CROSSTALK

News Bulletin of the TRW Amateur Radio Club

Volume 97 Number 3 March 1997

LITTLE LEO BATTLE MOVES TO NEXT LEVEL *(reprinted from The ARRL Letter, Volume 16 #10)*

Proposals by the low-Earth-orbiting satellite industry--the so-called "Little LEOs"--to share spectrum with Amateur Radio at 146, 220 and 440 MHz were among those turned in this week to the FCC advisory committee that's planning for WRC-97. But the Little LEO proposals were not scheduled for inclusion in the committee's recommendations, because the working group involved did not agree to do so. The various informal working groups that have been sorting out numerous proposals for possible consideration at World Radiocommunication Conference 97 offered their reports March 5 to the FCC's WRC-97 Industry Advisory Committee. The report of Informal Working Group (IWG) 2A, which wrangled with proposals involving mobile-satellite services, includes the Little LEO's controversial "flexible allocation" plan to share spectrum with amateurs and others--but only as an annex to the report that also includes the objections raised by other participants, for consideration and disposition at a higher level.

As part of their flexible allocation strategy, Little LEO interests last month proposed including 219-225 MHz in their list of desired allocations for the nonvoice, nongeostationary (NVNG) mobile-satellite service. Little LEO targets now include 146 to 148, 219 to 225 and 430 to 450 MHz. The ARRL and AMSAT were among those objecting.

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 a February 13 IWG-2A meeting, a coalition of spectrum interests--including land mobile, amateur, broadcasting, and military--opposed the flexible allocation concept on several grounds.

IAC Chairman Scott Harris told participants at the March 5 meeting that the committee was only advisory, and that the government will make the final decision on its ultimate WRC-97 positions. The Final Report of the Industry Advisory Committee is expected to go to the FCC in about two weeks.

For you Vanity types:

FCC ISSUED CALL SIGN UPDATE

The following is a list of the FCC's most recently issued call signs as of March 3, 1997.

District	Group A, Extra	Group B, Advanced	Group C, Tech/Gen	Group D, Novice
0	AB0EI	KI0GY	++	KB0ZWT
1	AA1RU	KE1HG	N1YQP	KB1CCJ
2	AB2DG	KG2KE	++	KC2BAN
3	AA3PL	KE3YZ	N3YUG	KB3BSG
4	AF4BD	KU4DB	++	KF4PMR
5	AC5LO	KM5HI	++	KC5ZFU
6	AD6AM	KQ6NI	++	KF6JHJ
7	AB7UH	KK7FU	++	KC7UWP
8	AA8ZJ	KI8BE	++	KC8GGT
9	AA9TZ	KG9JO	++	KB9PSB
N Mariana Islands	NH0A	AH0AX	KH0GF	WH0ABG
Guam	#	AH2DC	KH2RM	WH2ANT
Hawaii	AH7Q	AH6PA	KH7CS	WH6DDQ
American Samoa	AH8O	AH8AH	KH8DH	WH8ABF
Alaska	AL0D	AL7QT	KL0EC	WL7CUC
Virgin Islands	WP2Y	KP2CJ	NP2JP	WP2AIH
Puerto Rico	NP3B	KP3AQ	NP3KP	WP4NMY

New prefixes are available for this block, but none have been issued.

++ All call signs in this group have been issued in this area.

TRWARC Monthly Calendar of Events

MARCH 1997:

Tuesday, March 4	5:30 pm	**Executive Board Meeting** (All Club Members are invited)
Tuesday, March 11	12:00 noon	**Club Meeting** **Pizza Hut, Manhattan Beach**
Friday, March 21	12:00 noon	**Technical Chairman's Meeting** Building S Hamshack
No Meetings this month	12:00 noon	**Emergency Communications Team Meeting** R3 Emergency Operations Center
Saturday, March 29	7:00 am	**TRW/ARC Swap Meet** Marine and Aviation (Northeast Corner)
Saturday, March 29	12:00 noon	**T-Hunt** Swap Meet Parking Lot - 144.72 MHz

Reoccurring 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**
Every Thursday Night	6:30 pm	**TRW Amateur Radio Club Net** The Bob and ? Show - Check In on 2 Meter Repeater
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 Marketplace (Computer Shows) ***Hours: 10:00 to 17:00***

POMONA $8 admission
March 15 & 16, April 19 & 20
Fairplex Exposition Complex Exit Highway 10 at Fairplex Drive.
Go north to McKinley Avenue, turn right. Turn left on White Avenue to Gate 14.

BUENA PARK $5 admission
March 2 (Sun), **April 6** (Sun.)
Sequoia Conference CenterTake the Beach Blvd. exit off the 91 Freeway.
Go one block north to 7530 Orangethorpe.

RESEDA $5.00 admission
April 6 (Sun.)
Sherman Square Entertainment Center, 18430 Sherman Way, @ Canby Street

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
(www.computermarketplace.com)

Other Ham Swap meets:

Inland Empire ARC - 2nd Sat. ea. mo. @ A.B. Miller High School, Walnut & Olenander in **Fontana** - Talk-in 145.480 (-600 pl=77.0hz)
CMRA - 3rd Sat. ea. mo. @ DeVry Institute, 901 Corporate Center Dr. **Pomona** - Talk-in 146.175 (+600)
El Cajon ARC - 1st Sat. ea. mo. @ Santee Drive-in Theater, Woodside Ave. @ Hwy 67 in **Santee**

Low Band Horizontal Loops

by Bill Shanney, W6QR/KJ6GR

Dave Nelson, our tireless antenna installation champion, has been corresponding with me regarding low band antennas. The performance of Vertical Arrays was discussed in previous Crosstalk articles. Dave also asked about a horizontal loop up high on the roof of building E2. I was intrigued and performed an analysis of a square 3.55 MHz loop up 150 feet (my guess). The feedpoint is in the center of the side facing 0° azimuth.

The results are shown in Figures 1 and 2. The elevation peak of 28° is quite good for low band DX. The nulls at ± 90° are only 7 dB (~ 1 s-unit). To switch the radiation peak by 90° we could use two feed points on adjacent sides (i.e.: 90° apart). If the feedlines are one quarter wave long to a switch the open (unused) line looks like a short at the antenna so the loop is continuous electrically. Making these quarter wave lines from 70 ohm coax matches the ~100 ohm loop impedance to 50 ohms. This configuration is shown in Figure 3. Coax loss at 3.5 MHz is only 0.4 dB/100 ft for RG-213. This is only 2 dB total assuming a 500 foot run to building S. Belden 9913 has about 0.25 dB/100 ft loss which is even better.

The performance of a 160 meter loop at this same height is shown in Figure 4. This performance is also quite good, very few hams can get their low band antennas up this high. The horizontal loops are quieter than verticals since most manmade noise is vertically polarized. A vertical will have a 0 dBi gain over average ground (at best) unless a very extensive radial system is used. The loop is superior to vertical for elevations over 20°.

I'll leave the installation and planning details to Dave.

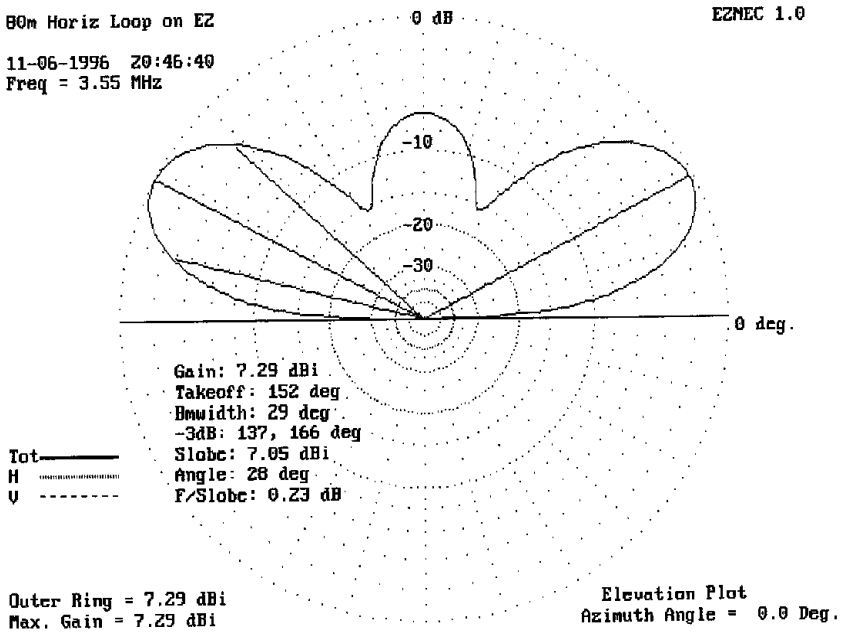

Figure 1 - 80 meter loop up 150 feet, elevation plot in maximum gain direction.

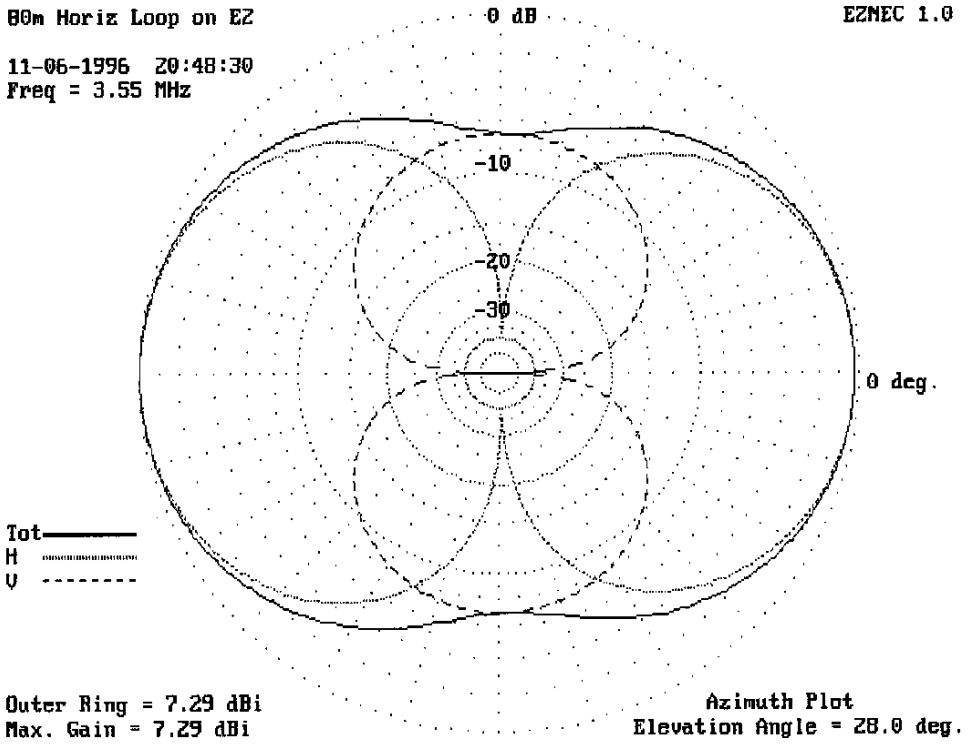

Figure 2 - 80 meter loop azimuth plot at 28° elevation (max. gain).

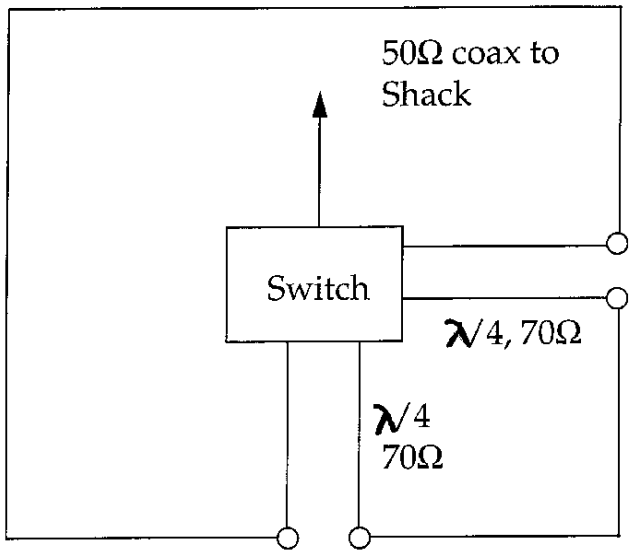

Figure 3 - 80 meter loop configuration

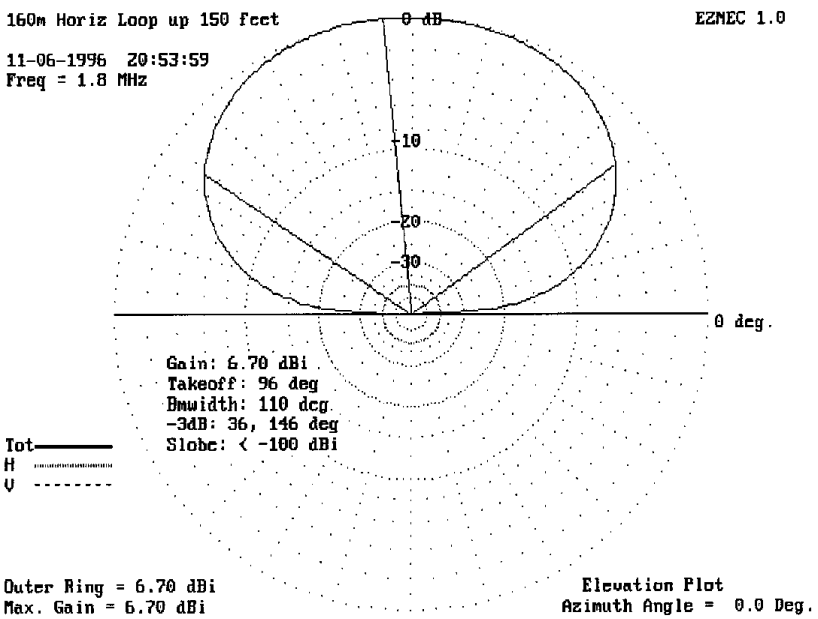

Figure 4 - 160 meter loop performance

HAMS RISE AGAIN TO PUBLIC SERVICE CHALLENGE AS STORMS SWEEP SEVERAL STATES

(reprinted from The ARRL Letter, Volume 16 #10)

Hams pitched in to volunteer as storms and floods hit several states in recent days. As severe storms were spotted across parts of the southern US, hams activated Skywarn nets to aid the National Weather Service in tracking the systems. In Arkansas, several tornadoes ripped through Arkadelphia and elsewhere on March 1. Arkansas SEC Jim Blackmon, KB5IFV--who lives in Arkadelphia but was not seriously affected by the twister--reports that up to 30 hams mobilized within an hour of the tornado that devastated a swath two city blocks wide. (Later reports indicated that as many as 60 hams were pitching in.) Hams accompanied Office of Emergency Services (OES) teams on search-and-rescue missions. Hams accompanied damage assessment teams and Red Cross workers March 2.

Hams also helped provide communication and other services at Salvation Army shelters that were opened to take in those whose homes were destroyed. An HF link was maintained between Arkadelphia and the capital of Little Rock. Blackmon also reports that hams also helped a National Guard unit that got local radio stations KVRC and KDEL back on the air using a military generator, and he expects hams to be active in recovery efforts over the next week or so. Arkadelphia's underground telephone cabling kept most telephone service up and running--with the exception of the hardest-hit area, which still has overhead lines. Arkansas SM George Mitchell, KI5BV, praised the organization and "first-rate work" of the hams working emergency duty.

In Ohio, where floods struck last weekend, SEC Larry Solak, WD8MPV, reports 14 counties have been declared disaster areas. Shelters were opened in at least three counties. Solak reports that approximately 200 Ohio hams turned out to help Red Cross personnel and the National Guard with emergency operations and damage assessment. Other hams in central Ohio were reported to be standing by to help, if needed. Because many of the flooded areas were isolated and not heavily populated, details are sketchy. Hams also were reported working at the state Emergency Operations Center as well as at county EOCs. And ham radio has filled the communication gap in those areas of Ohio where phone service was out.

Hams also have been reported responding to storm emergencies in Kentucky. --Jennifer Gagne, N1TDY

TRW AMATEUR RADIO CLUB

ELECTED OFFICERS

President	Bob Briggs	KD6WYQ	R8 / 2188	(310) 813-2622
Vice President	Pat Anderson	KB6YPI	R7A /1265	(310) 813-6874
Secretary	Nina Whiddon	KN6FL	O1 / 2070	(310) 813-9351
Treasurer	Jan Parker	KD6AKD	R4 / 2058	(310) 812-1081

APPOINTED STAFF

Activities Chairperson	Greg Martens	N6RRY	M1 / 1275	(310) 813-4049
Crosstalk Editor	Duane Park	WA6EIK	M3 / 2261BO	(310) 813-4219
Emergency Coordinator	Duane Park	WA6EIK	M3 / 2261BO	(310) 813-4219
Librarian/Asst. Postmaster	Steve Papa	KO6VF	M5 / 1263	(310) 812-5305
Membership Chairperson	Jerry Dean	WA6GVO	R2 / 1036	(310) 812-0770
Past President	Frank Cartier	W6FC	O1 / 1210	(310) 812-2292
QSL Manager	Bryan DeAro	KN6OW	120 / 1020B	(310) 812-4789
447 Repeater Autopatch	Pat Anderson	KB6YPI	R7A /1265	(310) 813-6874
SEA Representative	Elizabeth Twyford	KS4IS	D1 / 1024	(310) 813-0524
Swap Meet Manager	Rich Sauer	N6CIZ	R9 / 2849	(310) 813-5869
SYSOP (Telephone BBS)	Ron Hoffman	KE6OJD	M4 / 2031C	(310) 814-9126
Technical Chairperson	John Cheatham	KE6OJM	R9 / 2838	(310) 813-5903
S.P. Packet/Internet Sysop	Chris Wachs	WA2KDL	R7A / 2100	(310) 813-1506
Training Chairperson	Bryan DeAro	KN6OW	120 / 1020B	(310) 812-4789
Trustee of W6TRW License	Frank Cartier	W6FC	O1 /1210	(310) 812-2292

TRW/ARC Telephone Computer BBS (24 hrs, 300-14,400 Baud, 8-N-1)	(310) 768-3399
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://w6trw.sp.trw.com/w6trw/

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FIRST CLASS

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