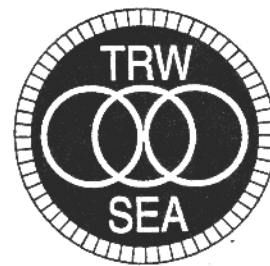




CROSSTALK

News Bulletin of the TRW Amateur Radio Club



Volume 95 Number 8

August, 1995

Field Day '95 a Big Success for W6TRW

By John Shepherd, KO6MZ, Field Day Chairperson

We decided to dedicate W6TRW FD '95 to public relations and to publicize our hobby to as many people as possible. By everyone's account we started with ambitious goals and went right on to exceed them! Selection of "the antenna range" at the corner of Redondo and Rosecrans (just north of Building O5) as our field day site proved to be a great location to "show off" Amateur Radio. (It also provided some very convenient antenna supports.)

FD '95 had everything from a full size 40 meter 2 element quad to "Chuckles the Clown." More than 100 visitors came to see our show and nearly 60 participants helped score points and display our hobby. The 40 meter SSB station alone got 14 people to make a first field day contact. Many "I'm Radio Active" certificates were handed out to visitors for their first time on the air. Once again, the Xerox ARC provided many operators and much support.

Visitors were greeted at a special sign-in desk, given copies of ham radio literature, including "Archie" comics and candy for the kids. Nina Whiddon, Rich Sauer, Mike Zingery, Ray Enriquez, Bob Briggs, Young Ryu, Ed Koran (with video camera), and many others greeted visitors, took them around to see the stations and explained the purpose of field day and talked about Amateur Radio in general.

Clowns, Balloons and ATV Too

Wendy Crawford contacted Gordon West who graciously donated license guides from "Radio School," which were available to interested visitors at the check-in desk. Chuckles the Clown (AKA Chuck Monroe) handed out balloons and delighted everyone. The ATV station provided live pictures of field day to the Family Day festivities at Building S. Buses from the Family Day activities dropped off and picked up visitors all day Saturday. If we had been any more successful in our goal of attracting visitors, we would have needed a bigger site!!!

Continued on Page 3

Calendar of Events for August

<i>Mondays 7:30 PM:</i>	DCS Net on 145.32 (-)
<i>Wednesdays Noon:</i>	Emergency Communications Team Net on 145.32 (-)
<i>Thursdays 6:30 PM:</i>	Club Net on 145.32 (-) "The Bob and Ray Show"
<i>Fridays 7:00 AM:</i>	Club Breakfast in the Building S Cafeteria
<i>Aug 1 at 5:15 PM:</i>	Executive Board Meeting Building E2/1200
<i>Aug 5 - 6:</i>	ARRL UHF Contest
<i>Aug 8 at Noon:</i>	Club Picnic at Pollywog Park. Talk-in 145.32 (-)
<i>Aug 18 at Noon:</i>	Technical Chairman's Mtg Building S Hamshack
<i>Aug 26 at 7:00 AM:</i>	TRW/ARC Swapmeet Marine and Aviation

Hot Off the Press!

Tidbits from Your Humble Editor

Here We Go Again

Well, it's finally out of my hands and into yours. The August edition of *Crosstalk* made it out late, like its predecessor, the July edition. I guess I'll have to turn around the September edition in a week or so to get it out on time! How did Bill Shanney do it?

Thanks for all the nice comments I heard about my first attempt at putting out the newsletter. And a BIG thank you to everyone who came through and contributed an article for this edition. I actually had to cut some things out to reach our five sheet limit. More backlog for future newsletters!

Field Day

The top story this month is Field Day. John Shepherd and company put on a great one. You can read all about it throughout this newsletter. I spent most of my time during Field Day at the visitor's booth and got to meet and talk with lots of people. Many were just passing by and stopped to find out what was going on. Many more read about us in the Daily Breeze and decided to check it out. We handed out loads of brochures and information about ham radio. It was neat to see the excitement on the faces of people making their first radio contact. I think there's a real good chance that there will be a few more hams in the future because of our Field Day.

Thanks to Gordon West, WB6NOA, who donated many books and license manuals. Thanks to Rosalie White at ARRL Headquarters for the boxes of brochures and handouts. And thanks to all the volunteers who made Field Day, 1995 a huge success.

Club Banquet to Feature WB6NOA

Speaking of Gordon West... It turns out that one of our Associate Members, Wendy Crawford, KD6DYK, has known Gordon for...well...let's say a long time. Wendy arranged for Gordon to donate his books for Field Day and even picked them up for us. At Field Day, I took the opportunity to twist Wendy's arm a little more and asked her if she could ask Gordon if he'd like to be our banquet speaker this year.

Wendy came through! So here's the first official announcement: The TRW Amateur Radio Club Banquet will be on Saturday, November 11th. And our Guest Speaker will be Gordon West, WB6NOA. Most of you know Gordon from his classes, books or magazine articles. But if you haven't heard him speak in person, you're in for a real treat.

Look for more on the banquet and a reservation form in the September and October issues of *Crosstalk*.

The Commercial

Be Famous! See your name in print! Articles are needed for future editions of *Crosstalk*. If you are involved in a radio project, or are planning an antenna party or other event, write it up. Let the other members of the club know what's going on.

The TRW ARC is a vital and active club. We have a LOT of stuff going on but how can we get more people interested if they don't know about it? Stuff I know about that our members are working on includes ATV, packet, putting up an HF tower and beam on Building S, getting the club's OSCAR station on the air, WEFAX, designing and building a new emergency communications van, helping out at DUI checkpoints with the Manhattan Beach PD, HF and VHF contesting, running a monthly swap meet., and a lot more. If you're doing it, write it up!

73 de N6CIZ • • • - • -

Field Day, 1995 (Continued from Page 1)

Although the emphasis this year was providing information about Ham Radio to our visitors, we made a respectable contest score of more than 7000 points! The Special Band was the top point score with 1950 bonus points. Nina Whiddon worked especially hard and we got nearly all the possible bonus points, only missing 10 points for a traffic message relay! Thanks to Rich Sauer several articles appeared in local papers and a Daily Breeze reporter even came by to see the action.

Andre Burghard and Bill Whiddon, leading the 20 meter SSB team, made the most QSO's (656), but Bob Hume, leading the 40 meter CW crew (647 QSO's) scored the most station points (CW contacts count 2 points each). Neal Hudson, Irv Zipper, Barry Allen and Al Elder all helped to make top points on 40 CW. Dave Qualls, Dave Lee, Roger Mattson and the crew on 40 SSB managed to make 353 QSO's while still spending much of their time giving visitors an opportunity to make a first contact. The new aluminum crank-up tower made putting up the 2 element beam on 40 A LOT EASIER this year (just ask Bill Montgomery!).

A Special Thanks to the Xerox Amateur Radio Club

George Eldridge, Doug Tice, John Levin, Barbara Standal, Terry Wells, Doug Gilbert, Art Zeller and a large contingent from Xerox brought in many CW points and kept 80 meters going all night long! Bill Shanney's 2 element 80 meter wire beam sure helped improve the score from last year. Larry Shapiro and his assistants worked nearly 100 contacts on 15 meter SSB in spite of the worst band conditions in memory. Frank and Gwen Cartier kept 10 and 6 meter SSB on the air and made a significant contribution.

FM, satellite contacts, packet, solar powered contacts, ATV, and running up and down the 80 foot main tower kept the VHF/UHF team under Bob Briggs really busy. Blaine Milliron kept FM on the air until the van arrived from the swap meet. Young Ryu, Ray Enriquez, Mike Zingery, Chris Wachs, and several more helpers combined their efforts to make sure we got the extra 100 points for a satellite contact. Mike Lee worked though many "equipment problems" (including the printer that wouldn't) to put packet on the air.

Support Makes the Difference

Operators with radios score points but nothing works without support. Support makes the difference between a Field Day where everyone has a good time and scores are high or one everyone would like to forget. W6TRW is famous for its Field Day food (and you thought that it was just coincidence that the ARRL officials usually show up at meal time?). The food was great again this year! Breakfast, Lunch and Dinner were high points of FD '95. Fried chicken, ribs, baked potatoes, hot dogs, hamburgers, a full breakfast menu, and a Field Day cake were all part of the service. Betty Burghard, Marilyn Oltmans, Jamie Tarr, Rich McGreevy and several more helpers kept everyone "fully fueled."

Wayne Hogancamp kept the lights and radios on by making sure our generator generated!. Mitch Tarr arranged for a terrific blue and gold "W6TRW FD '95 coffee mug for all the participants (and visitors making a "first contact"). Gwen Cartier handed out Family Day T-shirts as well as the coffee mugs.

Jason Shanney, Terry Thompson, John Sidney, Michael Lackey, Jeff Daugherty, Bob Selbrede, Rick Ervin, Peter and Thomas Coffee, David Bloodgood, Miles Shepherd, Mike Neary, Marsha Zeller, Sandy Levin, Alex Levin, Emily Levin and many others all helped to make W6TRW Field Day 1995 one of the best we've every done.

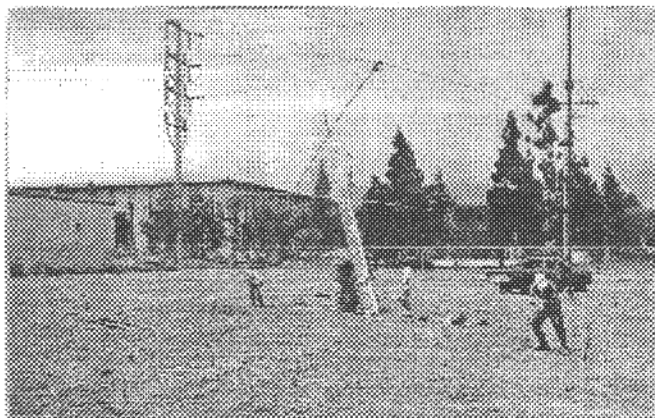
Thanks to EVERYONE! A list of all FD participants is on Page 4.

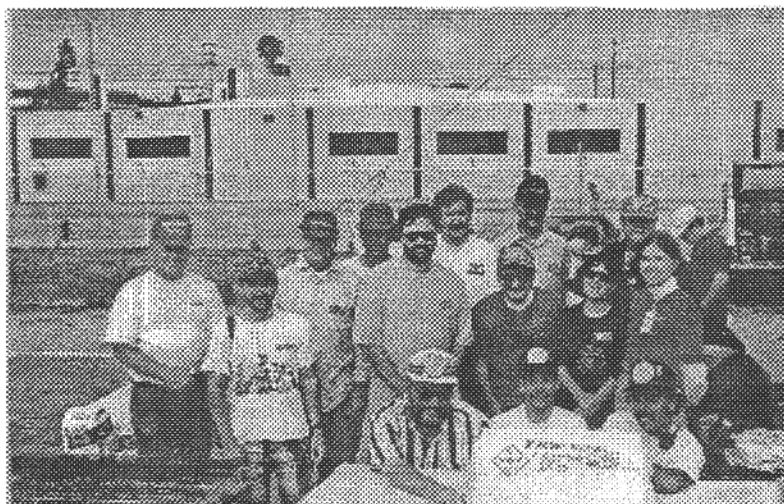
Thanks to all these brave souls who helped make Field Day 1995 a great success for the TRW and Xerox Amateur Radio Clubs. Apologies, in advance, to anyone not listed...but these are the folks who signed the volunteer log this year. (In addition to this list, over 100 people signed our visitor's log).

Rich Sauer N6CIZ
Larry Shapiro KJ6HO*
Carey Briggs KE6GPC
Bill Shanney KJ6GR
Frank Cartier WA6RAY
Dave Lee WA6MPF
Bill Whiddon KK6LV
Michael Lackey KD6OZF
Nina Whiddon KN6FL
Young Ryu AB6UP
Terry Wells KC6VCL
Thomas Coffee KE6GVQ
David Bloodgood KD6PRO
Chris Wachs WA2KDL
Neal Hudson N6NW
Doug Gilbert WA6LXB
John Levin KM6JV
Emily Levin
Miles Shepherd N7WLS
Blaine Milliron N6ZAY

Mike Zingery KB6TVJ
John Shepherd KO6MZ
Bill Montgomery N6MEL
Jason Shanney KC6FNO
Gwen Cartier KD6YYW
Mike Lee KE6MJU
Terry Thompson KB6CUT
Art Zeller KD6JEG
Robert Briggs KD6WYQ
Rick Ervin KD6OZD
Roger Mattson AC6BT
Mitch Tarr KC6TDZ
Irv Zipper WA6ZOU
Marilyn Oltmans KE6AKI
Barry Allen WA4TTG
Doug Tice KK6OU
Sandy Levin
Terry Wells KC6VCL
Mike Neary

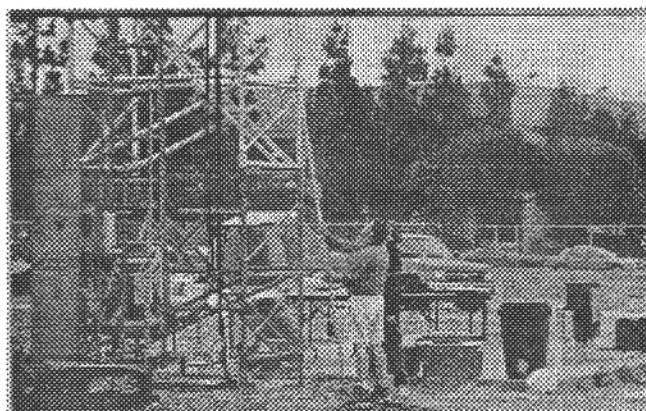
Ray Enriquez KD6IGI
Ed Koran WA6JOK
Wayne Hogancamp KI6GM
Rich Mc Greevy KC6TEL
Bob Hume KG6B
Betty Burghard N6TRL
John Sidney KC6VCS
Jeff Daugherty KE6REJ
Bob Selbrede W9NQ
Richard Wittie KE6SNF
Peter Coffee AC6EN
Jamie Tarr
Wendy Crawford KD6DYK
Al Elder KN6E
George Eldridge N6RVC
Barbara Standal KC6OVQ
Alex Levin
Hugh Wells W6WTU
Marsha Zeller KE6AZL





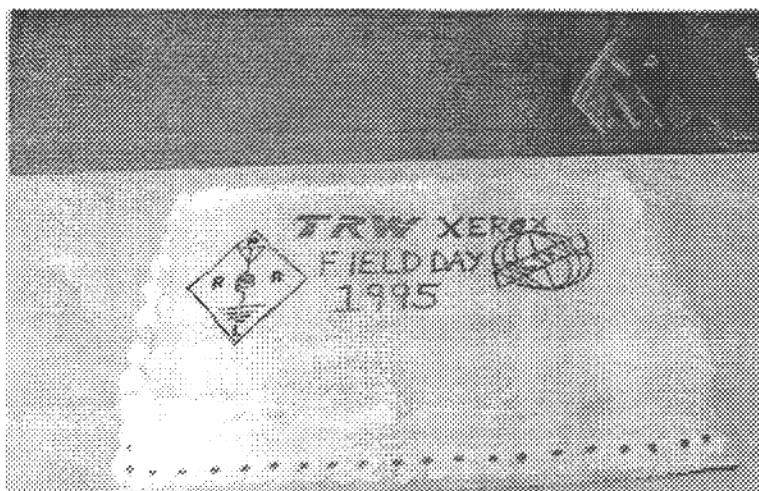
Photos on Previous Page (Clockwise from Upper Left):

- 40 Meter beam going up on the new crank up tower.
- Roger, AC6BT, helps a visitor make a contact on 40M SSB.
- The gang makes a contact through OSCAR 13.
- Mike, KD6OZF, works 'em and logs 'em.



Photos on This Page (Top to Bottom):

- Some of the FD 95 participants gather around the Field Day Cake.
- VHF crew hands up antennas on the 80 foot VHF/UHF tower.
- "The Bob and Ray Show" makes a special appearance at Field Day.
- The Field Day Cake (before being devoured by hungry testers).



EXECUTIVE BOARD MEETING MINUTES 7-11-95

Present at the Meeting were:

Ray, KD6IGI, Vice President; Young, AB6UP, Treasurer; Bill, KJ6GR, Secretary; Chris, WA2KDL, Technical Chairman; Greg, N6RRY, Activities Chairman; Rich, N6CIZ, Crosstalk Editor; Bob KD6WYQ, Emergency Coordinator; and John, KO6MZ, Field Day Chairman.

In the absence of the President, Vice President, KD6IGI presided over the meeting, calling it to order at 5:30 PM.

The Treasurer passed around copies of the expense and budget sheets. The club is still financially solvent.

Access codes for the 447 autopatch need to be updated. The easiest way to do this is to clear out the current autodial numbers and have everyone reapply. To accomplish this, Young will create a form which will be published in Crosstalk. It was reaffirmed that Pat, KB6YPI, is still "in charge" of the autopatch although he has been offsite recently.

Field Day: John, KM6OZ, reported that Field Day was an outstanding success. Our goal this year was to introduce ham radio to the public, and we certainly did that. The W6TRW Field Day effort involved more than 60 volunteers and attracted over 100 visitors. John is still totaling up the scores.

Greg, N6RRY, reported that the July club picnic was a rousing success. Approximately 46 club members showed up. All the food and drinks were consumed. Due to the success of this picnic, the Board voted to hold another club picnic on Tuesday, August 8th, in place of the evening club meeting. Ray, KD6IGI, volunteered to provide a barbecue for the September picnic.

Chris, WA2KDL, reported that the Packet Gateway is working fine and is getting a lot of use. The club needs to buy a dedicated two meter radio for the gateway. We are currently using the shack 2-meter FM radio. The new computer is on line supporting the gateway and the old computer is available for satellite tracking and other shack uses.

Bob, KD6WYQ, reported that the ECT patches are here. They look great. The Board approved \$350 to purchase ECT hats and have the patches attached to them. Jan Parker, KD6AKD, will attach patches to the ECT vests as well. The company has approved \$3800 to upgrade the new ECT van. Ray, KD6IGI, will get the ball rolling. The van needs some engine and suspension work, painting, storage bins and new rear doors. This will all be paid for by the company.

Rich, N6CIZ, announced that a banquet speaker has been lined up. Gordon West, WB6NOA, will be the speaker. But to accommodate his schedule, the banquet has been moved up one week. It will now be on November 11th. Rich expressed his thanks to Wendy, KD6DYK, for helping to get Gordon.

Young, AB6UP, suggested that the club spend some money to purchase stationary with the club logo. The Board approved \$150 for this expense. Young has the action to procure this.

John, KO6MZ, asked if the club would be willing to participate in the CQ WPX contest in October. It would mean getting the HF tower and antenna installed on Building S sometime before then. The Board thought that this would be a worthwhile activity and would provide pressure to complete the antenna installation on Building S. John will honcho this effort.

John also suggested that the club purchase the latest version of the CT logging program. The Board approved \$100 to buy CT version 9. John will purchase it and install it on the computer in the Building S shack.

The Board also approved spending \$350 to purchase an inkjet printer for the shack computer, since our old line printer died recently. Young, AB6UP, took the action to purchase the printer.

The meeting adjourned at 6:45 PM.

Loop Antennas

By Bill Shanney, KJ6GR

The next step up in performance and complexity from the simple dipole is the loop. A loop may have any reasonable shape such as a triangle, square, diamond, or rectangle. The circumference of a resonant loop is roughly one wavelength (most books use $1005/\text{frequency (ft)}$). Loops provide a gain of 1 to 1.5 dB over a dipole depending on their shape.

A triangular loop is a very popular design for those with limited space since it only requires a single support (apex up). If you happen to have two supports slightly better performance can be obtained with the apex down. Figure 1 shows several possible loop installations.

A loop may be fed for vertical or horizontal polarization as shown in Figure 2. On the low HF bands horizontal polarization is usually less noisy. For VHF operation on FM use vertical and on SSB/CW use horizontal polarization. For HF horizontally polarized loops the same rule as for dipoles applies, the higher the antenna the lower the radiation angle. For HF vertically polarized loops the radiation angle is affected by ground characteristics and how close the antenna is to the ground.

The feed point impedance of a loop is in the 100 to 120 ohm range. Transformers can be built or purchased to match this impedance to 50 ohms for single band use. Amidon sells a large variety of transformers designed by Jerry Sevick, see any recent issue of *QST* or *CQ* for their ad. I recommend ladder line feed for multi-band operation. The new 450 ohm SL ladder line with #16 stranded conductors is lighter weight and won't break as easy as the older #18 copper weld variety.

Loops are very versatile antennas. They are often used as elements of a beam antenna. The popular HF quad, VHF quagi and UHF loop yagi are some examples. Large low HF band loops are often tilted or mounted horizontally due to the lack of suitably high mounting structures. Loops can be fed with ladder line and tuned for multiband operation. They may be operated below their resonant frequency but the impedance gets very low for a circumference less than one half wavelength which may make matching difficult and efficiency low.

Many hams, myself included, feel that loops are quieter antennas. The absence of open circuit ends, like dipoles have, reduces precipitation static. I once put up a 40 meter triangular loop and thought something was wrong since the receiver was very quiet until I tuned in a signal which verified the antenna was working properly.

Loops are very versatile amateur antennas with applications at HF, VHF, and UHF. More information can be found in the *ARRL Antenna Book* or Les Moxon's *HF Antennas*. If you are looking for a new antenna a loop deserves to be considered.

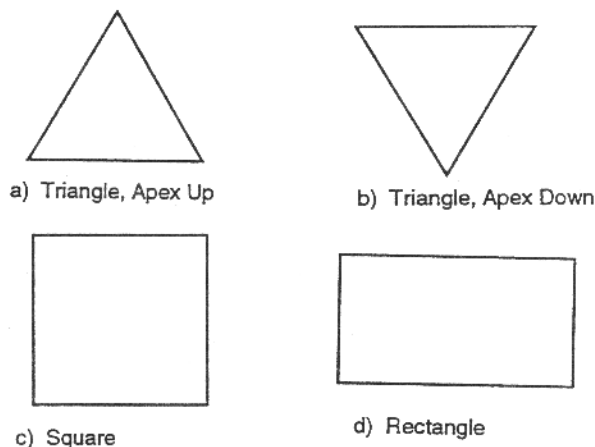


Figure 1: Common Loop Configurations

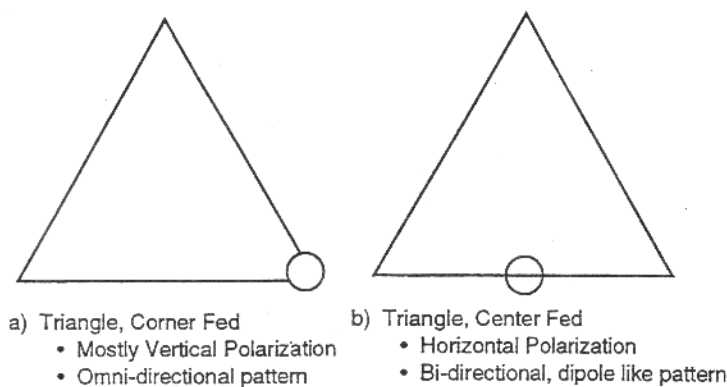


Figure 2: Loop Feed Points

TRW/ARC NEWS...

Club Barbecue August 8th at High Noon

Due to the outstanding success of the July picnic which saw 46 club members and guests show up, the Executive Board voted to hold another picnic on Tuesday, August the 8th at noon. The site will be the gazebo at Pollywog Park. Club VP and "infamous" Thursday-Night-Net-host Ray Enriquez, KD6IGI, will be the chief chef for this event. All club members and their guests are invited to attend. Note that the BBQ will take the place of the regular club meeting for August.

No Code Tech Class to Start in August

The club's Training Chairperson, Bryan DeAro, KN6OW, will be starting a no code Technician class on Tuesdays and Thursdays for 6 weeks, beginning August 8th. The classes will be held in Building R2 from 5 to 7 PM. There is no cost, but students must purchase the latest copy of *Now You're Talking* which will be used as a text. First priority will be given to TRW employees and family members. If space is available, non-employee's may be accepted. For more information, or to sign up for the class, contact Bryan DeAro at (310) 812-4789.

Club Members Talk to the Space Shuttle

STS-70 went into orbit to launch the TRW-built Tracking and Data Relay Satellite. Several TRW/ARC members went into orbit after talking with astronauts Don Thomas, KC5FVF, and Nancy Curie, KC5OZX, aboard the space shuttle.

Young Ryu, AB6UI, Bob Briggs, KD6WYQ, Ray Enriquez, KD6IGI, Barton Davidson, KD6YEC and Brian, AB6UI, (from Hughes ARC, but wearing a TRW/ARC T-shirt!) made contact with the shuttle from the club shack in Building S. The contacts took place on Tuesday, July 18th and Wednesday, July 19th. A complete story will appear in next month's *Crosstalk*.

New Badges Available for All Club Members

Membership Chairperson Nina Whiddon, KN6FL, has procured new club badges for all current members of the TRW/ARC. These are really nice engraved badges, with the club logo, the member's name and callsign. They are being made available at no cost to the member. The badges are available for pick up at the monthly club meeting or at the swapmeet. Contact Nina if you need to have your badge mailed to you.

ECT Patches Are Here

The TRW/ARC Emergency Communications Team has a new logo and patch. Designed by Greg Martens, N6RRY, the colorful patch features a "lighting bolt" design with a red TRW logo on a blue field, "ECT" in black lettering on white and a red field below. The words "Emergency Communications Team" on a gold background encircle the design. The patches will be attached to the team's safety vests, hats, shirts and jackets. It will also be prominently displayed on the Team's new emergency van. For more information on the ECT, contact Bob Briggs, WD6WYQ, the Emergency Team's coordinator.

W6TRW-3: Surfing the Internet Gateway

By Chris Wachs, WA2KDL, Technical Chairperson

The TRW Amateur Radio Club's Internet Gateway has been on the air since the first of June. Its use continues to climb, with an average of 25 to 30 login's a day.

This article will go over the procedure for the packet user to change ports when logged on to the gateway. Remember, to get to the gateway on radio, connect to W6TRW-3 on 146.745 (-600, no PL) or NETROM to TCPTRW or W6TRW-3.

The first step at the BBS prompt is to list all the ports on the system at this time. Enter the **P** command to get a list of the ports. You may then connect to any of those ports. As an example, to get to the JPL port and connect to their gateway, you would type: **C jpl w6vio-14**. You will receive a connect message when you are connected to the JPL gateway. You must then enter a carriage return to get the BBS prompt sent to you.

While at the JPL port, you can repeat the process to view their available ports. You must know the callsign of that port for the connect command to work.

If you have any questions about the gateway, send me mail (using the **S** command at the BBS prompt) to **WA2KDL@W6TRW**.

73 and see you on Channel 111 of the conference bridge on the gateway.

ARRL Opposes Apple's Frequency Request

The ARRL has filed comments on a petition for rule making that would allocate 300 MHz of spectrum in the 5-GHz band, an action that would affect the Amateur Radio Service.

The petition, by Apple Computer, Inc., seeks 150 MHz, at 5150 to 5300 MHz, and 5725 to 5875 MHz. Amateurs currently have access to the entire range 5650 to 5925 MHz on a shared basis.

The Apple petition, RM 8653, seeks the spectrum for a new, unlicensed radio service that the League called "essentially unregulated, save for certain technical rules," and that proposes the use of directional antennas and relatively high power, and protected allocation status in shared bands by "non-technical persons."

And in defense of the Amateur Radio allocation in the 5-GHz band the ARRL cited activity in a number of metropolitan areas around the US. The League said the petition doesn't show why 300 MHz is necessary for such a service (and why existing allocations are not sufficient); why existing wireless and wireline services aren't sufficient; and why a proceeding such as this should not wait until current proposals on such services are resolved.

The ARRL also said the petition fails to consider compatibility between the proposed new radio service and other services (including Amateur).

FOR SALE:

Henry 3K-A Linear Amplifier. 3KW PEP, 3 to 30 MHz. Clean. - \$1200 Firm.

Heathkit SB-200 1 KW Desktop Linear. - \$300

Heathkit SB-101, 600, 630 Station. Xmtr Problem. - Make Offer

Phil Bergeron (310) 813-0511