



AARC OVER

Bulletin of Austin Amateur Radio Clubs

Austin Amateur Radio Club
Austin Amateur Television Club
Austin Repeater Organization

September 1993

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FCC Analyzes Transmitter Signature to Nail Violator

A Fairfax (Virginia) ham radio operator whose phoney Maydays created a wild-goose chase in the West Indies last summer has agreed to reimburse the U.S. Coast Guard \$50,000. Jorge Mestre, NS3K, age 50, also was sentenced on May 12th to 60 days home confinement with work release privileges and one-year probation. In addition, he was ordered to perform 200 hours of community service, pay a fifty dollar special assessment and to permanently surrender his Amateur Extra Class ham ticket. He could have received up to six years imprisonment and a fine of \$250,000.

Actually the problem of phoney distress calls involving Mestre first came to the attention of the FCC in 1991. At the time the FCC circulated a press release saying that they were investigating false distress signals which caused the Coast Guard to deploy a helicopter to Duck Island, North Carolina area.

On November 10th, 1991, at approximately 10:00 PM a ham operator heard a distress call from a station with a Spanish accent identifying itself as KD4NIT. The station stated that he had run aground and was taking on water on a reef 20 miles east of Duck Island.

(Continued on Page 6)

EMF and Adverse Health Effects

Concerns about the exposure to low frequency electric and magnetic fields (EMF) continue to grow. Like the radio frequency radiation exposure, there are literally hundreds of articles showing a statistical relationship between exposure to EMF and adverse health effects such as cancer.

(Continued on Page 7)

Austin Repeater Organization
meets on Tuesday, September 7, 7:30 to 8:30 PM, at Luby's Cafeteria on North Loop, one block west of Burnet Rd. Everyone is encouraged to come early and have supper together.
Austin Amateur Radio Club
will meet on Tuesday, September 14, 7:30 to 8:30 PM, at Luby's on North Loop.
Austin Amateur Television Club
will meet on Tuesday, September 21, 7:30 to 8:30 PM, at Luby's Cafeteria.
Austin OCWA
meets on Saturday, September 18, 12:00 PM, at Luby's Cafeteria.

The AARC/OVER is published monthly in Austin, Texas

Monitor

Austin
Repeater
Organization

P.O. Box 4763, Austin, TX 78765

Amateur Radio Club

Operators of Voice Repeaters on

146.28/88, 146.34/94, 223.20/224.80, and 449.1/441.1 Mhz

Packet Digital Repeater 145.01 MHz

Sponsor of Central Texas Weather Net, ARO Transmitter Hunt and Swap Net

CLUB OFFICERS

President	Phil Steinbach	WB5SUR	258-3215
Vice President	Jeff Schmidt	N5MNV	255-6753
Secretary	Paul Parker	N5ZLX	467-7070
Treasurer	Tenia Kinney	KA5TXK	442-8427
Newsletter Editor	Mickey McInnis	KB5YAC	339-0344

August ARO Meeting

The meeting started at 7:30 PM on August 3, 1993, at the North Loop Luby's Cafeteria.

Joe Makeever, W5EBJ, discussed the Austin Summerfest scheduled for August 6-8.

Keith Watson, WB9KHL, has received the MFJ 249 Antenna analyzer the ARO has purchased. This device allows you to quickly analyze the SWR on your antenna system. Please contact Keith at 288-9709 if you would like to use it. It is available for loan to all ARO members.

Jeff Schmidt reported that he and Chuck Dear, KB5YKJ have got the Digital Repeater working again.

Next Meeting

The next meeting will be Tuesday, September 7, 1993 at 7:30 PM at Luby's Cafeteria at North Loop and Burnet Rd.

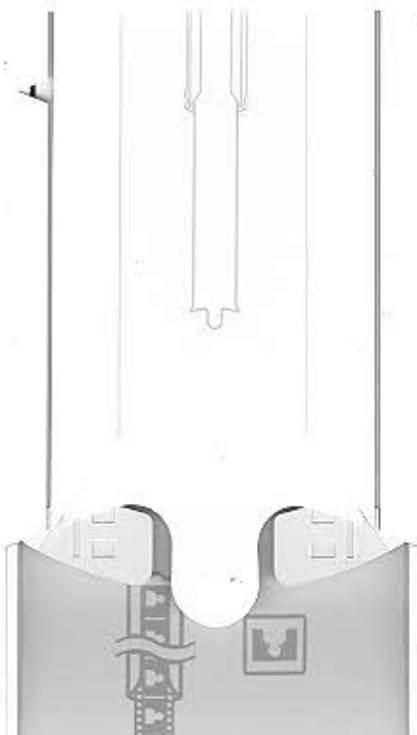
Steve Benson, N0BTH and Dick Raymond, N5NCR will give a presentation on 10 GHz operation.

Transmitter Hunt

The August Transmitter Hunt is scheduled for September 10, 1993 at 7:00 PM. The hunt frequency will be 146.52, with coordination on 146.94.

ARES Net

The Travis County ARES (Amateur Radio Emergency Service) Net meets every Sunday



night at 6:30 PM on the 146.94 Repeater and at 8:30 PM on the 146.78 Repeater. Any amateur interested in emergency communication is invited to join.

Swap Net and *Newsline*

There is a swap net held every Sunday night at 9 PM on the 146.94 repeater. The swapnet is followed by *Newsline*.

Information on ARO's Repeaters

All of ARO's repeaters are open access. Any amateur is invited to use them, except during nets, when a designated net control operator is in charge of repeater usage.

146.88 offset -600 KHz has a phone patch. Use "*" to bring up the patch, and "#" when you have completed the call. You can dial "911" (no star needed) for access to local emergency services. "Speed dial" 3 digit access codes are available to ARO members for frequently dialed numbers.

146.94 offset -600 KHz is used for the weather net at the request of the National Weather Service. It is also used for the Swapnet and *Newsline* at 9PM Sunday.

224.80 offset -1.6 MHz is available.

444.10 offset -5 MHz is available.

ARO maintains a Packet Digital Repeater on 145.01 MHz.

South Austin W5YI VE Session Report - June 19, 1993

Congratulations to the following people who earned new amateur radio licenses and upgrades at the south Austin W5YI VE session of June 19, 1993:

John T. Atkinson.....N2RRL...Gen. Class
Ann Marie M. Langford....-new-.....Tech. Plus
Robert A. Mattocks.....KC5AAM.Tech. Plus

Stanely Brein.....-new-.....Technician
Ina J. Cole.....-new-.....Technician
David G. Fulford.....-new-.....Technician
Sylvia D. Garcia.....-new-.....Technician
James B. Howard.....-new-.....Technician
George D. Powell, S.....-new-.....Technician
Walter C. Roye.....-new-.....Technician
Martha B. White.....-new-.....Technician
Lorin L. Williams.....-new-.....Technician

One other ham earned element credit without upgrading to a higher class license.

The administering volunteer examiners who gave of their time to help this session the most successful one to date included:

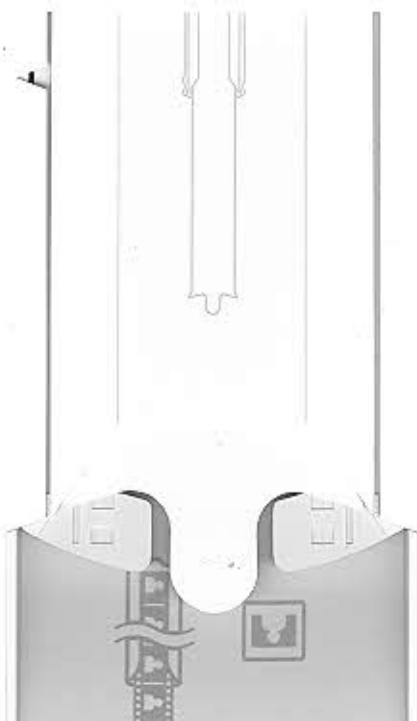
Dick Ber, KB5BBU
Bill Montgomery, AB5HP
Jim Greenwood, AB5EK
David Naple, KW9Z
Emil Kasprzyk, KC5JZ
Gary Pickens, WX5Z
Scoot McCreight, AB5KS
Joe Slawik, KJ5JM
Joe Thiel, N5SMN

The next two exam sessions are scheduled for July 17th and August 21st in room 109 of Fleck Hall on the St. Edward's University.

Due to recent changes in the FCC rules, all license class applicants will be required to pay \$5.60 fee to take tests held at VE sessions after June 30, 1993.

For further information, call Jim, AB5EK, at 327-6184.

Editor's Note: Please excuse the omission of these results from previous editions of the AARC/Over. - Editors are human, too!





SOUTH AUSTIN W5YI VE SESSION REPORT

July 17, 1993

While the Dallas Cowboys prepared for their upcoming football season, this line-up of rookies and veterans ran up the score by earning new and upgraded licenses at the July 17th South Austin W5YI VE session:

Richard E. Thomas	N5YHH	Advanced Class
Gilbert Martinez, Sr.	KC5BMX	General Class
David C. C. Sprague	KB5ZEG	General Class
Randy L. Pratt	- new -	Technician Plus
Steve P. Truitt	KC5APU	Technician Plus
Jack L. Bell	- new -	Technician
Chris T. Cobb	- new -	Technician
Jane S. Parsons	- new -	Technician

The administering VE's who cheered them on included:

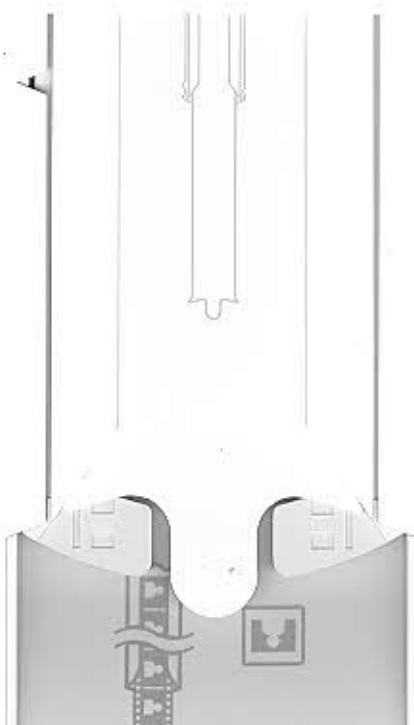
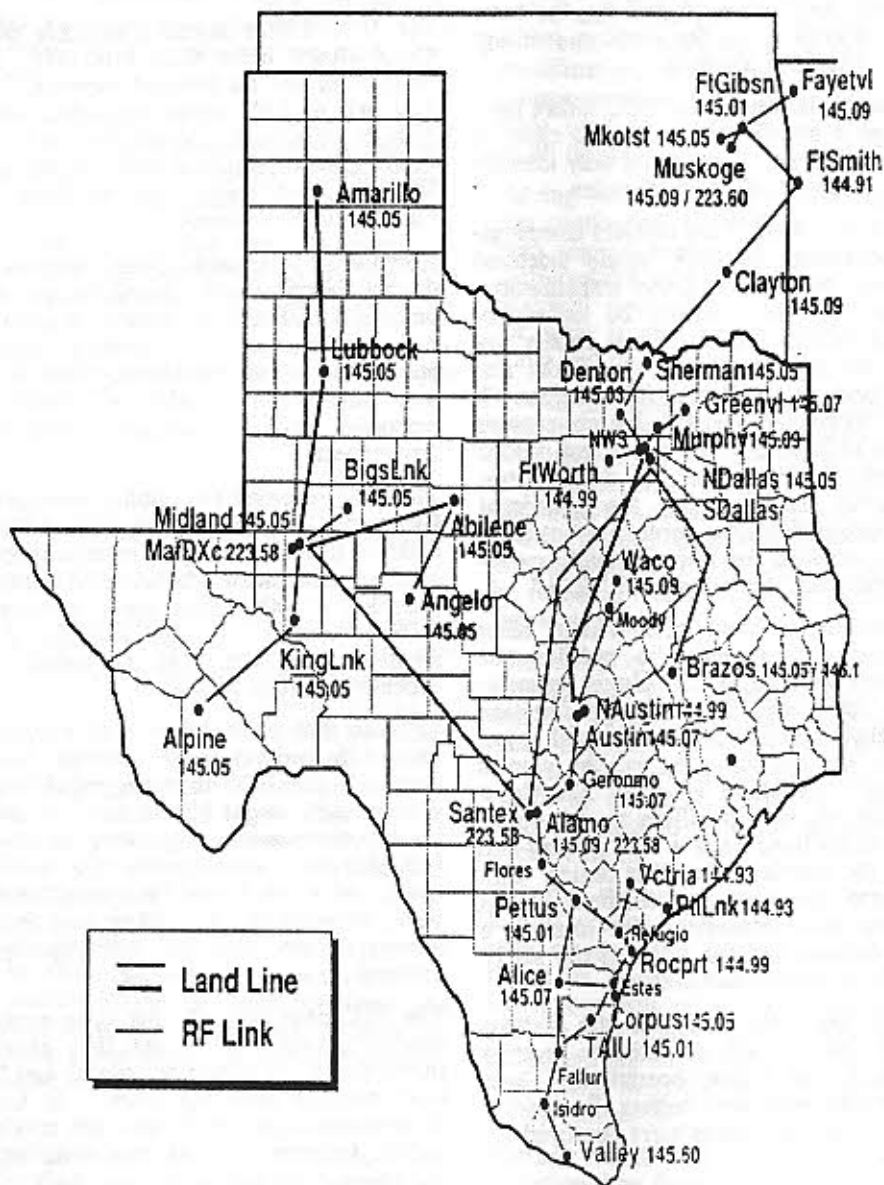
Dick Bar, KB5BBU	Gary Pickens, WX5Z
Jim Greenwood, AB5EK	Mike Ruiz, WB5WPS
Emil Kasprzyk, KC5IZ	Joe Thiel, N5SMN
Scott McCreight, AB5KS	Lloyd Walls, WA1PRY
Andy Williams, AB5FZ	

So, don't punt! Tackle that code and theory! Suit-up and pass at either of our next sessions on August 21st or September 18th. Game time is 2:00 PM in room 109 of Fleck Hall on the campus of St. Edward's University.

Call Jim, AB5EK at 327-6184 for "ticket" information.

Austin Amateur Radio Club Minutes

Due to technical difficulties the minutes of the August meeting will not be printed in this issue of the AARC/Over. The minutes will be read at the September meeting and published in the October edition.



FCC Analyzes... (Cont'd. from Pg. 1)

Two or three months later, a similar incident happened supposedly off the coast of Cuba. In both cases, the FCC quickly DF'd the signals once they were alerted by the amateurs. And both times the position readings pointed to Northern Virginia.

Unfortunately, however, the FCC didn't have time to get a mobile van out to do close in "fine tuned" DF'ing. They could only identify a transmission area of about 20 miles.

On August 7th, 1992, false distress communications consisting of both single sideband (SSB) voice and Morse Code transmissions were heard on the infamous 20 meter frequency of 14.313 MHz. They falsely reported a sinking vessel off the Turks and Caicos Islands in the British West Indies. It was also incorrectly reported that six persons aboard the ship were in the water and needed to be rescued. For a period of about two hours during that evening, the concocted distress communications continued intermittently and included the internationally recognized Morse Code distress signal, "SOS."

The distress signals were monitored by other amateur radio operators who notified the Coast Guard and the FCC. Almost immediately, the commission's long range direction finding network swung into action and began monitoring the signals. Again, the signals were traced to Northern Virginia. The Coast Guard, however, was unwilling to risk ignoring what might have been a real sinking and continued the search of the West Indies. U.S. Coast Guard rescue policy requires that it commit the assets necessary for locating a vessel in distress and for assuring the safety of individuals aboard such a vessel.

Upon receiving notification of the distress signal, the Coast Guard immediately began a major search and rescue operation. Coast Guard medium endurance cutters, fixed wing aircraft and two helicopters were deployed to

the area claimed to be the sinking ship's location. Additionally, the Government of the Turks and Caicos Islands launched their patrol craft, and merchant marine ships were advised of a vessel in distress.

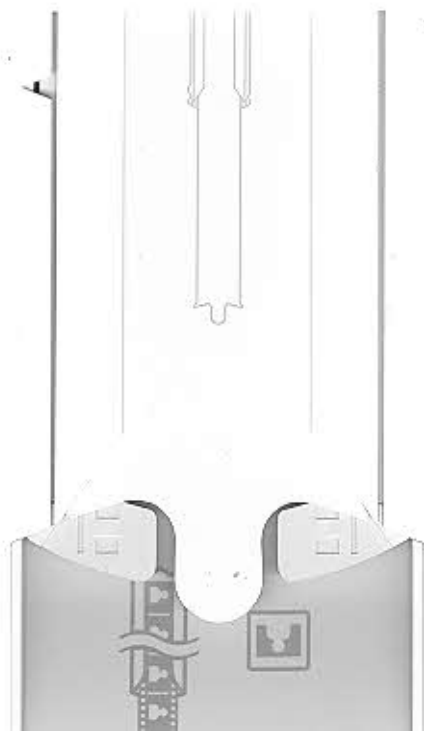
The West Indies search ultimately cost the Coast Guard more than \$100,000. But it really was not an isolated incident. In the first half of 1992 alone more than 180 fake distress calls were received by the 5th Coast Guard District which is based in Portsmouth, Virginia, and covers waters from South Carolina to New Jersey.

Responding to such hoax distress calls diverts crucial Coast Guard equipment and personnel that may be needed to respond to real emergencies to conduct legitimate search and rescue operations, poses unnecessary threats to the safety of Coast Guard personnel, and is extremely costly to the government.

The FCC recorded the phoney transmissions. Using the direction finding data, subsequent detailed technical analysis of tape recordings of the hoax transmissions, and information provided by other ham radio operators, the FCC was able to later identify Mestre's amateur radio station as the source of the deceptive distress messages.

Later on that night about 11:15 PM, another ham radio operator in the Fairfax, Virginia, area call the FCC and suggested that the distress calls might be a hoax. He said the transmissions were originating so close to him that they were overloading his equipment. He also believed the Spanish-accented voice sounded like a neighbor who had been known to use false DX call signs on the amateur air waves in the past.

The FCC used basically the same method of analyzing radio signals that they developed in the famous "Captain Midnight" and "Playboy" satellite jamming cases. In both of these instances, the FCC was able to identify uplink transmitters that over-took satellite
(Continued on Page 7)



FCC Analyzes...(Cont'd from Pg. 6)

TV programming. In both instances, different satellite uplink operators jammed HBO and "Playboy" with video messages because they opposed scrambling and X-rated movies. How the technology works is interesting.

There are certain parameters that are peculiar to a specific radio transmitter. One of these features is the "turn on" time until a rig gets to full power on a specific frequency. Mestre was using CW during the August 7th incident which essentially is the same as turning the transmitter off and on. The FCC simply measured and carefully analyzed the signal rise time with an oscilloscope. By examining the radio signal "signature," the FCC was able to identify two radio transmitter "turn on" characteristics that when matched with those qualities contained on another recording from that same transmitter clearly identified Mestre's transmitter as being responsible for sending the false Morse Code distress messages. The two transmitter characteristics measured included the transmitter's instantaneous frequency and power.

In theory, a radio transmitter should turn on instantly with full power on the frequency it is set to. In the real world, however, radio transmitters do not ...and cannot do that, just as automobiles cannot accelerate instantly to highway speed. The actual variations from an ideal hypothetical transmitter "turn on" are both a function of the transmitter equipment design and the precise value of the particular electronic components in the transmitter which are seldom their exact nominal or ideal value. Two different transmitters adjusted to level in frequency will differ in their measured "turn on" characteristics. A study of their instantaneous frequency and magnitude of output power during the first one hundred milli-seconds or less after a radio transmitter is turned on conclusively reveals different and distinctive characteristics - even between different transmitters of the same manufacturer and model.

The subsequent testing of Mestre's radio equipment, which was seized under a federal search warrant, confirmed that his station was indeed responsible for the hoax transmissions. He is also suspected of having been involved in at least three additional false distress cases within the last several years.

Jorge Mestre, who had a relatively high level government job with the Nuclear Regulatory Agency, later came forward with his attorney and offered to plea bargain. This was just as the U.S. Attorney was getting ready to go to the Grand Jury to obtain a felony indictment. Mestre plead guilty on Friday, February 12 in Federal District Court in Alexandria, Virginia.

Besides the \$50,000 single lump sum repayment, Mestre agreed to surrender his amateur radio license and dispose of his ham equipment within 60 days. He must participate in an alcoholic counseling and rehabilitation program.

The READOUT - July, 1993

EMF... (Cont'd from Pg. 1)

There are also a number of studies which support the thesis that exposure to EMF in the 0 to 500,000 Hz range does cause statistically significant biological effects in test animals and in humans. And yes, the 60 Hz in those wires in the attic, walls, toaster, electric blankets, TV/Video, power supplies, etc. are also a part of the stuff they are talking about when they EMF exposure-it's in the Extremely Low Frequency (ELF) part of the spectrum usually defined as 30-300 Hz.

So, you ask, why aren't all of us dying given that we live in an environment virtually saturated with 60 Hz EMF. The answer is it may be a statistically low risk exposure which isn't as significant as tobacco smoke, *(Continued on Page 8)*

EMF... (Cont'd from Pg. 7)

ozone, solvents, cholesterol, etc. and other risk factors which could be masking its effects. It may also be affecting us in ways not yet investigated - cancer gets all of the attention but there are a lot of other known and potential effects.

The real answer is nobody knows for sure - yet. A lot of people have lived the last 50+ years of their lives exposed to EMF at levels that are many orders of magnitude greater than those experienced before 1940 - that's over 100,000,000 living, breathing guinea pigs and more coming, so stay tuned.

Unlike ionizing radiation there isn't a good human exposure database for EMF - if it weren't for Harry Truman and good medical records even the ionizing radiation data-base wouldn't be available. Harry gave'em hell and dropped those bombs on Japan. If the Russians hadn't been so sloppy and incompetent following Chernobol there would be another very comprehensive statistic for ionizing radiation. The bottom line is that nobody is going to deliberately create one for non-ionizing radiation unless of course Saadam Hussein has found a way to kill his enemies with ELF EMF and is keeping really good medical records on the victims.

This thing with EMF exposure is further complicated by a lot of little unresolved questions that make comparative research studies difficult - some of the most fundamental of which are:

- What should the standard method for measuring the field strength of EMF in the presence of humans and test animals?
- How do you measure the absorbed dose of EMF by humans and test animals?
- How do you measure induced responses in the cells and tissue of test animals and humans during EMF exposure?

New calls for research are targeting these and other questions that must be agreed upon by

those doing studies which are needed to assess the danger of EMF exposure.

The Environmental Protection Agency (EPA) called for research to address the health issue of exposure to EMF in recent report (EPA/600/9-91/01F) and in a March press release. EPA concluded that "most studies have been hypothesis-generating studies rather than hypothesis-testing research" and EPA further points out that "many of the reported effects have not been independently confirmed."

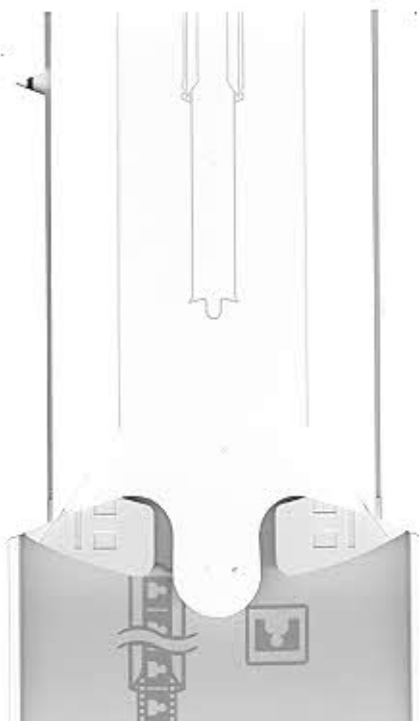
Does this mean there's no problem? No, you can't ignore the mounting catalogue of peer reviewed research which seems to show that something is going on. It does look like the risk may not be so great that we should panic and spend mountains of money to fix "it" - whatever "it" is.

Let's face it there's no such thing as a risk-free environment. The mad rush to reduce some risks to near zero regardless of cost is often based more on political science. Once things like the "reference dose" (RFD) for specific human health effects of EMF exposure are known, rational steps can be taken to reduce it to safe levels. This is a two step process of "risk assessment" followed by "risk management" which should wait for the more definitive research to be done. Until then it's a personal decision - you probably can reduce your exposure some if you work at it.

As for me. I don't have many opportunities to reduce my exposure and I probably will still turn the electric blanket on when I wake up cold at night - like cigarette smokers its a risk I'm willing to take.

- Jim Stiebing, WB5UFD

"The READOUT", July 1993



Huek's Country Store

By Huek Huekabee - AA5BU

Mobile Radio Activity

Have you ever operated HF Radio from an automobile or RV? Most of us have used mobile radio on the VHF bands in the form of small mobile units, or hand-held devices. That's great fun! However, it is somewhat like a dog being tied to a tree with a short leash: Lots of freedom, but yet confined to close quarters. HF bands permit us "to lengthen the leash."

My first experience with mobile radio was in the late 1940's. The ten meter band was wide open and it was great! Other bands were thought to be impractical because of antenna problems.

Today we know how to build efficient mobile antennas; and have high-powered (100-watt) commercial transceivers that are very small. We no longer need a trunk full of gear to operate.

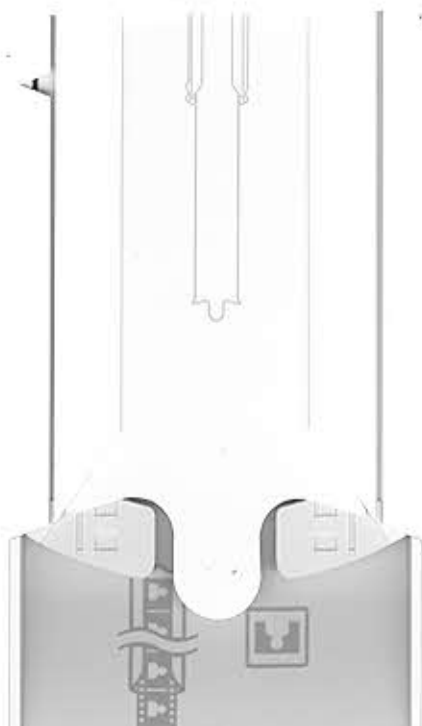
Then we have FM and SSB as a choice of voice operation; and to the brave is mobile CW. All three of these modes are easily accomplished with small-sized rigs and reasonable antenna systems. From my observation this operation is in its best from an RV or a van-type vehicle. It is somewhat less successful from a compact vehicle. This probably results from antenna height and the mass of ground plane the vehicle size affords. On the other hand, good success can be achieved from any vehicle.

What can be expected? ...much better results than most of us have ever dreamed! I recently followed my friend, K5LYT, Robert Sisco, as he made a trip to Corpus Christi in his Land Rover. Then the rig was transferred to his mother's car (she is also a ham), driving to Oklahoma City for a family reunion. After several days they returned to Austin and then to Corpus. Then the rig went back into the Land Rover, and returned to Austin. Robert's Kenwood TS-430 gave excellent signals into Austin. Robert is "a brave one" who operates high-grade 40-meter CW as he drives down the highway!

My wife and I travel extensively in a 24-foot motorhome. We have traveled over a vast area of the US southwest and never made a trip that we failed to make Austin QSO's. I usually operate 20M SSB and 40M CW. A whip antenna on the roof does the job: It lays flat on the roof for travel; I do not operate in motion.

How much power do I need? How long does the battery last? These items are not a real problem. I use the Yaesu FT-747GX which demands about one amp on receive. The SSB peaks to produce 100 watts output, requiring about 16 amps. However, the demand duty cycle is so low that a 3-4 amp trickle charger will keep the battery fully charged. I run about 50 watts power on CW and the battery is equally maintained.

(Continued on Pg. 14)



Regulated and Unregulated Power Supplies

By William VanHorn, K3CP

"Hi Elmer," said Ima Lidd. "Its good to see you again. I have a question for you."

"Fine," replied Elmer. "Its good to see you, too. What is your question?"

"What is a regulated power supply and why do we need regulated power supplies for our transceivers? Why can't we use unregulated supplies of the proper voltage?"

Elmer said, "We could use any supply that gave us the correct voltage for our application as long as it delivered the proper voltage under all conditions. That's the key phrase Ima, 'Under all conditions.' Just think about what we require from our power supply for use on a 2 meter transceiver. We need 13.8 volts for the radio, but we need this voltage under two different load conditions. On receive, the radio may only draw a few hundred milliamperes, while on transmit, it may draw 10 or 20 amperes."

"OK?," said Ima, "but why does that present a problem if the supply is capable of delivering the needed current?"

"Let's take an example," responded Elmer. "Remember when we talked about Ohm's law? We said that a current of one ampere flowing through a one ohm resistor would cause a voltage of one volt to stand across the resistor." "Yes, I remember that," said Ima. "I also remember asking what you meant when you said that voltage stood across a resistor. I'm not sure I understand what that means."

Elmer answered, "It's easy to understand. Imagine a circuit where you had a 12 volt source connected to 3 equal resistors in series. The voltage drop when measured at the end of each resistor would be equal at 4

volts each. We can then say that 4 volts stands across each resistor or that there is a voltage drop of 4 volts at each one. Do you understand now?"

"Yes, I do," said Ima. "If I took a meter and measured the voltage applied to each resistor, the meter would indicate 4 volts."

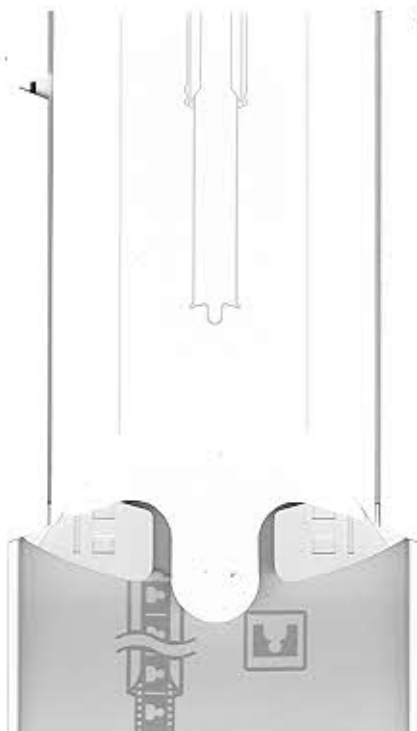
"That's right," said Elmer. "Now let's take a case where we are using a battery to power a 2 meter transceiver. In our example the following conditions apply. Battery voltage is 13.8 volts, the internal battery resistance is .5 ohm, the rig draws 0.2 amperes on receive and 10 amperes on transmit. That's two orders of magnitude in current."

Ima interrupted, "Wait a minute Elmer. What is meant by the internal resistance of the battery? And what is two orders of magnitude?"

"I will answer the second question first. An order of magnitude refers to the power of ten - 1, 10, 100, 1000, and so forth. The difference between 100 and 1000 is said to be one (1) order of magnitude. The term is used by engineers to evaluate changes that are significant and meaningful as opposed to small changes that are not worth changing procedures to achieve. To answer your other question, let me remind you that all components have resistance. The internal resistance of a battery is simply the the resistance of the battery. If a total short circuit were connected to the battery, the only thing limiting the current flow would be the battery resistance."

"I understand, Elmer. I thought I knew what the battery resistance was but I wanted to make sure."

"Now lets get back to the main topic. Applying Ohm's law to the circuit in the receive mode we can see what happens when we go from receive to transmit. The battery resistance is in series with the transceiver so that current flowing to the
(Continued on Page 11)



Regulated... (Cont'd from pg. 10)

radio also flows through the battery. The drop across the battery resistance goes from 0.1 volts on receive to 5 volts on transmit. Without a regulated supply, the voltage to the rig would vary 4.9 volts between receive and transmit.

Elmer continued, "The condition is made worse when using a power supply instead of a battery because the resistance of most power supplies is higher than that of a battery."

"Very good Elmer," said Ima. "You can say that a regulated power supply is one that delivers the same voltage regardless of the load current."

"Within normal limits that's right. See you next time Ima."

"The READOUT, July 1993

Amateur Radio, past and present

Christina S. Rohde, N2OFY, DJ5LR, HB9HAQ

Once in a while television newscasters, during the coverage of a catastrophe like a hurricane or other life threatening situation, mention that "ham operators" are instrumental in rescue missions and the establishment of communication lines at a time when nothing else works. Ham operations have also occasionally been considered "nuisances" when their strange signals show up in someone's television reception and telephone conversations. People then automatically look at the strange large antennas in their neighborhood as suspect, and perceive them to be the point of origin for these "signals." In order to derive a better understanding of ham operators and radio in general, let us step back in time and take a look at the evolution of ham radio and its meaning today.

Ham radio operators are people of different races, religions, gender, education and interests who share one common bond - the desire

to exchange personal and technical information between each other locally and afar.

In 1860, Samuel F. B. Morse devised a means to generate electrical impulses on wires and send them over long distances. He came up with an alphabet which, after modifications and adjustment for different languages is still the basis for the Morse code used in long-distance communication of all types.

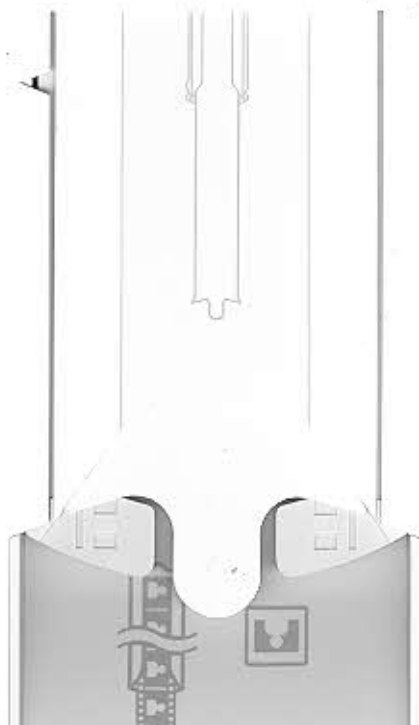
Having established communication on various continents via landline Morse code, the next logical need was intercontinental and ship-to-shore communication. James C. Maxwell developed the mathematical basis for what is now known as electromagnetic wave and its propagation.

It was Guglielmo Marconi's contribution in 1901 which looked to long distance propagation and found suitable receiving/transmitting circuits and frequencies and, of course, antennas which allowed these electromagnetic impulses to propagate over vast distances. Marconi's test became famous after he repeatedly sent the letter "S" as a distinct signal across the Atlantic.

The early commercial receiver/transmitter stations were very crude by today's standards and the form of communication was Morse code, not voice operation. There was ample "down time" between the messages and traffic so the radio operators began to use the equipment to "talk" to one another on a friendly basis.

This was the beginning of ham radio. Then logically these individuals would ask how they could obtain similar stations and use them for personal enjoyment. Since the technology was relatively straightforward, it did not take long before individuals began stringing long wires between trees and using stray parts from the commercial stations to set up their own.

During World War I, all Amateur Radio
(Continued on Page 12)



Amateur Radio... (Cont'd from Pg. 11)

transmissions were forbidden. Following WWI, further development of "radio equipment" continued. Amateur operators were now required to have an operator's license which the government issued (initially to universities and other similar institutions). One of the earliest acknowledgments of a contact I have seen was one my grandfather used at a German university-based station with the call sign EK4AAL.

In the United States, the Federal Communications Commission is the regulatory body which defines the rules and regulations for radio amateurs. In Germany the Federal Office for Postal Affairs and Telecommunications is responsible for regulating the operators. The Swiss equivalent is the Post Telephone Telegraph (PTT) Office.

In all instances, individuals interested in obtaining ham licenses have to prepare for a test which covers legal aspects of ham operation, operational procedures, technical aspects, and proficiency in Morse code.

In the United States, licenses are divided into five classes, ranging from Novice to Extra Class. The more proficient the individual and the higher the category of license obtained, the more privileges that operator is granted. By international agreement, minimum joint requirements were agreed upon. It is important that different countries use common frequencies and operating modes.

The European community has issued a European license, similar to an international driver's license, which is valid throughout Europe. The individual uses the call sign issued in his or her native country.

Some ham radio operators are quite determined to do the unusual. They will go to remote places to establish what is called a DXpedition. They might select a deserted place such as the South Sandwich Islands. This small group of people travel to the distant site and in a short period time attempt

contact with thousands of other stations throughout the world. The final acknowledgment of the contact, the QSL card, contains the date, time, frequency and mode of the contact as recorded in the logbook. Some operators display these contact records on the walls where the radio equipment is kept - the ham "shack." Our family's ham shack is located in a large area in the basement of our home, and my father and I use it daily.

Observing my father maintain contact with my grandfather in Germany every weekend was one of the many reasons I became an Amateur Radio operator. Contacting many of my father's friends and acquiring a large number of my own friends internationally has been an enjoyable experience. This hobby has even helped me in my school studies, giving me additional insight relative to mathematics, physics, and geography, as well as the various cultures of the individuals with whom I am in contact.

We owe much to those electronics pioneers and dedicated individuals who have taken the technology of radio and enhanced it, making it useful in their daily lives and fun as a hobby. The future of Amateur Radio depends on the way future operators use it, experiment with it and appreciate it; these privileges must not be taken for granted.

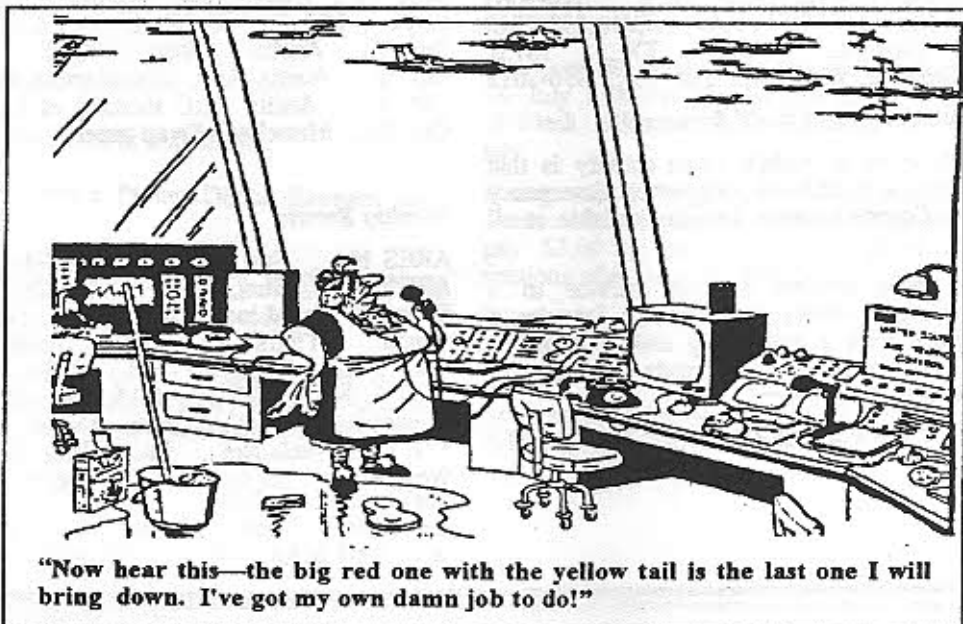
- *World Radio* - September 1993

Amateur Radio Call Signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of 1 June 1993.

For more information about the call sign assignment in the Amateur Radio Service, see Section 97.17(f) of the FCC Rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17325-7245.

Radio District	Group A	Group B	Group C	Group D
0	Am. Extra	Advanced	Tech./Gen.	Novice
1	AA0OE	KG0HD	N0XXR	KB0LJZ
2	AA1GY	KD1PZ	N1PRM	KB1AZO
3	AA2OQ	KF2QE	N2VRQ	KB2QKK
4	AA3FD	KE3JF	N3PQT	KB3AWR
5	AD4GZ	KQ4YF		KE4DMW
6	AB5OK	KJ5NZ		KC5BPS
7	AB6UR	KN6OB		KD6YUR
8	AA7XE	KI7OU		KB7WCK
9	AA8LT	KG8CL	N8ZPJ	KB8PCH
North Mariana Is.	AA9HR	KF9QI	N9UFS	KB9ISZ
Guam	AH0T	AH0AN	KH0CA	WH0AAX
Johnston Is.	NH2R	AH2CT	KH2HB	WH2ANG
Midway Is.	AH3D	AH3AD	KH3AG	WH3AAH
Hawaii		AH4AA	KH4AG	WH4AAH
Kure Is.		AH6MX	WH6NR	WH6CQQ
American Samoa	AH8H	AH8AF	KH7AA	WH8ABB
Wake Wilkes Peale	AH9C	AH9AD	KH8AX	WH9AAI
Alaska		AL7PD	KH9AE	WL7CHE
Virgin Is.	WP2A	KP2CC	WL7LZ	WP2AHU
Puerto Rico		KP4VL	NP2GN	WP4MEH



AARC Information

Austin Amateur Radio Club, Inc.

Officers

Jim Neely, WA5LHS, President442-4812
Rod Moag, W0NDS, Vice Pres.467-6825
Dave Marschall, KG5ND, Treasurer 834-1779
John Weber, KF5OY, Secretary 280-1082
Steve Sparks, KB5RSY, Activity Mgr. .. 251-7791

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). Please contact an officer if you would like to join the club. Come on down to the next meeting!

Committees and Positions

Ed Golla, K3AHS, Technical 255-4818
Joe Fisher, K5EJL, ARES Coord.926-4689
Steve Means, N5PSW, A/Over Ed. ...452-7240
4800 Caswell... Austin, TX... 78751
Hal Henegar, W5MDL, P.I.O. 836-2012

Mobile Radio.... (Cont'd from pg.9)

A side issue to mobile radio activity is that you have a functional and proven Emergency Radio Communication System available at all times.

Ham radio renders a great service to a community in times of emergency. Its easy to be ready with a mobile rig and to have HF and VHF communications ready is so easy to achieve!

- de Old Huck - AA5BU

AARC/Over Information

ISSN 1067-0262, CODEN AAOVE3. (c) Austin Amateur Radio Club, Inc. and/or the Austin Repeater Organization.

Viewpoints expressed in The AARC/Over do not necessarily reflect those of any club or its members, directors or officers.

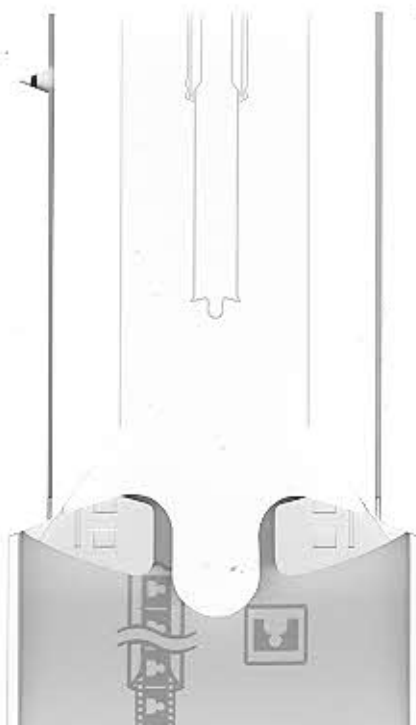
Members are encouraged to submit material for publication... send material to the Editor at 4800 Caswell, Austin 7875, by packet on the N5PSW BBS - 145.09 MHz or via Internet - SMEANS @ DEL-PHI.COM. Submissions maybe edited for format, style and suitability. **Deadline for the next issue is the 14th of this month.** Late material will be saved for later months. Permission granted to reprint AARC/Over.

Calendar

Sept. 2... Wayne Greene's Birthday
Sept. 7... Austin Rptr. Organization meets
Sept. 14... Austin ARC Meeting at Luby's
Sept. 18... QCWA at Luby's
Sept. 21... Austin Amateur TV Club
Oct. 5... Austin Rptr. Organization meets
Oct. 12... Austin ARC meeting at Luby's
Oct. 23... Manchaca Swap meet

Weekly Events

ARES Net... Sun., 6:30 PM, 146.94 MHz
ARES Net... Sun., 8:30 PM, 146.78 MHz
SwapNet, NewsLine... Sun., 9 PM, 146.94
Lunch... Thurs. @ Holiday House #4
U.T. Net... Thurs., 7 PM, 145.21 MHz
QCWA Net... Thurs., 8:15 PM, 147.18
Breakfast... Sat., Simon David Deli
521 Trade/Tech Net... Sat., 9 PM, 145.21
WeatherNet... as needed, 146.94 MHz



Guest Editorial

DEATH OF HAM RADIO?

Concern for the future of Amateur Radio is well founded. I've been licensed for 32 years. I too grew up in a time when radio communication was magic, TV was new and we had party lines instead of direct distance dialing. My tenure defines me as a traditionalist. With that hat on, the hair stands up on the back of my neck when I read some of the iconoclastic and scatological writings on this medium or when I tune over the 20 meter phone band. I miss some of the traditions that I grew up with in the hobby. I remember when Wayne Green tried to found the country of Oceania and when Gus Browning told stories about packing up the mountains of Tibet on a llama. I miss Larson E. Rapp and Hastafishi Scratchi, but I now use on-line computer logging and Packet DX spotting. You see, when I move away from the wonderful nostalgia and work through my "old fart" paradigm, my outlook becomes more optimistic and more realistic. Change is the key to the future. There is no other way to say it. It is inevitable. We have to learn from the past and plan for the future. Is the hobby a dinosaur? Are our traditions lost? I don't think so, but there are some truths that we have to face.

1. Only a very few potential hams are thrilled by the magic of radio. The hobby is a social, competitive and technological forum.
2. Technology has advanced past simple experimentation with primitive equipment. Basement experimentation requires very sophisticated equipment and techniques.
3. Our traditions of morality and ethics don't seem to fit apparent social norms.
4. We must objectively look at what potential hams can derive from the hobby and continually improve what we offer.

Auto racing has added computers and computer design to their hobby. They have categories to interest a wide variety of participants. Yacht racing will never be the same since computer modeling and composite materials have entered the scene. Most homes have component video and stereo systems, when, 20 years ago, they were only for the eclectic. Every avocation that survives and prospers takes a long look at the past and modifies its rules to take advantage of current technology.

They learn what their members want, not what they used to want.

When will we pull our heads out of the sand and recognize that our hobby must provide the opportunities that potential new members would find interesting? When will we accept that the active new hams have different priorities, more demands on their time and less interest in tradition? When will we stop trying to enforce unenforceable rules? Very soon, I hope.....

73 and DX,

Tom Taormina, K5RC

Editor, National Contest Journal

