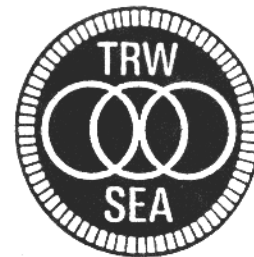




CROSSTALK

A Publication of the TRW Amateur Radio Club



MAY 1994 CALENDAR

Every Monday: DCS Net on 145.32 Repeater at 7:30 PM

Every Wednesday: Emergency Communications Team Net on 145.32 Repeater at Noon

Every Thursday: Club Net on 145.32 Repeater at 7 PM, Club news, etc.

Every Friday: Club Breakfast in Bldg S cafeteria, 7-8 AM

Apr 29-May 1: West Coast VHF/UHF Conference, Cerritos

May 3: Executive Board Meeting, E2/1200, 5:30 PM

May 10: Evening speaker meeting at Petrelli's, 230 N Aviation, M.B., 5:30 PM, Dave Hassal will speak about the TRW ARC BBS.

May 10: Emergency Communications Team Meeting, R3/1413, Noon

May 20: Technical Chairman's Meeting, Bldg 65 Shack, Noon

May 28: Swap Meet, Parking lot, NW corner of Aviation & Marine, 7-11 AM, T-HUNT at Noon

EDITORS NOTES: The deadline for CROSSTALK submissions is the executive board meeting on the first Tuesday of each month. If you have something and will be later than that please call and I will try to accommodate you.

MEETING CHANGES: The Club Evening Meetings and the EBM have been swapped on the calendar. We had to do this to arrange the meeting location, Petrelli's was booked the first Tuesday.

SHACK MOVE: The TRW board of directors decided to keep Odyssey alive and as a result they need the R9 penthouse for some experiments. The shack will be moved to the second floor of Building S. The present plan is to move the tower on Friday 15 April and the shack the 16th and 17th. Your help will be greatly appreciated, trucks especially needed to move the shack. Call Phil Bergeron for details.

BBS CHANGES: SYSOP Dave Hassall moved the BBS to his home QTH on Saturday February 26 to make maintenance and update easier. The new phone number is 310-530-6848.

FCC RULES: In the 420-450 MHz band amateurs are limited to less than 50 watts output power within a 200 mile radius of Pt Magu. Up to 1 KW EIRP may be transmitted in the 435-438 MHz segment for satellite control but the antenna elevation angle must be $>10^{\circ}$ elevation at it's lower 3 dB point.

Several club members were surprised when I mentioned this rule so I thought it worth publishing. We have a lot of newcomers in the club and this rule is not clearly stated in the FCC Rule Books recently published.

CLUB NEWS:

The first evening meeting was held at Petrelli's on March 8. The turnout was better than usual and Ray Enriquez, KD6IGI gave a great talk on "VHF/UHF Contesting, W6TRW Style". The food was good and everyone seemed to have a good time. If you missed the meeting come to the next one and join in the fun.

The Emergency Communications Team will be participating in the Torrance Earthquake Readiness Fair on April 23 from 10 AM to 3 PM. The fair will be held at the Torrance Cultural Arts Center, near the police station on Prarie near Torrance Blvd. This sounds like a very timely event, the City of Torrance is serious about emergency preparedness so this should be an event worth attending by all.

The repeater preamp was repaired and a filter was installed to provide additional input protection, hopefully this will prevent future burnout. The backup repeater is being moved to M5 which will improve the local area coverage if something happens to the E2 repeater.

Shuttle broadcasts have been interfering with the operation of the San Diego repeater that shares our frequency pair on 2 meters. We will still broadcast launch, SAREX operations and other significant events but all day broadcasting will be stopped.

Next month is Field Day and now is a good time to pick up the phone and call John Shepherd, WB6VYX and volunteer to help or participate. This is one of the club's biggest events and is a lot of fun. We need help for setup, tear down, operating and logging. Even if you can only spare a few hours plan on helping W6TRW improve it's 9th place finish overall last year.

For Sale: Ten Tec Argonaut II QRP Transceiver, 5 watts out on all bands 160-10 meters, general coverage receiver. \$1000 firm. Excellent condition. Call Bill Shanney, KJ6GR (310) 542-9899 evenings after 6 PM.

Beginners Equipment Guide

VHF/UHF Hand Held Radios

2 meter and 70 cm FM operations are among the most popular activities in amateur radio. As a result, the equipment manufacturers offer a wide variety of equipment in these bands. Hand held radios, otherwise known as handi-talkies or just plain "HTs", are the most popular entry point to these bands. Integrated circuit and microprocessor technology developed for high volume commercial applications has enabled their small size, high performance and low cost. Intense competition among major HT manufacturers has provided us with an often confusing array of models and features that can be intimidating to both newcomers and experienced hams.

For the new ham the VHF/UHF bands offer the easiest and lowest cost way to get on the air and communicate. A hand held radio is designed to be carried on the person but can also be used for mobile or base station operation. The usefulness of these bands for emergency communication coupled with the portability of the HT makes owning one a high priority for me. For occasional and emergency use a single band HT is adequate. In this area 2 meters is the band most used in emergencies and has the most open repeaters. Open repeaters are available for all amateurs to use while closed repeaters are for the use of the repeater owners. The 70 cm band has a large number of closed repeaters. The TRW ARC sponsors an open 447 MHz repeater with a limited autopatch (i.e.: telephone connection) capability that is free to club members. If most of your friends use a closed 70 cm repeater you might want to join their group. Ask more experienced hams who are active on VHF/UHF for advice on 70 cm activity in your area before buying equipment for this band.

The most popular dual band HTs are for 2 meters and 70 cm. If you have decided you need both bands, a dual bander is more convenient and may be more economical than individual HTs. I say it may be more economical because there are high end units that offer an array of features most of us wouldn't use that drives their cost to more than twice some single band HTs.

Now that you have decided on a single or dual band HT a comparison of features of the competitive models is in order. Most HTs are capable of 5 watts power output but not with the standard battery. As supplied from the factory they provide 2 to 2.5 watts. Most portable work requires < 1 watt so this is no problem. You need to understand how long the radio will operate with the battery provided to avoid surprises later. If your anticipated usage is greater than the battery can provide consider upgrading to a higher milliamp-hour unit or buy a second battery pack, simply buying a bigger or higher voltage pack may provide more power out but could result in shorter discharge time. There are many non-OEM battery packs available for less money. Of course using less output power extends the battery life considerably. I don't know of any recent HT that doesn't have the capability to switch to a low power mode (or more than one). For mobile operation a cigarette lighter power plug will allow 5 watt operation.

The other battery saver is the squelch. The squelch only provides audio output when there is activity on frequency. It has an adjustable threshold to prevent triggering on noise or weak signals. The audio output uses lots of power and listening to noise coming from a receiver is tiring; for these reasons squelch has been a standard feature on FM radios for many years. Some HTs have battery save modes that shut many functions off when there is no activity, while this is nice it doesn't help in an emergency or other heavy use situation.

Many dual band radios have simultaneous dual band receive which can be handy but also annoying if both channels are active simultaneously unless you can send one band to your speaker MIC and use the radio speaker for the other. Dual in-band receive

allows monitoring two frequencies in the same band but you will only be able to transmit on one.

A continuous tone-controlled squelch system (CTCSS) encoder, standard on all new HTs, sends a subaudible tone along with the modulated voice signal. A repeater programmed to respond to this tone won't respond to carriers without it. Most hams refer to CTCSS as PL, a Motorola trademark that stands for Private Line. The W6TRW 145.32 MHz repeater shares a frequency pair with a San Diego repeater. Our repeater uses a PL, theirs does not key when it receives a PL tone. This PL allows us to share valuable 2 meter frequencies with less interference. The W6TRW repeater also sends the PL tone when it is keyed. A HT with a CTCSS tone decoder enabled will only break squelch when it receives this tone. In my neighborhood, San Diego is often just as loud as W6TRW so for me the tone decode feature is mandatory. Some radios have this as a standard feature, others require optional boards. The dealer will often install optional boards purchased with a new HT free of charge.

Many HTs offer extended receive frequency coverage to allow reception of aircraft, weather and public service stations which may be of interest to some hams. Size and weight are a matter of personal choice. The frequency display must be easy to read outdoors on a bright day. The ability to illuminate the display in dim lighting is handy. There are two additional items an HT owner should consider buying, a speaker MIC and a full size antenna. The speaker MIC can be clipped to your pocket or collar to make hearing easier when your HT is clipped to your belt. A full size antenna boosts your effective output power many times since the original short antenna supplied is very inefficient. These items are available from several W6TRW swap meet vendors at reduced prices.

Now I deliberately saved the best for last, ease of use. This takes two forms, the first being the control layout and labeling. Are the functions of the controls clear? Look at several HT models from different manufacturers to compare ease of operation. Have a salesman or other ham show you the operating features and try them yourself. You will be much happier with a model you feel comfortable operating. There is always some learning involved in using a new radio so comfort here is only relative.

The other user aspect that is important is ease of programming. Some HTs are user friendly and others require the instruction manual to program even the simplest functions. Some instruction manuals do not clearly illustrate programming operations. It pays to take a little time and try entering a repeater into memory or programming a favorite operating feature while following the instruction manual yourself. The salesperson won't be with you to help when you leave the store. I realize that once programmed it is seldom necessary to change, but I don't like radios that are overly confusing and require the instruction manual for routine operations. If you plan to be a "power" HT user you can ignore this comment because even the most complex HTs can be mastered with a few weeks practice.

The product reviews in QST, CQ, and 73 provide the valuable opinions of experienced HT users. A particularly good article comparing five dual-band HTs appeared in March 1994 QST. I encourage reading reviews and talking to experienced HT operators before looking for your first radio. Once in the store, the allure of all those multi-featured radios may prove too tempting and you may find yourself with a HT that is not right for you and for that reason is seldom used.



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_____	Registration & At Door (August 11th to Show)	\$15.00	_____
_____	Saturday Night Banquet	\$35.00	_____
_____	Sunday DX Breakfast	\$18.00	_____
_____	Saturday Ladies Luncheon	\$21.00	_____
_____	Friday Night Harbor Cruise (Bus, Dinner, Bar & Cruise)	\$55.00	_____
_____	Total Enclosed		\$ _____

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For additional information, please phone (619) 278-4284



CONVENTION HIGHLIGHTS

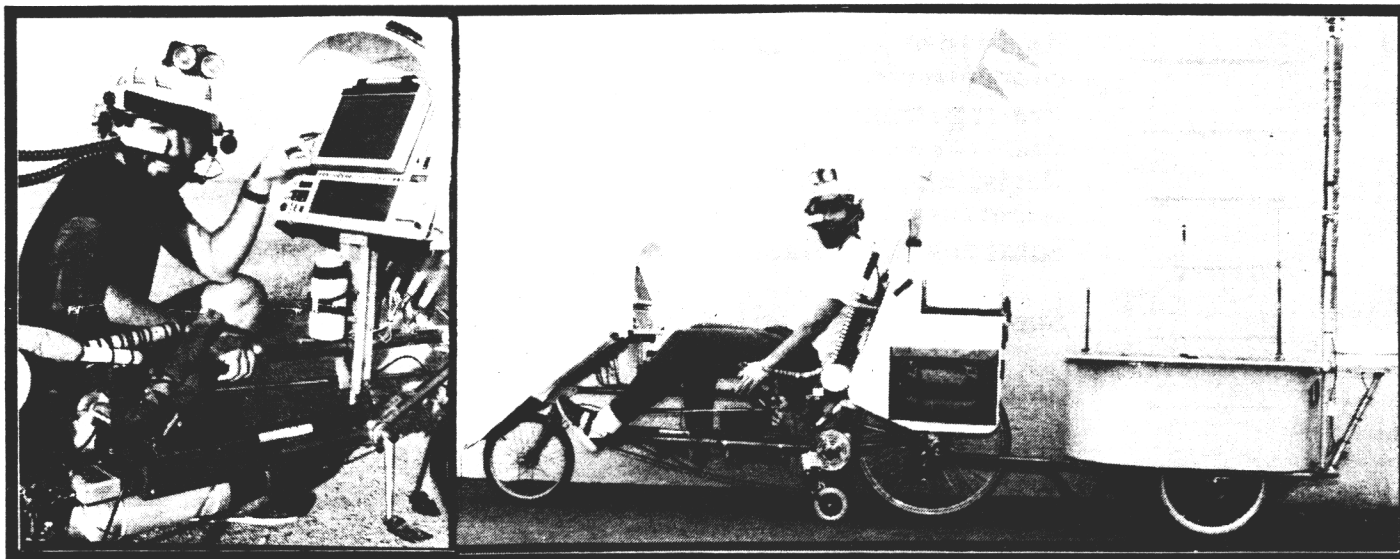
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TRWARC FIELD DAY 1994

Would you like to participate in a reenactment of the landings at Normandy (WITH MOST OF THE ORIGINAL CAST)? Would you like to see what it was like on the front line of the charge of the light brigade? Ever wonder what the damage control officer on the S.S. Titanic felt like? Want to break out of the HUM-DRUM LIFE STYLE YOUR LEADING? Want to contact 200/500/1000 stations in a single day? Want to have a little fun with your friends and tune up your operating skills? Want a chance to check out your gear and make sure you're ready for "THE BIG ONE."

IF ANY OF THESE THINGS INTEREST YOU THEN THE TRW ARC 1994 FIELD DAY IS FOR YOU!! Field Day will start with set-up Friday afternoon June 24, the operating period will start at exactly 11AM Saturday June 25 and end at 11 AM Sunday June 26. We have been number one in our class for the last two years and we were number 9 in the country in '93!! We will again be operating from Friendship Park in San Pedro with a great radio horizon, flush toilets, and a paved road all the way to the site. The food will be extraordinary. We will be operating class 7A with multiple transmitters from UHF to 80 meters and a novice station - if we can find a novice (anyone seen any?). Even if you've never been to a field day before there is a place for you - and it'll be a great way to learn the ropes (and turnbuckles too). CW, SSB, FM, PACKET, SATELLITE, STATIONS ALL NEED OPERATORS. If you can only help for a few hours - SOME THE MOST CRITICAL JOBS ONLY TAKE A FEW HOURS. Setting up and taking down can be more fun than operating (ever see 6 hams trying to erect a 40' flexible mast that will bend over double? Its worth the trip to field day just to watch). Whatever you like to do in ham radio we will have a spot for you this year. We're going to have several new stations and some new antennas - including a two element beam for 40 meters. Our van will be there for a real demonstration of its capability. If there is anything you though you would like to do a field day- let me know.

IF YOU WOULD LIKE TO PARTICIPATE IN THE 1994 FIELD DAY PLEASE SEND ME A NOTE AT 05/1676 OR GIVE ME A CALL AT (310) 813-8386. There will be a list of Band Captaints in the next Crosstalk.

**73 JOHN SHEPHERD, WB6UYX
1994 TRWARC FIELD DAY CHAIR**