



CROSSTALK

News Bulletin of the TRW Amateur Radio Club

Member, American Radio Relay League

ARRL Club No. 1658

AUGUST 1987

** FD'71 ** FD'73 ** FD'75 ** FD'76 ** WAS ** WAC **

Garrett/W6TRW Repeater: 145.32/- .600 (2A-PL) -- UHF: 442.000in/447.000out

CALENDAR FOR AUGUST AND SEPTEMBER

Tuesday	Aug 25, noon	Club Meeting, R2/1055. Scheduled speakers are Rich Sauer, the W6TRW repeater, and Terry Thompson, the OSCAR station.
Saturday	Aug 29, 9am-6pm	ARRL Networking Conference, Building S Forum. More information and directions to Bldg. S see article inside!
Saturday	Aug 29, 8-11am	Swap Meet, Northwest corner of Compton/Marine and Aviation behind the Chevron station. Don't arrive before 0600!!
Thursday	Sept 3, after work	Executive Board Meeting. All members are welcome! At Pizza Hut, 926 N. Sepulveda Blvd., Manhattan Beach.
Tuesday	Sept 15, noon	LAST Club Picnic, El Nido Park, 182nd St. between Hawthorne and Inglewood. Bring your badge and enjoy the good food!
Saturday	Sept 26, 8-11am	Swap Meet
Tuesday	Sept 29, noon	Club Meeting, R2/1055.

From the Library

George Lee, W6IOW

What's new in the August issues of:

QST: Homemade Circuit Boards - Don't Fear Them.

Standard Time, Canadian Style (3.33, 7.335, 14.670 MHz).

RF Path Selection Above 100 MHz.

A UHF Amp - 2 In, 45 Out @ 435 MHz.

The Lunchbox - 2, 3AH Gel Batteries to keep QRP going.

Product Review of the Ten Tec 561 Corsair II Transceiver.

HR: Solar Activity & the Earth's Magnetosphere (for you DXer's).

Better Frequency Stability for the Drake TR7 (adding a digital AFC ckt.).

Designing Trap Antennas.

Basic Program Analyzes Simple Ladder Networks.

CQ: Antenna Special

Review of Alinco ETS-210 Roof Tower.

Review of Creative Design RC5A-3 Rotator (heavy duty).

Review of Ten Tec Series of "Ultimate" HF Mobile Antennas.

More Easy-to-Build Antenna Tuners.

An Easy-to-Build All-Band Vertical.

73: Special Packet Issue

Review of Yaesu FT-690RII 6M all-mode Transceiver.

Review of Tonna 50/5 5 element 6M Yagi.

Review of Heath HW-9 QRP CW Xcvr.

Listing of U.S. Packet Digipeaters and Packet Bulletin Boards.

EZ PCB's (using TEC-200 film).

IC-02AT Packet Interface.



ARRL Networking Conference

For those of you that wish to attend the ARRL Sixth Annual Networking Conference and are not members of the TRW/ARC or TRW employees, here are the directions to the Building S Forum, located in the Space Park complex of TRW in Redondo Beach, California. From the North, proceed south on the San Diego Freeway, I405, to the Inglewood Ave offramp. At the bottom of the ramp turn left (north) and proceed to the second traffic light, Compton Ave., where you will turn left (west). Proceed to the second traffic light, next to the tall white building with TRW on the top and turn left and find a place to park. Building S is north west of the tall white building (E2), and you will walk down the stairs to the lower area around the building to enter the Forum.

If you are arriving from the south, proceed north on the San Diego Freeway, I405, to the Inglewood Ave. offramp and at the bottom of the ramp turn right (north). Proceed to the first traffic light, Compton Ave., and turn left. The remainder of the directions are the same as arriving from the north.

Space Park is bounded by Aviation on the west, Compton/Marine on the north, Freeman on the east and Manhattan Beach Blvd. on the south. Parking is available on the west and north sides of Building S, which sits almost in the center of Space Park.

We received a FAX of the topics and speakers for the conference just before press time and it was not the most readable document. Many of the call signs have been guessed at and some names may be misspelled due to the illegibility of the original document.

"Estelle: A Formal Description Technique for Communication Protocols," Michel Barbeau, VK2BFM.

"OSI: A Plan Comes Together," J. Gordon Beattie, Jr., N2DSY, Thomas A. Moulton, W2VY.

"A High Performance Packet Switch," Mike Brock, WB6HHV, Franklin Antonio, N6MKF, Tom Lafluer, KA6IQA.

"The KISS TNC: A Simple Host-to-TNC Communications Protocol," Mike Chepponis, K3MC, Phil Karn, KA9Q.

"Digital Signaling Processing and Amateur Radio," Dr. Thomas A. Clark, W3IWI, Dr. Robert W. McGwier, N4HY.

"A Duplex Packet Radio Repeater Approach to Layer One Efficiency," Robert Finch, N6CXB, Scott Avent, N6BGW.

"Packet Radio Developments over the Last Year," Terry Fox, WB4JFI.

"Thoughts on the Issues of Address Resolu-

tion and Routing in Amateur Packet Radio TCP/IP Networks," Bdale Garbee, K3EUA.

"The Design of a Mail System for the KA9Q Internet Protocol," Bdale Garbee, K3EUA Gerard van der Grinten, PA0GRI.

"A Bit Error Rate Tester for Testing Digital Links," Steve Goode, K9NG.

"A 56 Kilobaud RF Modem," Dale A. Heatherington, WA4DSY.

"Reusable IF Addresses in a Dynamic Network," Robert B. Hoffman, N3CVL.

"Software Design Issues for the PS-186 Advanced Packet Network Controller," Brian Kantor, WB6CYT.

"Another Look at Authentication," Phil Karn, KA9Q.

"A High Performance, Collision-Free Packet Radio Network," Phil Karn, KA9Q.

"The KA9Q Internet (TCP/IP) Package: A Progress Report," Phil Karn, KA9Q.

"Approach for Digital Transmission of Pictures," Thomas Kieselbach, DL2MDE (translated by Don Moe, DJ0BC/KE6MN).

"RUDAK - The Packet Radio Experiment On-Board OSCAR P3C," Hanspeter Kublen, DK1YQ.

"Improving Shared Channel Access Techniques for Amateur Packet Radio," Brian Lloyd, WB6BQN.

"The Noise Performance of Several Data Demodulators," Hugo Lorente, LU4UXT.

"Overview of the TEXNET Datagram Protocol," T. C. McDermott, N5EG.

"CSMA Multihop Networks: Throughput Analysis," Dr. Bob W. McGwier, K4HY.

"DSP Modems: It's Only Software," Dr. Robert W. McGwier, K4HY.

"HF Packet: Where do we go from here?" Barry D. McLarnon, VK3JF.

"FINDER--The Family Information Database for Emergency Responses," W. E. Moerner W?6I, Sharon Moerner, N6??D, David Palmer, N6XL.

"Dial 'O' for Operator: Message Routing in the Amateur Packet Network," Thomas A. Moulton, W2VY.

"Packet Radio and IP for the Unix Operating System," Clifford Newman, N1IMM, Wayne Yamamoto.

"Pacgram Messaging Protocol for Packet Networks, Jay Nugent, WB8TKL.

"Performance Monitoring or I Wanna Fix It, Is It Broke?" Skip Hansen, WB6YMH, Harold Price, NK6K.

"ASC X12.A-1985: Draft Proposed American National Standard for Electronic Business Data Interchange Amateur Radio Message Transaction Set," Jack Sanders, NC4E.

"Design Abstractions for Protocol Software," Paul Taylor, VK3BLY.

Again our apologies to those whose names have been misspelled or call signs botched.

Disaster Communications Service

Vern Haines, W6KKU

After some years of inactivity, the County of Los Angeles Amateur Radio station located at the Lennox Sheriff's Station has been reactivated. This reactivation is an attempt at reorganizing and bringing together the teamwork necessary to allow participants to exercise their skills in support of the County Disaster Communications Service (DCS).

As you know, the DCS is now an "affiliate" of RACES and continues to be ready for any RACES activity that could be assigned by the Federal Government.

Within the DCS organization there are specific procedures to be practiced and followed so that as an operating unit, DCS efficiency is kept at a high level. Some of the procedures are described below.

MONDAY NIGHT DRILLS. Each Monday (except the first one of each month and holidays) the DCS goes into action. At 1900 hours the County Information Center (CIC) establishes a controlled net on 145.30 MHz. Between 1915 and 1945 hours, the District Information Centers (DIC) throughout Los Angeles County establish a controlled net on their simplex frequencies. There are 20 DIC's in the county, each designated by a name and number. The area covered is given by the use of the name; the district is referred to by number when announced over the radio preceded by the word "Station;" and all DCS members unit designators are preceded by a letter designating that particular district. For example, the District served is "Lennox," its designator is "Station 3" and its DCS members unit designators are preceded by the letter "C."

TRAFFIC HANDLING. Traffic handled on these nets is the exchange of info, on a "drill" basis, of the kind that might be needed during a real disaster. Capability reporting, activity info, announcements and the like can be heard during these drills. Each Emergency Operating Center (EOC) is responsible for traffic handling with regard to DCS members who are assigned to them. All traffic funnels to CIC through each DIC. So it can be seen that it is a process of info accumulation from one function to the other with all of it ending up at HQ. By following this procedure as closely as possible, a smooth operation with minimum time consumption can be attained.

EQUIPMENT AND ITS PROBLEMS. At the Lennox Sheriff's Station there is a full compliment of receivers and transceivers to cover 160

...more DCS

through 1.25 Meters. There is, however, at the city EOC only a single 10 Meter transceiver. This equipment is L.A. County donated to the city to use for DCS drills and emergencies. These are tube-type transceivers and are estimated to be 15 years old. Evidently they were authorized for use before VHF/UHF repeaters and HTs were available.

In those days the only way for a DCS member to check in during a drill was from an HF mobile or fixed-portable unit. But now, with repeaters and HTs, 10 Meters is no longer practical to handle the larger volume of DCS members, some of whom may be on the streets at an assigned post and not in a car. The confinement to a car or radio shack during an emergency is very restricting and does not allow the operator to move around much, thus limiting his efficiency. What's needed then are VHF/UHF rigs in the city EOCs. Some cities have them, purchased with city money.

The time has come for changes in our DCS methods and equipment, and perhaps we will experience these changes in the near future. This is sincerely hoped for because, when the big shake comes, we are not ready for it!

Answers given by children to exam questions:
The cuckoo does not lay its own eggs.
The cerebrum is a cavity in the head.
Blood flows down one leg and up the other.

Field Day

Here are the details of our Field Day participation just like the ARRL got it.

<u>CW</u>		<u>PHONE</u>	
<u>BAND</u>	<u>QSOs</u>	<u>BAND</u>	<u>QSOs</u>
80	0	80	241
40	475	40	322
20	273	20	623
15	57	15	429
2 (Packet)	40	2	173
		Novice	31
		450 MHz	4
TOTAL	845	TOTAL	1823
Multiplier	2		1
Points	1690		1823
Total Points	3513		
Power Multiplier	2		
Total less bonus	7026		
Bonus points	300		
TOTAL	7326		

Not great but we lost about 1000 points when we lost the 40 Meter CW antenna to the 4WD jerks.

From the President

Chris Wachs, WA2KDL

With less than two weeks to the Ariane mission, the chance for Phase IIIC to go into orbit gets closer!! The satellite will be launched on Ariane mission V-21. The September mission is called V-19 and it's set for around September 11. If this mission goes without failure then we are only one away! The Phase IIIC satellite is in West Germany at present undergoing some final upgrades (including the new, radiation hardened IHU memory) prior to close-out.

In the months to come I will give you all the info on this new satellite. In the meantime there is something that you can do. One, join AMSAT for only \$24 a year and you will get the AMSAT satellite report every two weeks. There is another way to help AMSAT and this is really easy. Get an ECHO Payroll deduction authorization form from Employee Benefits and fill in the following: For Current Organization enter "Radio Amateur Satellite Corporation."

For Code enter "1617."

For Weekly Deduction enter ... well, I'll leave that up to you.

By filling this out each year AMSAT will get money from your ECHO account and you didn't have to do a thing. And AMSAT will send you a letter each year thanking you for your contribution. In case you want to write AMSAT their address is:

AMSAT

P.O.Box 27

Washington, DC 20044

Phone: (301) 589-6062

If you are a retiree of TRW Space and Defense (our new name as of August 1) and would like to be able to use the Club station without having a TRW employee escort you please call Bill Dews at (213) 536-1656 and give him your name. We are attempting to get access for TRW retirees to Bldg. 65 and the ham shack but we need to know how many of you are interested.

See you at the Sixth ARRL Packet Radio Conference, Saturday, August 29th, from 9am to 6pm in the Building S Forum. Please bring a sack lunch as there will be no food sold at the conference. See the related article elsewhere in the Crosstalk for a list of topics and speakers.

I always wonder why nobody shows up at the Executive Board meetings but us bored, boaring board members. We are looking to make some additions to the ham shack and we want to know what you want in it. All you have to do is price the items you want purchased and make a pitch to the board

members at a board meeting. There is a good possibility that you will get what you want because we have some money and the last couple of Club members that did just that got exactly what they wanted. See you at the next board meeting, Thursday, Sept. 3rd after work at the Pizza Hut at Sepulveda and 10th in Manhattan Beach.

Tidbits from the Jolly Little S...!

If any of you sent me an article for printing in this month's Crosstalk and don't see it here, it may be because I have recently moved. I can now be found in M5/2035. I have updated the information on the back page of the newsletter. As a matter of fact we try to keep it as up to date as possible, so use the latest Crosstalk when you try to contact one of the Club Officers or Staff. If you are a Club Officer or Staff please make sure that I find out about your moves so that I can update the back page!

The Club still needs a Secretary! What does the Secretary do? At a minimum, the Secretary attends the Club General Meetings and Executive Board Meetings to take minutes of the meetings, passing a legible copy to the newsletter editor for printing in the Club newsletter. From time to time the Secretary is required to handle formal communication between the Club and other clubs or the ARRL or County of Los Angeles. A complaint letter about the dangerous conditions at Friendship Park during Field Day was never sent partly due to the fact that there is no Secretary to handle it. Isn't there someone that can help??

I thought that I had someone who might like to take over for me when I quit as newsletter editor at the beginning of the year. We were supposed to talk it over at the next Club meeting but he never showed. So, besides the immediate need for a Secretary, time is running out for me to help bring up to speed a new person for newsletter editor. This is a promise and a threat - I am quitting at the end of the year - December will be the last issue that I will put out. For the majority of you this is the only way you get information about what the Club is doing, and if it goes away what then?

The Club is now 200 members strong. We appreciate your dues but what we need is your PARTICIPATION!! The 10% rule has got to be broken (10% of the people do all the work). There must be somebody out there who can get involved!!

Checking Out the Repeater

Joe Dietrich, ND6DBD

Recently I took one of my frequent trips down to San Diego to visit relatives. Due to conflicting comments regarding the TRW repeater coverage to the south and the work that had been done on the antenna and repeater, I decided that I would leave early Saturday morning and check the coverage using the new automatic RST system. I also wanted to check for interference with the San Diego repeater.

I hit the 405 freeway in Torrance at 5:30 AM heading south. As I knew that some operators have had trouble in the past hitting the machine in Long Beach, that is where I started logging my "test." It should be pointed out that I have an Icom 27H which has an output of 25 watts (low) and 45 watts (high).

<u>Location</u>	<u>25 Watts</u>	<u>45 Watts</u>
Long Beach	S9 + 30	S9 + 50
Seal Beach	S7	S9 + 10
Costa Mesa	S1	S5
El Toro	--	S3
Laguna Nigel	S0	S5
N. San Juan Capistrano	(Lost Repeater)	
San Juan Capistrano		S0/S3
San Onofre		S3
North Oceanside		S2
Oceanside		S5
Carlsbad		S2
Del Mar Heights		S9 + 10
La Jolla		S0
San Diego		S1/S3
El Cajon		S3

During this trip I checked for interference with the 145.32 MHz San Diego Repeater. Its anti-PL is working fine and I did not bring it up once. On the return trip I had a nice QSO with Rich, N6CIZ, working the W6RO station. I started out on our repeater and then switched to the San Diego machine to continue our QSO as the W6RO PL was acting up.

The above RSTs were checked more than once to be sure that they were good reports. Granted that I used higher power (45 W) but it does prove that the south coverage is there and communications are possible. Before the work on our antenna, I could not bring the repeater up at all in some of these areas even with high power. I would like to see if someone regularly goes south-east, say to Riverside, what the coverage is now.

One thing for sure is that N6CIZ and the others who worked on the W6TRW repeater and the antenna did a great job.

Executive Board Meeting 6 Aug 1987

As the position of Club Secretary has not been filled and no one volunteered to take meeting minutes, none were taken, and none will appear here. How long is the Club membership going to put up with this??

New Members -- Old Members

Welcome to the Club:

Wayne Hogancamp, KI6GM, holder of an Advanced ticket and member of the ARRL. Wayne has been a ham for 1 whole year!

Anthony Musero, K3UKW, holder of a General license and a ham for 25 years, Tony is a Life member of the ARRL and lives in Philadelphia, PA!!

Anthony Gasparovic, N6OAT, is waiting to get his Extra Class ticket in the mail. Tony is a member of the ARRL and is interested in HF, VHF and Packet.

Richard Johnson, K6TCA, and ham for 31 years and holder of a General ticket. Dick is presently inactive but makes the Swap Meet every month.

Michael Morris, WA6ILQ, holder of a Technician license and an ARRL Life member, Mike enjoys VHF, UHF and computers and hopes to soon be on HF and Packet.

Welcome back to the fold after a lapse:

John Koenig, WA6KQU, who isn't heard from his boat anymore because he has sold it.

Jack Burton, WA6TDU, holder of a Technician license and an ARRL member, is active on HF and VHF and likes RTTY.

Hope to give you an "eyeball QSO" at the next meeting, Tuesday, August 25th at noon in R2/1055.

General Meeting 25 Aug 1987

As the position of Club Secretary has not been filled and no one volunteered to take meeting minutes, none were taken, and none will appear here. Is there no one in the Club that is willing to be Secretary??

The New World of Amateur Radio

The ARRL just announced that a new video tape entitled The New World of Amateur Radio is available. The program will be uplinked at 6:00PM EDT, September 20 on GTE Spacenet 1, Transponder 12H. Those of you with SRO dishes get your VCR ready! Roy Neal, Bill Pasternak and Frosty Oden helped make it.