
1	75	2 meter GasFet cavity preamp by WA5VJB
1	50	432 MHz Lunar electronics GasFet preamp
1	30	144 MHz Low Pass filter, 2.5KW power handling, mfg by KI3W Engineering
1	75	TracBox for automated satellite tracking- interfaces with FT-736R and G-5600 AZ/EL rotors

INTERNET ATV HOME PAGES (list verified 01/18/02)

If you have access to the INTERNET, you may be interested to know of some of the HAM related information that is available. Most addresses listed below are case sensitive, so type exactly as shown. (For comments or additional listings contact me at towslee@ee.net).

Note: The listings below without URL's have disappeared! If any of you know otherwise, let me know.

Domestic homepages

http://psycho.psy.ohio-state.edu/atco	Ohio, Columbus, homepage (ATCO)
http://www.activedayton.com/community/groups/rmeeksjr/index.html	Ohio, Dayton ATV group (DARA)
http://users.erinet.com/38141/atv.htm	Ohio, Xenia KB8GRJ
http://www.qsl.net/ka8mid	Ohio, Chilicothe area, KA8MID homepage
	Alabama - Gulf Coast Amateur Television Society
http://www.hayden.edu/Guests/AATV	Arizona, Phoenix Amateurs (AATV) Carl Hayden High School
http://www.w7atv.com	Arizona, Phoenix Amateurs(AATV)
http://www.citynight.com/atv	California, San Francisco ATV
http://www.qsl.net/atn	California, Amateur Television Network in Central / Southern
http://www.qsl.net/scats/	Florida, Melborn Space Coast Amateur TV Society (SCATS)
http://www.bsrg.org/aatn/aatn1.html	Georgia, Atlanta ATV
http://members.tripod.com/silatvg	Illinois, Southern, Amateur Television group
http://www.ussc.com/~uarc/utah_atv/id_atv1.html	Idaho ATV
	Kentucky, Lexington Bluegrass ATV Society (BATS)
	Kansas, Kansas City Amateur TV Group (KCATVG)
http://www.bratsatv.org	Maryland, Baltimore Radio Amateur Television Soc. (BRATS)
http://www.icircuits.com/dats	Michigan, Detroit Amateur Television System (DATS)
http://come.to/amateurtv.mn	Minnesota Fast Scan Amateur Television (MNFAT)
	Missouri, St Louis Amateur Television
http://www.qsl.net/kd2bd/atv.html	New Jersey, Brookdale ARC in Lincroft
http://www.no3y.com/radio.html	New Mexico, Farmingham
http://www.ipass.net/~teara/menu3.html	North Carolina, Triangle Radio Club (TEARA)
http://www.oregonatv.org	Oregon, Portland OATVA Oregon Amateur TV Association
http://www.jones-clan.com/amateur_radio/klamath_amateur_television.htm	Oregon, Southern Oregon ATV
http://www.nettekservices.com/ATV/	Pennsylvania, Pittsburg Amateur Television
http://members.bellatlantic.net/~theojkat	Pennsylvania, Phila. Area ATV
http://www.geocities.com/Hollywood/5842	Tennessee, East ATV
http://www.hats.stevens.com	Texas, Houston ATV (HATS)
	Texas, WACO Amateur TV Society (WATS)
http://www.hamtv.org/	Texas, North Texas ATV
http://www.ussc.com/~uarc/utah_atv/utah_atv.html	Utah ATV
	Washington, Western Washington Television Soc. (WWATS)
http://www.shopstop.net/bats/	Wisconsin, Badgerland Amateur Television Society (BATS)

Foreign homepages

http://lea.hamradio.si/~s51kq/	Slovenia ATV **(BEST OF FOREIGN ATV HOMEPAGES)**
http://www.batc.org.uk/index.htm	British ATV club (BATC)
http://www.sfn.saskatoon.sk.ca/recreation/hamburg/hamatv.html	Saskatoon, Canada ATV
http://www.gpfn.sk.ca/hobbies/rara/atv3.html	Regina, Canada ATV
http://www.inside.co.uk/scart.htm	UK, Great Britain ATV (SCART)
http://www.cmo.ch/swissatv	Swiss ATV
http://www.rhein-land.com/atv	German ATV in "Niederrhein" area
http://www.arcadeshop.demon.co.uk/atv/	UK, G8XEU ATV homepage
	British Columbia, Canada VE7RTV repeater
	Auckland, New Zealand ATV
http://www.cq-tv.com	British ATV Club and CQ-TV Magazine
http://oh3tr.ele.tut.fi/english/atvindex.html	Finland ATV, OH3TR repeater.

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)
Transmitters:	427.25 MHz AM modulation, 1250 MHz FM modulation, 2433 MHz FM modulation and 10.350 GHz FM modulation
	Interdigital filters in output line of 427.25, 1250 & 2433 transmitters
	Output Power - 427.25 MHz:40 watts average 80 watts sync tip
	1250 MHz:50 watts continuous
	2433 MHz:15 watts continuous
	10.350 GHz 1 watt continuous
	Link transmitter - 446.350 MHz 5 watts NBFM 5 kHz audio
Identification:	427, 1250, 2433 & 10.35 GHz transmitters video identify every 30 minutes showing ATCO & WR8ATV on four different screens
Transmit antennas:	427.25 MHz - Dual slot horizontally polarized "omni" 7 dBd gain major lobe east/west, 5dBd gain north/south
	1250 MHz - Diamond vertically polarized 12 dBd gain omni
	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:	147.45 MHz - F1 audio input control of touch tones
	439.25 MHz - A5 video input with FM subcarrier audio (**lower sideband**)
	915 MHz - F5 video link data from remote sites
	1280 MHz - F5 video input
	2398 MHz - F5 video input
	10.350 GHz - F5 video input (future – not installed yet)
Receive antennas:	147.45 MHz - Vert. polar. Hi Gain 12 dBd dual band (also used for 446.350 MHz output)
	439.25 MHz - Horiz. polar. dual slot 7 dBd gain major lobe west
	915 MHz - Diamond vertically polarized 12 dBd gain omni
	1280 MHz - Diamond tri-band vertically polarized 12 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 (future – not installed yet)

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

Manual mode functions:		
	00* then 1 Ch. 1	Select 439.25 receiver - manual mode (hit 00* then 1 to view 439.25 signal only)
	00* then 2 Ch. 2	Select 915 receiver - manual mode
	00* then 3 Ch. 3	Select 1280 receiver - manual mode
	00* then 4 Ch. 4	Select 2411 receiver - manual mode
	00* then 5 Ch. 5	Select video ID - manual mode (the 4 identification screens)
	01* or 01#	Channel 1 439.25 MHz scan enable (hit 01* to scan this receive channel & 01# to disable it)
	02* or 02#	Channel 2 915 MHz scan enable
	03* or 03#	Channel 3 1280 MHz scan enable
	04* or 04#	Channel 4 2411 MHz & camera video scan enable
	A1* or A1#	Manual mode select of 439.25 receiver audio
	A2* or A2#	Manual mode select of 915 receiver audio
	A3* or A3#	Manual mode select of 1280 receiver audio
	A4* or A4#	Manual mode select of 2411 receiver audio
	C0* or C0#	Beacon mode – transmit ID for twenty seconds every ten minutes
	C1* or C1#	427.25 transmitter power output select (C1* = 40W output power or C1# = 1.5W output)
	C2* or C2#	2433 transmitter for on/off. (C2* enables transmitter and C2# disables it)

Auto scan mode functions:		
	001	2411 receiver (normal mode - returns to auto scan)
	002	Roof camera (select 001 when finished viewing camera so repeater will shut down)
	003	Equipt. room camera (select 001 when finished viewing camera so repeater will shut down**)**

CAMERA CONTROLLER KEYPAD FUNCTIONS *(TEMPORARILY OUT OF SERVICE)*

002 = ENABLE CAMERA Note: sometimes enter 003 for room cam then 002 for roof cam is better.

001 = RETURN TO NORMAL

FOCUS **1**	**ZOOM** **2**	**APER-ATURE** **3**	**DISABLE AAA** **A**
FILTER (4 STEPS) **4**	**TILT** **5**	**PAN** **6**	**ENABLE** **B**
IN/RT/DN **7**	**8**	**INC SPEED (PAN/TILT)** **9**	**C**
OUT/LF/UP *****	**0**	**DEC SPEED (PAN/TILT)** **#**	**D**

OK, that's it folks. Play with it to your heart's content. Oh, one more thing. Use the camera in the repeater automatic mode only. If you access it in repeater manual mode, the first time you hit a function button, the controller thinks you want another input and shuts it down. In auto mode hit "002" to enable the roof camera and "001" when finished to return the controller to the 2400 MHz input. Since there will be no 2400 MHz signal, the repeater will then shut down. Use the keypad diagram at left as a function reference. Cut it out and paste it beside your keypad if you prefer. Thanks to Dale, WB8CJW, for the handy work.

ATCO MEMBERS AS OF October 20, 2004

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	wilbur.w@juno.com
KC3AM	David Stepnowski	735 Birchtree Lane	Claymont	DE	19703-1604		kc3am@comcast.net
KC8ASD	Bud Nichols	3200 Walker Rd	Hilliard	OH	43026	614-876-6135	kc8asd1@netzero.com
KC8ASF	Tom Pallone	3437 Dresden St.	Columbus	OH	43224	614-268-4873	
W8CQT	Jim McConnell	350 N. State Road	Delaware	OH	43015-9644	740-363-1008	w8cqt@arrl.net
WB8CJW	Dale Elshoff	8904 Winoak Pl	Powell	OH	43065	614-210-0551	delshoff@columbus.rr.com
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K8DW	Dave Wagner	2045 Maginnis Rd	Oregon	OH	42616	419-691-1625	
WA3DTO	Rick White	133 Concord Way	Cranberry Twp.	PA	16066	724-776-2436	wa3dto@aol.com
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KC8EVR	Lester Broadie	108 N Burgess	Columbus	OH	43204		
KB8FLY	Rod Shaner	124 West Walnut St.	Lancaster	OH	43130-4344	740-654-5694	rshaner@copper.net
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WA8HFK,KC8HIP	Frank, Pat Amore	3630 Dayspring Dr	Hilliard	OH	43026	614-777-4621	famore@wowway.com
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WD8ITF	Larry Fields	953 W. Hopocan Ave	Barberton	OH	44203-7007	330-825-7148	lfields@neo.rr.com
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K8TPY, K8FRB	Jeff & Dianna Patton	3886 Agler Road	Columbus	OH	43219		cqcqk8tpy@juno.com
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KB8UU	Bill Rose	9250 Roberts Road	West Jefferson	OH	43162	614-879-7482	
KB8UWI	Milton McFarland	8287 Creekstone Lane	Blacklick	OH	43004	614-751-0476	
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KB8ZLB	Dave Kibler	243 Dwyer Rd	Greenfield	OH	45123	937-981-4007	s.crew@dragonbbs.com
KA8ZNY,N8OOY	Tom & Cheryl Taft	386 Cherry Street	Groveport	OH	43125	614-202-9042	ka8zny@copper.net

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.

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 O NEW MEMBER O DATE _____
CALL _____
OK TO PUBLISH PHONE # IN NEWSLETTER YES O NO O
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 O MONEY ORDER O
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.

TUESDAY NITE NET ON 147.45 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 (07/19/04)..... $1967.26
RECEIPTS(dues)..... $ 140.00
Hamfest proceeds..... $ 6.00
ATVQ subscription contribution..... $ 50.00
July Newsletter postage..... $ (36.00)
Antenna party food and pop..... $ (36.09)
CLOSING BALANCE (07/19/04)..... $2091.17

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

FIRST CLASS MAIL

REMEMBER...CLUB DUES ARE NEEDED.
CHECK MAILING LABEL FOR THE EXPIRATION DATE AND SEND N8NT A CHECK IF EXPIRED.