



ORANGE COUNTY AMATEUR RADIO CLUB

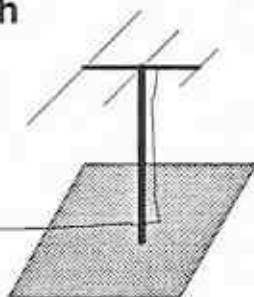
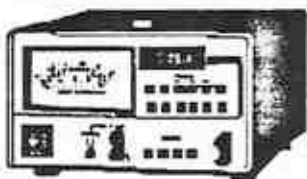
VOL. XXXII NO. 9

P.O. BOX 3454, TUSTIN, CA 92681

SEPTEMBER, 1991

**Our Speaker:**  
**Dan Farrell,**  
**WF6O on the**  
**NTS (National**  
**Traffic**  
**System)**

**Friday, September 20th**  
**7:30 PM**  
**is the next meeting!**



**Amateur Radio Awareness Day**

By Frank Smith, WA6VKZ

Saturday, October 19, 1991 1100 - 1500

OCARC will set up and operate from three sites a mini Field Day operation using portable/mobile equipment that is preferably battery powered (solar if possible). The primary theme will be public service emergency communications.

The timing for this operation will be the second anniversary of the 10/17/89 5:06 PM Loma Prieta earthquake. We want to have a net on:

- HF 2 meters 440
- Packet 2 meters ATV
- + 6 meters, 220, 1.2 etc.

Antenna polarization will be vertical. We will have a coordination net on 440 separate from the demonstration nets. We will need volunteers not only to

operate the radios but also to narrate and explain to the visiting public what is happening on the nets.

Our operating goal is to set up in about 30 minutes, operate for about 4 hours, disassemble and cleanup in about 30 minutes.

In times of actual emergency, hams have provided communications when commercial and public service communications have failed or become so overloaded with traffic that the systems almost ground to a halt. We will demonstrate to the public some of what hams can do. The three sites are still tentative and we hope to be firm by the next issue of "RF".

Mondays 6:15pm 144.330 simplex  
WB6NOA, Gordo - "News behind the News" and Code practice with Dan, AA6LM

Mondays 8:00 pm 28.333  
Bob, AB6CH & David, WA6TWF, Beginner's Net, Code Practice and Tech Talk.

We STILL are looking for one or more OPs to act as Net Control on the Thursday night CW net!

**Friday, October 18th - Annual OCARC Auction**

**Saturday, October 19th - Mini Field Day multiple sites around Orange County.**

**Sunday, November 3rd - Antenna Construction Party at Fountain Valley.**

<i>In This Issue</i> .....	<i>Page</i>
PREZ SEZ .....	2
S-METERS .....	2
NET NOTES .....	3
AUGUST MEETING MINUTES..	4
SEPTEMBER BOARD MINUTES	5
QRP - PART 2 .....	6
AUCTION RULES .....	7

***The OCARC AUCTION is coming in October! Are you ready ...***  
***Elections in November - If you would like to PARTICIPATE in continuing and expanding the fine traditions of this Club please offer to serve....***

## The Prez Sez.....

by Ken Konechy, W6HHC

The sweepstakes for the YAESU FT-470 dual-band handheld was successfully completed at our August club meeting and the winner was Frank Smith / WA6VKZ. Congrats, Frank! Frank revealed that it took \$26 worth of tickets to pull off his win. (Damn it, I had only invested \$20 in my attempt to win the prize) Our ACTIVITIES CHAIRMAN, Tom / WA6PFA reported that the club netted over \$100 in the sweepstakes. Nice job, Tom, for organizing this fun event.

Elections for the OCARC 1992 board of officers are scheduled to be held during the November meeting. If you are interested in helping out at one of the clubs elected positions, then you should contact someone on the NOMINATION COMMITTEE. This year, the NOMINATION COMMITTEE consists of Frank Smith / WA6VKZ (454-2635), Nancy Bucher / N6XQR (537-8728), Bud Barkhurst / WA6VPP (774-6361), and

Cindy Hughes / KC6OPI (836-4538). Nancy / N6XQR has agreed to serve as chairperson for the committee. Remember that if you enjoy being a member of the OCARC, it is because many members have volunteered to get involved with organizing activities and events. So please offer your help for next year. Please get in contact with the NOMINATION COMMITTEE and offer your help.

There will be a "changing of the guard" occurring on the OCARC 15 MTR net. After serving as net control for a year on 15 MTR SSB, I need to retire from that duty for a while in order to keep up with other assignments at work and at home. The OCARC Trustee for the W6ZE license, Bob / AF6C, has offered to resume the role of Net Control for 15 MTR. Please give Bob your support by checking onto the 15 MTR NET at 8 PM on Wednesday evenings at 21.375 +/- QRM.

## S-Meters

by Roger Loller, N6WNE

From "Q5" the Newsletter of the Downey Amateur Radio Club, Inc., September, 1991 issue

Frequently you'll hear signal reports in the form of "S5" or "20 over S9." What do these reports really mean? "S" readings are within the range of S1 to S9. Anything stronger is reported as the number of dB the signal is stronger than S9.

In an attempt to standardize meters, at least one manufacturer in the 1940s set up a calibration point of S9 equal to 50 microvolts, and each S unit was equal to a 6 dB change or 1/4 power. At this rate, S1 would be 48 dB below 50 microvolts or 0.195 microvolts. This is equivalent to a typical noise figure for a 10 KHz bandwidth receiver (so a signal might be marginally readable at S1 - Editor). Unfortunately, most receivers' S meters tend to be non-standard and do not comply with this scale.

In case your S meter is standard, following is a table listing S reading, dB scale, and microvolts across a 50 ohm load.

S#	dB	uV @ 50 ohms
9	0	50.0
8	-6	25.0
7	-12	12.5
6	-18	6.25
5	-24	3.12
4	-30	1.56
3	-36	0.781
2	-42	0.391
1	-48	0.195

Then why is an S8 signal one-half the voltage of S9 when it is supposed to be 6 dB down? At a fixed load resistance (usually 50 or 300 ohms) 1/2 the voltage is 1/4 the power, hence 6 dB. It's simple to remember: -3 dB is 1/2 power; -6 dB is 1/4 power; and -10 dB is 1/10 the power (multiples of tens are 10 dB steps).

Going the other way, a signal reported as 26 dB over S9 would be ten times ten (to account for the two 10 dB steps) times 4 (to account for the 6 dB step), or 400 times as powerful as an S9 signal.

## 1991 CLUB BOARD of DIRECTORS

President .....	Ken Konechy .....	W6HHC .....	541-6249
Vice President .....	Mike Abreu .....	K6KAA .....	832-8503
Secretary .....	Bruce Creager .....	KC6DLA .....	538-8259
Treasurer .....	Bill Freyfogle .....	N6VMS .....	964-9336
Activities .....	Tom Thomas .....	WA6PFA .....	771-2917
Membership .....	Bob Eckweiler .....	AF6C .....	639-5074
Public Relations .....	John Meacham .....	KJ6TK .....	842-4702
T.V.I. Chairman .....	Larry Beilin .....	K6VDP .....	557-7217
Member at Large .....	Frank Smith .....	WA6VKZ .....	454-2635
Member at Large .....	Chris Breller .....	KJ6ZH .. (213)	866-2077

## CLUB APPOINTMENTS

Club Historian .....	Bob Evans .....	WB6IXN .....	543-9111
W6ZE Trustee .....	Bob Eckweiler .....	AF6C .....	639-5074
RF Editor .....	Nancy Bucher .....	N6XQR .....	537-8728
RF Printer .....	Jerry Dahlin .....	AA6BU .....	527-2779
Refreshments .....	Cindy Hughes .....	KC6OPI .....	971-3448

## DUES

Regular Member ..... \$12.00 Additional Family Members .... 6.00 each  
 Teenage Members (under 20) .. 6.00 Optional Club Badge ..... 5.00

Dues for new members are prorated quarterly from January of each year. Family members must reside at the address of a Regular Member. One RF is sent per household.

**THE AUCTION  
IS  
COMING !!!**



## On the Nets - August, 1991

by Bob Evans, WB6IXN

**8/1 15m CW net** - Net was informal..No net control as yet! VMS, IXN, RND, & XQR enjoy FB QSOs! IXN busies himself wid outlining the 'Witch on the Moon' & the 'Man on the Moon' on recently acquired USGS photographic lunar maps. RND accuses IXN of having too much 'moonshine'!..hic..hic. VMS builds some furniture fer the QTH (bookcases & a computer desk using birch & pine), but still finds time fer CW DX!..a 5D4FO in Kenya, a FT4WC in Crozet Land, as Bill waits fer Albania on Mon. or Tues. XQR has difficulty in hearing IXN & hears echoes on Bill's sigs. And John is vy happy wid 4 OPs reporting in on CW tonite!

**8/7 2m phone net** - W6ZE/IXN checks in RE, XQR, NG7D, OPI, ESD, PFA, VDP, QW, KAA, AF6C, & Steve, N6XBJ (Orange). RE rotates the tires on the 'family transportation', gets the boysenberries sunburned, takes the new Alinco in to get the 'key-up' tones working, & tells OPs abt Don C. Wallace' new amateur radio book, & airs 'Newline'. NG7D & IXN listen, but hear nothing on the 15m net this evening, & OPI says ONZ takes a 'breather' on code practice fer the present. ESD works thru the pile-up to get 3C0CW, 15 SSB, 21305.8, on Pagalu Is. by equitorial Afr.! PFA finally finds his sleeping bag, works wid RACES last Thurs. as Angelus Oaks Communications OP, plans to work ATV at the CA. Classics event this weekend, & says that XO needs more OPs! XQR, awaiting 'Prez Sez' blurb, will put 'RF' to bed this weekend. And Nancy loans her XT computer, wid code tapes fer the harmonics, to Skipper, KC6WJJ, as she munches on tomatoes frm the mini-garden! VDP visits KB6VFC & they 40m QRP wid an Atlas TX 110, 15W. QW enjoys the new TS-850 & spends much time working numerous European countries, pours a concrete pad fer the new tower at Big Bear, works K6ELX/T4 at the Pan American games in Cuba, & tells OPs abt TL8 Land, Central African Republic. KAA vacations last week, works this week, is off to Bakersfield this weekend, & is on vacation fer 2 more wks...got that all straight, OPs? AF6C & N6XBJ 'fly in & fly out'.

**8/8 15m CW net** - Net is informal. IXN & XQR discuss Dave Brower, WA6RVM, becoming a Silent Key. And, wid no further check-ins, we continue the QSO by landline.

**8/14 15m phone net** - W6ZE/HHC checks in RND, IXN, QW, XQR, ESD, & AF6C. RND & XYL journey to Bishop, pick up the grandharmonic, return home, & XYL & grand daughter 'fly away' to visit family in Syracuse, leaving the OM to concentrated hamming! IXN thinks abt installing motion detector security lights at the QTH, while HHC, PFA, VKZ, XO, DLA, TAM, ZH, RE, and more, participate in the Ca. Classic benefit event at Palos Verdes last weekend! QW has 170 countries on 10m, 66 on 15m, gets San Andreas Is.(KH0), & plans a 'tower moving' party to Big Bear this weekend! XQR announces N6VO's return frm Tahiti & expects to eyeball wid him at Club meeting. ESD listens to all on the 940-S as Bob prepares fer the 2m net. And AF6C tests the windshield wipers..It rained on the way to work this AM!

**8/14 endeavors phone net** - W6ZE/IXN checks in BPX, RE, AF6C, RND, ESD, VDP, XQR, QW, HHC, VCW (FV), OPI, & N7RDA. HHC, VCW, & RDA 'fly' to the microphone, perch long

enuf fer check-ins, & 'fly' off to other endeavors! 2 'sawbones' look at BPX's shoulder, twist & turn his arm, one says 'saw', the other says 'no'..Wyatt awaits the decision! RE's monitor is in to the 'radio doctors' fer repairs, & Alex visits an OP in Palos Verdes after helping LPJ wid ATV at the CA. Classic event. AF6C compliments HHC on the shortest 'Prez Sez' article in the history of OCARC! And Bob comments on a nice talk frm Katherine frm the FCC Enforcement Bureau. IXN inquires abt RND's assumption of XYL duties in her absence. John reports a few dishes in the sink, the bed is a little wrinkled, but all else is in FB shape! ESD has a 'license fer life' wid the Commercial Radio Service, wid ship's telephone & radar endorsements! VDP listens fer special station QSOs frm the Pan American games in Cuba, & Larry tells OPs abt a Ham Radio program on Radio Hawaii on 11.760 MHz. XQR says ULU will attend the meeting Fri., & Nancy, VES, & Skipper will escort NG7D to the meeting! And XQR tnx AF6C fer the FB roster update in 'RF'! QW, wid Toyota pickup, trailer & tower, will motor off to Big Bear this weekend, wid family meeting at the Big Bear QTH fer a tower raising party! And Rolf picks up HK00EP, San Andreas Is. OPI says ONZ will listen to 15m CW net at XQR's QTH Thur. eve.

**8/15 15m CW net** - Net is informal..No net control! XQR, wid ONZ on the side, calls IXN. IXN sends jokes to test ONZ's copy. Don will tackle CW seriously as he plans fer a future upgrade! XQR loans ONZ some CW computer disks.

**8/21 15m phone net** - W6ZE/HHC checks in AF6C, NGO, RND, NG7D, IXN, & XQR. AF6C 'gets over a bug', & learns a new resource language fer the 'Apple'. And HHC experiences 'sore muscles' frm a recent backpacking trip. NGO re-roofs the tractor shed as he awaits the '30" downpour'! NG7D makes a 'QRP board' display fer the wall of the shack, & RND tells OPs that Russian hams tell people to resist the recent 'coup' attempt! IXN installs motion security lights at the QTH, & XQR glues herself to the TV as she watches the aborted 'Commie' take-over in Russia!

**8/21 2m phone net** - W6ZE/IXN checks in BPX, ZH, TAM, KAA, VPP, ZAU, VDP, RE, ESD, RND, PFA, HHC, NG7D, AF6C, XQR, QE, & KC6TKT, Kelvin, in Irvine, WB9MII, Greg, frm Imperial Beach, & KK6XL, Elen, frm Elsinore! HHC & TKT light on the 'check-in wire', flap their wings, & fly off! ZH jogs, experiences 'runaway heart', scares TAM, & winds up wid a cardiologist appointment!..All OPs await the outcome! KAA goes to Santa Margarita, picks up mother & harmonic, drives them to Willows, & meets a 'wrong way' driver on the Freeway! VPP says 'bla' to his vacation WX of clouds, fog, & no sun north of Eureka. Bud misses the earthquake west of Crescent City! VDP gets the 20m ZEP ant. & the 6m beam ready fer action! And RE & XYL attack the neighbor's tomatoes & they can't eat 'em all! & Alex joins IXN wid a 'lighter pocketbook' after sessions wid their dentists, & RE gets his Alinco bk frm the 'HRO doctor' tomorrow! ESD stuffs himself wid ripening figs & oranges as he studies the quarter-sized, iridescent green beetles that grace the ripening figs! RND busies himself wid CW QSOs at 7 AM on 7,065 in Grand Titon Nat. Park, north of Eureka, CA., & an ocean tanker

*Continued on Page 4*

September, 1991 - RF / 3

## On the Nets - August, 1991 (Continued)

frm Hawaii! PFA 'performs surgery' on the truck air conditioner.. removal & replacement of a defective switch. And Tom notifies 'Ham Awareness Day' participants of an on-the air/QTH meeting at 8pm Fri! XQR tells NG7D he can find WA6VES landline # in last 'RF'. AF6C misses Club meeting..late meeting & a plane crash on the company parking lot! Congrats to XQR on joining the VE group! Congrats to WTY on passing the CW fer General, & to ONZ fer passing General theory! ZAU moves, gets up new ants., has his 10th wedding anniv., & chats wid NG7D.

**8/28 15m phone net** - Net is informal. RND, JPG, & IXN chat abt antennas. IXN & JPG discuss former QTHs in PA.

**8/28 2m phone net** - W6ZE/IXN checks in KAA, VPP, NG7D, JPG, RE, RND, VDP, ZH (TAM 'in the dishwasher'!), PFA, ESD, MII, OPI, & ONZ. KAA finishes vacation, & plans a painting trip to Bakersfield this weekend. And VPP spends time resurrecting the lawn after 'burnout' on his recent trip north! NG7D attempts contact wid ULU abt awards, & spends last Sun. afternoon 'making WAVES' wid WA6VES! (..new 'vertical ant' plans in Gary's future?)! JPG tells OPs abt the TenTec Argonaut 509, & success of the 40m dipole abt 6 ft. above ground!! Clark & friend, TKO, may join us on the CW net! RND works a little CW as a school chum of the XYL drops in fer a visit. VDP, shoulder still sore frm target shooting, hears VK land on 6m, tells OPs abt BFC's Atlas TX-110, & hving previously worked Rotuma on 15m. Jane, TAM, says 'Hi' frm the dishwasher?! ZH's Mosley 'lights up' Chris' shack wid high SWR! Mosley gets a call abt the 'Mosley' & Chris' problem will soon be solved. Meanwhile, ZH & TAM wine & dine 1BR & 1BP, as ZH works KP5 land, Azores, Dominican Rep., Virg. Is., & Rotuma on the Hustler vert. RE & XYL entertain the harmonic & grandharmonic until today, but Alex manages to record Newline that informs OPs of new, stiff fines fer violations. PFA joins ZH wid a high SWR. Tom works wid the loading coil on the old CB mobile ant. cut fer 10m. ESD works 20m CW longpath to the Mauritius Is. in the Indian Ocean, picks up Saudi Arabia, HZ1AB, & Desecheo, KP2A/KP5, 10, 15, & 20m CW & SSB. And Bob tells OPs that 'Romeo' in Burma is up, 1Z9B, & 1Z9A, 20m SSB, not recognized by ARRL. MII, Greg, Imperial Beach, 'flies in & flies out'. And OPI is still waiting fer 'Snailwood' to return her ailing Kenwood, while ONZ prepares fer vacation in a couple of weeks..Then its off to Salvang fer awhile! And congrats to OPI & XQR on assuming VE duties in the ham testing world!

**8/29 15m CW net** - RND, IXN, & VMS meet informally. OPs give congrats to VMS on receiving his CW DXCC..a rarity these days (#5471)! NG7D finishes mounting his hand key & QRP board as plaques for the shack wall, & John tells OPs that Rick Pfof is in the VA hosp. agn fer treatment of bedsores. VMS says that Romeo is frm the USSR, & that he has operated frm Vietnam, Spratley Is., & Afghanistan, among other places. And yes, NG7D, wid all these 'Johns' on the net, we certainly don't want any competition frm a 'hooker' net! RND, XYL, & XYL friend will all travel to Sea World in San Diego tomorrow. And John checks into an early morning CW net. (Ever talk to Shelley Trotter, W6BAM, John?) VMS gets his last Zone! Now to apply fer the WAZ award!

## Minutes of OCARC General Meeting 8/16/91

Meeting called to order by President Ken Konechy at 7:35 PM. Officers present were Ken-K6HHC, Bruce-KC6DLA, Bill-N6VMS, Tom-WA6PFA, Larry-K6VDP, Frank WA6VKZ and Chris-KJ6ZH. There were 64 members and guests present.

Program - Dave Corsiglia, WA6TWF, told about operating HF from on-board commercial aircraft and showed slides of the airlines HF facilities in Hawaii and his full size 80 meter beam here in southern California. In addition Mike Mercado, KC6VTC, talked about the care and maintenance of radios. Also Mike had us playing games using CW.

Future Programs - September meeting; National Traffic System (NTS); October meeting; Auction; No December meeting (Christmas party on December 8th).

Treasurer's Report - We have \$988.69 in checking and \$1127.60 in savings.

Membership - We have 5 new members and 11 visitors.

Old Business - The October auction was discussed with the 1990 rules adopted. Nancy, N6XQR, is to get with Ron Weaver, N6VO, to discuss our club becoming a sister club with the Tahitian club. Larry, K6VDP, reported on the sticker project which is still in progress.

New Business - Phil, KK6QE, needs Volunteer Examiners (VEs) for the Tustin Amateur Radio class. Also Phil is looking for people for the Tustin Emergency group. If you work or live in Tustin, and are interested, give Phil a call.

Good of the Club - Bob, KC6ZNT, just received his ticket. The 220 to 222 mhz portion of the 220 band is to be vacated by August 28th. There are 197 signers of the "Amateur Radio Spectrum Protection Act (HR73)". Tom, WA6PFA, will chair a committee to put on a demonstration at a public place for Amateur Radio Awareness Day (September 7).

Raffle - The 450 tickets were sold and the raffle was held. The Yaesu FT470 HT was won by Frank, WA6VKZ.

Meeting was adjourned 8:45 PM.

Respectfully submitted, KC6DLA, Bruce Creager - Secretary

**The Monday Night Beginner's Net (28.333 at 8:00PM) is sponsoring its 2nd ANTENNA CONSTRUCTION PARTY**

**Sunday, November 3**

**Dipoles, J-poles, Maypoles, etc.**

**Donations of construction materials**

**(end connectors, wire, insulators, tubing)**

**gratefully accepted!**

**Contact Bob Gregg, AB6CH**

**(714) 375-0388**

## Minutes of OCARC Board Meeting September 7, 1991

Meeting called to order by President Ken Konechy at 8:50 AM. Officers present were Ken-W6HHC, Mike-K6KAA, Bruce-KC6DLA, Tom-WA6PFA, Bob-AF6C, Larry-K6VDP, Frank-WA6VKZ and Chris-KJ6ZH. There were 31 members and guests present.

Future Programs - September - National Traffic System (NTS); October - Auction; November - In work; No December meeting (Christmas party on December 8th).

Membership - We have 108 members.

Treasurer's Report - We have \$743.75 in checking.

Amateur Radio Awareness Day - It was decided to hold our demonstration on October 19th. The event is being headed by Frank, WA6VKZ. Three locations are being considered in the area with communications between them. HF, 2 meter, 440, packet and ATV will be demonstrated. A sign-up sheet will be available at the general meeting.

Activities - The club made some money on the raffle of the Yaesu HT.

Old Business - The following members agreed to organize and/or work the October club auction: Tom-WA6PFA (Chairman), Bob-KD6XO, Bill-N6VMS, Frank-WA6VMS, Chris-KJ6ZH, Ken-W6HHC and Bob-AF6C.

Larry, K6VDP, reported on the sticker project which is still in progress.

New Business - Elections will be held at the November meeting. A nomination committee was appointed: Nancy-N6XQR (Chairman), Frank-WA6VKZ, Bud-WA6VPP and Cindy-KC6OPI.

Kei-W6NGO has agreed to build one or two new towers if the club buys the tubing. It appears that the club can afford about \$350. Tubing cost will be investigated and a vote will be called at the general meeting.

A committee (John-WA6LAB, Jane-KC6TAM and Bob-AF6C) was appointed to find and develop a list of all the club owned equipment. An accounting is to be made each year at the time of change of officers.

Meeting was adjourned 9:36 AM.

Respectfully submitted, KC6DLA, Bruce Creager - Secretary



**Jerry Davis, KK6YO  
Linda Davis, KC6VHY**  
Owners of Audiotek offer  
**10% DISCOUNT ON  
ALL COMET ANTENNAS AND  
ACCESSORIES**  
**MOBILE, MARINE, BASE INSTALLATIONS  
CAR PHONE, STEREO, SECURITY**  
**(213) 328-7770**  
**20934 S. Normandie Ave.  
Torrance, CA 90502**



## RADIO SCHOOL U

"U" FOR UNDER-ONE-ROOF

- No-Code Technician Class
- General Code Class  
+ Theory Review
- Advanced Theory Class

**OCTOBER 11, 12, 13**

**Airporter Hotel, Orange County**

**Bring your friends to no-code class!**

Attend an upgrade class at the SAME Hotel  
on the SAME Weekend!

3 Classes in 3 Classrooms

Next classes: November 8, 9, 10 LAX

December 13, 14, 15 Orange County

**Gordon West Radio School, Inc.**

**INFO LINE (714) 434-0666**

**REGISTER (714) 549-5000**



## QRP Power at its Best - the Two-Fer II (Part 2) by John P. Christopher, NG7D/QRP

The history of the TWO-FER is rather interesting. In 1986, KN1H designed the original circuit as a club project for the ARCI QRP group. It originally was designed to operate with a matching direct conversion Neophyte Receiver. The set had one flaw, and that was the fact that the Pierce oscillator was operational all the time in the circuit, while the RF amplifier stage activated only upon keying. When the transmitter was in receive function, the oscillator's crystal frequency could be heard as a steady carrier along with the received signal in the receiver, if you were tuned to your crystal frequency. Fortunately, the circuit has been redesigned several times by several sources over the years, so the unit now activates a carrier signal in your receiver only upon activation of the oscillator by a switch, or through the keying stage of Q4.

Does the TWO-FER II really work, you might wonder? You bet it does! I have successfully worked Alaska, Virginia, Oregon, Washington, and all over California this past spring with a 40 meter TWO-FER II designed unit for the band. A good tip to remember, when using low powered home brew transmitter, is use a well filtered and regulated power supply. If you want to find out what a badly filtered supplied transmitter sounds like, just tune across 15 and 20 meters when DX is in from the USSR or South America on CW. You can spot a bad transmitter by its chirp, squeal or AC hum on the air, along with the CW note. Keep it clean and regulated and you should have very few problems. With the success of the 40 meter TWO-FER II, I decided to build TWO-FER II's for 20 and 15 meters as well. My 20 meter band version doesn't produce RF output as high as the 40 and 15 meter versions and I haven't yet discovered why, but it is a true working transmitter at 1.25 watts output, and the CW note sounds good on the air. I constructed the 20 meter TWO-FER II into a BAND AID BOX! It was quite a challenge to get everything to fit properly into that box without causing damage to the board itself, but I did succeed without damaging the box's appearance too much in the process.

What big secrets are there to being successful at QRP operating? None really. There are, however, contributing factors that determine whether working on QRP power is going to work for you or not on any particular day. The time of day, the hour, the solar flux of the day, the period year in the 11 year cycle, A and K indexes, the type of antenna you use, your transmitting technique in general, even the band you are using. All of these things are to be considered when trying to work a band under low power conditions. Sometimes, after midnight on 40 or 80 meters, it's possible to work Alaska and Hawaii without much difficulty, even DX. Nothing beats a large multi-array yagi high in the air for QRP operating. The gain of the antenna versus the few watts you put out can equal quite a decent signal on the air. However, most of us don't have a tower at 60 feet, or the yagi either. So does this mean you're fighting a losing battle in working QRP power if you don't have a tower and a yagi? Not at all, I have used several types of antennas, from random wire slopers at 45 degrees to a vee design to my present antenna, a modified HF6V Butternut Vertical at ground mount. None of them could be defined as yagi's in the sense of the word, but all have yielded good results over the years for me. As long as you have a well matched antenna, just about anything that will radiate RF should work fine including aluminum rain gutters.

Propagation characteristics of a QRP signal are wide and varied. Often you will have to work fast to complete your side of a QSO before the band fades out on your low power signal. There isn't always time to get into a long rag chew, or even a few lines of conversation during a QRP contact. This is common and very frustrating in the life of a QRPer. There are times when you can chew the fat for an hour without losing a single dit or dah during a contact. I make it a point to send the following data first after the initial contact starts, but after I give an RST report first. I then give in sequence, my QTH, my name, my RF power used. If he has copied all ok, I then give him the type of transmitter used as well as antenna. If you are still being copied solidly, then you can go on to other subject matter.

What kind of RST reports have I received on 40 meters with a 2.5 watt signal? Ranges from 329 to as high as 599. 559 being the average report. Remembering back to my Novice class days on CW, these reports were not much better at 100 watts, least 2.5 watts.

A lot of you may agree, or disagree with me on this one point, but the most important thing I regard when QRP operating is to verify the contact through QSLing after you complete the QSO. If you are qualifying for awards or certificates, those QSL card verifications are what either makes or breaks your chances of achievement. It's one thing to know in your heart and mind that you have achieved, say, Worked-All-States on QRP power, but we still live in times when one's word is worth about as much as a three dollar Confederate bill to an awards committee in Amateur Radio. They require proof of your work, QSL cards are the media of that fact. Learn to use, and fill them out correctly, especially if a station signs /QRP on CW or says STROKE QRP on phone after the end of his or her call. This is very, very important on the QSL card to indicate. It's surprising how many hams out there still don't know how to fill out a QSL card report correctly. Some of these guys have been hams 40 or more years, too!

In closing, I hope I have given you a little insight into the world of QRPing, as well as educated you on some of the fine points of QRP operation. If you seriously want to give QRP operating a try, I

*Continued on Page 7*

*Electronic Times Ask for Michael Mercado, KC6VTC  
170 Magnolia Avenue Fountain Valley, CA 92708  
Phone: (714)375-0388 Fax & Modem: (714)375-0389  
S/E Corner of Magnolia/Warner Avenues  
At the 405 Freeway Sav-On Shopping Center  
Easy Off & On - Both Directions  
Free Laminating for Ham Licenses  
Truck and R.V. Parking in Rear  
The Only True Amateur Swap Shop  
Consignment Sales...Special Orders... On-Site Marine  
Amateur Accessories at True Discount Pricing.  
Custom Installation and Interference Specialists....*

## NG7D QRP (Continued)

highly recommend that you turn your RF gain control down on your rig until you are only 3 or 4 watts output, or better yet, get the parts and kit catalog from Oak Hills Research at the above address. It will cost you a dollar and purchase a true QRP transmitter kit. I recommend the 40 meters version for the first timers. As you gain experience, you may want to try rolling your own, or the big ultimate, building a complete all band transceiver, like the HW-9 or one of OHR's transceiver kits. QRP operating is not for everyone, it takes a lot of patience and time to perfect one's skills on CW or SSB. It's not something you will learn overnight, or just by doing it a couple of times. However, if you're looking for some real old fashioned excitement to make your day, try working the world on a few watts and see what and where your signal lands into. Whatever you decide to do, remember to keep amateur radio fun, wholesome, and continuously educational to the newcomer, as well as the seasoned amateur. How you appear and operate on the bands today reflects on the operator of tomorrow. QRP = Quiet Respectable Performance. It's better than QRO (Quick Raunchy Operating) of which 40 and 20 meters is full of on a good afternoon! With over and under modulators, linear loaded lids, feeble fumble tongues, and as WB6IXN regards and I eloquently describe Adam Henrys of the never never land in amateur radio. Heaven help the Amateur Service if the new breed of Amateur in the future becomes possessed with bad traits of today's goings on.

**Robert Gregg Weekend Radio  
Schools Presents  
Weekend  
Technician Classes  
in Orange County  
October 18, 19, 20  
Pre Registration is A MUST!  
You will receive study material  
by mail.  
For more information contact:  
Bob Gregg, AB6CH  
(714) 375-0387 (714) 892-3728  
FAX (714) 375-0389**

## THE O.C.A.R.C. ANNUAL AUCTION NEXT MONTH

FRIDAY EVENING, OCTOBER 18, 1991  
THE DOORS OPEN AT 6:15 PM  
THE AUCTION BEGINS AT 7:30 PM  
SO MAKE YOUR PLANS TO ATTEND!!

### AUCTION RULES & INFORMATION

#### BUYERS:

REGISTER  
RECEIVE A BIDDER'S CARD  
SHOW YOUR CARD WHEN YOU HAVE WON A BID

#### SELLERS:

REGISTER  
RECEIVE SELLER'S TAGS  
INDICATE/CONFIRM MINIMUM BID FOR EACH ITEM

**AUCTION:** Items for auction will be offered in numerical sequence by Seller's registration number. Up to 5 items of a Seller will be offered each round.

#### FEES:

BUYERS: NONE  
SELLERS: NO ENTRANCE FEE  
10% OF SELLING PRICE TO OCARC

#### MISCELLANEOUS:

\*PLEASE BRING ITEMS RELATED TO HAM RADIO & ELECTRONICS (NO CAMPING OR FISHING GEAR...PLEASE)

\*PLEASE MARK EACH ITEM OF YOUR GEAR WITH THE MINIMUM BID

\*LOWEST MINIMUM BID IS \$1.00. IF THE ITEM IS NOT WORTH \$1, THEN PLEASE MAKE A "GRAB BAG" OF SEVERAL ITEMS.

\*SELLERS WISHING TO DESCRIBE AN ITEM IN DETAIL SHOULD DO SO ON A CARD & TAPE THE CARD TO THE ITEM.

#### ADDITIONAL INFO:

CALL: KEN-W6HHC - - - 541-6249  
TOM - WA6PFA - - - 771-2917

## CLUB FUNCTIONS

**MONTHLY MEETING:** 3rd Friday of each month, 7:30PM at REPUBLIC FEDERAL SAVINGS BANK  
September 20th 2400 E. Seventeenth Street, Santa Ana, CA  
October 18th - AUCTION First building west of the 55 Freeway on Seventeenth St.  
Next to the Denny's Restaurant (see below) on the South side of the street.  
November 15th

**CLUB BREAKFAST:** 1st Saturday of each month, 8:00AM at DENNY'S Resturant  
October 5th 2314 E. Seventeenth Street Santa Ana, CA (714) 543-0872  
November 2nd (Second bldg. west of the 55 Freeway)

## CLUB NETS

BAND	MODE	DAY	LOCAL TIME	FREQ MHz	SPLIT	PL	OPERATOR
2 Meters	FM	Wed	2030 hrs.	146.550	splx	na	WB6IXN
15 Meters	SSB	Wed	2000 hrs.	21.375*	splx	na	AF6C
15 Meters	CW	Thu	2000 hrs.	21.175*	splx	na	?????

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

## ARES DISTRICT NETS

2 Meters	FM	Mon	1900 hrs.	145.220	-600	1A	N6HQI 1
2 Meters	FM	Mon	~1915 hrs.	145.340	-600	4Z	K6KAA 2
2 Meters	FM	Mon	1930 hrs.	noted	splx	na	noted 3

1 - ARES Info net.

2 - ARES District 3 net starts after info net is completed (Usually about 1915 hrs).

3 - City Nets: Orange - 146.535 WB6FCP; Tustin - 146.505 KK6QE; Santa Ana - 147.585 W6HHC

---

**ORANGE COUNTY AMATEUR RADIO CLUB, INC.**  
**P.O. Box 3454**  
**TUSTIN, CA 92681**

## *First Class Mail*

***Time-Dated Material.***  
***Please Rush!!***