

# **ACARTS**

## **Membership Manual**

**last updated: 1996**

**ALLEN COUNTY AMATEUR RADIO  
TECHNICAL SOCIETY**  
Post Office Box 10342  
Fort Wayne, IN 46851

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## **THE HISTORY OF THE ACARTS**

The Allen County Amateur Radio Technical Society began at the home of Chuck Guinnup, WA9SDO, on March 7, 1967, when he and two other Fort Wayne amateurs -- Larry Soughan, WA9SDP (now WB3ELM) and Jack Shutt, K9UBF (now N9GT) -- decided that VHF activity in the area was worthy of a new organization. Coming from the old Indiana-Michigan-Ohio (IMO) Radio Club, these three and nine other amateurs began their early operation on six meter AM. Public service and VHF ragchewing on 50.4 MHz and the Fort Wayne Six Meter net on 50.58 MHz comprised most of the activity of the early club. Two meter operation was confined to AM until September, 1968 when the telephone company donated the old Fort Wayne mobile telephone system to the organization. With encouragement from Ed Rehberg, W9INX, the GE Progress Line base station was turned into a repeater. Consisting of a 330 watt transmitter and two receivers, the system was placed on the air in March, 1969. Operating split-site with the transmitter located at K9UBF and the receiver at K9LSB, the two were linked together with 440 MHz units using TV-type UHF antennas. With no more than about 17 miles of coverage, the system provided ACARTS members with a usable communications medium and a sense of real achievement. The original system, under the call sign WA9YJV, continued to be improved until, in November, 1969, the ACARTS was granted permission to place the repeater receiver at WANE-TV, with an antenna at 300 feet. A telephone line from K9UBF to WANE-TV tied the two sites together. In the spring of 1970, the transmitter joined the receiver at WANE-TV and the whole system was finally at one location. This system operated on 146.46 MHz input, 146.88 MHz output. In early 1972, a 6 meter repeater on 52.68/53.88 was installed. The 2 and 6 meter systems were linked together so that the output was on both bands. This operated until November of that year when cross-banding was ruled out by the FCC.

In July 1970, the ACARTS lost a good friend when Ed Rehberg passed away. To honor his enormous contribution to the club, the ACARTS applied to the FCC to adopt Ed's call, W9INX, for the club and repeater station. In January, 1975, the club was to also lose one of the original founders, Chuck Guinnup, WA9SDO. The repeater continued to be a strong influence over the club's activities and contributed to its complexity. The ACARTS was incorporated in 1971. In August of that year, the repeater input frequency was changed to 146.28 MHz according to the national standard. The repeater regulation Docket 18803 caused the repeater call sign to change to WR9ABN in 1974. After several years of planning, the autopatch was installed in June 1974. The repeater was modernized to nearly all solid-state in May of 1975 with the installation of a new GE "Master Pro" repeater package. In December, 1978, a second repeater on 147.255/855 was put on the air using the call sign W9INX/R and the autopatch was moved to this repeater in February, 1980. With the resignation of long-time trustee Jack Shutt, N9GT, in December 1980, the WR9ABN license could not be continued and the repeater call signs became W9INX/R for 146.28/88 and WA9SNV/R for 147.255/855.

1983 saw the installation of an all-solid-state GE Master II for the 88 machine, along with battery back-up of the power supply to provide for emergency operation. January, 1984 brought the club back to UHF operation with the installation of a 440 MHz machine on 448.80/443.80 MHz. April, 1984 brought a change in frequency for WA9SNV/R as the input/output was inverted to 147.855/255 in accordance with the standardized plan for these frequencies and in 1985, a solid-state GE Master II and an S-Com microprocessor controller was installed for the 147.255 machine. In 1986, the club ventured into the packet radio field and today provides NETROM Node digipeaters on 223.66 MHz and 145.01 MHz, a general use digipeater on 144.97 MHz and a full service BBS (Bulletin Board System) on 144.97 MHz. We also have a loaner packet station available for short term loan to the membership. In 1987, another S-Com controller was installed on the 88 machine, making emergency autopatch calls on this repeater possible.

Although the repeaters have become a principal club activity, the ACARTS remains more than a repeater maintenance organization. Today, with over 200 members, the ACARTS continues its commitment to public service activities, as well as to those that promote the traditional fun and fellowship among radio amateurs.

# GENERAL CLUB INFORMATION

## 1. MEETINGS AND ACTIVITIES

Regular monthly meetings of the ACARTS are held on the third Tuesday of each month. The meetings are held at the Turnstone Center, 3320 North Clinton Street at 7:30 p.m., although time or location may vary depending upon the circumstances. Meeting times and locations are announced in the monthly newsletter, "The State of the ARTS" which is mailed about one week prior to the meeting. Announcements are also made on the IMO 2-Meter Net and on the W9INX Packet BBS preceding the meeting.

Most regular public service activities involve providing radio communications for non-profit organizations engaged in charity or community development such as the St. Jude Bike-a-thon, the WBNI Bike-a-thon, the Fort Wayne Velo Sports Event, and the March of Dimes Haunted House or for special community events such as the mini-Triathlon. ACARTS members have been quite active along with other area hams in the establishment of an amateur station at the National Weather Service and in the operation of Skywarn Nets during severe weather. Others have been active in the Allen County Emergency Operations Center (EOC). Equipment needed by participating amateurs is a mobile or portable two-meter radio, a magnet mount or similar temporary antenna, auxiliary power such as spare batteries or a vehicle power cord with cigarette lighter plug. Such capability is also handy for emergencies (see EMERGENCY KIT). A remote microphone for HT's and earphones can be helpful in high-noise environments such as a parade route. Most activities are held on the repeater, unless the event covers a small geographical area which can be covered on simplex.

Traditionally, the ACARTS participates in the annual ARRL Field Day in a big way. This operating event is held during the last weekend in June. It is a good way to sharpen your operating skills, and is a lot of fun (particularly if you don't like sleep!)

The Fort Wayne Hamfest, sponsored by ACARTS since 1974, is one of the most important events for the club, both as an activity and as our major fund raiser. Originally held at the Shiloh Hall, it was moved to the Allen County Memorial Coliseum in 1978. This well-established event attracts nearly 7,000 amateurs and other interested persons. The Hamfest is usually held the second or third weekend of November.

Activities at club meetings include technical programs, things just for fun, auctions, and guest speakers. Other social events are held each year as well. For more information, contact the Activities Manager.

Membership in the ACARTS is available by completing a membership application available from any officer or manager, or by writing to ACARTS, Inc., Box 10342, Fort Wayne, IN. 46851. Dues are only \$12.00 per year for full membership and \$6.00 per year for associate (unlicensed, but interested) membership. Each additional member of the immediate family in the same household, or individuals who are full-time students, may choose to join for 50% of the above. In each case, new members joining during the year may prorate their dues to the end of the year (\$9 in April instead of \$12, for example). Thereafter, renewal is always due in January. Membership dues are not to be interpreted as repeater use fees; however, regular users of club equipment are encouraged to become club members and support its operation.

## 2. ORGANIZATION

The ACARTS is served by a Board of Directors that includes the President, Vice-President, Secretary, Treasurer, and five managers (Activities, Communications, Emergency Preparedness, Fund Raising, Station), who are responsible for various ACARTS programs. These officers and managers are responsible for coordinating the ACARTS programs, but they do not work alone. For the programs to be successful, *each member* needs to be involved. Various areas in which you can become involved include (1) The ACARTS Newsletter, (2) Fund raising (the Hamfest), (3) Activities planning, (4) Technical activities, and (5) Communications for various community activities. If you are interested, speak up. Your contribution will be appreciated.

### **3. AVAILABLE INFORMATION AND EQUIPMENT**

Need help? No need to reinvent the wheel! Word travels fast by radio. If you need information on any topic dealing with amateur radio, emergency communications, the ACARTS or any of its activities, pick up your microphone and ask. Or call one of the Board members on the telephone. Their numbers are listed on the cover of each issue of the "State of the ARTS" newsletter. There is a wealth of information among the hams on the air, and experience that goes back to the early days of the hobby. Whether you are a new-comer or an old-timer, you can gain a lot by listening and asking. Club equipment, such as a wattmeter for antenna adjustments, a frequency counter, and an engraver for marking your equipment, is also available to members.

### **4. CONTROL OPERATOR RESPONSIBILITIES**

Control Operators, as appointed by the Trustee, are responsible for maintenance of legal and proper operation of the repeater system, as well as monitoring its technical performance and alerting the Technical Committee of any malfunctions. Control Operators have the ability to turn the repeaters on or off, or to select special functions via appropriate radio or land line control systems. Control Operators are required to log the actions they find necessary to take in controlling the repeater and to report such actions to the Trustee. From helping a member with autopatch difficulties on one hand to "turning off" an unlicensed/unidentified station on the other, remember that control operators help keep the repeaters on the air in the long run.

## **REPEATER OPERATIONAL PROCEDURES**

### **1. CHECKING ONTO THE REPEATER**

There is no necessity to call CQ or give a long call complete with phonetics, as FM is generally noise-free, and you are either into the repeater with a copyable signal or you are not. Exact wording is not important, provided FCC rules and requirements are met. One way of checking in is to say "W9XYZ listening 88". This tells anyone listening that you are monitoring the repeater and are available for a call from anyone. When you check in this way, you should stick around for a few minutes or so in case someone wants to call you, but is unable to do so immediately. A lot of missed communication occurs when stations go off-frequency too quickly. Do not use partial call signs for identification, even if you follow it up with a complete call. Say "W9XYZ", not "XYZ". The often misused "QRZ" means "who is calling me?" (you didn't catch the call of the station who just called you). Using QRZ to check onto the repeater without anyone calling beforehand should be avoided since other stations may assume you are trying to copy another station and may not return your call.

### **2. THE REPEATER TIMER**

ALWAYS allow at least one second between transmissions for other stations to check in. DO NOT TAILGATE the other station with your transmission. Someone with something important to say or with an emergency may be trying to check in, be sure to give him a chance. In addition, the repeater will time out if you do not allow this one second break every 1 min. 30 sec. on .88 and every 60 sec. on .255. The timer reset is indicated by the "tock" at the end of a transmission. Think "one thousand one" to yourself before you push the button. There is a slight delay on the initial key-up of the repeater. Your first 300 milliseconds of transmission is NOT repeated. In addition, many synthesized rigs take a fraction of a second to lock onto the transmitting frequency when the mike button is first pushed. These two factors result in numerous calls of "...ABC listening" or even less being heard on the air. Since both 2 meter repeaters require audio (not just a carrier) to activate, you should start each initial transmission with "This Is W9ABC Listening". That way your call is guaranteed to be heard. And, above all, don't start talking before you have fully pressed the mic button.

### 3. INTERRUPTING A QSO

The term "breaking", which has gained a lot of notoriety from CB operation, is definitely interrupting in the same sense as one interrupts a conversation between two individuals. It is not wrong provided that you have a good reason for doing so. If someone does interrupt (legally) when you are in a QSO, give them a go ahead, don't keep them on hold. Good reasons for interrupting are:

**a.** Emergency Traffic: Interrupt with: "W9KYZ Emergency" or a similar expression to get the attention of those on the frequency. "Break, break." is not normally a legal transmission since it does not identify your station, thus it may not (and should not) get a response.

**b.** Request for Autopatch. Use of the autopatch has priority on 255, which is the reason the timer on this machine is set for only 60 seconds. Conversation is allowed, but more frequent breaks are required so that anyone needing to make an autopatch call can interrupt to do so. If you want to interrupt, insert your call, "W9XYZ" at the next break and wait to be recognized. The other stations should promptly suspend their QSO and allow the patch to be made. This does not mean making 3 or 4 more exchanges to complete the QSO. Each should stand by promptly and wait until the patch is completed to complete his conversation.

**c.** Time-Value Message. If you need to call another amateur and cannot wait, insert your call sign the same as with autopatch above.

**d.** Have Something To Add? If you hear someone ask for information that you have, if you hear a friend and you would like to join in the conversation, or have a comment to add to a conversation in progress, give your call sign as above, but be sure what you have to say will not distract others or disrupt the conversation. As the ARRL says, "Interrupting is no more polite on the air than it is in person."

### 4. IDENTIFICATION

You must identify your station by complete call sign every ten minutes during a contact (although long-winded contacts are not encouraged on repeaters), and you must give your call at the beginning and end. For example:

Station A: "This is K9ABC."

Station B: "W9XYZ. Good afternoon, Fred."

Station A: "Good afternoon, Paul . . . . ."

(Normal conversation follows with A and B ID'ing every ten minutes.)

Station C: "WA9BCD" (Station wishing to join-in says his call sign.)

Station A or B: "Go ahead, Gene."

(No need for A or B to "establish contact" by ID'ing with C or for C to ID with either A or B.)

Station C: "Thanks fellows. I heard Fred say he was looking for...."

(Conversation continues until one station wishes to sign.)

Station A: " Well, gotta go now. Good evening to both of you. K9ABC, clear."

(Note that it was not necessary to identify either of the other stations.

Stations B and C may continue, ID'ing every 10 minutes, and both

signing out with their own calls at the end.)

It is not necessary to sign with the repeater, even for an autopatch call. It is not a legal violation to over-identify, but is unnecessary and wastes repeater time to identify every time you turn the repeater over to the other station or to sign with everyone in the group. Keep the identification short, simple, and legal and better communication will result.

The practice of identifying yourself as "portable 9" or "mobile 8" is no longer a legal requirement and is not necessary.

It is necessary to sign-off and to re-establish yourself on the new frequency when changing repeaters or moving to simplex; ID both before and after you QSY. This includes the times you accidentally transmit simplex on the repeater output, then switch to the input later. ID when you change your transmitter offset--don't just show up on the repeater with "Oops! Is this better?" (Note that non-standard phonetics are considered conversation by the FCC-- not legal identification. "Willy 9 Always Be Careful" may be said, but plain "W9ABC" is required to actually identify in calling, signing-off, etc.) The all-too-common practice of testing(?) repeaters by transmitting unidentified carriers (kerchunking) just to hear the repeater come up is illegal. Since our repeaters require audio to activate, kerchunking will not bring up the repeater anyway.

## 5. AUTOPATCH PROCEDURES

Rules for autopatch are governed by the FCC, telephone company tariffs, and common sense and courtesy. If you wish to use the 147.255 MHz autopatch to make a local phone call or 146.88 MHz to make an emergency call, the following procedure must be used:

1. Say your call and announce your intention to use the patch: "W9ABC access autopatch." Be sure to speak up, since you must ID to use the patch.
2. Wait and listen for the repeater carrier to drop (about 4 seconds).
3. Transmit the autopatch access code followed by the phone number without letting up on the PTT button until the number is complete. If successful, the autopatch will respond with a CW "AS" (wait) as it dials the number. If you hear the reset "tock", your patch was unsuccessful. Start over again with step 1.
4. When the called party answers, announce that you are calling by amateur radio (which helps keep improper comments from appearing on the air!) and proceed with your call. Remember that you may interrupt the party on the telephone, but he cannot interrupt you while you are transmitting. It may be necessary to remind the called party of this.
5. When the conversation is over, instruct the calling party to hang up (although there is nothing to prevent you from dropping the patch while the called party is still on the phone), then send the release (dump) code and listen for the CW "SK" indicating the end of the patch. DON'T leave it stuck on. If for some reason you can't shut it down, it will time out and shut itself down in about 60 seconds.
6. After the repeater drops, identify with your call as follows... "W9ABC clear autopatch".

### *Keep these things in mind when using the autopatch:*

**A.** Use of the autopatch and info on the access procedures is intended for ACARTS members only. **DO NOT DISCUSS THE PROCEDURES OVER THE AIR**, as there have been problems with unlicensed operators who would love to have this info. However, this does not mean that you should not assist another member or visiting operator by dialing the patch for him. By all means do so, provided the call is a legal one. That way the visitor can still tell Aunt Mathilda he's on the way without giving the procedure excessive distribution and both his needs and our needs are met.

**B.** The autopatch timer is set for about 60 seconds. It may be extended once by retransmitting the access tone before the period is up (in case you are making an important call requiring more than the usual time). The timer extender should not be abused--use it only when necessary. Once the 60 second timer operates, the autopatch is completely shut off, the phone line disconnected, and the repeater restored to normal operation. The repeater will warn you with a CW "AR" tone several times prior to timing out.

**C.** More than one station may talk to the party on the telephone if desired. This is particularly useful in emergency calls to authorities where several reporting stations may be involved, but do so cautiously as the called party may not understand what is happening and because of the possibility of interference between stations.

**D.** If you wish to use the 147.255 MHz autopatch and there is a regular QSO in progress, interrupt with your call sign, wait to be acknowledged, and state that you wish to use the phone patch. Remember, .255 is autopatch priority and can be used for conversations, but clearance for patches should be given promptly when requested.

**E.** NO BUSINESS CALLS per FCC rules. Calls to a business for unrelated personal reasons are OK, but not to see if they have something to buy, to see what hours they are open, to order a pizza, or to let your office know that you will be late. Anything that facilitates the regular business of that party is not legal. If you are in doubt as to whether a certain type of call is proper or not, ask the Repeater Trustee. Until you are sure, however, it is best not to make the call. It is O.K. to call home to see if you should pick up a gallon of milk at no specific store; but beyond this things turn from gray to black in a big hurry. Although some of these calls may no longer be illegal, they are *strongly* discouraged.

**F.** Do not call Time and Temperature or the WGL Weather Line as these contain commercial messages not allowed on amateur radio. The National Weather Service recorded report is permissible, although often busy, and is probably the best "test" phone number.

**G.** There is no restriction on emergency calls when life or property is immediately at stake. See Emergency Calls. Note that the FCC does not consider a vehicle that is disabled, but in no particular distress, to necessarily be an emergency that would allow a call to a garage for gas or a wrecker. If commercial assistance is required in a case where only inconvenience is involved, it is best to find a phone. If it isn't enough of an emergency to call the police, then it likely isn't an emergency in the eyes of the FCC. If there is a real emergency, by all means use the autopatch to call the police.

**H.** No Direct Distance Dialing (DDD) calls are permitted on the autopatch. If you need to call long distance in an emergency, your best bet is getting help from another amateur or finding a telephone.

**I.** There are no special FCC rules for autopatch. If you think a call is not legal on the autopatch, do not ask another operator to do it via landline. Anything that is illegal on the autopatch is illegal because it is illegal over amateur radio, not just because it is on the autopatch.

## **6. EMERGENCY CALLS**

If an emergency situation arises, either involving you personally or more likely another party, try to determine first if amateur radio is the best medium to provide help and if help is wanted-- sometimes the parties will just exchange names and go on their way. Very often when reporting an accident or injury, no telephone is handy and the repeater may be the best way to contact authorities. If this is the case, first quickly get as much information about the situation as you can:

**A.** Have authorities already been summoned? If so, offer to help by calling others who may help the situation, such as families if those involved are not injured.

**B.** Where are you? At what intersection, mile marker, or other landmark? Northbound or southbound?

**C.** Are there any injuries? Is traffic blocked? Are other potential dangers present (leaking fuel, power lines down, disabled traffic signals, etc.)

**D.** Gather as much additional information as you can but react quickly. If the situation appears serious, place your call to authorities and fill in details in a second call to avoid fumbling for information during the call.

When making a call, identify yourself as "Amateur Radio Operator W9XYZ calling via amateur radio" and pause frequently during a lengthy report so that the dispatcher can interrupt if he already has the report or needs to ask a question. Phone numbers you may need for emergencies are (5XXX numbers are auto-dial numbers):



Ft. Wayne PD 427-1210 (911)

Allen Co. PD 423-3631

State Police 432-8661

Weather(Taped) 747-0576

City non-emerg. 427-1222 (stuck traf.sig)

EOC 424-3002

NWS Office 747-2414

Road Conditions 432-2521

Copies of this form are available from the Club Secretary for quick reference. Other emergency numbers are posted in the inside front cover of the local telephone directory. You should carry one in your vehicle if it is equipped with autopatch. 911 calls are routed to the City or County Police automatically according to the location of the originating phone. Our phone is considered to be in the city, so it is best to use the County number when you expect them to respond rather than calling 911 and having the message relayed to the County.

**911 MUST ONLY BE USED IF LIFE OR PROPERTY  
IS IMMEDIATELY ENDANGERED!**

**7. SEVERE WEATHER SPOTTING - OPERATION SKYWARN**

One of the many public service activities of ACARTS is the severe weather spotting program known as Skywarn. This program is an organized effort by radio amateurs in cooperation with the National Weather Service to detect and track certain conditions associated with severe weather. Skywarn is open to all licensed amateurs who have attended a training session conducted by meteorologists from the National Weather Service office in Fort Wayne. Several training sessions are held throughout the area each spring, including during the March ACARTS Regular meeting.

Spotters in the field can call their reports directly into the amateur station at the National Weather Service. This station is usually manned by volunteer amateur operators whenever a severe thunderstorm or tornado watch is issued for this area. During severe weather, the 146.88 repeater may be placed in one of three conditions that either partially or totally restricts routine use of the system. This is done to keep the frequency open so that any urgent weather information can be passed. These conditions are:

**Watch Condition:** This means that either a severe thunderstorm or tornado watch has been issued for this area. Routine use of the repeater is permitted, however, stations using the repeater are asked to keep transmissions short and to leave long breaks between transmissions.

**Warning Condition:** This means that either a severe thunderstorm or tornado warning has been issued for this area. Routine use of the repeater stops and all calls must go through the net control or the Weather Service Operator.

**Emergency Condition:** This indicated that either an emergency or a very high priority situation exists on the repeater. No transmissions are permitted unless they are directly related to the situation.

For further information on the severe weather spotting program, contact the ACARTS Emergency Preparedness Manager.

**8. EMERGENCY OPERATIONS CENTER (EOC)**

The EOC is the disaster response organization of the Allen County Police (Sheriff's) Department and Allen County Office of Emergency Preparedness. The EOC Radio room is staffed primarily by amateur volunteers. The EOC is activated by declaration of the Sheriff, usually during a state of emergency or occasionally for drills. When activated, EOC activity may appear on several frequencies, including both of the repeaters and on simplex. The Station Call of the EOC is WB9YER and the RACES Call of the EOC, which may be used only during certain declared emergencies, is WC9AAM. All EOC operators must carry an EOC Identification Card issued by the Sheriff's Department. To obtain a card, contact the ACARTS Emergency Preparedness Manager.

## **9. TRAFFIC NETS**

The only regular traffic net presently on the ACARTS repeaters is the Indiana-Michigan-Ohio (IMO) Two Meter Net, which meets on 88 every evening at 2330 UTC (6:30 PM Fort Wayne time). Stations from all over the Tri-State area are invited to check in, and by doing so agree to accept traffic from other stations on the net. If you would like to be a regular participant, let the Net Control Station (NCS) know, and you will be placed on the roll call. Stations not on the roll may check in immediately after the roll is called. Remember, the net meets promptly at 6:30 PM daily, so try to leave the repeater frequency clear by that time. Net usually lasts from 10 to 20 minutes and informal calls are handled after any formal traffic is passed. The net also serves as a "club bulletin board" through the net announcements of meetings and other activities. For more information on the IMO Net, contact the Net Manager through ACARTS, P.O.Box 10342, Fort Wayne, IN 46851. For a number of years, ACARTS has sponsored "Amateur Radio Newslines", a 10 to 20 minute news program of items of interest to radio amateurs is broadcast at the conclusion of the IMO Net on Tuesday evenings.

## **10. BAND OPENINGS**

Band openings on VHF, while not as frequent and of the same nature as those on HF, do occur quite often, and can be quite exciting. Most VHF openings are tropospheric, that is, associated with the lower atmosphere where weather occurs. Cold and warm air interfaces, storm fronts, fog, temperature inversions, and a variety of other meteorological phenomena can reflect and carry VHF and UHF signals far beyond the horizon. Tropospheric ducting has been known to carry VHF signals thousands of miles across relatively flat terrain.

Such band openings provide an added dimension to VHF operating, but they can pose some problems as well. Since signals may travel far beyond the normal range of a VHF station, crowding of popular repeater and simplex frequencies may result. The keying of several repeaters simultaneously during a band opening is a common problem, and steps should be taken to prevent this.

### **Some band opening tips are:**

- 1.** Use a directional antenna if possible. This helps to direct your signal only to the desired area, and reduces the possibility of interference.
- 2.** Use minimum power necessary for communication. This not only follows FCC guidelines for the amateur service, but is also common courtesy.
- 3.** Do not tie up distant repeaters with attempts to DX, especially if there is a QSO in progress. There may be someone at the distant location you wish to call, and if the distant repeater is an open one, this should be OK. But it is best to limit your DXing to simplex frequencies to avoid interfering with multiple repeaters.

## **11. SIMPLEX OPERATION**

Although we are sometimes considered a "repeater club", and encourage the use of our "machines", do not be afraid to operate simplex. It will not hurt a bit! With the popularity of synthesized rigs, it is quite easy to "check the input" and move to another frequency if you can copy the other station clearly. This will provide an opportunity for other stations to make use of the repeater while you hold your conversation. It makes little sense to use 130 watts of power and broadcast to all of north-east Indiana when you can see Joe in his car in the next lane of traffic while you talk to him on the repeater!

## 12. INTERFERENCE

One problem occasionally heard on repeaters is that of illegal operation, which may take the form of someone operating without a call sign, operating with a bootleg call sign, deliberate interference with other operators, or simply trying to "kerchunk" the repeater. The best policy is to COMPLETELY IGNORE such operation. Do not even acknowledge its presence, even to the point of pretending to have received the other transmission when you really didn't. This deprives the "wild turkey" of the pleasure of knowing he was successful in annoying you and may cause him to feel that he was not successful. We have at our disposal a number of different direction-finding devices and often a control operator will already be in the process of tracking down an offender. Do not attempt to pass information on the suspected location of the signal on the air, as this will often cause the illegal operator to leave the air, just as he is being tracked down. Often, if interference is deliberate, the offender may even monitor other frequencies to listen for this information as well. If you have any information, a telephone call to the Station Trustee or a Control Operator should be made to pass this information.

## 13. COMMENTS

Most repeater and VHF operating rules are based on common sense and courtesy. Some are also based on FCC requirements and restrictions. All are for the common good of the amateur service, and help to make VHF and repeater operating more enjoyable and efficient. Don't be afraid to use the repeaters - - they're there for your enjoyment and service. Just remember that you're sharing them with others who may want to do the same when you finish, but do not feel their conversation warrants interrupting yours. Don't keep them waiting forever. Keep your operating habits within the guidelines of the Golden Rule, and you will assure that the repeaters are enjoyed by all who use them. If you want more information about operating procedures and club policies, contact any club officer or control station. They will be glad to help you, and are always open to ideas. Give them a call.

Remember... the repeater, and your transmitter, only emits what you put into it. If your operating habits, procedures, and courtesy reflect well upon the amateur service, they will encourage others. With the popularity of scanning and tunable VHF monitors, amateur VHF and UHF activity can and is heard in hundreds or perhaps thousands of homes of non-amateurs, not to mention police, media, and public service offices. Many who hear us are potential hams or will form their opinion of amateur radio based on what they hear from us. Let's keep our on-the-air and off-the-air activities something to be proud of.

Amateur radio is self-policing. This does not mean turning your fellow ham in to the FCC, but rather making him aware that he may be violating the rules. If you hear an activity that you feel is questionable, first check FCC Rules Part 97 to be sure. Then, contact the amateur in some manner, but not on the air! The telephone, a letter, or an eyeball QSO is much more appropriate, and is more likely to bring positive results.

## W9INX/R SYSTEM DESCRIPTION

W9INX/R, 146.88 MHz, W9INX/R, 147.255 MHz, and W9INX/R, 443.8 MHz are all carrier- access repeaters operated by the Allen County Amateur Radio Technical Society and are located at the site of WANE-TV in Fort Wayne. Antennas are side mounted on eleven-foot swing-out mounts at the 500 foot and 375 foot levels of the tower, which is 855 feet overall. The input frequencies are 146.28 MHz (-600 KHz) for the 146.88 VHF repeater, 147.855 MHz (+600 KHz) for the 147.255 VHF repeater and 448.8 MHz (+5 MHz) on the 443.8 MHz UHF system.

### SYSTEM STATISTICS

**Repeaters:** G.E. Master II (all solid-state) on 146.88, 147.255 and 443.8 MHz. Receivers have approximately 0.18 uV sensitivity for 20 db quieting. Transmitters are usually adjusted for 60 W. output which produces a maximum effective radiated power of 130 watts. The typical usable range to a 10-watt mobile rig is 40 miles (somewhat less on UHF).

**Antennas:** DB Products and Phelps-Dodge Super Stationmaster fiberglass-covered collinear verticals for all 3 systems. At this time, 88 is operating through the antenna at 500', 255 through one at 375', and 443.80 has its antenna mounted upside down below the 255 antenna.

**Feedline:** 7/8" foam dielectric, solid aluminum jacketed feedline (hard-line) for all 3 systems.

**Cavities:** Each system uses Phelps-Dodge 6 cavity duplexers to allow simultaneous transmission and reception on a single antenna (full-duplex operation). They provide under 1 dB insertion loss while maintaining more than 120 dB isolation between transmitter and receiver.

**Key-up Delay:** 350 milliseconds of input signal. Audio is required before the transmitter will key.

**Timeout:** 1 1/2 minutes on 146.88 and 443.800, and 1 minute on 147.255.

**Reset:** Timeout timer resets when input signal ceases for at least 1 sec, which is indicated by a short (15 ms) tone burst.

**Dropout Delay:** Transmitter drops out after an input signal has been absent for 3.5 seconds.

**Autopatch:** (147.855/255) Approximately 60 seconds of operation, starting at access, is available before the patch times out and restores normal operation. This timer may be extended once (see "Autopatch Procedures").

# ACARTS CONSTITUTION

## ARTICLE I

### Name and Purpose

**Section 1:** The name of this organization shall be the **Allen County Amateur Radio Technical Society, Inc.** hereinafter referred to as "**ACARTS**".

**Section 2:** The purposes of the ACARTS shall include the following:

- a. To promote the hobby of amateur radio with particular emphasis on the use of the VHF bands.
- b. To provide assistance to persons desiring an Amateur Radio license.
- c. To provide public service communications
- d. to other non-profit organizations.
- e. to local, state and national government agencies in times of emergency.
- f. To promote the courteous and lawful use of the Amateur Radio bands.
- g. To provide a means by which individual Amateur Radio operators can join together to increase the pleasures and benefits derived from the hobby of Amateur Radio.
- h. To increase the public awareness of Amateur Radio and the useful functions it serves in the community.
- i. To develop and maintain a working relationship with agencies and organizations who have purposes and objectives similar to the ACARTS.

## ARTICLE II

### Membership

**Section 1:** Membership in the ACARTS is open to any person interested in Amateur Radio. There shall be two (2) categories of membership: the Full Member and the Associate Member.

- a. The Full Member shall be a person holding a valid FCC Amateur Radio license. The Full Member is entitled to all rights and privileges of the organization, including holding of office in the ACARTS.
- b. The Associate Member shall be a person interested in Amateur Radio but who does not hold a valid FCC Amateur Radio License. The Associate Member is entitled to all organizational privileges, except the holding of office, providing the activity is consistent with FCC regulations.

## ARTICLE III

### Board of Directors

**Section 1:** The Board of Directors of the ACARTS shall consist of the officers, the managers, and the trustee.

- a. The officers of the ACARTS shall be: President, Vice President, Secretary, and Treasurer.
- b. The managers of the ACARTS shall be: Communications, Club Station, Emergency Preparedness, Activities and Fund Raising.

**Section 2:** The officers and managers shall be elected by a ballot vote to a one (1) year term of office.

**Section 3:** The Trustee, who shall be a non-voting member of the board, shall be appointed by the President with the approval of the board. This office shall be vacated by resignation or if declared vacant by a majority vote of the Board.

**ARTICLE IV**  
**Meetings**

**Section 1:** The Annual Meeting of the ACARTS shall be held in April.

**Section 2:** The Election Meeting of the ACARTS shall be held in November.

**Section 3:** Regular Meetings of the ACARTS shall be held monthly. The Election Meeting and the Annual Meeting may take place of the Regular Meetings in November and April.

**Section 4:** Special Meetings of the ACARTS may be called by the President, by a majority of the Board of Directors, or by a written request to the President of 10% of the membership.

**ARTICLE V**  
**Amendments**

**Section 1:** This Constitution may be amended provided the procedure outlined below is followed:

- a. The proposed amendment is submitted in writing at any Regular Meeting and is disseminated to the membership in writing.
- b. The proposed amendment is considered for discussion and amendment at the next Regular Meeting.
- c. The final form of the amendment is disseminated to the membership and a vote is taken at the next Regular Meeting, providing a quorum is present.
- d. Written absentee votes will be accepted if received by the Secretary by the time of the vote taken at the meeting and will be included in the number needed for passage of the amendment.

**Section 2:** For the amendment to pass, it must receive an affirmative vote from 3/4 of the members present and voting provided a quorum is present.

**ACARTS BY-LAWS**

**ARTICLE I**  
**Meetings**

**Section 1:** The Annual Meeting, the Election Meeting and Regular Meetings shall be held at times and places designated by the Board of Directors.

**Section 2:** If a Special Meeting is requested by 10% of the membership, the President must schedule this meeting to occur within 30 days of receipt of the request.

**Section 3:** Written notification of Special Meetings must be disseminated a minimum of 7 days in advance of the meeting.

**ARTICLE II**  
**Elections and Board Vacancies**

**Section 1:** The Board of Directors of the ACARTS shall be elected by receiving a plurality of votes of the members present and voting (provided there is a quorum) at the Election Meeting. Written absentee votes will be accepted if they are received by the Secretary prior to the vote at the meeting and will be included in the number needed for election.

- a. No two (2) positions on the Board of Directors may be held by the same person with the exception of the Trustee.
- b. No officer shall be elected to the same office for more than two (2) consecutive terms
- c. There is no limit to the number of consecutive terms to which a manager may be elected.
- d. Managers will be nominated and elected to specific areas of responsibility. This shall not prohibit a change in areas of responsibility during the term of office if such change is deemed desirable by the Managers involved and approved by the Board of Directors.

**Section 2:** If the office of President becomes vacant, or if the President is unable to fulfill the duties of the office and the office of President is declared vacant by 2/3 vote of members present (provided there is a quorum) at a Special Meeting following a 10 day written notice that such a vote is to be taken, the Vice President shall proceed to the office of term of office.

**Section 3:** If any other officer or manager position becomes vacant, or the officer or manager is unable to fulfill his/her duties and the position is declared vacant by a 2/3 vote of members present (provided there is a quorum) at a Special Meeting following a 10 day written notice that such a vote is to be taken, the Board of Directors shall appoint a person to fill the position for the unexpired term.

### **ARTICLE III Board of Directors**

**Section 1:** The term of office for the Board of Directors shall be the calendar year.

**Section 2:** The Organizational Meeting of the Board of Directors shall be held within three (3) weeks following the election.

**Section 3:** The Board of Directors shall meet as needed provided they meet at least quarterly. These meetings shall be called by the President or by the request of two (2) members of the Board.

**Section 4:** The President shall:

- a. Preside at all meetings of this organization.
- b. Be Chairperson for the Board of Directors.
- c. Appoint special committees with the approval of the Board.
- d. Resolve all conflicts of overlapping responsibilities of members of the Board.
- e. Perform all customary duties pertaining to the office of President.

**Section 5:** The Vice-President shall:

- a. In the temporary absence of the President, assume the duties of the President.
- b. Become the President if that office becomes vacant.
- c. Assist the President at meetings with matters of Parliamentary Procedure
- d. Perform other duties as assigned by the President.

**Section 6:** The Secretary Shall:

- a. Keep a record of the proceedings of all meetings.
- b. Receive all applications for membership and keep an accurate list of all members.
- c. Notify the Treasurer, Trustee and Communications Manager of new members and address changes within a week of their receipt.
- d. Preserve all papers, letters, and transactions of this organization excluding those charged to the safe keeping of the Treasurer.
- e. Conduct general correspondence of this organization.
- f. Notify all officers, managers, and committee members of their election or appointment.
- g. Send orientation material to all new members.
- h. Take to each meeting a copy of the Constitution and By-Laws of this organization.

**Section 7:** The Treasurer shall:

- a. Receive all funds of this organization.
- b. Deposit such funds in a bank designated by the Board of Directors.
- c. Keep an itemized account of all receipts and disbursements.
- d. Pay only those bills authorized under the budget as adopted by the membership.
- e. Give a report at all regular meetings.
- f. Submit all books of account for audit at the end of the elected term and at other times as specified by the Board.
- g. Allow an inspection of the book by the membership at all reasonable times.
- h. Submit any and all reports as required by the laws governing non-profit organizations in Indiana.

**Section 8:** The Communications Manager shall:

- a. Ensure publication of the organization's newsletter.
- b. Send timely notice of the time and place of all organizational meetings and events.
- c. Develop and implement public relations programs that are approved by the Board.
- d. Establish committees as needed to help carry out the above activities

**Section 9:** The Club Station Manager shall:

- a. Serve as the chairperson of the Technical Committee.
- b. Supervise the maintenance, improvement and use of all club owned equipment and keep accurate accounting of such equipment.

**Section 10:** The Emergency Preparedness Manager shall:

- a. Co-ordinate the ACARTS emergency preparedness programs.
- b. See that ACARTS members are afforded the opportunity for education concerning matters of emergency preparedness.
- c. Act as liaison between the ACARTS and local authorities for co-ordination of emergency activities.
- d. Act as liaison between the ACARTS and others who conduct emergency programs: e.g. Allen County Civil Defense, the American Red Cross and the National Weather Service.
- e. Establish committees as needed to carry out the above activities.

**Section 11:** The Activities Manager shall:

- a. Co-ordinate the social and non-technical events of the organization.
- b. Provide for presentation of programs at each regular meeting.
- c. Co-ordinate activities which provide assistance to persons desiring an Amateur Radio license.
- d. Co-ordinate non-emergency public service communications.
- e. Establish committees as needed to carry out the above activities.

**Section 12:** The Fund Raising Manager shall:

- a. Generate and investigate ideas to raise money for the organization.
- b. Co-ordinate programs approved by the board to raise money for the organization.
- c. Serve as chairperson for the Fund Raising Committee.
- d. Establish committee as needed to carry out the above activities.

**Section 13:** The Trustee shall

- a. Represent the organization on matters directly related to the Federal Communications Commission.
- b. Be responsible for the station license(s) used as a function of the organization.
- c. Supervise the activity of Control Operators who are charged with helping enforce FCC and club rules and policies governing station(s).
- d. With approval of the Board, designate Control Operators.



## **ARTICLE IV**

### **Standing Committees**

**Section 1:** The Technical Committee shall:

- a. Provide technical advice and assistance to the members.
- b. Assist the Club Station Manager in maintaining and improving club-owned equipment.
- c. Be appointed by the Club Station Manager with approval of the Board.

**Section 2:** The Fund Raising Committee shall:

- a. Plan, promote and execute fund raising activities.

## **ARTICLE V**

### **Dues**

**Section 1:** The membership year for the ACARTS shall be the calendar year. Therefore, dues for the ACARTS shall be paid to the Treasurer on or before January 1 of each calendar year to maintain membership in the organization. A subsequent change in membership category shall not effect a change in the dues paid for the year.

**Section 2:** Annual dues for the ACARTS shall be:

- a. \$12.00 for Full Members.
- b. \$ 6.00 for Associate Members.

**Section 3:** New members (those who have not been a member of the organization in the last two (2) calendar years) shall be assessed prorated dues for their first year of membership. These dues shall be prorated on a monthly basis.

**Section 4:** Members who qualify for one of the following categories may elect to pay 50% of the annual dues and maintain all rights and privileges of membership:

- a. Additional member of an immediate family in the same household
- b. Full-time student

## **ARTICLE VI**

### **Honorary Membership**

**Section 1:** Honorary membership shall be conferred upon individuals whom the organization believes have rendered exceptionally outstanding service to the ACARTS or to the Amateur Radio community.

- a. Honorary Membership entitles the individual to the same rights and privileges as the Full member and entitles the person to a lifetime membership in the ACARTS.
- b. Honorary Membership is conferred upon an individual by a 2/3 majority of those present and voting.
- c. Honorary Membership may be conferred upon only one (1) individual each year.

## **ARTICLE VII**

### **Rules of Order**

**Section 1:** The rules contained in Robert's Rules of Order Revised shall govern this organization in all cases to which they are applicable, and in which they are not in conflict with the Constitution or By-Laws of this organization.

## **ARTICLE VIII**

### **Quorum**

**Section 1:** A majority of the members of the Board of Directors, one of whom shall be an officer, shall constitute a quorum of the Board.

**Section 2:** 10% of the membership, at least two (2) of whom shall be members of the Board of Directors, shall constitute a quorum at any general meeting.

## **ARTICLE IX**

### **Fiscal Year**

**Section 1:** The fiscal year shall be the calendar year.

## **ARTICLE X**

### **Amendments**

**Section 1:** These By-laws may be amended provided the procedure outlined below is followed:

- a. The proposed amendment is submitted in writing at any Regular Meeting and is disseminated to the membership in writing
- b. The proposed amendment is considered for discussion and amendment at the next Regular Meeting.
- c. The final form of the amendment is disseminated in writing to the membership and a vote is taken at the next Regular Meeting provided a quorum is present.
- d. Written absentee votes will be accepted if received by the Secretary by the time of the vote taken at the meeting and will be included in the number needed for passage of the amendment.

**Section 2:** For the amendment to pass, it must receive an affirmative vote from 2/3 of the members present and voting, provided there is a quorum present.

## **ARTICLE XI**

### **Disciplinary Action**

**Section 1:** Membership shall be rejected or revoked for cause providing the following procedure is followed:

- a. Testimony or other evidence shows the applicant or member to have violated or ignored FCC regulations or established and published ACARTS policies and procedures to such an extent as to threaten the effectiveness of the organization in the community, the organization's usefulness to other members or any licensure used by the organization.
- b. The Board of Directors investigates the allegations and offers the accused an opportunity to be heard if further action is contemplated.
- c. If the Board of Directors determines that such membership should be rejected or revoked, the applicant or member in question shall be notified in writing at least ten (10) days in advance of the next Regular Meeting that a vote regarding his/her membership will be taken at the meeting.
- d. A 2/3 majority of the members present at the Regular Meeting vote to reject or revoke the membership of the applicant or member.

**Section 2:** Once membership has been rejected or revoked, it may not be issued until one of the following conditions is met:

- a. Two years have elapsed since the most recent rejection or revocation in effect.
- b. A 2/3 majority of the members present at a Regular Meeting vote to accept such membership.

## **STANDING RULES (POLICIES)**

### **FINANCES**

1. The outgoing Treasurer will be responsible for completing the tax forms for the year in which he/she held office.
2. By the November meeting of each year, an Audit Committee will be appointed. The responsibilities of this committee will be the auditing of current ACARTS finances, equipment and historical holdings.

### **HISTORIAN**

The ACARTS President will appoint a member as Club Historian. The responsibilities of this person are to provide and maintain continuity regarding items of interest to the ACARTS. This appointment will remain in effect as long as he/she is willing to perform the duties and is willing to do so. The Historian will keep records of such items as old newsletters, pictures, news clippings and related materials concerning the organization's activities.

### **ELECTIONS**

1. A Nominating Committee will be appointed by the August meeting and will present a slate of nominees at the October meeting.
2. Nominations from the floor will be accepted at the October and November meetings.
3. Each nominee will be encouraged to supply a short biographical/historical sketch to the Newsletter Editor (Communications Manager) for publication prior to elections so that the members can make more informed decisions in voting. Those nominated from the floor at the Election Meeting will be asked to give a short verbal biographical sketch.

### **ELECTION PROCEDURE**

1. Floor nominations and elections of Officers will take place first, followed by floor nominations and elections of Managers.
2. Members may be nominated for more than one position but must choose one nomination prior to voting. Since the Officers and Managers are elected separately, the member may choose to remain in nomination for one position in each of these two categories.

### **AWARDS**

1. Any awards presented in the name of ACARTS will be determined by an appointed committee of at least three (3) members. An exception to this rule: the President may award Certificates of Appreciation without using this process.
2. Members from the previous year will receive the January (and optionally) the February newsletter.

### **REPEATER USE**

1. Any organized activities or nets wishing to meet on an ACARTS repeater must be approved by the Board of Directors prior to such use.

## EMERGENCY KIT

A one evening project that may pay off some day is a kit for emergency operating. The contents can be fitted into a small tool box, fishing tackle box, or attaché case, which may be compartmentalized and lined with plastic foam to protect the contents.

Suggested items:

- Complete 2 meter transceiver and power supply (AC)
- Spare battery pack and charger (for HT).
- Mag-mount or clip-on antenna with 10-15' coax.
- Touch-tone pad, speaker mike, and other accessories as needed.
- Spare fuses, coax adapters for various types of antenna connections.
- AC adapter, extension cord.
- Power cords for radio, one with cigarette lighter plug (remember you may need to check lighter polarity in many newer vehicles with plastic dashes), another with insulated clips to attach to fuse panel or battery.
- Small tools (screwdrivers, pliers, socket set, knife, electrical tape, soldering iron and solder, VOM, small flashlight).
- Writing tablet, ARRL message forms, pens, EOC ID card, city/county map.