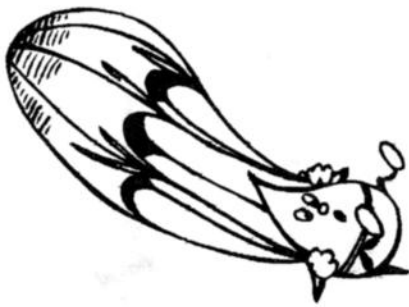


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APRIL



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ISSUE

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the MICROVOLT

Periodicals

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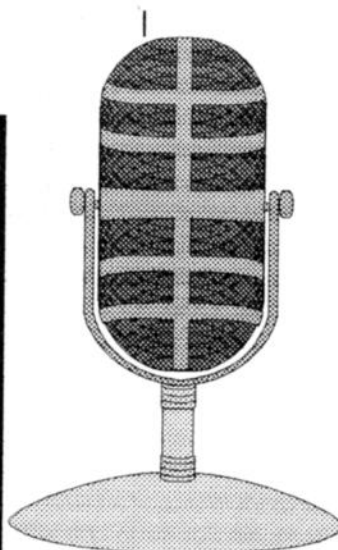
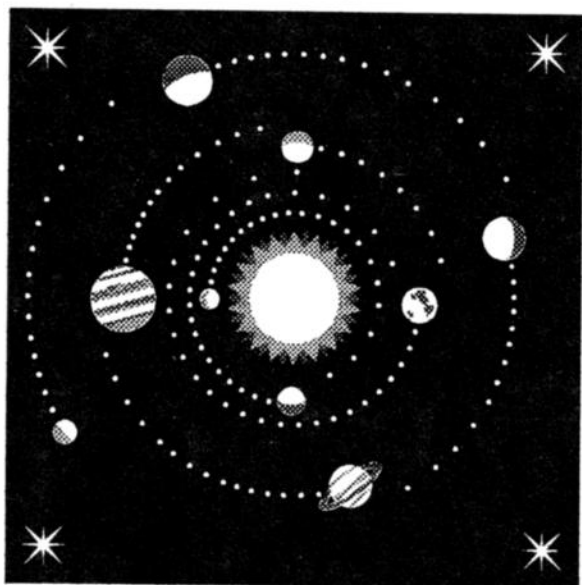
The Utah Amateur Radio Club was organized under its present name in 1927, although its beginnings may date back as early as 1909. In 1928, it became affiliated with the American Radio Relay League (club #1602) and is a non-profit organization under the laws of Utah. It holds a club station license with the call W7SP, a memorial call for Leonard (Zim) Zimmerman, an amateur radio pioneer in the Salt Lake City Area. The club meets each month except July and August. The meetings are held on the first Thursday of the month at 7:30 PM in the Exhibition hall located on the Salt Lake County Fairgrounds just south of Murray City Park. Club membership is open to anyone interested in amateur radio; a current license is not required. Dues are \$13 per year, including a MICROVOLT subscription. Those living at the same address as a member who has paid \$13 may obtain a membership without a Microvolt subscription for \$9. ARRL membership renewals should specify ARRL Club #1602. UARC maintains the following repeaters: 146.62 (minus) and 449.10. The repeaters are administered by the UARC repeater committee. Comments and questions may be directed to any committee member. The Lake Mountain repeater (146.76 minus offset) has Autopatch facilities on both the Orem exchange (covering Santequin to Lahi) and the Salt Lake City exchange (covering Draper to Layton). The 449.10 repeater has autopatch facilities into Salt Lake City only. Due to the volume of traffic, only mobiles should use this autopatch. Autopatch use is open to all visitors to our area and to all club members. Non members who wish to use the Autopatch are encouraged to help with and maintaining a club membership. THE MICROVOLT: The Microvolt is the official publication of the club. Deadline for submissions to the Microvolt is the 10th of each month prior to publication, except Aug. All submissions are welcome but what is printed and editing are the responsibility of the UARC board. Reprints are allowed with proper credits to the MICROVOLT, UARC, and authors.



THE DESERT EDITION OF

THE MICROVOLT

Publication of the Utah Amateur Radio Club
VOLUME XLI ISSUE 4 APRIL, 1997



Dance Coalition and she is a member of the Utah Sunday Singles Club.

She is also a member of UARC. She says she hopes that some day CW will become her first love. Venus has a dog named Dandy and a cat called CQ.

Venus, I wish you the best in all of your endeavors.

73 N7HVF Linda Reeder

The Address For The Microvolt Editor IS:

Cokie Eddy
147 East B/C 4th Avenue,
Dugway, UT 84022

New Phone 522-4474 (Ditto Exchange)
Or 1-801-831-4474 (Long distance)

Feature Of The Month

This month we are featuring Venus Cederstrom KB7FXB. Venus is retired. She worked for 13 years for the government service at Dugway Proving Grounds. She has five boys, 20 grand children and 30 great grand children. John was the only one of her 5 children who got interested in amateur radio. John Luker WB7QBC convinced her to get in to the hobby. Venus loves to travel and John thought this would be an excellent way to keep in touch.

Speaking of travel, in commemoration of the 1996 Utah Centennial Venus traveled to all 29 counties. Each county stamped her passport book. After this was completed she sent her passport book in to the Utah tourist Council they stamped it and sent it back to her along with a video. They also gave a choice of different posters that she could have.

Venus received her novice license in Sept. 1988 and her technician license in Jan 1989. She now has her general license. She enjoys the 146.62 repeater and likes to be the guardian of the repeater to keep it clean. She loves to welcome travelers to the state. Her first love however, is country and western line dancing. She is a charter member of the Utah Line

UTAH AMATEUR RADIO EXAMINATION SCHEDULE

Date	Location	Contact Person	Home Ph.	Bus. Ph.

EXAMINATION PROGRAMS BY CITY				

City: Brigham City	Contact Person: Terry Wyatt			
VEC: ARRL	Phone: 458-2216			
Location: Box elder High School Computer Lab				
Schedule:				
Thursday April 24 7:00 PM				
Thursday June 12 7:00 PM				

City: Farmington	Contact Person: Brent Thomas, AC7H			
VEC: ARRL	637 East 2150 South			
Bountiful, Utah 84010				
Home Ph: 298-3322 Bus. Ph: 538-3700				
Location: Davis County Jail Complex,				

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Home Ph: 298-3322 Bus. Ph: 538-3700				
Location: Davis County Jail Complex,				

2

800 West State St.,
Farmington
Service entrance

Schedule: First Wednesday of Jan., Mar., July, and Sept., 7 p.m.

City: Logan Contact Person: Paul Hansen, WO7N
VEC: ARRL 1676 East 1600 North
Logan, Utah 84321

Bus. Ph: 752-6425

Schedule: Second Saturday of April and October, 9:00 a.m.

City: Ogden Contact Person: Matthew George,
AB7GM
VEC: ARRL 473 Hiland Road
Ogden, UT 84404
Phone: 393-9159

Recorded exam information: 627-6064

Location: Weber State College, Science and Technology
Building, Rm 228

Schedule: First Saturday of May and November, 8:00 a.m.

City: Provo Contact Persons: Steve and Linda
Whitehead
VEC: W5YI 497 South 700 East
Payson, Utah 84651
Home Ph: 465-3983 Bus. Ph: 225-5200

Location: Provo Campus of Utah Valley State College

Schedule: Third Wednesday evening of each month

Notes: Do not confuse this location with the larger Orem
campus.

City: Salt Lake City Contact Person: Gordon Smith,
K7HFV
VEC: ARRL 632 University Street
Salt Lake City, Utah 84102
Home Ph: 582-2438 Bus. Ph: 532-3400 Ext.
8116

Location: Blue Cross/Blue Shield Cafeteria

2455 East Parley's Way, main (west) building,

West door Schedule: First Saturday of Feb.,

APR, June, Aug. and Dec.

20 w.p.m.: 8:00 a.m.

13 w.p.m.: 8:30 a.m. 5 w.p.m.: 9:15 a.m.

No code test needed: Any time

between

8 and 10 a.m.

Notes: Preregistration is required.

The owners of the building require that
the door be kept locked. Those who preregister will receive the
code required to get in. Preregistration also speeds the session
and gets licenses on the way faster after the session. It takes
only a few minutes by phone or on the air. Gordon usually

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monitors 146.62.

City: Salt Lake City Contact Person: Eugene (N7OVT) or
Carol McWherter, (KC7LLW)

VEC: W5YI 536 E. Leland Avenue
Salt Lake City, Utah 84115

Home Ph: 484-6355

Location: LDS Church 2700 S. 300 East. South Salt Lake
Pre-registration preferred. Please leave message if not at home.

Schedule: Last Tuesday of each month, 7 p.m.

Notes: This session is intended primarily for those seeking
Novice,

Technician, or Technician-plus licenses. Only elements 1A, 2
and 3A will be administered. Pre-registration is required.

THINGS TO BRING TO TEST SESSION

1. Two forms of ID (If licensed, your original and one form of ID)
2. \$6.05 - Cash or Check.
3. A copy of your licensee, and or copies of your pending 610 form or certificate of credit along with the original.
4. You may bring a filled out 610 form or a form will be available at the test session.
5. Pencils or pens.
6. You may bring a calculator but you must show that it is not pre-programmed.

You may use a typewriter or lap top computer only if you make
arrangements in advance.

WEB- INFO

UARC WEB PAGE ADDRESS!

<http://www.xmission.com/~uarc>

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CANADIAN BACON (HAMS) [HTTP://WWW.RAC.CA](http://WWW.RAC.CA)
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 INTERNET/PACKET GATEWAY
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 LAT/LONG LOOKUP [HTTP://WWW.MIT.EDU:8001/GEO](http://www.mit.edu:8001/GEO)
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 ML
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 SARAX
[HTTP://WWW.NASA.GOV/SAREX/SAREX_MAINPAGE.HTML](http://www.nasa.gov/sarex/sarex_mainpage.html)
 HOWWHERE? (FIND PEOPLE YOU ARE LOOKING FOR)
[WWW.HOWWHERE.COM](http://www.howwhere.com)

Remember that even though some web-sites might be there today, they may not be there tomorrow. So, if any of these web addresses have changed, or if you have a special web-sight that you would like to see listed, please contact the Microvolt Editor at 522-4474.

UTAH AMATEUR RADIO CLUBS

UARC or Utah Amateur Radio Club meets the first Thursday of each month except the months of July and August. The meeting is held in the Theatre Building located on the Salt Lake County Fairgrounds (5200 S. and 200 E.) just south of Murray Park at 7:30 PM. There is a newcomer's meeting held prior to the main meeting at 7:00 PM.

The Davis County Amateur Radio Club meets the 2nd Saturday of each month at 10:00 AM at the Davis County Sheriff's Office, 800 West State street, Farmington UT. Members and nonmembers are welcome. Dues are \$15.00 per year and can be paid at any club meeting. The Davis Club supports the 147.04 repeater. DAVIS ARES conducts a net each Thursday at 7:00 PM on 147.42 simplex. They also have a DAV node for packet on 145.07. For further information please contact Kent Whitney K17ST 444-1264

OARC or Ogden Amateur Radio Club meets the 3rd Wednesday of each month in Ogden at 7:00 PM. The meetings are held at the Red Cross building at 2955 Harrison BLVD. Members and nonmembers are invited. Dues are \$15.00 per year and can be sent to P.O Box 3353, Ogden, Utah 84409. OARC supports the 146.90 repeater and conducts a net there Tuesdays at 7:30 PM. They also

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support the 146.82 repeater. The contact person is Jerry Peters WA7ADK who can be reached at 825-8798.

The VHF Society is a group dedicated to maintaining a system of repeaters in our area. Dues are \$10:00 per year and can be sent to PO Box 482 Bountiful Utah 84011-0482. The VHF Society holds a swap and traffic net for it's members each Tuesday night at 8:00 P.M. on the 146.940 repeater. For further information please contact Eldon Kearn KB7OGM at 571-9955.

Salt Lake County ARES (Amateur Radio Emergency Services) conduct a net each Wednesday Night at 8:00 PM on the 146.88 repeater. All amateurs are welcome to participate. Their in-person meeting is held the third Wednesday of each month. For more information please contact Kirk Boman 278-9799 or Jerry Wellman Wb7ULH 969-8258

Utah Valley ARES holds their general meeting the 1st Tuesday of every month at 7:00 PM. They also conduct a net each Tuesday at 9:00 P.M. on the 147.34 repeater which is also linked to the 224.7 repeater. The contact person is Robert Earl. N7EGG at 225-8870

MARA or Mercury Amateur Radio Association is a world wide group of Radio Amateurs dedicated to training and traffic handling for emergency operation. They conduct VHF nets each Wednesday at 9:00 PM. They also conduct health and welfare traffic net on 3.873 MHz (80 meters). The Salt Lake area is on the 146.74 repeater and their contact person is Willy Peake N7VVL at 466-1114. The Ogden area is on the 145.49 repeater and the Provo area on the 145.37 repeater with Vince Newmeyer N7MLP at 785-5611 as their contact person.

UPRA (Utah Packet Radio Association) holds their general meeting on the 2nd Saturday of each month at 2:00 PM at the State Capitol Annex Building north of the State Capital. All amateurs are welcome. The purpose of the club is to educate people who are new to packet and to coordinate packet activities. Their dues are \$15.00 per year and can be sent to PO Box 92 Riverton, UT 84065. Their contact person is Jack Christensen, KC7NX at 277-6629.

UBET (Utah Box Elder Thiokol) holds a net every Wednesday at 8:00 PM on the 145.43, 448.300, 145.29 repeaters. Net control changes monthly. Contact Wayne Jensen AB7TS for details about net. Club meetings are held the first Tuesday of every month at 7:00 PM in the Thiokol Rec. Council Building (old J.C. Penney's building) 62 South Main Street. (East side of street next to Brigham City sign.) Club President is Doug Nelson KC7HGL 257-1520.

THE BRIGERLAND AMATEUR RADIO CLUB meets the 2nd Thursday of the month (except June, July, and August) in the basement of the Sheriffs Office. They hold a net at 9:00 PM on the 147.20 repeater every Tuesday. Their contact person is Dean Stevens N7WVY at 753-2664.

THE UTAH TCPIP Users Group Of UTUG is an informal group that discusses TCPIP protocols and other packet information. They are geared to all levels of users, new and seasoned. They hold a weekly net Sundays at 8:00 PM on the 146.620 repeater. Their contact person is Matt Simmons KG7MH at 965-1038

The High Valley Net from Heber meets every Monday at 9:00 PM on the 147.18 repeater. Their contact person is Doug Neilson, N7PPW at 756-5927 or Joe Chenworth, KG7GY at 564-3598

The University of Utah Radio Club is open to University Staff, alumni and students. There is a fully equipped station available 24 hours a day. Their contact persons are Marvin Match KA7TPH at 581-6085 or Clint Turner KA7OEI at 972-5541

The Salt Lake Community College Amateur Radio Club is open to anyone. They would like to welcome interested parties to join them. They meet on the South campus in room N285 on the first Saturday of the Month at 3:00 PM. Please contact Keith KI7SL at 957-3247

Rocky Mountain Radio Assn. is open to all Utah hams and they support the 447.900, 448.400, 448.700 repeaters. Their net is on 447.800 and 52.525 (six meters) every Wednesday night at 8:00.

Please contact Marc Peterson (KB7YJJ) at 977-1845 for info!

Formula for computing Effective Radiated Power

$$T - L + AG = ERP$$

Where:

T=Transmitter Output Power

L=Feed Line Loss

AG=Antenna Gain (which is often negative)

ERP=Effective Radiated Power

Signal Availability

People often wonder just how far their signal will travel. This article will address the issue of Line of sight or Ground-wave signal propagation, primarily on the VHF and UHF bands. The HF and MF bands have dramatically different characteristics and could easily consume several articles on their own, so we will leave them for another time.

There are several factors that go into the computation of the range of a given transmitted signal. Among them are Effective Radiated Power (ERP), Antenna Elevation, Signal Strength, Path Loss, and Obstructions.

Terms;

Effective Radiated Power (ERP): This is the indicator of the total power being delivered into the air. It comprises the Transmitter output power minus the feed line loss plus the antenna gain. See Figure 1 for the formula.

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Antenna Elevation: This is the distance from sea level to the tip of the antenna in feet.

Signal Strength: When receiving a signal, this is the indication on your S-Meter. For the purpose of this

$$\sqrt{(E * P) / (R * f)}$$

Where:

E=Antenna Elevation

P=Effective Radiated Power

R=Number of Receivers on frequency

f="THE FACTOR"(0.01223)

Figure 2

article we will assume a desired receive signal strength of S-9 or better.

Path Loss: Just as a flashlight will only cast a beam so far, a radio signal will only travel so far. Losing strength with each additional foot that it passes through the air.

Obstructions: Big metal things that inhibit the radio signal. Large metal warehouses, Semi trailers, even Low-E reflective glass and chicken wire commonly used in the walls of Stucco houses are obstructions.

We will start with the transmitter. For this exercise our transmitter has an output of 20 watts on the 2-meter band. Feed that into 35 feet of RG-58 coax cable which has a loss factor of 6+ dB per 100' @ 100 MHz for a total insertion loss of 3 dB at 144 MHz. When subtracting, 3 dB of loss represents half of your signal. Now our power is down to 10 watts due to loss in the coax. On to the antenna. We will feed our 10 watts into a 1/4 wave vertical spike which has about -3 dB of gain (or another 3 dB of loss) for an ERP of 5 watts. We will assume there are no obstructions and we will ignore path loss. The antenna is at 100' elevation.

Do we have enough information to determine transmitter range? What else is there? The only remaining factor is Signal Availability. The transmitter has a finite amount of output power. Therefore, the more receivers there are catching that signal, the less of that signal there is to go around. This is evidenced by the fact that distant stations are seldom heard on the local repeater during the day when activity is at its peak, yet at night when people start turning off their radios and going to bed the more distant stations are heard. The math to prove this theory is quite complex so I won't explain the computation. See Figure 2 for the formula.

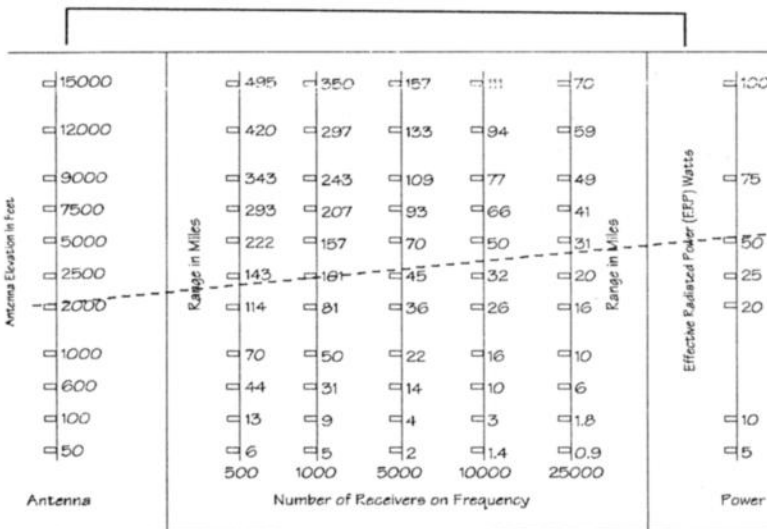
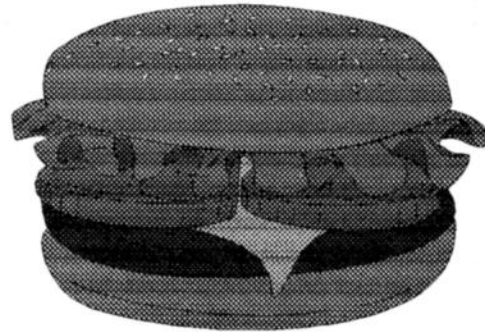


Figure 3 is a handy quick reference range estimating chart. To use it, first locate the antenna elevation along the left-hand bar (point a). Next locate the transmitter ERP on the right-hand bar (point b). Finally, draw a line or hold a ruler from point a to point b and look along the bottom row to determine the range depending on the number of receivers on frequency. The preprinted line represents the River City ARCS Repeater which has an elevation of 2000' and an ERP of 50 watts.

That's all for now and look forward to next April's article wherein I'll describe how to double our usable radio spectrum by using reversed repeater pairs. A process where you talk into your speaker then key-down and listen intently to your microphone for a response.

APRIL FOOLS!

THE MICROVOLT



THE FAX-A-BURGER

By John Loveless KC7EKK

Introduction and Method:

Warning! All facts and statements made about the Fax-A-Burger are fiction and should be treated as such. The Fax-A-Burger is not real or tangible in any way. Anyone who mistakes it for an actual piece of office equipment will be taunted and mocked. Do not take this seriously.

The fax-A-Burger is quite possibly the most important piece of equipment in a business office. This report will discuss five main points: 1) The Conception of Fax-A-Burger, 2) Food-Facsimile Theory, 3) Controversial issues concerning the Fax-A-Burger, 4) New Designs for Faxing Food, and 5) the future of Food-Facsimile.

During my interview with Dave, (a.k.a. Jupiter Casual), I learned many new and interesting facts about the Fax-A-Burger.

I also had the opportunity to participate in the first attempt to send food from one place to another over amateur radio frequencies. The results were delicious and promising. They will be discussed in greater detail later. Now, let's

take a greater look at Dave's invention known as Fax-A-Burger.

Facts and Discussion:

The conception of the Fax-A-Burger

It was back in May 5th of 1993 when Dave first got an idea to change the way we get a snack when we're hungry. He states, "I was sitting in front of the computer talking to my friend Ron in Kent, Washington. I was hungry and didn't want to get up and go to the fridge.

I told Ron to fax me a tortilla. When it arrived it was only paper but it seemed real enough. We tried other foods. After a cheese-burger was transferred into my hands, I shouted out, "Yippee!" I was so enamored with his culinary expertise that I asked him to fax me a prime rib. The first portion came through--then it started buzzing and making tapping noises. Then I heard this really strange chewing sound, and the whole dang prime rib disappeared. And the fax came back--Hey! That was tasty! Thanks."

Dave states in his paper he created the first food facsimile by trial and error. He walks us through how he made the Fax-A-Burger out of regular surplus or broken office equipment. The first working product was loud, inefficient and fattening. Later models and new inventions changed all of that.

Food Facsimile Theory:

How does the Fax-A-Burger work? The first working model used separate slots for each food item and different cartridges for each condiment. One for catsup, mustard, Mayo, miracle whip, etc. It was a very bulky machine. The baud rate varies with the number of condiments being sent. The newer model (it was the first one that actually worked successfully) used a Burger/taco isolator unit which controlled the precise mixture of food and data, thus eliminating the need for different cartridges and slots. Dave said, "The baud rate encompassed the cholesterol rate. This means meat and flavor go to the facsimile machine and the rest is shorted to ground and eliminated. This allowed for a smaller design. Food would go in, get broken down by the gallium-arsenate deep fry laser wrapped in a synthetic stomach lining, the remains were scanned with the rotating mirror digitized and sent over the phone lines by the modem.

Controversial Issues Over The Fax-A-Burger and their resolves

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Since the fax-A-Burger came out, there has been several controversial statements made. For instance, *Hardening Of The Fiber-Optic Arteries and Slowing Network traffic*. To remedy the situations, Dave came up with the *Laser-Broiled Burger*. He states, "the laser selects only the nutritionally valuable portions of the burger and the fat and wastes are vaporized. Reducing fat, cutting your phone bill, increasing productivity, and giving you a good burger. It is something the general public really likes.

Many skeptics have criticized Dave's invention, saying that neither the FDA nor the FCC will ever approve of the Fax-A-Burger. Dave responded, "I have been hearing them say that for several months and it doesn't bother me any. They will change their minds once I fax them a burger." Dave said he would never fax them a piece of his mind. Besides, according to him, the FCC and FDA have already approved the Fax-A-Burger. "My biggest problem now is to get around the CIA. The keep intercepting my cheese-burgers.

Newer Models and Other Modes of Food Facsimile

Are there any other models of the Fax-A-Burger? "Yes. I will be releasing the lap top version soon. The only drawback is you must supply your own napkin." Mentioned in Dave's paper, there will soon be smaller models released. The fax-A-Peanut and Fax-A-Tic-Tac. Or one that is even smaller, Fax-A-Burger-satellite.

The Future of Food Facsimile

I asked Mr. Dave what was the latest invention he was working on. His reply, "The Chili Dog Transporter." It is a wireless version of the Fax-A-Burger. Dave said, "if you are on a mountain top and you call me on the radio and say beam me up a chili dog, I'll beam you up a chili dog."

"How has Fax-A-Burger changed your life and do you have any regrets?"

Dave's response, "It has made my life a lot simpler and more efficient. Of course I have put on 150 pounds because I never get up off the computer."

Will there be any drastic changes made in the fax-A-Burger? "No there will not," Dave answered. I invented this thing in May of 1993 and ever since the first fax, I knew it was perfect. I have made a few changes here and there but it is here to stay."

Conclusions and Recommendations:

Mr. Dave and I played around with this Fax-A-Burger and it really does produce a good cheese-burger. We could not tell the difference between the original and the facsimile. "It's gorgeous", he said.

We sent a fruit cake back and forth. neither of us wanted it. It tasted terrible no matter what we did to it. We wrapped it up in cellophane and dialed a random number and sent it off.

Mr. Dave then tested his Chili-Dog Transporter with me. We used an amateur frequency of 146.54 MegaHertz. I was impressed at how fast and efficient it was in beaming chili-dogs. It also worked well with chocolate ice-cream, and graham crackers. expect to see this food moving wonder on the market in the very near future.

In conclusion, The Fax-A- Burger is the invention that will help out the most people with the least effort. imagine all the applications. Sending found to third world countries, or just going to get a cheese-burger. It gives a new twist to fast food. It will change the way we eat forever. -Ed This story was sent to us from an amateur radio operator that had no clue that the name in the article was that of another amateur in our club. I have edited it to read Dave or Mr. Dave where the name appeared. Apologies to the writer of this article.

What To Do This Year?

April 3 We would like to have someone talk about the Internet, but the person we wanted will not be available.

April 12 Utah Hamfest '97

May 1 Crazy HAT Day at the meeting. Wear your favorite crazy HAT, fishing hat, sitting around the yard hat, or favorite HAT to wear to field day.

May 1 Randy Kohlwey N7SFI will talk about satellite communications.

June 5 Field day meeting

July 9 Steak fry

August No Microvolt

Sept. 4 Swap meet

Oct. 2 **Rosh Hashanah** We would like to have Eldon K. and John Lloyd talk about repeater interlinks

October 31 Halloween

Nov. 6. **HOME BREW**

Nov. 7 Microvolt Editor's Birthday.

Dec. 4 Elections.

Dec. 25 Christmas

Dec. 31 New Years Eve

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*Pretty
And Has A Brain,
Too??*



**SULTRY STAR
LAMARR DID
MORE THAN
ACT, SHE ALSO
INVENTED**

BY ELIZABETH WEISE
-THE ASSOCIATED
PRESS

The next time you pick up a cellular phone, give a brief thought to the improbable woman who first patented some of

its underlying technology 55 years ago -- "the most beautiful girl in the world," actress Hedy Lamarr.

The sultry, sophisticated star of such hits as "Samson and Delilah" was the racy stuff of dreams for hundreds of thousands of men who marched off to war.

But there is another side to this pinup image. The pouting, sensuous star had an inquiring intellect and an engineering bent that in another era might have taken her not to Hollywood, but to MIT. And though she never received an Oscar for her acting, she is about to get an award from the nation's techno-wizards, who have adopted her as one of their own.

To trace the story of Lamarr's invention, it's necessary to hark back to 1933, when the Vienna-born 19-year-old -- already famous for her sexy film "Ecstasy" -- became the trophy wife of Austrian armament manufacturer Fritz Mandl in a marriage arranged by her parents.

"I was a kind of slave. When we were in Italy, I couldn't go swimming without him being there," Lamarr said in the first interview she has granted in 20 years.

After four years of marriage, with Mandl increasingly involved in deals with the Nazis, Lamarr knew she must

escape. She drugged the maid assigned to guard her, crawled out a window and made her way to London. There, she appeared on the stage, which led MGM's Louis B. Mayer to offer her a shot in Hollywood -- where she got a movie contract, a new name (she was born Hedwig Eva Maria Kiesler) and language.

But she did not forget the immersion course she had been given in advanced weaponry at the side of the first of her six husbands. Filled with an abiding hatred of the Nazis and a strong sense of patriotism for her adopted country, she searched for ways to help the war effort.

In 1941, she met composer George Antheil at a Hollywood party. Dubbed "the bad boy of music," Antheil composed avant-garde, mechanistic symphonies and ballets.

"Hedy didn't suffer fools gladly. George Antheil was not only a musician, but a formidable enough intellect that she could hold an intelligent conversation with him," said Dave Hughs, a Colorado researcher whose work for the National Science Foundation on wireless communication is based in part on the technology Lamarr envisioned more than a half-century ago.

Lamarr wanted to work at the newly established National Inventors Council in Washington, D.C., but was told she could do more for the fight against the Nazis by using her status to sell war bonds.

But that was not enough for her. She was full of ideas, including one on the radio control of torpedoes. She had sat with Mandl as he reviewed films of field tests on torpedo systems, and now her mind began to explore ways to circumvent the jamming that kept the United States from using radio-controlled missiles.

As one of her sons, Anthony Loder, recalls, "[She and Antheil] were sitting at the piano one day and he was hitting some keys and she was following him, and she said 'Hey, look, we're talking to each other and we're changing all the time.'" Together, they worked on the idea. A simple radio signal sent to control a torpedo was too easy to block. But what if the signal hopped from frequency to frequency at split-second intervals? Anyone trying to listen in or jam it would hear only random noise. But if the sender and the receiver were hopping in sync, the message would come through loud and clear.

The idea was Lamarr's, but Antheil, whose compositions had featured up to 14 player pianos playing simultaneously, suggested using piano rolls to make sure both sides were in sync. Their patent for a "Secret Communication System" was granted in 1942. "I read the patent," said Franklin Antonio, technical officer of the cellular-phone maker

Qualcomm Inc. of San Diego. "You don't usually think of movie stars having brains, but she sure did."

In fact, it was a brilliant idea years ahead of its time.

"I always am," Lamarr said.

It would take another 20 years, and the invention of the transistor, for the concept to be realized. Three years after the patent expired, the pair's ideas were used in secure military communication systems installed on U.S. ships sent to blockade Cuba in 1962.

THE MICROVOLT

But it was with the widespread availability of fast, cheap and small computer chips that spread spectrum came into its own.

By an odd twist of fate, Lamarr's son, Anthony Loder, owns a Los Angeles-based phone store. He has written a screenplay about what he sees as his mother's essentially tragic life.

Neither she nor Antheil ever received royalty payments for the commercialization of their patent, though it is cited as the underlying patent for frequency-changing technology. Now 85, she lives simply and in seclusion in Florida.

But some of those men who fell in love with her looks turned into the men who would make use of her ideas -- and fight to get her the recognition she deserves.

Now Hughs is taking up the challenge. He launched a campaign to get Lamarr and Antheil honored with the Electronic Frontier Foundation's Pioneer Award.

On Wednesday, Lamarr and Antheil will be honored with an award for "blazing new trails on the electronic frontier" at the Computers, Freedom and Privacy conference in San Francisco. Her son will accept it on her behalf.

Lamarr still doesn't suffer fools gladly. Informed of the award, her reaction was blunt.

"It's about time."

FROM THE PREZ

As I sat down to write this month's article for the Microvolt the thought came to me to write a little for my feelings about some of the things that I most enjoy about the hobby.

Each month I look forward to receiving the Microvolt, but along with that I look forward to the monthly publication of QST. I have learned many things from reading the pages of that magazine. QST has many articles that are both thought provoking and stimulating.

It is a proper forum for us to vent our ideas and thoughts about Ham Radio related topics, because it will be read by those who can do something about our desires or ideas.

Along with the various articles in this great publication I have learned a great deal about topics as varied as running a station aboard a B-29 Superfortress to having a mobile packet station with the capability of GPS. It is full of a wide spectrum of topics to help us in our endeavors in Ham Radio, whatever they may be.

If I want to learn about repeater operation, there have been many articles written about that very topic. If I enjoy making things, almost every issue has the plans for many projects, and a lot of common sense help to make them actually work! If I enjoy DXing there is a whole section devoted just to that, and a forecast for my chances of an opening for my favorite band to open up for that month.

(and they are usually correct).

If I enjoy contesting I can read about the next competition and what the rules are. This also applies to VHF & UHF competitions as well as Satellite along with HF competition. I can see the reports of all my competition, and if your good enough you may even be listed in the top finishers for the state.

Field Day results are posted in their also.

There are many things that you just cant find anywhere else that are advertised for you to see. I never knew that there were so many other radios, towers, antennas and other various ham related gear that was available until I started reading the issues.

Now it sounds like I am on my soap box for the ARRL and their associated magazine, yes I am! I have enjoyed what I have read, and am impressed with the ability of the ARRL to help manage our needs in the very volatile world now facing us in Ham Radio.

I also have enjoyed each month finding something else to learn about the hobby and seeing the things that are going on in the world around us so far as Ham Radio.

I hope that I have put some interest in being a member of the ARRL and receiving the associated magazine, because it will be money well spent for many years to come. Like many things in this world we enjoy many of the benefits, but don't pay much rent. Being a member of the ARRL you have a voice for you and the hobby that you love. I encourage each of you to look into joining the ARRL, if for no other reason, do it for the great magazine, and you will be helping keep the strength of Ham Radio up for many years to come.

Pay the Rent if you enjoy the hobby.

PS. I found an interesting device that will let many of you enjoy using Morse code on FM simplex (MCW) WWW.advancedamateur.com or AARadio@aol.com or 1-800-459-6707 or 717-456-6479. This device will tap into your mic input and allow you to hook up a keyer and use Morse code on FM simplex with someone else who is trying to learn also. I found it a great idea, hope you will also.

73 Alan KC7MUZ

THE MICROVOLT



FROM THE EDITOR- JUST FOR THE RECORD

This past week I have been truly very sad about the response that I have had from the controversial piece of literature that I printed in last months Microvolt. It was called "Nobody asked me But..." by KB7ZLH, my husband Dave Eddy.

I expected to get letters and input, which the Microvolt really needs right now. I did not print it to make anyone mad, and I am sorry if it offended anyone. Many of the amateur radio clubs have opinion pages and I feel (that) they are more interesting than having a spot in the Microvolt that states "this space intentionally left blank".

Opinions are great. It stimulates thought and it helps us remember that the reason we have one is because we are American's. We do not have to agree with each other to be members of the same club. Or the same club called mankind. Everyone agreeing in this world would sure make it a dull world.

The reason the Microvolt editor agreed to print this article was
1) It had just been on Newslines as a hot topic and I felt that there had to be other people out there that felt the same way.
2) It was a technical piece that I felt many amateurs that were technical in nature could understand. And even enjoy.
3) I have begged for articles for the Microvolt and I get none.
4) I thought that I was the editor and with using common sense and decency, I did not feel that there would be a problem with it.

I would like to thank most of the club members for their broad-mindedness in listening to another man's opinion. I did not put the article in the Microvolt to stir up hate and discontent. I did not put the article in The Microvolt just because it was something that was written by MY husband. I would have put it in The Microvolt had it been any member of the Utah Amateur Radio Club. I love to hear from anyone in the club that would like to submit any type of radio-related article. I did not put it in the Microvolt because it was my views. I have no views on the subject. I became an amateur radio operator because I wanted to write **this** newsletter. If I cannot use my better judgment in writing for the Microvolt, what kind of an editor would I be?

Thanks and 73's-
Cokie Eddy KC7MDV

(At first I was going to blame the insertion of the article on Lon Stuart's trolls but decided against it. They were oblivious to it. Really...)

From The Section Manager's Mailbox...



Here is something I thought you might be interested in reading. Let me know what you think.

73 de Jim Rudnicki; NZ7T

LEAGUE PETITIONS FOR RACES FLEXIBILITY

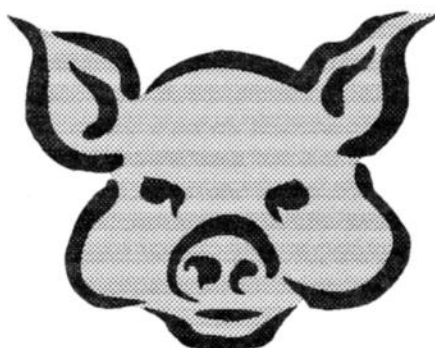
The ARRL is seeking a change in FCC rules to relax regulations regarding the Amateur Radio Service and the Radio Amateur Civil Emergency Service (RACES).

The League wants the FCC to allow hams actively supporting emergency or disaster communication or involved in drills and tests to communicate "between and among" RACES stations and those stations registered with civil defense organizations operating under RACES. The League also wants the FCC to relax time limitations on RACES emergency drills and tests. This would permit stations operating under RACES (organized under the Federal Emergency Management Agency and operating under local civil defense agencies) to communicate, as necessary during emergencies, tests and drills, with stations operating under the Amateur Radio Emergency Service, or ARES (begun by the ARRL in 1935) or with other non-ARES or non-RACES-stations also engaged in emergency communication or drills. Right now, RACES and ARES operate independently of each other, although some hams participate in both organizations.

Relaxing the rules "would permit intercommunication with other amateurs active in emergency communications, and enable a form of 'mutual aid' in the Amateur Service," the League said in its filing. "It is time that the Commission permit, but not require, communications between RACES participants and non-RACES amateurs during emergencies or emergency drills and preparedness exercises." The League said the Commission has an opportunity to eliminate a restriction that "arguably should never have been enacted in the first place," and that has "outlived whatever utility it may ever have had."

The League also seeks to increase the time limit on RACES training drills and tests from one hour per week to up to five hours per week.

THE MICROVOLT



Thank you to Amateur Radio Newline For the following article aired last Sunday Night on The UARC Information Net. 146.620

THE TITLE: HAMS

Finally, there are all kinds of stories telling why hams are called hams. The problem is that nobody has ever proved or disproved any of them. Until now. There are stories all over how we became known as hams. One story that recently came to my attention has to do with a college radio club back in the 1900's. Back in those days, everyone just kind of picked their own identifiers. Three club members built their own station and identified it the their own names. That got to be a long and tedious process, so they shorted the callsign to just the first two letters of each last name. That got confused when similar sounding foreign commercial station call. So they shortened it again to just the first letters of their last names. You guessed it. Radio station HAM was born. In 1911, Congress was considering legislation to regulate wireless, as it was known then. One of the club members chose the complex regulation bill as a project for a college thesis. The instructor was so impressed, he insisted a copy be sent to a committee member in Washington. Before it was all over, the writer of the thesis was testifying before Congress about the station, and about if how the wireless regulation bill was passed, the restrictions would shut the station down. In the debates over the bill, the little station, HAM became a symbol for all the amateurs in the country, in their fight against the commercial interests at the time. To quote the final lines of this story, printed in a December 1996 newsletter, "That's how it all started." **You will find the whole story in to Congressional Record.** Nation wide publicity associated radio station HAM with amateurs. From that day to this, and probably till the end of time, in radio, an amateur is a ham. Is this really the way we became known as hams? Well its as good a story as any of the others.

(Via KA8OQF)



"A Little LEO Update"
From the (Utah) Section
Manager....

Here is the latest news on the Leo's
effort to access amateur bands.
Please read, and act accordingly!
Excerpted from The ARRL Letter,
February 14, 1997, Vol. 16, No

7. Commercial satellite interests seeking access to bands below 1 GHz including amateur allocations at 146 and 430 MHz--now have added 220 MHz to their wish list. For the first time, Little LEO (low-earth orbiting satellite) interests have proposed including 219-225 MHz in their list of desired allocations for the non-voice, non-geostationary (NVNG) mobile-satellite service (MSS). The move was contained in the industry's so called flexible allocation proposal, delivered at the February 13, 1997, meeting of FCC Informal Working Group (IWG) 2A. Little LEO targets no., include 146 to 148, 219 to 225 and 430 to 450 MHz. The ARRL and AMSAT were among those objecting to the concept, and the League is urging those who agree with their position to contact the FCC by March 4. IWG-2A has been preparing draft proposals for the 1997 World Radio communication Conference (WRC-97). These will be reviewed during a March 5 meeting of the FCC's WRC-97 Industry Advisory Committee that is preparing draft proposals for consideration by the United States as it gets ready for WRC-97. The ARRL and AMSAT statement said the latest proposal affecting amateur allocations in the 219 to 225 MHz segment came at the last possible moment and without any technical support whatsoever. The League and AMSAT pointed out that the little LEO proponents have had more than a year to complete a technical study of the possibilities of sharing with the amateur services in the 144 to 148 MHz and 420 to 450 MHz bands. They have not demonstrated compatibility for sharing these amateur bands but over the evolution of their document have proposed various new ideas for use of these bands. The little LEO flexible allocation strategy for WRC-97--submitted as IWG-2A/86 (Rev. 6)--is to propose broad allocations. The apparent theory is that most administrations would find reasons to oppose little LEO use of specific bands in the crowded spectrum below 1 GHz, but that a broad allocation would permit different implementations in different countries depending on local circumstances. At the February 13 meeting, a coalition of spectrum interests--including land mobile, amateur, broadcasting, and military--opposed the flexible

THE MICROVOLT

allocation concept on three grounds: that the concept is simply an invention to avoid performing technical sharing studies that would demonstrate the unfeasibility of sharing; that it is inconsistent with decades of ITU allocations practices; and that, if adopted, the concept would be counter to US interests. The coalition document is identified as IWG-2A/107. The ARRL and AMSAT submitted a further statement of opposition, citing the absence of any technical studies that might support sharing with the amateur service or the amateur-satellite service and pointing out that the little Leo's have completely mis-characterized the nature of ITU Resolution 640 regarding the use of certain amateur bands in the event of natural disasters. The ARRL/ AMSAT paper, revised to reflect opposition to the late proposal to include 219-225 MHz, is identified as Amateurs also might find interesting the comments of the Department of Defense, identified as IWG-2A/101 (Rev. 1). These address the 430 to 450 MHz segment the Little Leo's seek to share. Anyone wishing to register support for the ARRL/AMSAT submission should send a brief e-mail message to "wrc97@fcc.gov". The subject line should say "Reference No. ISP-96-005 IWG-24". A simple statement to this effect:

"I support the ARRL/AMSAT opposition to the NVNG MSS flexible allocation proposal." will be included in the public record and will help to drive home the point that there is broad-based opposition to poorly conceived sharing proposals.

Please note! The proposals the League opposes are not FCC proposals, nor are they endorsed by any other branch of the government. They are industry proposals. The League's objective is to demonstrate there is broad citizen opposition to the industry proposals, so the government will not adopt them as US proposals. So, PLEASE DON'T FLAME THE FCC if you comment.

a word from our sponsor...

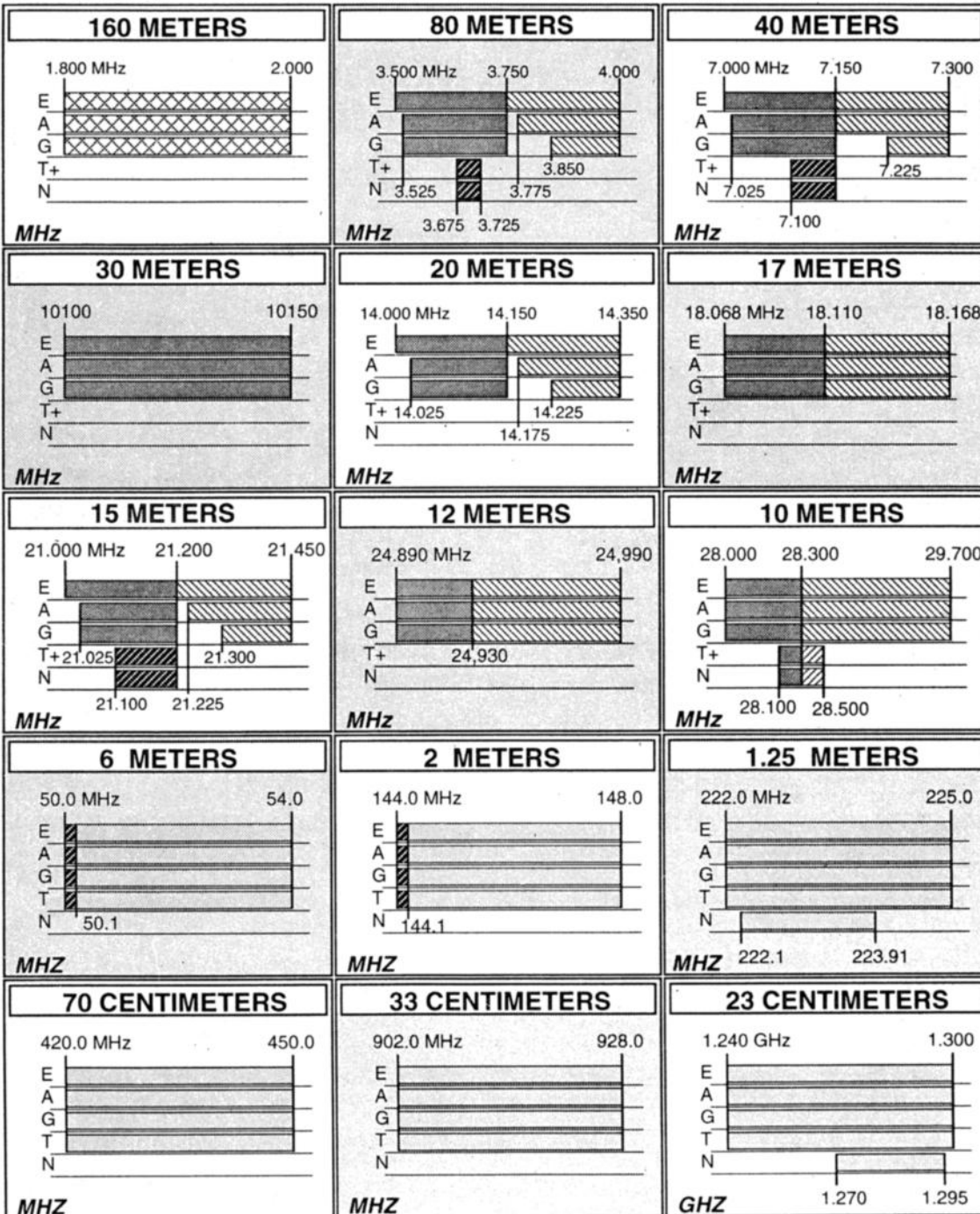


Don't forget that you can contact "Fred- The Book Lady" and get all the updated books that he can put his hands on!



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UTAH HAMFEST '97

ARRL - Utah State Convention



Weber State University
Student Union Building
Ogden, Utah



Saturday, April 12, 1997

Dealers - Seminars - **Swap Meet** - Contests

The Utah Hamfest '97 will host many activities all day Saturday, April 12, 1997, including a **Swap Meet**. It's time to be thinking about reserving your table at the UTAH HAMFEST '97, as the space is limited. The cost per table is \$5.00. Don't wait,

SIGN UP NOW!

If you have questions,
contact Larry White, KC7KDZ at:

Phone Number: (801) 776-8121

E-Mail : le-white@juno.com

By Mail: Utah Hamfest, Inc.

c/o OARC

P.O. Box 3353

Ogden, Utah 84409



You must be registered to attend UTAH HAMFEST '97
in order to reserve a table at the swap meet.

Utah Hamfest and WSU Center for AeroSpace Technology Present:



UTAH HAMFEST '97



ARRL UTAH STATE CONVENTION

Weber State University Student Union Building

Ogden, Utah

Saturday, April 12, 1997

8:00 A.M. - 5:00 P.M.

Dealers - Seminars - Swap Meet - Contests

The Utah Hamfest and Weber State University Center for AeroSpace Technology, will host activities all day Saturday, April 12, 1997 at Weber State University. Special rates for early registration. Mark your calendars now to attend. Please put this flyer in your Club Newsletter, announce at your Club Meetings and on your local nets. Please copy this flyer as needed for distribution.

Activities Include

Dealer Area

Seminars

Transmitter Hunt

QLF Contest

Mobile Installation Contest

Transformer Toss

Swap Meet Area

VEC Testing Session

Food Available

PRIZE DRAWINGS

Registration Information

Adult (18 and over)

\$7.00 before April 1st

\$10.00 at the door

(No mail-in registration after April 1, 1997)

Youth (17 and under)

\$3.00 before April 1st

\$5.00 at the door

(Youth not eligible for prize drawings. Special drawing held for licensed youth.)

Whether early or at the door,

EVERYONE MUST REGISTER!

Scissors icon: Detach here and mail today!

Please Print

Name: _____ Callsign: _____

Address: _____ Phone: _____

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Number of Adults _____ X \$ _____ = \$ _____

Number of Youth _____ X \$ _____ = \$ _____

Swap Meet Space _____ X \$ 5.00 = \$ _____

TOTAL = \$ _____

(Check or Money orders ONLY for mail-ins!)

Must have names and callsigns (if applicable) of all registered attendees.

Names of Additional Attendees:

Name: _____

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Plenty of free parking. Overnight parking for self-contained RV's (limited). Let us know if you need space.

The committee can provide some hotel names. You can make reservations on your own.

Dealers, if you are interested in exhibiting, please write to the address below.

See you all on April 12, 1997. Plan to come and enjoy!

Send registration to: UTAH HAMFEST, INC. c/o Richard Gordon, 1607 21st St. Ogden, Utah 84401-0000