



AARC OVER

Bulletin of Austin Amateur Radio Clubs

Austin Amateur Radio Club
Austin Amateur Television Club
Austin Repeater Organization

November 1992

Club Meetings

Austin Repeater Organization

Will meet Tuesday, November 3, 7:30 to 8:30 PM, at Luby's Cafeteria on North Loop (about east of Burnet Road). While the official start time is 7:30, most folks get there early and eat supper together. Topic: To Be Announced. See the ARO Monitor on page 3.

Austin Amateur Radio Club

Will meet Tuesday, November 10, same time and location as above. Topic: To Be Announced. All AARC functions are Non Smoking.

Austin Amateur Television Club

Will meet Tuesday, November 17, same time and location as above. Call Jon Penner, N5MHI, at 335-0220 for information.

Big Disaster Hits Austin!

Travis County Amateur Radio Emergency Service had some "real" trouble during its semi-surprise October 17 emergency exercise. At 6 PM, during a terrible storm, a large tornado struck west Austin. Rick Herndon, K5FNI, activated the ARES pagers and called the net into action on the 146.94 MHz repeater.

Shortly thereafter, telephones in the central city went down, flooding was reported, and electric power all over town died. When the power went off, 146.94 did too.

continued on page 10

Biggest ARES Meeting

Travis County Amateur Radio Emergency Service (ARES) held a fast-paced meeting on Tuesday, September 29, at Luby's Cafeteria. Thirty nine persons attended, a new record.

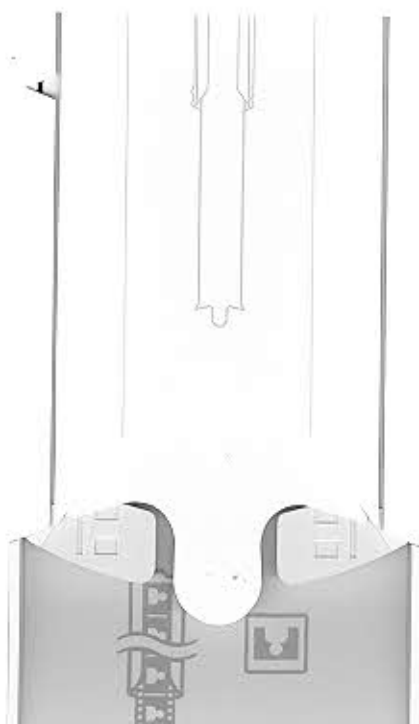
•Steve Collier, Director of the City's Emergency Management Office, attended and spoke of the importance of amateur radio for disaster communications. He thanked ARES members for their help with the SWAT exercise, Desert Storm protest, Halloween 91 and Flashpoint 92. He anticipates civil strife at Halloween 92 and will ask for assistance from ATV club members. Mr. Collier handed out framed "Recognition for Community Service" certificates to hams who had helped with Flashpoint 92, the recent emergency exercise at Mueller Airport.

•The 22 ARES pagers were distributed. Thanks to Jon Dahm, WB5PCV, and Tenia Kinney, K5TXK, for their considerable work in re-crystallizing them! Alerting tones will be broadcast every Sunday before the 6:30 PM net. If your pager does not sound then, either it needs attention or you are too far from the repeater site in West Austin. ARES needs more tone encoders. The pager transmitter site needs emergency power...ARO is working on it.

•Study continues on the best way to alert ARES members whose talkies have built-in tone decoding.

continued on page 6

When was the first AARC newsletter published? Please tell Miles at 327-1310.



HUCK'S COUNTRY STORE**A Signal Corps Radio Operator's Best Kept Secret**

We were training as mobile CW operators in World War II, four men to a radio vehicle. The antenna was about 20 feet long, mounted forward and held back and down with a tie-down rope. The antenna could stand upright when conditions permitted. Our net control officer was at the base station and required the vehicle to be in motion.

The transmitter had five tubes. The receiver bandpass was a wide 20 kHz, which it needed because of the bad drift, and even worse keying chirp, of the transmitter. Vehicle vibration caused the frequency to ripple, a sure sign that the vehicle was in motion.

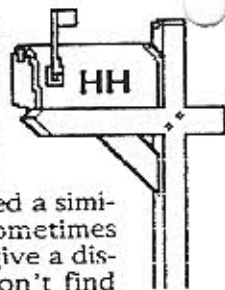


Receiver and transmitter each had a dynamotor to make high voltage. You could smell the dynamotor almost as far as the transmitter range. The arcing-brush smell and the electrical hash were terrible. Four men attended the station: Driver, assistant driver, receiver operator, and transmitter operator.

One day on a country road out from Sea Girt, NJ, we wanted to stop at a little store for a snack — strictly forbidden! However, we had found that we could “drag” the sound of the transmitter by pulling the tie-down rope to wave the antenna. Keeping the antenna in motion made it sound as if the vehicle was moving. We parked in the shade of a tree, put the assistant driver on antenna “whip duty,” and took turns going in the store.

The new-found trick was great! We could stop when transmitting to make the sending operator's job easier. We never revealed the secret until the war was over.

Something about radio operators makes us want to get outside the guidelines at times. For example, the “Q” signals: We were required to use only those that were Army approved. (We also had “N” and “I” signals that served a similar purpose.) Regardless, sometimes we would hear an operator give a distant station “QLFS.” You won't find that particular Q-signal in either the military operating procedures or in the ARRL log book. It means, “Quit Left Foot Sending,” and was reserved to be used on bad CW operators!



de M-Sgt J. M. “Huck” Huckabee, AA5BU

Huck is an accredited License Examiner with both the ARRL and W5YI, and he is active with both exam groups in Austin. He has been on the air since before World War 2, holding calls W5KCI, D4AER, A5KCI, W4PPY, KF5ZR and now AA5BU. Huck is 71 years old and operates mostly 40-meter CW “in the fast lane.”

Riff-Raff Swap & Tech

Tune in Thursdays at 7 PM on 145.21 MHz to the “Riff-Raff Organization Swap Net and Technical Talk”—a swap net followed by a technical talk, given by somebody, on something (just about anything actually—we've had them on organic plastics, World War II surplus gear, direct digital broadcasting, and I forget what else). Coming up soon will be a tech talk about the inner workings of FM.



de Buddy Brannan, KB5ELV, U.T. ARC



PO Box 4763, Austin, Texas 78765
 Operator of Voice Repeaters on 146.28/88Mhz.,
 146.34/94Mhz., 223.20/224.80 Mhz. and
 449.1/444.1Mhz.
 Packet Digital Repeater 145.01Mhz.
 Sponsor of Central Texas Weather Net,
 ARO Transmitter Hunt and Swapnet

Club Officers

President - Charlie Eichenbaum (WB5HOI) 263-3435
 Vice President - Mike Pendley(WA5VTV) 331-5350
 Secretary - Phil Steinbach (WB5SUR) 258-3215
 Treasurer - Tenia Kinney (KA5TXK) 442-8427
 Editor - Clovis Womack (WA5DKG) 327-6571

BOARD OF DIRECTORS ELECTION -

At the October 6, 1992 meeting of the Austin Repeater Organization, Charlie Eichenbaum (WB5HOI) was elected and Jim Neely (WA5LHS) was re-elected and to serve on the board of directors for the next two years. The terms of Jon Dahm (WB5PCV) and Dave Marschall (KG5ND) are to continue for the next year and Fred Neuenschwander (W5FQR) is the permanent member. The club officers are appointed by the board of directors and will be announced at the November 3rd meeting. A big thank you for a job well done to Johnny Allen (N5IQR) for serving for the past two years on the board and holding several other offices in the past.

1993 Dues are Due - Tenia Kinney (KA5TXK) the club treasurer will be accepting payment of 1993 dues at the meeting Tuesday night. Dues may also be

mailed to the club mailing address of P.O. Box 4763, Austin, TX 78765. Please make checks payable to "Austin Repeater Organization", and note your call sign on the check. Dues are \$10.00 for the year, \$3.00 for additional family members and the optional autodial number is \$1.00.

Congratulations to those who got new licenses or advanced to a higher class.

Thanks to the members who were the instructors for the license classes. Those who helped were Charlie (WB5HOI), Nick (W5FUA), Jon (WB5PCV), Jeff (NSMNV), Keith (WB9KHL), Phil (WB5SUR), Tom (AB5FH), Bill (AB5HP), Roy (WA5YZD), Jim (W8LIQ), Jim (WA5LHS), Jim (K5EWS), and Mark (KJ5AN)

TRANSMITTER HUNT - Nov. 7, 7 P.M.

AUSTIN REPEATER ORGANIZATION NOVEMBER MEETING

Luby's on North Loop - TUESDAY, NOVEMBER 3, 1992 -- 7:30 PM

PROGRAM: TO BE ANNOUNCED LATER

Austin ARC October Meeting Minutes

Meeting of the Austin Amateur Radio Club for October 13, 1992. President Jim Neely, WA5LHS, brought the meeting to order at the new meeting time of 7:30 PM. We meet at Luby's on North Loop, and they have changed their closing time, hence the earlier starting time.

VISITORS: Jack, NOTXB; Darrell, KB5QNO; Dan Allen, no call; Pamela, who just passed her exam; Anita Goodson, XYL of W4QBU.

MINUTES: The minutes for the meeting of September 8, 1992, were approved as printed in the AARCOVER. The Secretary later learned of two corrections to names and call signs listed in those minutes.

OFFICER REPORTS:

•AARC Treasure, Dave, KG5ND, announced that the checking account now contains \$2,401.81 and the postal mailing account balance is \$124.95. We collected \$306.00 for tables and tailgate space at Manchaca.

•Gary, WX5Z, the club Activities Manager, summarized the Manchaca Swapfest held last Saturday. We had 93 tailgaters, about 20 more than last Spring. Gary thanked those who helped with parking, talk-in, and clean-up. These included Bill, AB5HP; Tom, AB5FH; Mike, KB5RBW; Alan, N5ZFG; Joe, K5EJL; John, KF5OY; plus the several others who assisted in running the meet. The next club event (besides regular meetings) will be the annual Bar-B-Que on January 9th.

NEW MEMBERS: The following were elected as new members: Jack, NOTXB; Lynn, WA5VUK; N5XBO and sons Joey, KB5UND, and Ken, KB5UGL; Arthur, KB5RSQ; plus Frank Gregg and Frank Edwards, both waiting for their calls.

ANNOUNCEMENTS:

•Charles, WB5HOI, displayed a keyer designed by Keith, KA5MRP for use as a construction project in the ongoing license class. If you are interested in one of these, contact Charles. If there is enough interest, they may be made available in kit form.

•Mike Allen, KB5RBW, is interested in organizing a class to teach kit building. Several amateurs have expressed their willingness to teach the class. A possible project might be a kit receiver or QRP transmitter. Please contact Mike if you are interested in attending. [related article on page 7]

•Jim reminded the club members that while the FCC is considering certain proposed revision for phone patches, at this date, there have been no changes to the rules. It is not legal to use the phone patch for business purposes.

OLD BUSINESS: None.

NEW BUSINESS: Jim, WA5LHS, announced that the club is the beneficiary of the will of Jesse Coupland. Mr. Coupland provided for his family with a trust, and further provided that, upon their deaths, the balance of this trust would be given to the AARC. It was agreed between him, his family, and the club officers at the time of the will that this money would be used to

continued on page 8

It Wasn't In Austin

An article in last month's AARCOVER described the problems that AA8DX and his local club and dealer had experienced with a Kenwood radio. Please note: AA8DX does not live in Austin, does not belong to any Austin club, and did not buy the radio from Austin Amateur Radio Supply. The events happened to the AT&T CRES Amateur Radio Club in Columbus, Ohio.



NEW HAM CORNER

It's really scary to get into a conversation on 2-meter repeaters sometimes, especially if you're a newcomer. But there are folks out there who will welcome your arrival. You're in luck — the "nice folks" outnumber the idiots (though unfortunately, one idiot can ruin your whole day...).

Believe it or not, once upon a time, we were all strangers. But one by one, we got up the courage to put our call signs out on the repeater every now and again, and eventually one of the "locals" noticed us and struck up a conversation. Eventually they got used to us, remembered our call sign and the name associated with it, and even got to be friends.

The best way to get involved is to pick up that HT, screw up your courage, and say "This is KB5xxx monitoring."

Perhaps nobody will answer. That's entirely possible. But that probably means that either nobody's listening to the repeater now, or else whoever is listening isn't in the mood for chitchat with a stranger just yet. This happens. But don't let it discourage you! Keep it up! That's not to say you should put out your call every minute or so — that's a bit much. But every couple of hours (to take advantage of different people's listening hours) or every day at the same time (to get people "used to you", as it were) would be great.

Eventually, SOMEBODY will come back to you. With any luck, it will be somebody who recognizes that your call is relatively new, and will say "welcome to the

**That First QSO**

hobby!". Voila — a QSO is born! Introduce yourself, say you're new, maybe even say you're a bit shy about this stuff. It gets easier, trust me...

*If you check in often enough,
everybody will get to know you...*

Another way to get involved is to check into 2m traffic nets [for example, the Travis County ARES Net, Sundays at 6:30 PM on 146.94 MHz]. As a general rule of thumb, you should listen in on several sessions before checking in, just so you know how the net works. Then on the day you figure you're ready, wait for the Net Control Station (NCS) to open up check-ins to stations with or without traffic, and then follow the given check-in procedure (generally, you say "This is", then unkey for a second to see if anybody else was saying "This is" at the same time; if it sounds clear, continue on with "KB5xxx, no traffic"). Emergency nets may also want to know your power source, either commercial or battery.

If the NCS doesn't recognize your call, you may be asked to give your name and location for the net's records. If you check in often enough, the regular NCS's will get to know you, as will all of the regular folks on the net, and starting up conversations with folks who think they know you is lots easier after that. And who knows — maybe you'll find traffic handling fun, too!

de Faith M. Senie, N1JIT

Biggest ARES Meeting continued

• Joe recommended study of the LiTZ (Long Tone Zero) system for the 146.78 MHz repeater, as part of a national move to this system. Visitors to Austin will need merely to hold the zero tone button down on their transceivers for 3 seconds to activate the LiTZ system. The next ARRL Net Directory will show repeaters supporting LiTZ. See October QST, page 82, for further information.

• The telephone call list is difficult to maintain, but is being updated.

• Joe Fisher will hand out signed ARRL Local Net Certificates to active ARES members at a ham club meeting soon.

• ARRL offers trial memberships for new hams [only], \$10 for 4 months.

• The Austin Amateur Radio Club has agreed to consider buying binders and badge holders for Travis Co. ARES.

• Joe says he has three goals for 1992: 1) To get 100 members in ARES, 2) to have a Written Plan for ARES, and 3) to have the Member Handbook prepared and distributed.

• Three area repeaters have emergency power: 146.78, 146.900, and 147.18 MHz. All ARES members need emergency power at their home stations, more than just the batteries on their talkies.

• Backup Net Control: When you are NC, look at who has it your same week, next month. S/he is Backup Net Control. Call them before the net, to make certain they are on frequency. If not, do the same for the person who has it the following month. Backup NC should copy the calls of stations checking into the net, and be ready to take over if your station goes off the air.

• ARES needs more Net Control stations.

• Rick Herndon needs our help in getting Net Control logs, so he can submit information by the second of each month.



If you would like more information on the Amateur Radio Emergency Service, or if you wish to help Joe meet his goal #1, please call Joe Fisher, K5EJL, at 926-4689. The ARES net meets Sundays at 6:30 PM on 146.94 MHz and two hours later on 146.78 MHz...first-timers are welcome.

de Miles Abernathy, N5KOB

Mexican Microsat Soon

A new Microsat-class OSCAR satellite is planned for launch in early December aboard a de-commissioned Russian SS-18 ICBM. UNAMSAT-1, the first Mexican Amateur satellite, is being constructed at UNAM, the Autonomous University of Mexico. Standard features: Dual 70-cm PSK transmitters, V40 CPU w/ 4 MB RAM, and a 5-channel 2-meter PSK receiver.

The new feature is a meteor sounder board. It will have a 40.097 MHz transmitter with 60 watt pulse output.

After each pulse, the spectrum of any echo heard will be determined using the onboard V40 as a DSP Fourier Transform spectrum analyzer. The focus is on a search for high-velocity meteors originating outside our solar system.

When UNAMSAT-1 is not involved in meteor research, it can be turned into a standard PACSAT message store-and-forward satellite. The 2-meter uplink and 70-cm downlink amateur frequencies have not been finalized.
de W3IWI & SpaceNews

Austin Exam Results

The W5YI-VEC held an examination session on October 3, 1992 at Murchison Middle School. Many congratulations to the following who qualified for new licenses:

Name	License class
Julie Adams	Technician
Mel Behrends	Technician
Tamara Cash	Technician
Michael Deeny	Technician
Stuart Gaddy	Technician
James Miller	Technician
Kenneth Webster	Technician
Roger Yang	Technician

Three people also upgraded -

Name	Call	Up to
Mark Ferguson	N5WDK	Tech plus
Robert Suder	KB5RUC	General
Martin Porter	N5SXV	Advanced

Five candidates passed one or more elements but did not upgrade or qualify for a new license. The overall pass rates for all examinations this session were: CW, 62.5%; Theory, 60%.

Many thanks to the following VEs who gave their time -

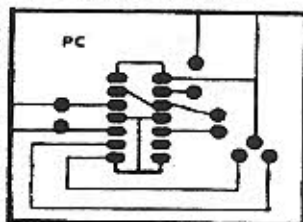
Dick Ber	KB5BBU
Charles Doughtie	N5EXY
Jim Greenwood	AB5EK
Tom Rohrer	AB5FH
Bill Montgomery	AB5HP
Gary Pickens	WX5Z
Joe Thiel	N5SMN
Andy Williams	AB5FZ

A W5YI-VEC session will be held on Saturday October 31, 1992 at Murchison. This session is for Novice and Technician only and pre-registration is required. For details call Mark Johnson, KJ5AN on 335-4327.

The next regular exam session at Murchison will be on Saturday, November 7, 1992 and run by the ARRL-VEC. The next

Go Build a Kit

Mike Allen, KB5RBW, wants to organize a series of meetings for hams who want to learn how to build and troubleshoot electronic kits. Mike envisions an arrangement where folks wishing to learn the fine art of electronic construction would meet somewhere, with one or more experienced solder-hounds available to provide whatever guidance is necessary.



Mike is into QRP operation, and he particularly wants to build a 20 or 40 meter QRP transmitter and separate receiver as introductory projects. These are available for about \$35 apiece. Discussions are underway as to how to organize an effort of this type and what to include with respect to theory, what equipment will be needed, where we could meet, how often we would meet and some details of this nature.

If you are experienced in construction or troubleshooting, and could be on hand to share some of that hard-won knowledge, or if you have thoughts on the subject, Mike would like to hear from you at 471-6254 (work).

regular W5YI-VEC examination session will be Saturday, 5 December.

For information on the ARRL-VEC session call Larry Gunter, WB5BEK on 473-3526 (work) or 345-7281 (home). For information on the W5YI-VEC session call Mark Johnson, KJ5AN, on 335-4327 (home).

de Mark Johnson, KJ5AN



AARC Minutes from page 4

fund scholarships and communications functions benefiting the safety and welfare of the community. This money became available in late July. The club officers have formed a temporary scholarship committee consisting of Jim Neely, WASLHS; Rod Moag, WONDS; Gary Pickens, WX5Z; Joe Canfield, N5HPC; Dave Marschall, KG5ND; Stuart Rohre, K5KVH; and Charles Eichenbaum, WB5HOI. This committee has met and talked with various people familiar with investing and distribution of similar funds. The committee proposes that the fund be managed by the Austin Community Foundation and that proceeds from the fund be dispersed according to the decision of a scholarship committee. The permanent committee will have seven members...the current AARC President plus six members serving three year overlapping terms. Three members would be appointed by the President and three would be elected by the club members. The present committee will draw for the length of their terms. The amount of the scholarships will be determined by the need and the funds available. The present plan is to give the scholarships to students living in the Central Texas area who are licensed radio amateurs. The AARC board asks for the club's approval to proceed with these plans. Bob, W5GYB, commented that he had found the Austin Community Foundation to be an excellent organization for this type of work. Joe Fisher, K5EJL, moved to approve the action and the motion was seconded. The motion passed on a voice vote with no objections.

PROGRAM: Rod, WONDS, introduced tonight's speaker, Lisa Bell. Lisa received a Bachelor of Science from MIT and a Master of Science degree from U T Austin in Aerospace Engineering. Lisa talked on the problems with communications on the moon. She considered both personal and data communication problems and possible ways to relay information back to

Stray Currents

Corrected Correction: The capacity of an alkaline D-cell is 14,250 milliamp-hours, according to "Duracell Battery Specifications and Cross Reference," ©1989 by Duracell U.S.A. The same reference lists C-cells at 7,100 mA-Hr and AA's at 2,450 mA-Hr. (If you missed the original "correction" in last month's AARCOVER, good!) (thanks to Ron Johnson, WA5RON)

Stolen Talkie: Yaesu FT-727, s/n 6N110098, with after-market high-ampere battery, stolen 10/4/92 in Georgia from Monte Freeman, KC4GPW, tel. (404) 634-3609.

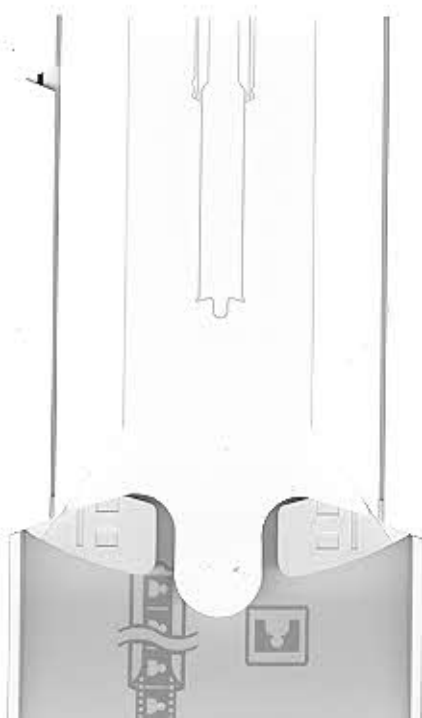
Our sympathy to the family and friends of member Kevin Clatanoff, KC5NX, who was killed in a helicopter crash.

Cosmonauts Sergei Krikalev, U5MIR, and Vladimir Titov have been selected to fly on the US Space Shuttle in 1993. No word whether U5MIR will operate Amateur Radio equipment from the Shuttle as he has from the Russian space station Mir in the past. (de WA2GSY & SpaceNews)

Tandy has opened an Incredible Universe Superstore in Arlington, Texas. More like a carnival or trade show than a store, the gigantic facility features 315 kinds of TV's, 181 refrigerators, etc. Under the one roof is a children's play area, educational seminars, a photo store, restaurants, a disk jockey playing music, even a recycling center. (from W5YI Report via Mark Johnson, KJ5AN)

earth from the side of the moon not facing earth. Many of us did not realize the complexity of the problem. The proposed use of satellites orbiting the moon in "halo" orbits was new to many of us.

Respectfully submitted by: Joe Canfield, N5HPC AARC Secretary



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T.G.I.K.*

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AARC & AARCOVER Information

Austin Amateur Radio Club, Inc.

Officers

Jim Neely, WA5LHS, President 442-4812
 Rod Moag, W0NDS, Vice Pres. 467-6825
 Dave Marschall, KG5ND, Treasurer . 834-1779
 Joe Canfield, N5HPC, Secretary 258-4761
 Gary Pickens, WX5Z, Activity Mgr ... 45+3230

Committees & Positions

Ed Golla, K3AHS, Technical 255-4818
 Joe Fisher, K5EJL, ARES Coord. 926-4689
 <vacant>, AARCOVER Editor
 Hal Henegar, W5MDL, P.I.O. 836-2012
 <vacant>, Official Greeter

If you are able to help with a vacant position, please contact any club officer.

The Austin Amateur Radio Club, Inc., maintains a repeater with open autopatch and emergency power on 146.78 MHz, and an emergency HF / VHF station at the American Red Cross Building. Membership dues are \$6 per calendar year (\$10 for a family). Dues for new members are pro-rated, so the cost for the rest of 1992 is only \$1.50 for an individual, or \$2.50 for a family. Please contact an officer if you would like to join the club, and come on down to the next meeting.

Viewpoints expressed in *The AARCOVER* do not necessarily reflect those of any club or its members, directors, or officers.

Members are encouraged to submit material for publication...mail to AARCOVER, 3216 Park Hills Drive, Austin 78746, or call Miles at 327-1310 if it is in computer format. Submissions may be edited for format, style and suitability. Deadline for the next issue is the 14th of this month. Late material will be saved for next month.

We grant permission to reprint AARCOVER articles provided that you credit the author and *The AARCOVER*.

Big Disaster from page 1

and all ARES members with battery power QSY'd to 146.78.

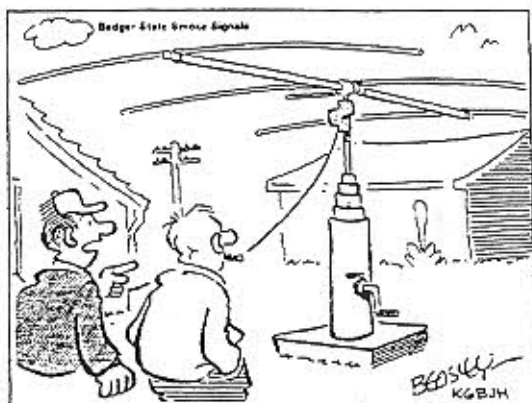
ARES members were dispatched to the Emergency Management Office (EMO), the Red Cross building, the National Weather Service, and commercial station KLBJ. Amateur television operators moved downtown to transmit scenes of the "damage" to the EMO. A packet link to San Antonio was established.

A total of 36 persons participated in the successful 2-hour Sunday exercise.

de Miles Abernathy, N5KOB

Stray Currents

Code Practice: Listen in to 14.0533 MHz for cw practice from KY0G/VE7. 22 hours per day. Mondays and Fridays he sends 20 minutes each of 5, 7, 10, 13, and 15 wpm, higher speeds on Wednesdays and Sundays, and 15 wpm all day on Tuesdays, Thursdays, and Saturdays. He also sends cw practice on 21.054 MHz from 1830 to 2030 UTC (an hour earlier during daylight saving time). (de World Radio via Louis Pecenka, N5ORG)



JIM OPERATES WITH IT ONE TURN HIGHER EACH DAY--- HE FIGURES BY THE TIME HE GETS IT UP FIFTY FEET HELL BE OVER HIS MIND FRIGHT

Must Hams Be Techies?

Some have noted that while the number of amateurs in the US has grown by about 25% over the last decade, the number of pages in the ham magazines have declined. This seems sad, but is it really?

I believe the situation with amateur radio has a strong parallel in that with personal computers. About 15 years ago, there were quite a number of magazines oriented towards the computer hobbyist.



They ran articles on how to build your own computer. As the technology gradually developed, this kind of article made less and less sense, because it was so much harder for a hobbyist to understand the technology. Sure, you could still build your own very simple computer, but it became more fun to buy one

and enjoy the challenges and pleasures of using one instead. The magazines bent with the flow, and now there are many, many computer magazines, but very few articles about how to build your own.

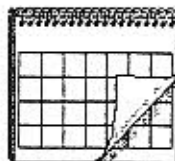
I see the same thing happening in amateur radio. The technology is becoming much more sophisticated, to the point where a lot fewer people are likely to want to build their own equipment, or even modify a commercial unit. More and more people want to experience the pleasures to be gained from simply using the equipment, rather than knowing how it works. Gradually, the magazines should shift toward serving an audience of casual users rather than hardcore techies.

Radio, after all, is a communications tool, and I'm much more interested in communicating with people than in developing the technology to do so myself.

de Martin F N Cooper

November 1992

Oct 31...Pflugerville Bike Tour (ARO)
 Oct 31...Special Ham Exam Session
 Nov 3...Austin Rptr. Organization meets
 Nov 6-8...ARRL Hamfest @ Houston
 Nov 7...Ham exams, 8:30 AM, Murchison
 Nov 7...Transmitter Hunt (?), 7 PM
 Nov 7-9...Sweepstakes, CW
 Nov 10...Austin Amat. Radio Club meets
 Nov 14-15...ARRL Moonbounce Contest
 Nov 17...Austin Amat. TV Club meets
 Nov 21-23...Sweepstakes, phone
 Dec 1...Austin Rptr. Organization meets
 Dec 4-6...160-meter contest
 Dec 5...Ham exams, 8:30 AM, Murchison
 Dec 5...Transmitter Hunt (?), 7 PM
 Dec 6...Swapfest, 5730 Mobud, SAT
 Dec 8...Austin Amat. Radio Club meets
 Dec 12-13...10-meter contest
 Dec 15...Austin Am. TV Club
 Dec 29...ARES meeting @ Luby's?
 Dec 31...Straight key night
 Jan 5...Austin Rptr. Organization meets
 Jan 9...Ham exams, 8:30 AM, Murchison
 Jan 9...AARC Banquet @ Zilker Clubhouse
 Jan 12...NO AARC Meeting
 Jan 19...Austin Am. TV Club
 Mar 6...Skywarn '93 @ 3M
 Mar 30...ARES meeting @ Luby's?
 Apr 22-25...Robot Olympics, Toronto
 [Calendar updates to Miles @ 327-1310]

**Weekly Events**

ARES Net...Sundays, 6:30 PM, 146.94 MHz
 ARES Net...Sundays, 8:30 PM, 146.78 MHz
 SwapNet, NewsLine...Sun., 9 PM, 146.94
 Lunch...Thursdays @ Holiday House #4
 RRO Swap & Tech...Thursdays, 7 PM, 145.21
 QCWA Net...Thursdays, 8:15 PM, 147.18
 Breakfast...Saturdays, Simon David deli.
 U.T. SwapNet...Saturdays, 9 PM, 145.21
 WeatherNet...as needed, 146.94 MHz

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