



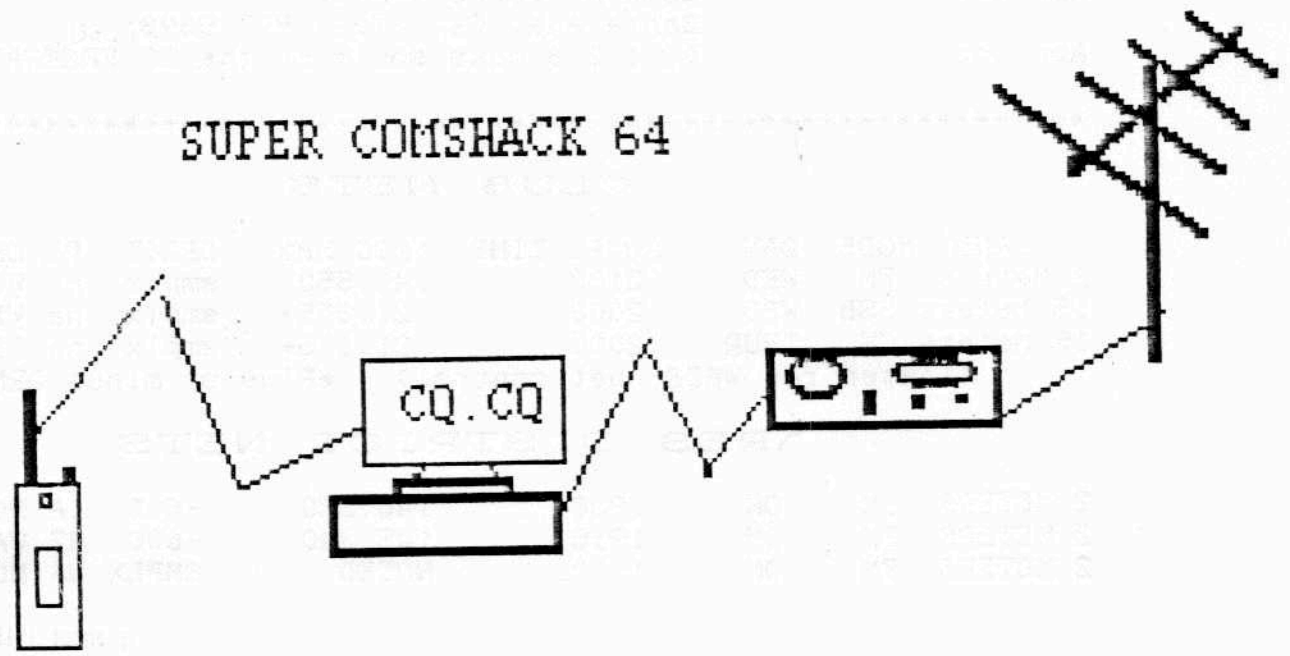
ORANGE COUNTY AMATEUR RADIO CLUB

VOL. XXX NO. 2 P.O. BOX 3454 TUSTIN, CA 92681 FEBRUARY 1989

PROGRAM FOR FEBRUARY

The program for the February meeting will be a presentation by Bob Blumenkranz, NI6K. Bob is the proprietor of Engineering Consulting and one of his products is the Super Comshack 64 Programmable Repeater Controller/HF & VHF Remote/Autopatch. This device provides rotor control, has voice meters, paging, user logging, unlimited vocabulary and bbs. Bob will have several of his goodies there to demonstrate.

SUPER COMSHACK 64



1989 CLUB BOARD OF DIRECTORS

President	Frank Smith	WA6VKZ	730	7142
Vice President	John Roberts	WA6LAB	540	7368
Secretary	Bob Tegel	KD6XO	531	0926
Treasurer	Mark Stanford	KJ6JC	991	7398
Activities	Ken Konechy	W6HHC	541	6249
Membership	Tom Thomas	WA6PFA	771	2917
Public Relations	Jim Talcott	N6JSV	838	5395
T.V.I. Chairman	Bob Eckweiler	AF6C	639	5074
Member at Large	Ron Toering	KB6E2P	971	5180
Member at Large	Kei Yamachika	W6NGO	538	8942

CLUB APPOINTMENTS

Club Historian.....	Bob Evans	WB6IXN	543	9111
W6ZE Trustee	Bob Eckweiler	AF6C	639	5074
R.F. Editor(Act.)	Bob Tegel	KD6XO	531	0926

CLUB FUNCTIONS

MONTHLY MEETING: 3rd Friday of each month, 7:30 PM at:
 MERCURY SAVINGS & LOAN
 Feb 17th 1095 Irvine Blvd. (4th St. becomes Irvine)
 Tustin, Ca Talk-in on 146.55 Mhz
 Mar 17th
 Apr 21st (Take the 4th St. exit of the 55 FREEWAY
 and head east. continue about two blocks
 past Newport Blvd. It's on the left.)

CLUB BREAKFAST: 1st Saturday of each month, 8:00AM at:
 LE GRAND CAFE
 Mar 4th 2525 N. Grand Avenue
 Santa Ana, Ca. (714) 997 5393
 Apr 1st (1 1/2 Blocks south of the 22 FREEWAY)

CLUB NETS

BAND	MODE	DAY	LOCAL TIME	FREQ MHz	SPLIT	PL	OPERATOR
2 Meters	FM	WED	2100	146.550	smplx	na	W6HHC
15 Meters	SSB	WED	2000	21.375*	smplx	na	WB6IXN
15 Meters	CW	THUR	2000	21.175*	smplx	na	KB6NAX

(Listen for W6ZE, net control) *Plus or minus QRM

ARES DISTRICT NETS

2 METERS	FM	MON	1900	146.220	-600	1A	N6HQI	1
2 METERS	FM	MON	1915	145.340	-600	4Z	WA6VKZ	2
2 METERS	FM	MON	1930	NOTED	SMPLEX	NA	NOTED	3

1 - ARES Into net. 2 - ARES District 3 net starts after Into net is completed (Usually about 1915 has). 3 - City nets; Orange:146.565, N6OWP;Tustin: 146.505, WE6VKZ; Santa Ana: 147.585, W6HHC.

"....the PREZ SEZ...."

by FRANK/WA6VKZ

Had a great presentation at the January meeting by Ken Walston WA6ZEF, the Section Emergency Coordinator for the Orange Section. Ken talked about ARES, earthquakes, and personal survival during emergencies. Ken was ably assisted at the overhead projector by Corky N6HQI and ably kibbitzed by Dave WA6PMX. Dave had to leave early to travel to Barstow to assist in the launching of an unmanned gas filled balloon carrying ATV (amateur TV) to be broadcast on 434.0 MHz. Launch was set for Saturday AM. A part of Ken's presentation was the probable cyclitic occurrences of earthquakes in our area (Southern California). Studies by such a renowned institution as CalTech have shown that over the centuries since 1000 AD catastrophic earthquakes have occurred here every 145 years. The last catastrophic earthquake occurred in 1857. If this trend holds we should expect another catastrophic earthquake within the next 13 years, give or take some. ARE YOU PREPARED??

How to prepare:

How to assist with communications:

- Take care of yourself
- Take care of your family
- Assist with communications

- Practice the drills
- Practice the drills
- Practice the drills.

How do you practice the drills?

- Check-in to the ARES nets
- Listen
- Talk when invited to talk
- (The format for OC ARES nets is listed on page 2 of this RE)

Stay tuned: More to come on emergency communications.

THIS YEAR'S GOALS:

- 1) rewrite Constitution and By-Laws
- 2) a great Field Day
- 3) learn to PACKET
- 4) write a Club Disaster Plan

.....de FRANK/WA6VKZ

QST DE W1AW - HR ARRL BULLETIN NR 7 ARLB007 - FROM ARRL HEADQUARTERS, NEWINGTON CT JANUARY 30, 1989 TO ALL RADIO AMATEURS

FCC IS OPENING THE 18 MHZ BAND FOR AMATEUR OPERATION. STATIONS WITH GENERAL, ADVANCED AND EXTRA CLASS OPERATORS MAY BEGIN USING THE 18 MHZ BAND AS OF 0001 UTC 31 JAN 89, ONE MINUTE AFTER 7 PM EST MONDAY 30 JANUARY 1989. A1A EMISSIONS MAY BE USED IN THE WHOLE BAND FROM 18.068 TO 18.168 MHZ. DIGITAL EMISSION F1B FOR DIRECT PRINTING, TELEMETRY, TELECOMMAND AND COMPUTER COMMUNICATIONS IS PERMITTED BELOW 18.110 MHZ AND ANALOG EMISSIONS SUCH AS FAX, SSTV AND PHONE MAY BE USED FROM 18.110 UP. THE NORMAL POWER LIMIT OF 1500 WATTS OUTPUT APPLIES. BUT AMATEUR OPERATIONS MUST NOT CAUSE HARMFUL INTERFERENCE TO U.S. GOVERNMENT AND FOREIGN FIXED SERVICE OPERATIONS. THE AUTHORIZATION IS CONTAINED IN A REPORT AND ORDER IN PR DOCKET 88 467. UNDER ITS TERMS AND THOSE OF WARC 79, THE BAND BECOMES EXCLUSIVELY AMATEUR ON JULY 1, 1989 AR

1/4 15m phone net - W6ZE/IXN checks in RND, NG7D, YZG, & XO. NG7D is interested in procuring an old Kenwood TS-130V 25W QRP rig. If you run across one, phone John at 557-6399. RND enlightens YZG on his 102 ft. G5RV dipole. IXN enjoys RND's rendition of 'straight key night' which John worked. XO tells of a white Christmas in Tracy, CA, & both Bob & XYL are graced wid the flu over the holidays. JSV, at Hemet, & RND at Bishop, also had snow! XO asks IXN abt the Russian earthquake intensity scale...sounds like the Mercalli scale to IXN. XO also gives NG7D adr of N7DEM frm '88 Call Book. 1/4 2m phone net - W6ZE/HHC, at AF6C's QTH, is extremely weak on IXN's 'weathercube'! Ken checks in AF6C, IMP, RND, WLO, YZG, JC, XO, & Ed, KE6ZW, frm F. Valley. WLO uses a handheld wid ant. in the attic & is S/6 at Af6C's. YZG's XYL is doing nicely in therapy, and Lu offers 1N270 diodes to AF6C, who already found one elsewhere. XO didn't take minutes at Christmas party...QRN & QRM wipes out net at this point fer IXN! 1/5 15m CW net - Net was informal. IXN arrived home late & TEJ & RND were rag chewing wid Brian, KJ6J. RND got a new Bencher paddle. Brian & RJ will try to work on RJ's 40m SWR prob. come Sat., after a visit to HRO fer supplies. 1/18 15m phone net - W6ZE/IXN checks in NG7D, RND, YZG, & KA6RPQ, Gary, frm Huntington Beach. IXN has an allergy to an anti-biotic. RND has been operating CW during the past week, & YZG's XYL, Fran, continues therapy for her arm. NG7D wins the WPX/VPX award, & Gary is an amateur meteorologist, & he & IXN will talk agn by landline, etc. 1/18 2m phone net - W6ZE/HHC checks in BPX, RE, IMP, YZG, RND, PFA, JC, WLO, N6APG (Charlie), XO. BPX will be 83 yrs. young next Sun! And we send congrats to AF6C fer a nice 'RF'...Tom, too! RE plays the Westlink tapes. IXN barely hears IMP. IXN leaves net early after HHC reminds all abt Fri. eve. meeting...noise level high at IXN's QTH. PFA tells all abt 'active' ant. article in Feb. Radio/Electronics mag., p. 51. And RND receives congrats frm HHC fer high FD score. 1/19 15m CW net - W6ZE/IXN checks in LJA & TEJ. LJA will attend meeting Fri. eve. He & IXN haven't talked wid Shelley, BAM, fer ages! TEJ, in Newport Beach, joins us later. RJ & XYL end up wid a harmonic in their bed after last night's 5.0 shaker off Malibu! 1/25 15m phone net - W6ZE/IXN checks in NG7D & XO. John is still awaiting his WPX/DPX awards frm back East. IXN had an ultrasound of his prostate gland, & XO is researching ideas fer the Feb. cover page of 'RF'. Bob also had some ant. problem after the last rain; he's been working some packet, and, he bought his XYL's donkey a new carriage! 1/25 2m phone net - W6ZE/AF6C checks in JSV, RE, BPX, JC, YZG, PFA, & WLO. JSV & EZS discover a new Chinese restaurant in Tustin & Jeanie loads the frig wid leftovers! They also enjoy plenty of water since their new sewer hook-up...now to re-do the front lawn! RE & XYL are recovering frm the flu, & RE plays the Westlink tapes. JC & team attempt to balance the Club books, & BPX & XYL join the Alexanders in flu recovery. PFA explains ATV high altitude experiment last Sat., & tells group that S.A. winds are now peaking at 24 mph. Strange!...IXN can't hear YZG tonite...one of the strongest sigs on the net generally! JSV...What happened to RND?
de WB6IXN

MINUTES JANUARY GENERAL MEETING

The January General Meeting was called to order at 7:39 PM on the 20 th of January by the President Frank. WA6VKZ. 29 members and visitors were in attendance. Board member Ron, KB6E2P was not in attendance. Visitors were Tim Goeppinger, WB6OWD; Bill Sefton, N6OWF; David Gutierrez, WA6PMX, ARES Assistant DEC; Corky Corchoran, N6HQI, OC DEC; cliff Frazer, WB6FYW; and Martin Anderson, KA6JAT. Following the pledge of allegiance, WA6LAB, John introduced Ken Walston, WA6ZEF, Orange Section Emergency Coordinator (San Bernardino, Riverside, Orange and Inyo Counties). Ken discussed earthquakes and our state of preparedness with emphasis on the fact that as communicators we are a valuable national resource. There was no old business. New business - Tom, WA6PFA suggested getting list of local hams for new members. W6VQL has a desk for anyone to haul off. DUES ARE DUE!! The club wishes to thank K16UL, Bob for undertaking the copying duties of RF. THANKS BOB. The Treasurer's Report is included in this issue of RF. The meeting was adjourned at 9:30 PM. Chris, KA6IMP was the 1st grand prize winner of 1989.

Respectfully submitted, Bob Tegei, KD6XO. Secretary.

 *** THE MERCALLI SCALE VS. THE RICHTER SCALE ***

At last meeting, YZG asked about the release of energy from an earthquake vs. magnitude, so here we go!

Please understand that magnitude is a measure of the energy released, and NOT a measure of intensity. Intensity is a subjective matter, and is best measured by the old Mercalli scale. Intensity is dependent upon structural & ground conditions of a particular area, and therefore, may vary considerably at two points equally distant from an epicenter! Thus, 100 miles north of an epicenter, people may experience a Mercalli VI temblor, while those 100 miles south of the same epicenter may experience a Mercalli VIII quake! The Modified Mercalli Scale follows:

<u>INTENSITY</u>	<u>QUAKE EXPERIENCE</u>
I	Not felt by people
II	May be felt indoors, or on upper floors of buildings.
III	Felt indoors generally as a vibration, like that of a passing truck.
IV	Vibration stronger, felt indoors, awakens light sleepers.
V	Felt indoors by all. Some run outdoors. Frightens some, awakens many, chandeliers swing, buildings shake. Small objects can overturn.
VI	Felt by everyone! Liquids set in motion, small amts of plaster may fall, dish may break, furniture moves or overturns, plus above phenomena.
VII	Frightens everyone, general alarm, poorly constructed masonry collapses, bells ring, furniture overturns, strong ground motion.
VIII	Autos shake! Alarm is general, people panic, poor masonry construction collapses, moderate damage to well built masonry, chimneys crack & fall, heavy furniture moves, buildings shifted off foundations!
IX	General panic, ground cracks, damage considerable to well built masonry, houses collapse or shifted off foundations, pipelines sometimes break!
X	General panic, ground cracks, landslides near hills, mountains, & seacoast, rails are bent, water thrown from pools, pipelines are broken, highways & streets are cracked, slumping in water-filled soil, plus above phenomena!
XI	General panic, all buried pipelines destroyed, railroad beds severely damaged, severe damage to wood frame structures, poor masonry destroyed, + above!
XII	General panic, DAMAGE IS TOTAL, landslides, slumping of soil, rock falls, vertical & horizontal displacement along faults, surface waves seen in ground, rivers may change course, objects thrown upward, plus all above phenomena!

The Richter scale does not estimate intensity, damage, etc. It merely determines the MAGNITUDE, a measure that can be used to compare the ENERGY RELEASE by a temblor to some known energy source, say tri-nitro-toluene (TNT), for instance.

Many of you believe that a 2.0 mag. quake releases 10x10 times the amt of energy of a 1.0 mag. quake; that a 3.0 mag. quake releases 10x10x10 times the amt of energy of a 1.0 mag. quake, etc. This would be true if the Richter scale was based on a common log scale, but it isn't! Scientists often use the Napierian log scale, to the base e, upon which the Richter scale is based! Using this scale, a 2.0 mag. quake has 31.5 times more energy release than a 1.0 mag. quake. A 3.0 mag. quake has 31.5x31.5 times more energy release than a 1.0 mag. quake, & so on. Now $31.5 = e^{3.45}$. To break the magnitude scale to tenths,

simply raise e to the .345 power: thus, $N = \log e = 1.412$, which is the multiplier needed to figure the energy for each tenth of a jump in magnitude.

A 1.0 mag. quake releases an amount of energy equivalent to the explosion of .4 lb of TNT! Thus, a 1.1 mag. quake = .4 lbs x 1.412 = .57, or .6 lb of TNT.

A 1.2 mag. quake = .57 lb x 1.412 = .8 lb of TNT, and so on. Using this procedure, the following magnitude/energy scale has been developed: (many energy values are rounded off where energy jumps are large)

1.0 =	.4 lb
1.1 =	.6 lb
1.2 =	.8 lb
1.3 =	1.1 lbs
1.4 =	1.6 lbs
1.5 =	2.3 lbs
1.6 =	3.2 lbs
1.7 =	4.5 lbs
1.8 =	6.3 lbs
1.9 =	9 lbs
2.0 =	13 lbs
2.1 =	18 lbs
2.2 =	25 lbs
2.3 =	36 lbs
2.4 =	50 lbs
2.5 =	71 lbs
2.6 =	100 lbs
2.7 =	141 lbs
2.8 =	199 lbs
2.9 =	281 lbs
3.0 =	397 lbs
3.1 =	561 lbs
3.2 =	792 lbs
3.3 =	1118 lbs
3.4 =	1578 lbs
3.5 =	1.1 tons
3.6 =	1.6 tons
3.7 =	2.2 tons
3.8 =	3.1 tons
3.9 =	4.4 tons
4.0 =	6.3 tons
4.1 =	9 tons
4.2 =	13 tons
4.3 =	18 tons
4.4 =	25 tons
4.5 =	35 tons
4.6 =	50 tons
4.7 =	70 tons
4.8 =	99 tons
4.9 =	140 tons
5.0 =	197 tons
5.1 =	278 tons
5.2 =	293 tons
5.3 =	555 tons

MAGNITUDE	ENERGY
5.4 =	783 tons
5.5 =	1,106 tons
5.6 =	1,561 tons
5.7 =	2,204 tons
5.8 =	3,112 tons
5.9 =	4,395 tons
6.0 =	6,205 tons
6.1 =	8,762 tons
6.2 =	12,372 tons
6.3 =	17.5 thousand tons
6.4 =	24.7 thousand tons
6.5 =	35 thousand tons
6.6 =	49 thousand tons
6.7 =	69 thousand tons
6.8 =	98 thousand tons
6.9 =	139 thousand tons
7.0 =	196 thousand tons
7.1 =	276 thousand tons
7.2 =	390 thousand tons
7.3 =	550 thousand tons
7.4 =	777 thousand tons
7.5 =	1.1 million tons
7.6 =	1.6 million tons
7.7 =	2.2 million tons
7.8 =	3.1 million tons
7.9 =	4.4 million tons
8.0 =	6.2 million tons
8.1 =	9 million tons
8.2 =	12 million tons
8.3 =	17 million tons
8.4 =	25 million tons
8.5 =	35 million tons
8.6 =	49 million tons
8.7 =	69 million tons
8.8 =	97 million tons
8.9 =	137 million tons
9.0 =	194 million tons
9.1 =	274 million tons
9.2 =	387 million tons
9.3 =	546 million tons
9.4 =	771 million tons
9.5 =	1,089 million tons

MAG	ENERGY
9.6 =	1,538 million tons
9.7 =	2,171 million tons
9.8 =	3,065 million tons
9.9 =	4,328 million tons
10.0 =	6,112 million tons

It is now quite apparent that a tenth jump in magnitude can be quite a jump in terms of energy! As an exercise, try graphing magnitude vs. energy release & note the slope of the logarithmic curve!

de WB6IXN

*****RF CLASSIFIEDS*****

TOM. WA6PFA is listing for an elderly neighbor of his - TRS 80 MODEL 4, 3 disc drives, modem, software, manuals and miscellaneous accessories - MAKE OFFER - 771 2917

BOB. KD6XO has an enhanced Apple IIe. 512 K Applied Engineering memory card, Hayes Micromodem IIe (300 baud) with software to get you started - \$900 for entire package or will consider fewer pieces in any configuration you want. - 531 0926

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FIRST CLASS MAIL