CROSSTALK

News Bulletin of the TRW Amateur Radio Club

Volume 99 Number 8 August 1999

FIELD DAY 1999

Field Day 1999 is over. Jim Harrison, K6OUE was the only club member that has submitted any material from this annual event. See page 3 for a full story.

Monthly Club meetings

There was a typo in the last *Crosstalk* referring to the meeting location and time, it was at Polliwog Park, and should continue to held there during the summer months.

FIELD DAY 1999 Pictures

In This issue:

- *Club Events Calendar – Page 2*
- *1999 Field Day Satellite report by Jim Harrison K6OUE – Page 3*
- *STS-93 Launch Successful – Page 5*

TRW ARC Monthly Calendar of Events

First Tuesday of each month	5:30 pm	**Executive Board Meeting, R4/2041** (All Club Members are invited)
Second Tuesday of each month	12:00 noon	**Club Meeting Pollywog Park, the white gazebo near Manhattan Beach Blvd.**
Second Tuesday of each month	12:00 noon	**Emergency Communications Team Meeting** R3 Emergency Operations Center
Last Saturday of each month	7:00 am	**TRW ARC Swap Meet** Marine and Aviation (Northeast Corner)
After the Swapmeet	12:00 noon	**T-Hunt** Swap Meet Parking Lot - 144.72 MHz

Weekly Events

Every Monday Night (Except the 1st & Holidays)	7:30 pm	**Disaster Communication Systems (DCS) Net** DCS Members: Check in on 2 Meter Repeater
Every Wednesday	12:00 noon	**ECT Net on 2 meter Repeater** All Amateurs Welcome
Every Thursday	7:00 pm	**Space Hams Net on 2 meter Repeater** with N6SHI and W6EKK
Every Mon, Wed, Fri	2:00 pm	**TRWARC Retirees Net** 7185 KHz
Every Friday Morning	7:30 am	**TRW Amateur Radio Club Breakfast** Building S Cafeteria - Everyone is invited Talk-in on 2 Meters

Other Events

Computer Fair ***Hours: 10:00 to 17:00*** ***(get a $25.00 annual pass see: http://www.lacomputerfair.com/annpass.html)***

POMONA $6.00 admission
Live Broadcasts: KFI-Jeff Levy "On Computers", KZLA, Y-107FM
August 7 & 8, 1999 (Sat. & Sun.) bldg. 4
August 28 & 29, 1999 (Sat. & Sun.) bldgs. 7 & 7A
Fairplex Exposition Complex Exit Highway 10 at Fairplex Drive.
Go north to McKinley Avenue, turn right. Turn left on White Avenue to Gate 14.

RESEDA $3.00 admission
August 14, 1999 (Sat.)
Sherman Square Entertainment Center From the 101 Freeway take the Reseda offramp,
go north to Sherman Way and turn right. Go one block to Canby Street. 18430 Sherman Way.

BUENA PARK $5.00 admission
August 15, 1999 (Sun.)
Sequoia Conference Center Take the Beach Blvd. exit off the 91 Freeway.
Go one block north to 7530 Orangethorpe.

All Shows Open to the Public 10:00 a.m. to 5:00 p.m.
Call for more information (408) 778-5200 or 800-800-5600 Fax# (408) 779-1374

Other Ham Swap meets:

Inland Empire ARC - 2nd Sat. ea. mo. 7:00 to 11:30 AM @ A.B. Miller High School, Walnut & Oleander in **Fontana** Talk-in 145.480 (-600 pl=77.0hz)
El Cajon ARC - 1st Sat. ea. mo. 6:00 AM @ Santee Drive-in Theater, Woodside Ave. @ Hwy 67 in **Santee** Talk-in 146.52
CAL POLY - 3rd Sat. ea. mo. 7-11am in lots F8,F9 and F10 @ CAL Poly Pomona at 3801 West Temple.
Talk-in TBD *(if you know, please email me… ed.)*

Satellite Station at Field Day 99 — Jim Harrison K6OUE

The club has not had a satellite station at the last couple of Field Days. At the beginning of this year, myself K6OUE and Rich KQ6YR both started learning about satellites and working them. We decided it would be fun to work satellites for Field Day. The Field Day rules give us 100 points for one satellite contact and then only one point for each additional contact, but we decided to go for as many satellite contacts as we could get and operate for the entire Field Day period. With the help of Stan W6EKK, Rich KQ6YR, Don KK6DP, and the equipment supplied by Rod KE6PI, we really had a world class satellite station.

There are about 20 amateur satellites currently in orbit, but many of them operate in digital modes only. We decided to go for only the voice satellites, which left six operational satellites to work. Five of these are low earth orbiting satelllites, and one is in a highly elliptical orbit. The voice satellites and their characteristics are listed below.

Satellite	Uplink	Downlink	Mode	Orbit	Launched By
RS-13	2m	10m	SSB, CW	LEO	Russia
RS-15	2m	10m	SSB, CW	LEO	Russia
FO-20	2m	440	SSB, CW	LEO	Japan
FO-29	2m	440	SSB, CW	LEO	Japan
AO-27	2m	440	FM	LEO	USA
AO-10	440	2m	SSB, CW	HEO	USA

AO-10 has been in orbit for many years and is starting to lose some of its capability, so amateur satellite operators are eagerly awaiting the launch of the Phase 3D amateur satellite which has been ready to go for two years now, but is awaiting a free ride into space.

Stan computed the orbit pass times for the satellites we were interested in for the Field Day time period. Rich promised to provide his Yaesu FT-847 as the station's radio. Don said he would provide a 10m dipole for the RS-13 and RS-15 downlinks. I said I would get the 2m/440 antennas and computers ready and provide a tent. I just assumed that we had satellite antennas for Field Day, but a few weeks before Field Day I checked out the club's storage boxes, and found that we had a circularly polarized 440 MHz yagi, which is perfect for satellite use, but no 2m satellite antenna! Luckily, Rod KE6PI saved the day. He called me and said that he had some equipment that he had bought for a TRW R&D project that I might be able to use. I met him to look over his equipment, and I couldn't believe my luck. He had a 2m circularly polarized yagi, an azimuth and elevation antenna rotator, and a control unit to allow computer control of the rotators. He also had a 2m preamp, but I didn't think we would need it since the antenna had 11 elements and was 20 feet long!

The 2m antenna had never been out of the box, so I assembled it at home as much as I could without making it too big to fit in the car. I also borrowed two old 486 computers from work and set one up with STSPlus to track the satellites, and the other one with the automatic satellite antenna tracking software and control box. I also built a simple little switch box to allow switching of the 2m and 440 antennas polarity between left-hand and right-hand circular polarization.

On Friday afternoon I drove all of the stuff up to the Field Day site and Don KK6DP and Rich KQ6YR were there to help put the whole station together. It took a little while to figure out a suitable mast to mount the antennas on. Both yagis were almost 20 feet long and they can point straight up if a satellite is going straight overhead, so they had to be at least 10 feet up so they wouldn't hit the ground! But even then we had trouble with them hitting the mast's guy wires as the antennas moved. Every once in awhile someone had to help guide the antennas and coax past the guy wires.

I arrived early on Field Day morning to set up the computers, and guess what? No power! I will leave the description of our power problems to someone else, but suffice it to say that we got a late start. But once I got the computers running reliably, the antenna tracker worked very well and was also fun to watch. In the meantime, I caught a terrible cold and lost my voice, so Stan and Rich took over operation of the station. Stan was great at coordinating the passes and he knew how to operate all of the tracking software. Rich was a persistent and tireless operator, working every pass and never giving up.

Our final score was a bit disappointing, we only made four contacts. Possible reasons are lossy coax, antennas with too much directionality and not accurate enough pointing, interference from the other stations at the site, and maybe just not enough other operators on the satellites. We could usually hear ourselves on the downlink quite well. Anyway, we had fun, we learned a lot, and the station certainly attracted a lot of attention, we had visitors at the tent almost constantly. One special guest was Ronnie N6SHI, of Space Hams International and the new Southern California AMSAT representative. Ronnie operates the Space and Information net with Stan every Thursday night at 7PM on the TRW 2 meter repeater. Well, we certainly learned a lot and we will try to do better next year!

(Satellite Station at Field Day 99 Cont.)

Satellite station Field Day log:

Sat.	Date	UTC	Station	Exchange
AO-10	6/27/99	0210	N7SFI	1D Utah
RS-13	6/27/99	0635	W7SP	3A Utah
FO-20	6/27/99	1516	W9JIU	1D Arizona
RS-15	6/27/99	1817	VE6EGN	1D Alberta

Satellite station at W6TRW Field Day 1999

Contests in August

August 7-8 ARRL UHF Contest

August 7-8 21-22 ARRL 10-GHz And Up Cumulative Contest

STS-93 News

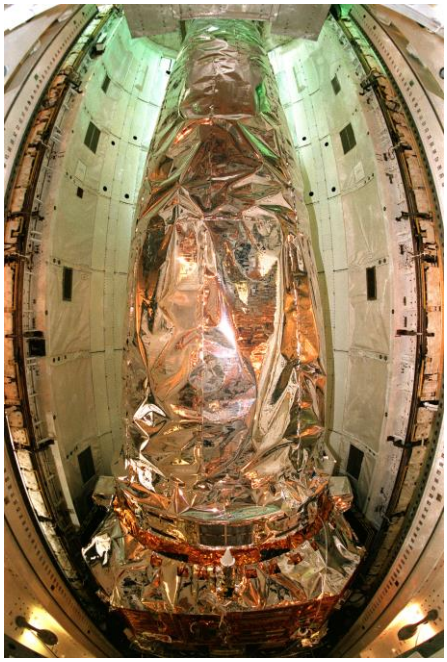
Chandra Launch and Deployment Successful !! 23-Jul-99

The crew of the Space Shuttle Columbia deployed the TRW -built Chandra X-ray Observatory this morning, following last night's successful launch from Kennedy Space Center.

Columbia launched successfully at about 12:31 a.m. EDT Friday, July 23.

About 7:48 this morning EDT, the crew of Columbia successfully deployed the Chandra satellite on schedule. Chandra was attached to the IUS second-stage rocket that lifts the satellite to a higher orbit.

Shortly after 9 a.m. EDT, NASA flight controllers confirmed that the two burns of the IUS had both taken place successfully, placing Chandra in its nominal orbit. Separation from the IUS occurs about 9:50 a.m. EDT. Thereafter, Chandra will be under its own power using its integral propulsion system.



CQ EDITOR ALAN M. DORHOFFER, K2EEK, SK (*Reprinted from the ARRL Letter Volume 18, Number 29)*

CQ Editor Alan M. Dorhoffer, K2EEK, died July 19 from complications of cancer surgery. He was 61. Dorhoffer, who'd served as editor of CQ for nearly a quarter-century, had spent his entire professional life at the magazine. He started as an assistant editor in
1964 and become the magazine's tenth editor in 1976. He'd been a co-owner of the magazine since 1979.

A ham since his teenage years, Dorhoffer, who lived in Port Washington, New York, concentrated his activity on his favorite band, 10 meters. At CQ, he tried to focus on the "people" aspects of Amateur Radio. "Ham radio is people interacting with other people," he wrote in the magazine's 50th anniversary issue, and on the things people do with Amateur Radio. "The act of doing, whether it's contests or awards, that's been my outlook."

CQ Publisher Dick Ross, K2MGA, said Dorhoffer had been like a brother to him for more than 42 years. "We'd butt heads from time to time on editorial matters, but that in no way diminished our mutual love and respect," Ross said. "He was always there for everybody."

ARRL Executive Vice President David Sumner, K1ZZ, was among those saddened to learn of Dorhoffer's passing. "He was a respected colleague and well known to all of us who travel the convention and hamfest circuit, he said. "It's difficult to picture the circuit without him."

Dorhoffer's illness was diagnosed only a week or so before he succumbed to it. He was not married at the time of his death and had no children; but he is survived by an "extended family" of more than a million close friends--the world's Amateur Radio community.

Services and committal were July 22. Sumner, ARRL First Vice President Steve Mendelsohn, W2ML, and ARRL Publications Manager and QST Editor Mark Wilson, K1RO, were among those attending.

In lieu of flowers, donations may be made to St Francis Hospital Foundation. Mark donations "in memory of Alan Dorhoffer" and mail to St Francis Hospital, ATTN: Development Office, 100 Port Washington Blvd, Roslyn, NY 11576.--thanks to CQ Communications

What use is APRS? Ninety-eight percent of the time it is just an interesting plaything. But the other two percent . . . (*Reprinted from the ARRL)*

On January 20, 1999, a Cessna 210, a single-engine airplane, crashed high up on the west side of the Sandia Mountains near Albuquerque, New Mexico. The cause of the crash is still being investigated. But the weather was lousy--gusting wind, fog and occasional rain and snow. Television news helicopters and a New Mexico State Police helicopter hovered briefly over the site to get footage for the news. Some of the pilots, between flying, handling radios, fighting the wind and avoiding the mountain side, managed to get approximate GPS (Global Positioning System) readings on the site.
It was almost dark when a foot team, Team 1, started up the mountain to confirm the fate of the plane's occupants. At least one person on the team, Bob Rieden, WD5IDL, had an APRS tracker. The APRS tracker is a GPS, a TNC (terminal node controller) and a 2-meter transceiver. The GPS ascertains its position and passes it to the transmitter via the TNC. The position, with other information such as call sign, direction of travel, speed of travel, etc, is transmitted to the world.
At search base, Jim Baremore, K5QQ, had an APRS+SA system set up to track the searchers. The APRS+SA is a program that plots positions received from an APRS tracker onto a DeLorme Street Atlas map. Bob Hufnagel, KA5TAK, and Frank LoGrasso,
N5ZUS, handled communications with the team except for the APRS discussions. Team 1 was travelling some rough terrain and darkness made it worse. Using only the light from their headlamps, they fought their way over, around and under rocks, brush and trees. They had maps, compasses, GPS and the skills to use them, but it would have been time-consuming and distracting.

(APRS Cont.)

APRS and good communication allowed Team 1 members to concentrate on their footing, the terrain, and the search. Search Base concentrated on the maps. "Instead of stopping to get out the GPS or map, I would just ask Jim on the radio, 'How are we doing?'" Rieden said.
Using the location reported by helicopter pilots on scene earlier, Baremore guided Team 1 toward the crash site. The crash site and Team 1's locations showed as points on Baremore's computer screen. As new information from witnesses and other pilots came in, the target location was moved. But Team 1's track to the scene was about as straight as it could be given the terrain.
"We did not have to backtrack once," Rieden said. Search Base could tell Team 1, "You need to go due east now, about two-tenths of a mile," --or-- "You are due south of the scene, turn north."
It was obvious that Team 1 was climbing hard because Bob Hufnagel was breathing heavily on his transmissions. He is very fit and an active hiker. It would have been a time-consuming chore to have to read map, compass or GPS in the dark in addition to finding their route.

APRS took the team to within 150 feet of the point of impact, in the dark. All three occupants of the aircraft were confirmed dead.
While several team members stayed the rest of the night, the remainder returned to base camp. Recovery of the bodies had to be postponed for four days because of the weather.

FCC Amateur Radio Enforcement Log (*Reprinted from the ARRL)*

A representative listing of recent reports on Amateur Radio enforcement-related actions from the files of the FCC Compliance and Information Bureau:
NOTE: Issuance by the FCC of a Warning Notice indicates that the FCC has what it believes to be reliable evidence of possible rules infractions and not necessarily that the recipient has violated FCC rules. The FCC has the authority, pursuant to §97.519(d)(2) of the rules to readminister any examination element previously administered by a volunteer examiner. This Enforcement Log is representative of recent Warning Notices, Notices of Violation, calls for retesting, and other FCC communications to licensees involving possible serious rules violations. It is not a comprehensive listing.

MANHATTAN BEACH, CA [UPDATE]: The FCC wrote Extra licensee Steve Massey, N6TT, on July 13 giving him an additional 20 days to reply to a request for information regarding three club station call signs for which he is listed as the responsible party. The letter from the FCC's Riley Hollingsworth said Massey's undated response to an earlier FCC request for information was incomplete. Massey voluntarily relinquished nine other club station call signs, and the FCC canceled them earlier this month. The FCC wrote Massey on June 4 to inquire about the one dozen club station call signs it had granted him and immediately set aside several call signs it had granted within the last 30 days. Hollingsworth said that if Massey fails to provide the requested information about the other three club station call signs, they, too, will be canceled. Massey was advised that he may not reapply for any of the deleted call signs in the future as a former holder.

ARISS Equipment Takes Another Step Toward ISS

(*Reprinted from the ARRL Letter Volume 18, Number 29)*
GREENBELT, MD, Jul 13, 1999--The equipment that will become the first Amateur Radio station on the International Space Station has completed a significant milestone in anticipation of its journey into space later this year. Following exhaustive qualification testing at NASA's Goddard Space Flight Center here, the radios, TNC, power supplies, and connecting harnesses for the initial transportable ARISS ham station are on their way to Kennedy Space Center for launch this December during shuttle mission STS-101.

TRW AMATEUR RADIO CLUB

ELECTED OFFICERS

President	**Greg Shreve**	**KE6YEX**	**201A/3009**	**(310) 812-2079**
Vice President	**Elizabeth Kunkee**	**KS4IS**	**D1 / 1024**	**(310) 813-0524**
Secretary	**Craig Gullickson**	**N6ED**	**R6 / 2529F**	**(310) 812-5389**
Treasurer	**Steve Lambert**	**KQ6ZC**	**R6 / 2529**	**(310) 812-5019**

APPOINTED STAFF

447 Repeater Autopatch	Duane Park	WA6EIK	M2N / 1384b	(310) 813-4219
Activities Chairman	Greg Martens	N6RRY	M1 / 1275	(310) 813-4049
Crosstalk Editor	Duane Park	WA6EIK	M2N / 1384b	(310) 813-4219
Emer. Comm. Coordinator	Wendell Young	KE6ASC	R5 / 1060B	(310) 813-7691
Librarian	Steve Papa	KO6VF	O2 / 1715	(310) 812-5305
Membership Chairperson	Dave Nelson	AB6DU	R8 / 2144	(310) 813-9775
Past President	Rich Sauer	N6CIZ		
Publicity Chairperson	Dave Nelson	AB6DU	R8 / 2144	(310) 813-9775
QSL Manager	Bryan DeAro	KN6OW	120 / 1020B	(310) 812-4789
S.P. Packet/Internet Sysop	Chris Wachs	WA2KDL	M4 /	(310) 813-1506
SEA Representative	Nina Whiddon	KN6FL	01 / 2020	(310) 813-9351
Swap Meet Manager	Greg Martens	N6RRY	M1 / 1275	(310) 813-4049
Technical Chairperson	John Cheatham	KE6OJM	R9 / 2477	(310) 813-5903
Training Chairperson	Bryan DeAro	KN6OW	120 / 1020B	(310) 812-4789
Trustee of W6TRW License	Elizabeth Kunkee	KS4IS	D1 / 1024	(310) 813-0524

TRW ARC Hotline (Club Answering Machine) (310) 813-8569
W6TRW 2 Meter Repeater (Open Repeater) 145.32 (-600) PL 114.8Hz
W6TRW UHF Repeater (Open Repeater / Closed Autopatch) 447.00 (-5 MHz) PL 100 Hz
W6TRW-3 Packet Radio Internet Gateway and BBS (1200 Baud Port) 146.745 (-600)
W6TRW Internet Home Page http://www.w6trw.ampr.org/w6trw/

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