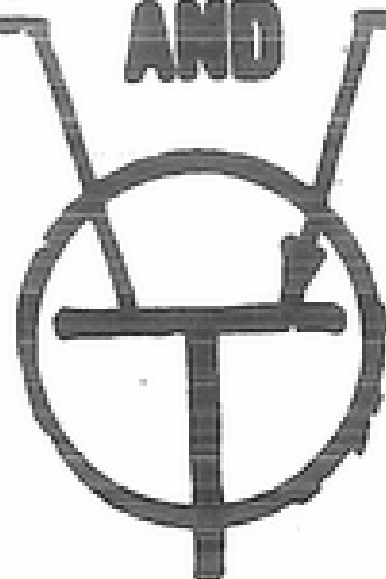


Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER



Volume 1

JULY 1975

Number 6



W5PAA

AERONAUTICAL CENTER AMATEUR RADIO CLUB STATION

Bill Oliver, K5KDR, Secretary/Treasurer and Bob Ashby, W5HXL, President are shown at the "Drake Line" HF operating position. Story on page (9).

The CORA Collector and Emitter is published monthly by CORA for the participating Amateur Radio Clubs in the Central Oklahoma area. Material contained herein may be reprinted without prior permission with credit given this publication. Address all correspondence to CORA Collector and Emitter, Box 15013, Oklahoma City, OK 73115.

Managing Editor	Jim D. Stanberry	K5T2S	341-3391
Editor for ACARC	Don Templeman	WN5NIY	787-7174
Editor for MORI	Jim Williams	K5VRL	942-0536
Editor for OCVHF	Joe Buswell	WA5TRS	732-0676
Editor for OKCAP	Larry Dillard	WB5CWB	685-4065

Central Oklahoma Radio Amateurs (CORA) Inc. was organized to enhance the cooperation of Oklahoma Amateur Radio Clubs in sponsoring activities of mutual interest to the Clubs and Radio Amateurs. Participation in specific CORA activities is optional with the individual Clubs. CORA officers are:

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Secretary	Ellard Foster	W5KE	789-6702
Treasurer	Bob Williams	WB5LHR	789-0987

Participating clubs for CORA Collector and Emitter:

AERONAUTICAL CENTER AMATEUR RADIO CLUB, INC.

Postal Station 18, Oklahoma City, OK 73169

Meetings: 8:00 p.m. on first Friday each month, Flight Standards Building, FAA Aeronautical Center. Club Station W5PAA.

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Vice President	Al Prince	WB5KCU	789-1160
Secretary/Treasurer	Bill Oliver	K5KDR	329-6333
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Subscription Price: \$3.50 per year to non-affiliated club members



Club
NEWS

W5LOV
The Elmer Gooder Memorial
Station

FROM THE PRESIDENT

AS YOU READ THIS, THE LEAGUE'S FIELD DAY WILL BE OVER FOR 1975. WHAT DID IT MEAN? A GOOD TIME? AN OUTING, PLENTY OF FOOD, LOTS OF PLEASANT COMPANIONSHIP?

ALL OF THOSE, VERY PROBABLY. BUT IT SHOULD MEAN MORE, TOO. IT SHOULD BRING HOME TO EACH RADIO AMATEUR, WHETHER WORKING FROM A FD SITE OR CONTACTING AN FD STATION FROM THE COMFORT OF HIS HOME, THAT THERE COMES A TIME ...UNEXPECTED BUT ALL TOO OFTEN... WHEN AMATEUR RADIO TAKES ON THE BURDEN OF VITAL COMMUNICATION.

AND HOW DOES AMATEUR RADIO RISE TO THE OCCASION? THAT DEPENDS UPON INDIVIDUAL AMATEURS OF RADIO. IS AN INDIVIDUAL ENOUGH CONCERNED TO HAVE A SOURCE OF EMERGENCY POWER? DOES HE HAVE EQUIPMENT VERSATILE ENOUGH TO OPERATE WITH ANTENNAS-OF-CHANCE? ...NOT EVERY STORM OR OTHER EMERGENCY IS CONSIDERATE ENOUGH TO LEAVE UNTOUCHED LOVELY DOUBLET ANTENNAS FED WITH 52-OHM COAX!... CAN HIS EQUIPMENT STAND ALONE.....OR DOES IT DEPEND UPON THE INTACT SURVIVAL OF A SINGLE VITAL ELEMENT, SUCH AS A REPEATER? READ ON, IN YOUR MIND'S EYE, THE LONG LIST OF CONDITIONS AND SITUATIONS THAT MUST BE SATISFIED BEFORE THE INSTITUTION OF AMATEUR RADIO CAN ASSUME THE RESPONSIBILITY OF ESSENTIAL COMMUNICATION. THEN COMMUNE WITH YOUR SOUL.

SO MUCH FOR EQUIPMENT.

EQUIPMENT, THOUGH, MUST BE MANNED. MAN DETERMINES WHETHER EQUIPMENT IS USEFUL OR USELESS. WHAT OF THE MAN, THE INDIVIDUAL AMATEUR OF RADIO, HOW WELL CAN HE RESPOND TO THE CALL OF DUTY?

IT COSTS MONEY TO HAVE EQUIPMENT SUITABLE FOR EVERY CONCEIVABLE CALL. NOT MANY OPERATORS HAVE THAT MONEY AVAILABLE FOR A NON-ESSENTIAL EXPENDITURE.

OPERATOR PREPARATION, IN CONTRAST, COSTS NOTHING! NO MONEY, JUST A BIT OF THINKING, A BIT OF TRAINING, AND A FIRM DETERMINATION TO ESTABLISH A PATTERN OF OPERATION THAT'LL FIT EASILY INTO THE REQUIREMENTS OF QUICK AND RELIABLE RADIO COMMUNICATION.

RADIO COMMUNICATION CAN BE EITHER RADIOTELEGRAPHY OR RADIOTELEPHONY. THERE'S NOT THE SLIGHTEST DOUBT THAT RADIOTELEGRAPHY IS FAR, FAR AHEAD IN RELIABILITY AND, QUITE PROBABLY, SPEED. AND THERE'S NOT THE SLIGHTEST DOUBT THAT 95% OF ALL OPERATORS WILL ELECT TO USE VOICE, EVEN THOUGH THEY KNOW IT'S LESS PRECISE.

REGARDLESS OF WHICH MODE YOU ELECT TO USE, FOR THE LOVE OF ALL THAT'S SACRED AND HOLY, LEARN HOW TO DO IT WELL!. THINK CLEARLY, FORM YOUR THOUGHTS INTO WORDS, VOICE THOSE WORDS.....AND NO OTHER WORDS!. THE ART OF SELF-EXPRESSION IS NOT ONE WHICH ONE IS IMBUED AT BIRTH. IT'S ACQUIRED, ACQUIRED DELIBERATELY AND WITH CONSIDERABLE EFFORT!. THE ABILITY TO EXPRESS THOUGHTS, IDEAS, AND CONCEPTS IN A FEW WORDS IS A CHALLENGING GOAL, ONE NOT EASILY ACHIEVED.



Club NEWS

V510V
The Elmer Gable Memorial
Station

AND YET, IF YOU'RE GOING TO COMMUNICATE, AND COMMUNICATE WELL, YOU MUST MASTER THESE ARTS.

YOU WANT PROOF, PROOF IN THE FORM OF A HORRIBLE EXAMPLE? IT'S EASY TO COME BY. JUST LISTEN TO ANY NON-PROFESSIONAL ...AND SOMETIMES EVEN PROFESSIONAL... GROUP OF "COMMUNICATORS" ATTEMPT TO HANDLE 'PHONE TRAFFIC, BE THEY RADIO AMATEURS, MARS MEMBERS, ETC., ETC. THE STUMBLING, THE BUMBLING, THE NEEDLESS REPETITIONS, THE UNNECESSARY USE OF PHONETICS ON WORDS EVEN AN IDIOT WOULD NEVER MISUNDERSTAND, THE STUPID OVERUSE OF CALLS, THE WASTED WORDS IN "ASIDES".....THE COUNTLESS OTHER EXAMPLES OF THOUGHTLESS BUMBLING THAT FIVE SECONDS OF THINKING WOULD MAKE EVEN THE MOST CALLOW "LID" BLUSH FOR SHAME.

AND HOW TOTALLY UNNECESSARY!

LEARNING TO OPERATE WELL IS EASY. HOW DID "GOOD OPERATING PROCEDURE" BECOME GOOD OPERATING PROCEDURE? IT GOT ADOPTED BY OPERATORS BECAUSE THESE OPERATORS FOUND THEY COULD COMMUNICATE BETTER BY USING JUST SUCH PROCEDURES! ALL YOU HAVE TO DO TO BE A GOOD OPERATOR IS TO ACT NATURALLY. BEING A LID DOESN'T COME NATURALLY.....YOU HAVE TO WORK HARD AT LEARNING TO BE A POOR OPERATOR!

UNFORTUNATELY, MOST BEGINNING OPERATORS LEARN THEIR PROCEDURES - PRACTICES BY LISTENING "ON THE AIR". AND, EQUALLY UNFORTUNATELY, MOST OF THE OPERATING PROCEDURES THE NEWCOMERS HEAR ARE UTTERLY ROTTEN. AND HOW DOES ONE SHUCK OFF ANY DEPLORABLE PRACTICES PICKED UP DURING ONE'S INNOCENCE? EASY. JUST FORGET ALL THE STILTED PROCEDURES, ALL THE "LITTLE-BOY" ARGOT OF "HAM" RADIO ...REMEMBER, YOU'RE AN AMATEUR OF RADIO COMMUNICATION AND TECHNOLOGY, NOT A "HAM"... AND BEHAVE AS ONE LITERATE HUMAN BEING IN COMMUNICATION WITH ANOTHER LITERATE HUMAN BEING!

YOU'VE GOT IT MADE!

CARL, W5JJ

CHATTER

I WENT TO THE PICNIC HELD AT LAKE OVERHOLSTER JUNE 22, HAD SEVERAL FINE RAGCHEWS AND MET CLYDE, WB5CPA FROM WASHINGTON OKLA. WASHINGTON WAS, IN FACT, 100% REPRESENTED BY ITS HAM POPULATION BECAUSE LLOYD, WA5PPA ALSO WAS PRESENT. I HAD NOT SEEN HIM FOR MANY MOONS.

ONE THING THAT DESERVES SPECIAL MENTION IS THE FOOD. THE LADIES DID AN EXCELLENT JOB, BRINGING SOME PRIZE-WORTHY DISHES. I COULDN'T IDENTIFY WHO MADE WHAT EXCEPT FRANCES, YL OF WA5ZNF, MADE SOME SCRUMPTIOUS RIBS AND MARIE, WA5JGU'S YL BROUGHT HAM AND BEANS "SON DELICIOSOS".



Club NEWS

WSLW
The Elmer Gooder Memorial
Station

SPEAKING IN FOREIGN TONGUE REMINDS ME, I SPENT THE WEEK ENDING FRIDAY THE 13TH IN MEXICO CITY. DON'T HAVE ANY AMATEUR RADIO TALES TO RELATE, EXCEPT ONE. DOWNTOWN, I WAS WANDERING AROUND LOOKING INTO STORE WINDOWS WHEN I SAW SOMETHING UNUSUAL. ON DISPLAY WAS AN ASSORTMENT OF ELECTRONIC TEST EQUIPMENT AND TOOLS, SUCH AS VOM'S VTVM'S OSCILLOSCOPES, SOLDERING IRONS, ETC. I WENT INTO THE STORE AND LOOKED AROUND. ALSO ON DISPLAY, IN GLASS CASES, WERE COMPONENTS SUCH AS BATTERIES, CAPACITORS, VACUUM TUBES, ETC. IT WAS JUST LIKE A JEWELRY STORE. INTERESTING, I THOUGHT.

I WALKED OUT A SIDE DOOR INTO A MALL AND STARTED TO LOOK AT THE OTHER STORES. ACROSS THE WAY WAS ANOTHER STORE JUST LIKE THE ONE I JUST LEFT! PECULIAR TO HAVE TWO SO CLOSE, I THOUGHT. I LOOKED AROUND AND, WHAT DO YOU KNOW, THERE WERE SIX OR EIGHT STORES, ALL SELLING ELECTRONIC COMPONENTS IN COMPETITION WITH EACH OTHER. I DON'T KNOW WHAT TO MAKE OF IT EXCEPT I GUESS THE OLD MAN SHOULD HAVE SOMETHING TO DO WHEN HE GOES DOWNTOWN WITH MAMA AND GETS BORED WHILE SHE IS LOOKING AT DRESSES. I DOUBT HE WOULD BE ABLE TO DO MUCH MORE THAN WINDOW SHOP BECAUSE THE PRICES WERE GENERALLY HIGHER THAN WE PAY HERE. I DON'T THINK THE AVERAGE INCOME IS ANYTHING LIKE OURS SO THE NET RESULT IS THAT THE AVERAGE GUY IS NOT GOING TO HAVE AS MANY THINGS AS WE DO.

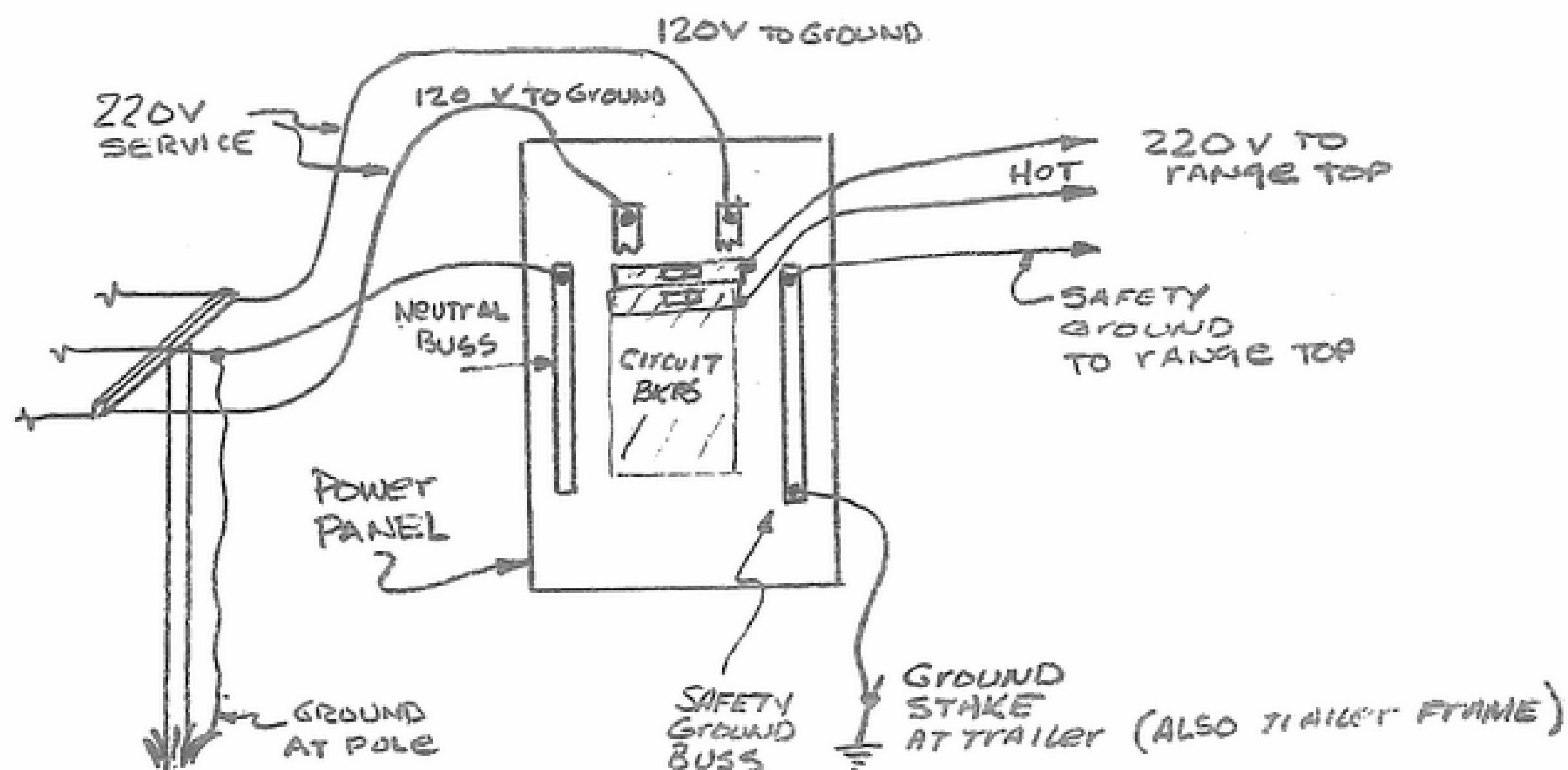
BATTERY MAINTENANCE

I SET UP A PREVENTIVE MAINTENANCE PROGRAM ON BATTERIES AROUND MY HOUSE. I STARTED BY LISTING ALL THE THINGS I HAVE THAT CONTAIN BATTERIES, INCLUDING RADIOS, TAPE RECORDERS, CAMERAS, RADIO ACCESSORIES, TEST EQUIPMENT, AND THE LIKE. YOU KNOW I WAS AMAZED WHEN THE LIST WAS COMPLETE! THERE WERE OVER THREE PAGES OF ITEMS. I LISTED THE RECHARGABLE BATTERIES EVEN THOUGH THERE IS NO REAL MAINTENANCE EXCEPT TO LOOK AT THEM ONCE A YEAR TO SEE IF THEY ARE LEAKING. FOR THE CARBON ZINC CELLS - MAINTENANCE CONSISTS OF YEARLY REPLACEMENT TO PREVENT EQUIPMENT DAMAGE. YOU MIGHT TRY MAKING SUCH A CHECKLIST AND SEE WHAT YOU COME UP WITH.

WHAT WOULD YOU HAVE DONE DEPARTMENT

I HAVE A FRIEND WHO HAS A MOBILE HOME NEAR LAKE EUFAULA. HE HAD TWO PROBLEMS. STANDING ON THE GROUND AND TOUCHING THE STRUCTURE WOULD GIVE ONE AN ELECTRIC SHOCK. ALSO, THE ELECTRICAL BILL WAS HIGHER THAN IT SHOULD HAVE BEEN, CONSIDERING THAT THE PLACE IS OCCUPIED ONLY ON WEEKENDS.

HE HAD ALREADY DISCOVERED THAT THE ELECTRIC SHOCK CONDITION DISAPPEARED WHEN THE CIRCUIT BREAKER TO THE ELECTRIC RANGE TOP WAS OPENED. THE ELECTRICAL HOOK UP WAS LIKE THIS:



MEASURING AT THE RANGE, I FOUND 220 VOLTS BETWEEN ONE LEG OF THE 220 AND GROUND AND ZERO BETWEEN THE OTHER LEG AND GROUND. AT THE PANEL, THERE WAS 110V BETWEEN GROUND AND THE NEUTRAL WITH THE RANGE CIRCUIT BREAKERS CLOSED AND ZERO WITH THE CB'S OPEN. HENCE, A SHORT CIRCUIT EXISTED BETWEEN ONE HOT LEG AND THE SAFETY GROUND. THE WIRING WAS NOT ACCESSABLE AND WE HAD NO WIRE TO REPLACE THE CIRCUIT SO WE MADE A TEMPORARY FIX THAT MADE EVERYBODY HAPPY. TWO QUESTIONS: WHAT DID WE DO? AND WHY WAS THE ELECTRIC BILL SO HIGH? I'LL PRINT THE ANSWERS IF ANYONE IS CURIOUS ENOUGH TO ASK. JOE, WA5TRS

ABJECT APATHY

JOE, WA5ZNF, PASSED ALONG A GOOD IDEA FROM ONE OF THE EXCHANGE PAPERS. ONE WEST COAST CLUB PAPER EDITOR FIXED UP A ROULETTE WHEEL AND SPUN IT MONTHLY, SELECTING CLUB MEMBERS TO CONTRIBUTE MATERIAL FOR THE PAPER. I'M NOT GOING TO GO TO THAT TROUBLE BUT I AM GOING TO THROW DARTS AT THE CLUB ROSTER AND PICK THREE MEMBERS EVERY MONTH. WHAT YOU CONTRIBUTE WON'T HAVE TO BE PERFECT. I CAN FIX IT UP. WHAT I NEED IS YOUR IDEAS. EVERY PERSON PICKED WILL BE ASKED TO WRITE A MINIMUM OF 100 WORDS. IT WON'T TAKE LONG. THE WHOLE VHF CLUB PART OF THIS PAPER, EXCLUSIVE OF W5JJ'S PART, ONLY TOOK ME ONE HOUR TO WRITE. TO KEEP THINGS FROM GETTING STALE, I AM GOING TO PASS THE RESPONSIBILITY AROUND. OK?

JOE, WA5TRS



W5PAA

THE PRESIDENTS CORNER

HAM HOLIDAY is the next "biggie" coming up. Enough is said elsewhere in this issue, so I won't add any more other than to say that I am looking forward to a great weekend and a bunch of first rate "eye ball" QSO's with all you good guys and gals.

By the time you read this, it will be history, but right now I am looking forward to the Oklahoma Amateur Radio Picnic/Campout at Lake Overholser. This is my idea of an ideal weekend of leisurely loafing, visiting and good eating. Sure hope the weather cooperates better than last year when we got in a tornado watch about the time people started gathering, but Sunday turned out ideal. Also, Field Day is shaping up for a fine operation this year with an active committee of the four CORA participating club representatives busy making plans for the best yet.

JULY AND AUGUST MEETING DATES SHIFTED. Our normal "first Friday" meeting lands on July 4 which seems like an inopportune time to have a meeting. In August it would fall on Friday of Ham Holiday weekend and I expect most of us would prefer to be out at Southgate Inn for some informal visiting. To avoid this, we will have joint meetings with the VHF Club on the third Friday. The VHF Club will host the July 18 meeting at the American Red Cross Building, N.W. 10th and Hudson. We will host the August 15 meeting at the Aeronautical Center.

The "porta-shack" had a good workout during an early vacation in May. I must confess that the radio gear didn't get much use, the sight seeing was just too good. With the Silver Streak in tow, we faced our first critical decision as we approached I-40; east or west? East won the toss and Tenkiller became the first night's destination. After checking into the Sunday morning nets on the SBE-34, and a leisurely breakfast, we headed up-stream along the Illinois River into Arkansas. The "squiggley" little lines on the map led us through the scenic Ozark country, through Eureka Springs, to Table Rock Lake and Shepard of the Hills country. About 30 minutes on I-44 east out of Springfield led to my comment "this is getting monotonous". Roslin suggested we could cut off at Lebanon and head for Lake of the Ozarks. Done. On to Hannibal and several days of reliving the Mark Twain legends, then followed "The Great River Road" along the Mississippi to St. Louis. From St. Louis we headed south into the hills, stopping over at Missouri's State Parks, and leisurely worked our way back to Oklahoma, one day at a time, with a new decision each morning of what the next destination should be, if any. It was a great trip, only one thing wrong, it's history.

73

W5HXL

William O. Todd, 1903-1975

Bill Todd, W5UZX, a past-President of the ACARC, a retired Lieutenant-Commander of the USNR, a former design and installation engineer for RCA Radiomarine, an amateur and a professional radio operator, a gentleman in the fullest sense of the word, has gone to the realm of Silent Keys. May God rest his soul!



MINUTES OF THE ACARC MEETING OF JUNE 6, 1975

The meeting was called to order at 2007 by President Ashby. There were approximately 35 members and guests present. President Ashby asked for a round of self introductions and any significant activity during the month. Father John, K5HMI, has recovered from a broken hip and is working mostly teletype now. Bo Bowcock, W4IDW, a new member from Florida is currently attending the ILS Principles Course at the Aeronautical Center. Bo, in addition to his hobby with Amateur Radio, is a ballonist. Bob, W4OHA, another new member from Melbourne, Florida, is attending the ILS Principles also. Bill, W5RAQ, has built a new switch panel and replaced a hot water tank. The first new granddaughter is taking up some time also. Ellard, W5KE, took a trip up north and worked a lot of 2 meters. Charlie, WA5JGU, says he has been getting signal reports of a QRP rig, but he hasn't been using one. He was in Broken Bow and visited Clyde, WA5VIL. Ken, WB5KHU, has been doing lawn work. Gil, W5RB, has been checking some 813's. Carl, W5JJ, went to Eastern Oklahoma. Between Tulsa and Claremore he decided to try some 2 meters. Who did he work? None other than Mac, K2GKK, in OKC. Tom, W5OZE, has had trouble with his 2 meter rig. Lloyd, WB5HUP, has his repeater working. Jef, WB5GWB, worked St. Louis on 52 direct. Al, WB5KCU, got a quad and he has had some problems. He says it has been up and down like a yo-yo. Currently it is up. Lee, W5MCN, spent the winter in south Texas. The day after his return home, the wind broke his quad, it's fixed now. Ed, K5LIL, helped Dale, K5WUF, put up a quad. Ed also reports his 2 meter rig has worked 3 days in a row now. It was reported that Bob Lyon, K5AYL, is in the hospital. He had knee surgery but should be home in a week. Ed, WN5LGJ, has waited over 7 weeks for his new ticket. Lloyd, WA5PPA, had lightning destroy his HAM M rotator. Bill, WA5FWD, is still building crystal sets. Jerry, W5MCJ, put up a RINGO at the 70-foot level on the police tower in Norman. Also, an IC-21 has been ordered for the EOC there. Frank, W5AAR, took an extended trip up into Michigan. He worked quite a bit on 2 meters and some H F. Bob, W5HXL, roamed through Missouri for two weeks, but he did not have much time to radio. J.W., WA5KFT, said he worked Tom, W5OZE, from Tulsa.

A discussion was held as to how Amateurs could perform a better public service. Then Marvin, K5HQP, showed and told about his new Atlas 215 transceiver (all solid state). He used it on MARS and had 38 check-ins.

A vote was taken and approved to purchase a complete set of ARRL books to be put in the library for circulation. The ARRL has made an offer to sell these books at half price to affiliated clubs to be placed in libraries.

It was pointed out that the ARRL National Convention will be held during the third week of June in Denver, Colorado next year. So plan your vacation accordingly if you plan to attend.

Next month the ACARC will have a joint meeting with the VHF Club at their place. Then, on the third Friday in August (15), the VHF Club will have a joint meeting with ACARC here at the Aeronautical Center.

A sad note, Bill Todd, W5UZX, "the high fidelity voice of Norman, Oklahoma", became a silent key on June 15, 1975.

Billy J. Oliver
Secretary/Treasurer



AERONAUTICAL CENTER AMATEUR RADIO CLUB HISTORY

ACARC had its pre-history at the CAA Signals Training Center at Ft. Worth, Texas. Early in 1946, when the FCC lifted its war-time ban in amateur radio activity, Claude E. Gardner, W5AGM; John Ott, W5HEV; and Carl C. Drumeller, WØEHC/5, lost no time in putting a big Collins TDO transmitter on the air. It wasn't really an organized club activity but a group effort. When the training school was transferred to Oklahoma City to be a part of the newly-constructed Aeronautical Center in mid-1946, the TDO was set up in Temporary Building 10 and a club license applied for. That required the organization of a club.

The first rules of the ACARC were simple....and good. The dues were \$0.50 a year; the officers were a President and a Secretary-Treasurer. The officers held office for life or until leaving the Aeronautical Center. Claude E. Gardner, W5AGM, was President. Carl C. Drumeller, by then W5EHC (much later W5JJ), was Secretary-Treasurer. The club prospered, there was never money lacking for coffee and doughnuts. The annual Christmas Party, with its famous eggnog supply, was attended not only by those interested in amateur radio but by AC "brass". As you all know only too well, the world soon gets too complicated! Simplicity never lasts. We got a new club constitution, became a 100% ARRL affiliated club, elected officers every year, and generally fell into a conventional routine of operation. Claude, W5AGM, resigned and Art Schmidt became President. He was followed by Walt Quitter then by "Hank" Hankinson, by Bill Todd, and by Bob Ashby. One thing marked the club; it didn't change officers just for fun. Good men were elected and stayed in office for long periods.

Club radio equipment expanded, too. Many types of HF and VHF transmitters and receivers were installed. There was even a tape machine for sending and receiving International Morse Code at 100 wpm! This was used on one SET to send a whole stack of Red Cross traffic to Washington in a matter of a very few minutes. The club was closely allied with county and state emergency communications, as well as the Air National Guard. Many exercises were conducted.

Club equipment went through many changes. There was the time of the Collins KWS-1 and the Collins 75A-4. Then the Collins 75S-1 and 32S-1. Drake R-4, T-4X, and L-4. Signal One CX-7 (a good rig but one that couldn't take the abuse of operators who wouldn't read the instruction manual). A whole raft of VHF gear. Antennas galore, some for amateur bands, some for FAA frequencies. For the club, because of its outstanding work in the Alaskan earthquake, where it handled over 3000 messages (including much official traffic) was recognized by Center officials as a valuable back-up for FAA communications. It had three teams organized, made up of employees whose official duty shifted to Emergency Communications when a condition of emergency was declared by the Center.

The station, W5PAA, got moved several times. Old Building 10 got moved; so the club went into a building made by joining two small ones, Buildings H and I. That building got displaced; so W5PAA went to the PAR Building. It too lost to "progress"; so W5PAA moved to "FLOPAIR".

Through the years the club sponsored many hamfests, many technical symposiums. Its technical programs were outstanding, for it could draw upon "top flight" engineers and technicians from among its membership.

ACARC History (Contd)

It donated money and much equipment to many individuals and organizations, hopefully for the betterment of amateur radio.

It purchased from the FAA Employees Association its Bookstore and operated it, successfully, for many years until commanded by the Center's administration to return its operation back to the Employees Association.

Currently, the club operates at a bit lower tempo, but continues to be the only non-specialized, wide-appeal, technically-oriented amateur radio club in the vicinity of Oklahoma City. And, of course, it is the oldest continuously-active amateur radio club in central Oklahoma as well as being the only 100 percent ARRL club.

Long and honorably has it lived; long may it live!



W5JJ TECHNICAL REVIEWS W 5 J J



RADIO-ELECTRONICS, Jun, starts a series on oscilloscopes.

73, Jun, describes an inexpensive beam, tells about operation on 1.8 MHz, has more low-down on Ma Bell, rambles on and on and on about a tunable IF, shows a frequency-marker circuit, makes a case for radiotelegraphy, presents a bi-polar transistor tester attachment for multimeters, and reaches its high point on page 175 with a circuit for a flashgun tester. More interesting circuits, too.

ELECTRONIC TECH/DEALER, May, courtesy of W5KE, contains useful info regarding the testing of FETs. It has the second section on 'scope specs.

WORLD RADIO NEWS, May, courtesy of W6AJY, is full of interesting items. Don't miss the one on reduced-bandwidth amateur voice communications. The editorial merits your serious consideration. Many special sections deal with almost all facets of amateur radio activities.

QST, Jun, as usual has something for everyone. For the "digital diddler," there's a compucoder; for the beginning builder, there's a simple CW transceiver; for the DXer, there's a crystal ball.

HAM RADIO, Jun, shows the transmitter half of a phasing-type SSB transceiver. G3LLL tells about measures to keep RF out of AF gear....things the manufacturer should do but is too darn stingy to do! DL2LR describes several types of stable crystal oscillators.

RADIO ELECTRONICS, Jul, runs a bit on understanding Op Amps. Another undertakes to tell you "All about Oscilloscopes." There's a good description of a number of instruments not designed for radio or TV servicing work.

RADIO COMMUNICATION, May, devotes many many pages to interference; interference by amateurs to the public audio and radio gear and interference to amateur receivers by TV sets. Not only the technical but the "public relations" aspects are covered in a most thorough-going manner. In the Technical Topics section, two uncommon SSB exciters are discussed; an experimenter will find this of great interest. In the same section a VHF transceiver is shown, one using a principle propounded in C-E some years ago, that of having a "sloppy" transmitter that's held in exact tune by a continuously running receiver.



TECHNICAL REVIEWS

W S J J



topic of W9EGQ's section. He is to be congratulated on his careful avoidance of the scurrilous term "ham". An IC amplifier for 108 MHz might also be useful on 144 MHz. Also, there's a neat tip on soldering BNC connectors.

AMATEUR RADIO, Apr, gives detailed building instructions for what must be the most complex 0-50 V, 4 A power supply! Also for a 144 MHz vertical double-extended Zepp antenna....ideal for a home station. Other articles concern microstrip data curves and a proportional oven.

MICROWAVE SYSTEMS NEWS, Apr/May, is of special interest to FAA men and to all flyers, as it has a Special Report on Microwave Avionics. Much other stuff, too, all highly interesting and sadly to the point of convincing one that the science of Aids to Aviation is a fast-moving one that quickly leaves one far behind!

ELECTRONIC ENGINEERING TIMES, 16 Jun, says Telesensory Systems, Palo Alto, CA 94304, will market a pocket-size six-function calculator for blind persons. It'll have a 24-word vocabulary of synthetic speech to sound out answers. Tell your blind friends about this!

WORLDRADIO NEWS, Jun, courtesy of W6AJY, is (like QST) difficult to review because almost every article is both important and interesting! If you don't read anything else, peruse the double-page advertisement on M-TRON; it shows that humor can liven up even the most mundane subjects! Catch the important articles under the headings of "Interference" and "CW" but pass by the one under "Antennas", which mixes too much fiction with fact.

73, Jul, devotes most of its pages to OSCAR, but when you get to 103 you'll find a fascinating story on radio in the Arctic in 1925. Then W8HXR tells about vertical antennas and W3WLX expands the theme with words on the center-fed Zepp. To top off, WB4DBB shows how to add an S-meter to the old Swan 250. Want a giggle? Read what VE3FEZ has to say about a visit to a Criminal Band store!

SHORT-WAVE MAGAZINE, May, kicks off with an excellent editorial that points out the many and varied aspects of amateur radio. (Like all reputable magazines, it never uses the nasty word "ham".) G3KFE punctures some widely-held superstitions about feedlines and VSWR. G3YWX discusses the design of LV DC power supplies. G8HQA tells of his experience with a two-MOSFET 144 MHz preamplifier.

ELEMENTARY ELECTRONICS, Jul/Aug. (a peek into the future!), has some really interesting info for the antique radio buff. Also, it tells how to build an FET regenerative detector plus IC AF receiver for the MF Advertisements Band (550 to 1650 kHz). For the beginner, it presents several articles that many will find helpful. This magazine, which is far from perfect, is the only radio magazine published in the United States that is adapted to the needs of a newcomer to the hobby!

POPULAR ELECTRONICS, Jul, conceals some useful antenna info in its "Stereo Scene" section. For the wild-eyed experimenter, there's an article on light-beam communication. Another construction article concerns an audio frequency meter. Then there's one on resistor matching. OSCAR communication is the

IF YOU MOVE - Save your club 30¢ by advising WA5ZNF Joe phone 737-1044 or by mail to our box number above address.



MID-OKLAHOMA REPEATOR INC.

MORI MEETING JULY 8 - DOOR PRIZES WILL BE GIVEN!!

The monthly meeting of the Mid Oklahoma Repeater, Inc. will be at the Oklahoma City EOC, 4600 North Eastern, at 8:00 P. M..

The business meeting will consist of two known items from the Executive Meeting of June 3:

1. The re-wording of Article IV of the by-laws - the election of officers; A. The president will appoint a nomination committee. B. The election will be held at the November meeting.
2. Resolved - Persons who work as maintenance personnel on repeaters be considered as paid up members for the period in which they are actively engaged in the maintenance activities. This means that if you install and work to keep a repeater operating for one year, you get credit for one year's dues. A one time, party type activity does not qualify you. Consistent availability will help more than anything.

34/94 should be back on the air very soon now. The technical committee advises that we should have the duplexer back from Phelps Dodge, hopefully, by the time you read this. This is a totally new system and should be the best in Oklahoma when put on the air. All the persons involved in building this new repeater are to be commended for a job well done. Also, get your 440 Mhz. equipment ready to go. That repeater is being tested and will probably be ready at the same time.

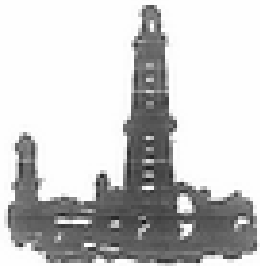
On the following page is a copy of the comments submitted by MORI regarding Docket 20282. This was compiled from the questionnaires you filled out at the meeting some time back. It was organized and written by Clarke Diekmann K3WGF/5, and read and approved by the executive committee at the June 3 meeting and mailed the following day to the FCC. I, for one, believe it is excellent, and hats off to Clarke for the job he did on this.

A MORI EXTRA

The program for the MORI meeting is one you will be sorry if you miss.

Ralph Woods W5JCQ - is going to show off his new home brew, but quite exotic, Frequency counter. From talking to Ralph this one does what the others have not been able to do.

See you at the meeting and also at Oklahoma Ham Holiday /ARRL State Convention Aug. 2,3, Bill WA5FWD



MID-OKLAHOMA REPEATOR INC.

Before the

FEDERAL COMMUNICATIONS COMMISSION

In the matter of

Notice of Proposed Rulemaking)
on Amendment of Part 97 of the)
Commission's Rules on the)
Amateur Radio Service)

Docket 20282

COMMENTS

1. These comments reflect the opinions of some 160 members of the Mid-Oklahoma Repeater, Inc. Amateur Radio Club. We feel obligated to voice our opinion on certain portions of the Docket 20282 with which we disagree.

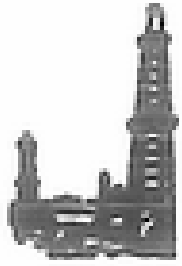
2. ENTRY LEVEL LICENSES - It is our opinion that entry level licenses are intended to encourage non-amateurs to join and participate in the Amateur Radio Service in order to experience and investigate the many facets of the Service. As such, they are not intended to be permanent licenses (renewable). We agree that extending the license term to 5 years would permit some individuals who experience interruptions in their introduction to amateur radio to continue and eventually upgrade to permanent status. We agree that a code-free license would draw many new amateurs into our ranks, which is sorely needed. We are not against a code-free entry-level license, but do dispute vehemently if such a license is to be of a renewable nature.

3. OPERATOR PRIVILEGES

EXTRA CLASS - We favor all proposals concerning the EXTRA except losing the present phone subbands on 80 and 15 meters. The phone and CW subbands are a large part of the incentive to upgrade to this class. We feel that even though the CW code speed may be the only hurdle to obtain this top class status, those who progress to this level should have small phone subbands for their exclusive use.

ADVANCED - The membership feels that the Advanced class theory exam should remain in its present status. The Extra class theory exam should remain with that class in addition to the 20 WPM code requirement. We believe that each license step should show increased technical knowledge.

GENERAL AND TECHNICIAN - The membership generally believes the dual ladder approach is an acceptable approach to licensing. As such, we have no strong objections to frequency restructuring and power limitations. However, we did object to the restriction of Generals and



MID-OKLAHOMA REPEATOR INC.

Technicians from holding Club licenses and repeater trusteeships. We believe that most operators in these two classes have the technical and supervisory skills necessary to effectively operate clubs, control stations and repeaters.

COMMUNICATOR - The membership agrees with the idea of an entry-level code-free license. However, we believe that the frequency allocation should be reviewed. We feel that these new licensees should be allocated frequencies in the 145-146 Mhz and 222-225 Mhz spectrum. This would permit expansion of the VHF spectrum without imposing serious congestion on the segments of these bands already highly utilized. We do not believe that this would cause a segmentation of VHF operations and many "older" hams would associate with the newer hams on these frequencies promoting interest to upgrade and move into the renewable license structure. We also recommend that these licensees be permitted CW telegraphy in order to prepare for upgrading.

4. POWER LEVELS AND MEASUREMENT - We believe that the present 2KW PEP (1KW DC) output levels are more than adequate in the amateur spectrum. We do not believe that direct external measurement of peak envelope power output is feasible for the average amateur.

5. TWO EXAMINER EXAMS - The members generally favor the requirements for an additional licensed examiner for all mail exams.

6. GRANDFATHERING - We believe that all present Technician (C) and Conditional should be included in the grandfathering process. It would be unfair to require these amateurs to give up their licenses which were obtained legally.

Mid-Oklahoma Repeater, Inc. appreciates this opportunity to voice its opinions and will eagerly await further developments concerning restructuring of the ARS.

Fraternally yours,

SUBMITTED: June 2, 1975

William Nowland
President
Mid-Oklahoma Repeater, Inc.
Oklahoma City, OK

The Bylaws Committee recommends that changes be made in Article IV - Election of Officers at the July meeting. These changes are needed with the change from quarterly to monthly meetings.

SECTION 1. On or about October 1 of each year the Secretary shall notify all members of the club that the annual election of officers will be held at the regular meeting of the club in November. The President shall appoint a nominating committee of three members.

SECTION 4. At the first regular meeting in November the Presiding Officer will accept nominations from the nominating committee and from the floor. An election will be held and the candidate for each office who receives the majority vote of the members present is elected. Secret ballot will be used.



AMATEUR OF THE MONTH

Bill Nowland, WA5FWD, (FOUR WHEEL DRIVE) was a well known call to me long I met him about two years ago. We have become friends in the meantime and I have learned what an asset he is to our Hobby as well as to the community. Bill and his wife, Dorthy own their home in Yukon, Oklahoma and reside there with the youngest of their two daughters, Gay Lynn. The Eldest daughter, Marsha, is married and lives in San Diego, California. Bill is a member of all major ham clubs in the area. Being active in the VHF Club, Aeronautical amateur Radio Club, Okla City Auto Patch Asn. and currently is President of the Mid Oklahoma Repeater Inc.

He was active in getting CORA started and during last years Ham Holiday he scrounged over 50% of the prizes that were given away. He is Program Chairman this year for Ham Holiday. In addition to all this he is an active member of ARRL who awarded him a certificate for his activities in the flood at Yukon.

Bill is always ready to help, wheather it is running chase on tornados or making up the CORA Collector and Emitter News Letter, which again he helped get started. We are all better off because of men like this. 73's Bill
Frank WB5JBL

FROM THE PRESIDENTS PEN

OCAPA and MORI had their joint meeting this month on the 16th of June, and 47 People signed the roster. (A good turn out for a stormy evening) At least 10 more did not. A film on the earth quake in Alaska was shown with comments by Bruce Stevens WB5BCZ who lived in alaska at the time.

Well the Auto Patch deadline is about upon us as I wright this and by the time you get your news letter the membership will be closed. OCAPA has a total of 146 paid up members by last count. New members not on the roster are listed in this paper.
Frank WB5JBL

NEW MEMBERS

WA5THB Marvin Stokes RT. 1 Box 3 Calumet 73014
WB5LJQ Mike McCrary Box 3259 Okla City 73132
WB5PDH Frank Arnold 608 Holloway Drive Midwest City 73110
WB5LPJ Jack Smith 3028 Chetwood Drive Del City 73115
WA5WEV James Jameson 3113 Orland Rd. Okla City 73139
WB5NTQ Sterling Allen 67175 Harvy Place Okla City 73139
WB5GWB Jet Casey 2236 NE 25 Okla City 73107
WB5NHZ Henry Ball 524 Clearview Norman 73069
Jim L. Immel 5704 North Mac Arthur Okla City 73069
Anthony Holzman Box 326 Rt. Choctaw
Frank Hendrich 4316 N. Sterling Okla City 73122

FOR SALE

SP-600JX Hamarland General Coverage RCvr, .54-54Mhz. Galaxy FM 210 2Meter transvier, 9 channel 10 watt. WB5IMT 381-3057

Want heath mobile power supply for HF rig WB5 IMT

Genave GTX-2, 30 Watts out, 34/94 94/94, 16/76, 22/82, modified for touch tone
WA5FFK Don 787-5189



MOBILE NOISE IDENTIFICATION AND REDUCTION

Sooo, you think that just because you are operating FM, that you don't have to worry about such mundane matters as ignition noise, static, etc. Right, Wrong. This may seem a little basic, but the noise immunity characteristics of FM are directly related to the design of the receiver. FM or Frequency Modulation means that the information that you are attempting to convey via the ether is done by varying the instantaneous frequency of the transmitted carrier. (This instantaneous variation of frequency also produces sidebands, but a discussion of this is better left to another article). Good old amplitude modulated signals transmit information by varying the (you guessed it) amplitude of the transmitted signal. In FM, amplitude variations have little use, thus they can be stripped off of the incoming signal. A properly designed receiver does this by amplifying the signal and then sending it through a limiter or clipper which produces a signal of constant amplitude, but varying frequency. Little problems such as harmonics produced by the clipping action are taken care of by the use of tuned circuits and filters. Perhaps we should mention at this time that most atmospheric noise ignition noise, and other such garbage has the characteristics of amplitude modulated signals. So when you strip off the amplitude variations, you also strip off undesirable amplitude variations that cause grief and poor copy. That is, if you are properly limiting. Most receivers have a minimum level or input required before limiting action can take place. The variations from receiver to receiver can be spectacular. Below the minimum level required for limiting, your receiver is susceptible to amplitude variations. (you might also take into account additional factors such as bandwidth which of course affects signal to noise ratio etc.)

There have been many articles on noise reduction in the mobile vehicle. Those of us who read the IEEE Transactions on Vehicular Technology know that the subject can be incredibly complex and the amount of literature is escalating daily. I ran across this article by Motorola a year or so ago and thought that the accompanying chart would be useful. This material is extracted from a Motorola Service Manual. The complete section takes several pages and is a useful discussion. If you would like a copy, let me know. In addition, next month, we'll show a simple method for noise reduction involving a diode with which I have been experimenting.

Micheal Salem WA5EPK

HOW VALUABLE CAN A REPEATER BE

The Oklahoma City Autopatch Association's "Storm Net" is monitored by the ARMY National Guard's Emergency Operating Center as well as the many civilian EOC's around the state. The Oklahoma Military Department has employees who are members of the association and who can provide a direct link between the Army National Guard EOC and the EOC of each city EOC in the net.

One noteworthy event occurred in May after a severe storm had swept across central and north central Oklahoma causing serious flooding in Stillwater. LTC Jim Stanberry, K5TZS, who is member of the association and a representative of the Assistant Chief of Staff for Operations, Oklahoma Military Department, was able to provide the necessary link to obtain permission from the Governor's office to provide needed men and equipment to protect lives and property during the flood. Because of jammed commercial telephone circuits, normal communications with Stillwater was impossible and military personnel could not be alerted to activate the military SSB net.

(continued on page 18)

NOISE IDENTIFICATION AND REDUCTION CHART

Characteristics of Noise at Speaker	Source of Noise	How to Check Source of Noise	How to Reduce Noise
Identified at popping sound	Ignition	Noise varies in frequency with engine speed and will disappear when ignition is switched off.	<ol style="list-style-type: none"> Check to be sure: <ol style="list-style-type: none"> Distributor breaker points are in good condition. Ignition capacitor is in good condition. All ignition system connections are free of corrosion & making good contact. There is d-c continuity in high voltage leads. There are sufficient high spark plug break-down voltages. Spark plug electrodes are properly spaced and in good condition. Bond each corner of the motor block to chassis ground using a heavy copper grounding braid. Damp the high voltage by installing a resistor suppressor in the distributor rotor lead, or suppressors in the ignition cables or on top of the spark plugs. Install resistor spark plugs or resistance ignition cables.
Identified as a high pitched whine	Generator	Noise varies with engine speed and will persist if ignition is switched off while engine is running at a moderate speed.	Install a .5 uf coaxial capacitor at the generator in series with the armature lead.
Identified as a low-pitch clicking sound	Oil Sender	Noise rate varies with oil pressure and stabilizes at point of maximum oil pressure.	Install .5 uf bypass capacitor (Motorola Part Number 8A821889) from gauge lead terminal on Oil Sender to chassis ground.
Identified as an irregular popping sound	Wheel Static	Noise disappears when brakes are lightly applied.	Install suitable grounding brushes or springs such as front wheel static eliminators (Motorola Part Number 1K534254 regular type, 1K563174 small type).
Identified as a more regular or sharper popping sound	Tire Static	Noise becomes much worse at 30-50 mph.	Use anti-static powder in tires with inner tube.
Characteristics of Noise at Speaker	Source of Noise	How to Check Source of Noise	How to Reduce Noise
Identified as raspy sound	Voltage Regulator	Look for arcing voltage regulator contacts.	<p>Install .5 uf coaxial capacitors, Motorola Part Number 8A821889 at the battery (BAT.) terminal in series with the battery lead and at the generator (ARM) terminal in series with the armature lead.</p> <p>Install RC Filter (1V80700A89) composed of a 3.3 ohm resistor in series with a .002 uf capacitor (Maximum allowable capacity) in series with the field (F) terminal of the voltage regulator to a common ground.</p>
Identified as a hissing or crackling sound	Gauges	Noise may be detected by jarring the individual gauges while the ignition is on.	Install .5 uf bypass capacitors where needed. (Motorola part #8A821889)



TO WRITE OR NOT TO WRITE THE FCC

We all complain at one time or another about the FCC when it comes to dealing with them about some of the problems that amateurs (and other users of the electromagnetic spectrum) encounter. So, how does the Commission stack up against other Federal Agencies when it comes to consumer responses? Well, a recent study by the Technical Assistance Research Program Inc. company that was commissioned by the Office of Consumer Affairs indicates the FCC's performance is poor. The purpose of the study was to analyze 15 different Federal agencies and see if they could be made more responsive to consumers. The OCA study said the FCC was slow in responding to consumer inquiries (unless you happened to be a member of Congress and then you could get a response in about 20 days instead of 25 days) and relied heavily on the use of form letters. Under the category of "Appropriateness of Response" the study said that the problems were the use of form letters and the fact that many letters sent out were said to be a "mass of legalistic information concerning the FCC's jurisdiction that is confusing to the layman." Indeed, many complaints received by the FCC are not even answered at all.

To the Commission's defence, it can be said that they receive the third highest number of complaints (over 84,000), but even so, the agencies that received more correspondence were not among the four agencies (including the FCC) which were cited as unsatisfactory by the Study. The question of the use of the FCC's jurisdiction as a method of avoiding a substantive response to an inquiry is an old ploy familiar to amateurs. For example, the commission has long said that the prosecution of unlicensed CBers has been a function of the Justice Department since the use of an unlicensed station is a violation of Federal Statutes. Yet why hasn't the Commission issued Regulations and taken jurisdiction of this problem? They are the expert technical agency of the Federal Government that is best equipped to find offenders and enforce these regulations and federal statutes. There are plenty of examples of concurrent jurisdiction between the Justice Department and Federal Regulatory agencies. This is a problem which the Justice Department would be glad to hand over to the FCC. The simplest response might be that unpopular causes just don't stir up enough excitement (or perhaps they stir up too much excitement) for the Commission to do much about them. For this, the Commission gets another C minus.

Micheal Salem WA5EPK

(continued from page 16)

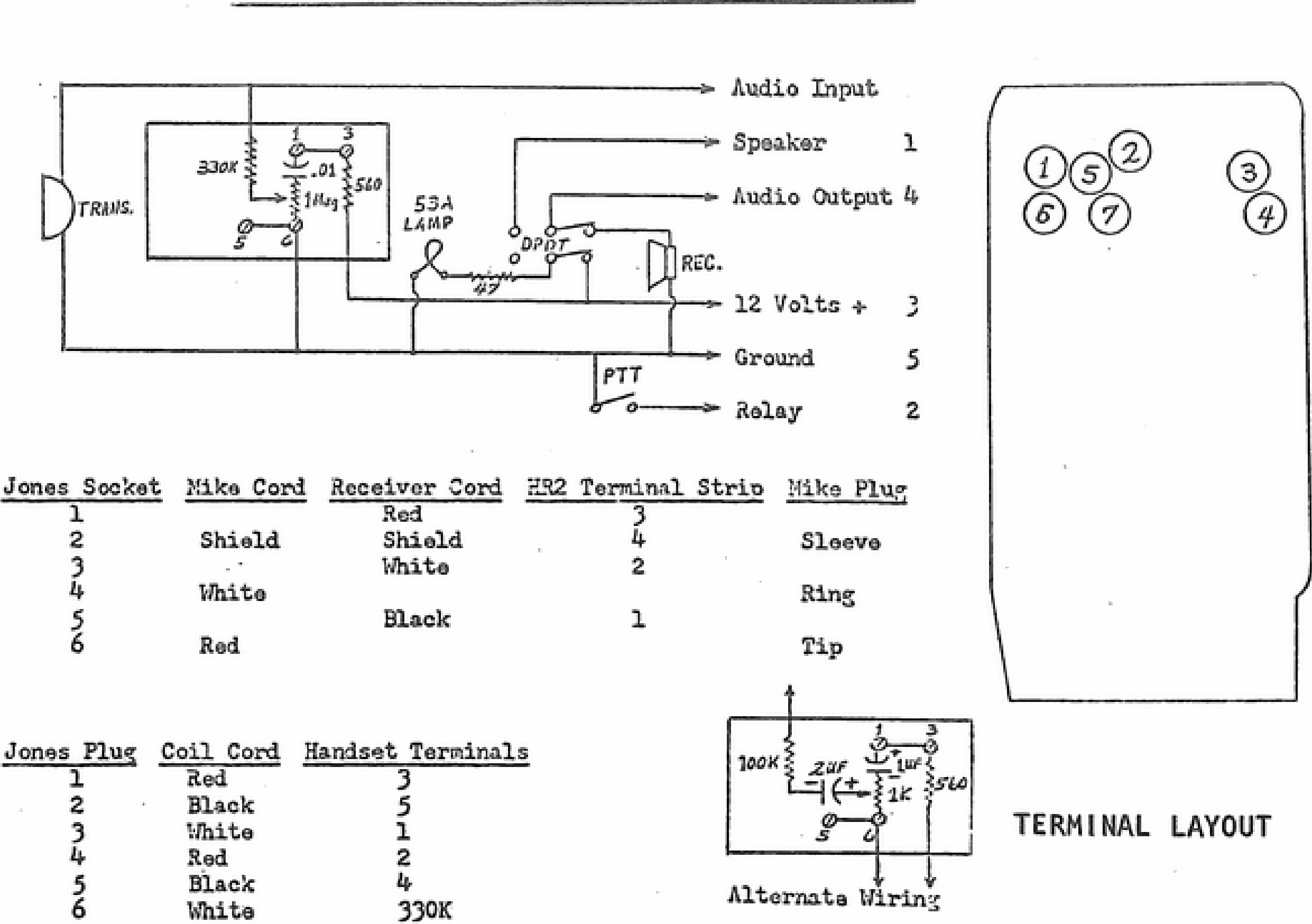
By utilizing the repeater facilities, authority for the use of National Guard Personnel and equipment had been obtained and relayed via the Stillwater EOC approximately an hour before National Guard Personnel in Oklahoma City could be alerted, assembled and ready to begin operations over the military net. At a time of rapidly rising flood waters, one hour can make a significant difference in the protection of lives and property. You can expect that the Military Department will become more dependent on information obtained through the OCAPA repeater as disasters continue to arise.

FOR SALE: Simpson Model 1699 Multi-Range Milliohm-meter, new, list \$244.23, my price \$150.00 delivered within a 500 mile range. Ed Block, K5ENL, Route 4, Box 127, Grandview, Texas 76050.

FOR SALE: Knight T-150 transmitter. AM-CW 150 watts, VFO. Good Condition. \$45. Bill Jones, W5LTJ, Phone 721-5334.

ATTENTION:
Any of the ladies, or men that has an art or craft that they would care to share for the ladies program, please call 942-0536. It will be as last year, all tables going at once.

FOR SALE:
G.E. TPL MOBILE 80 watt 4 freq. in use at the present time.
K5VRL Jim 942-0536
Sixer from HeathKit Push to Talk. Same Number as above.



WIRING DIAGRAM -TRIMLINE HAND SET (WITH CRADLE) Jim Denman-WB5EOL

<div>JULY</div> <div>HAM HAPPENINGS</div>						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4	5
6	7	8 MORI Page 2	9	10	11 CORA	12
13	14	15	16	17	18 Page 7 VHF ACARC	19
20	21 OKCAP Page 2	22	23	24 EDIT C & E	25	26
27	28 MAIL C&E	29	30	31		2 HAM HOLIDAY ARRL CONVENTION
3 HAM HOLIDAY AWARDS						

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