TRW W6TRW AMATEUR RADIO CLUB

CROSSTALK

TRW SEA

A Publication of the TRW Amateur Radio Club

MAY 1995 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

May 2: Executive Board Meeting, E2/1200, 5:15 PM - Note New Start Time

May 5-7: West Coast VHF/ UHF Conference, Cerritos

May 9: Emergency Communications Team Meeting, R3/1413, Noon

May 9: Club Meeting, 5:30 PM at Petrelli's, VOTE on changes to the club Constitution

May 19: Technical Chairman's Meeting, Bldg S Shack, Noon

May 27: Swap Meet, Parking lot, NW corner of Aviation & Marine, 7-11:30 AM, T-HUNT at Noon

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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.

***CROSSTALK* EDITOR WANTED:** I have taken a new job within TRW and no longer have as much free time. If you are an active member (i.e. TRW employee) and are interested in editing the club newsletter give Frank Cartier or myself a call. I still plan to write articles and be active in club activities. We need someone to start with the June or July issue. It's been a fun four years as editor. 73 de KJ6GR

Update on the TRW/ARC Emergency Communications Team

By: Rich Sauer, N6CIZ

At 2:04 PM on Friday, March 3rd, members of the TRW Amateur Radio Club's Emergency Communications Team (ECT) began receiving pages on their alphanumeric pagers. A fire was in progress at the TRW credit union in El Segundo. Team members turned on their 2 meter radios began checking in to the emergency net forming on the W6TRW repeater.

Quickly determining that this was a real event, members who could leave work, grabbed radios, hard-hats and special identification badges and raced to assist TRW Security in safely evacuating the building. Others stayed in their workplace, monitoring radio traffic, ready to respond if needed.

Rick Ervin, KD6OZD, responded to the Team's Emergency Communications Center in building R3 and acted as Net Control. Responding to the fire were Bob Briggs, KD6WYQ, Rich Sauer, N6CIZ, Ray Enriquez, KD6IGI, Greg Martens, N6RRY, and Dave Lee, WA6MPF.

Standing by on frequency were Pat Anderson, KB6YPI, Duane Park, WA6EIK, Joe Zboril, WB2DRH, Bill Whiddon, KK6LV, Sveinn Thordarson, KD6NCP, Jan Parker, KD6AKD, Peter Aoyama, KD6GKT, and Nina Whiddon, KN6FL.

Building 83 (housing the credit union and several other firms) was evacuated. A TRW fire truck and several Security vehicles were on scene as units of the El Segundo Fire Department rolled up. It was quickly determined that a minor fire was contained in an air conditioning unit on the building's roof which blew smoke throughout the building. After several minutes, the situation was under control and all building occupants were allowed to re-enter.

Ho hum. Just another routine day for the members of the TRW/ARC Emergency Communications Team!

The Team boasts 35 members who are on call to assist in situations like the one above. Most events are pre-planned drills or community service events that the Team uses to keep their communications skills sharp. But the occasional real thing (fire, flood, earthquake) comes along often enough.

Upcoming planned activities for the ECT include the building of a new, larger emergency communications van to replace the existing one, supporting communications for charity events in the South Bay, receiving training from the Manhattan Beach Police Department, and displaying the new van at the ARRL Southwestern Division Convention at the Queen Mary in September.

If you'd be interested in joining the ECT, give Rich Sauer a call at extension 35869. You must be an employee of TRW, a current member of the Amateur Radio Club and willing to give some volunteer labor and time to support the Team's activities.

The Emergency Communications Team meets the second Tuesday of each month at noon in the R3 Emergency Communications Center and has a weekly net on the 2 meter repeater every Wednesday at noon where all hams (not just members) can check in.

Newcomers Basics: Grounding

by Bill Shanney, KJ6GR

A good ground for your rig is important for several reasons. Safety, the prevention of electrical shock, is the main reason. A good ground consists of an 8 foot copper or copper clad ground rod connected to your shack via a heavy copper wire, strap or braid. The National Electrical Code requires a #6 wire or larger. Never rely on the third wire of an electrical outlet for your shack ground. Your service ground may not be good.

This ground may not be adequate for an HF station ground. If the distance to the ground rod is greater than a few feet (less than 10 electrical degrees, one wavelength = 360°) you will need to use a counterpoise. This consists of a quarter wave piece of insulated wire for each band you operate. These wires can be run around the baseboard, under a carpet or outside next to your house. Make sure you weatherproof the ends and keep them away from pets and people since large voltages can be present and RF burns are painful

Southern California has very few thunderstorms but all it takes is one lightning hit to destroy your shack and possibly damage your home. Good quality lightning arrestors should be installed outside your house. Coax from your antennas is shorted to ground in the event of a strike, preventing equipment damage. Good quality lightning arrestors are available from Poly Phaser and Industrial Communication Engineers. They must be grounded to your ground rod via a heavy strap or wire since even secondary strikes produce high currents. Don't think that because you have surrounding trees or other structures that you can't get hit, the secondary arms of a lightning bolt can still cause a lot of damage.

Good grounding is also important to prevent RFI. All equipment and accessories in your shack should be connected to a single point ground via heavy braid or copper strap. Ground loops can cause equipment to malfunction and also makes it more susceptible to interference to and from computers and other electronic equipment. My shack is on the second floor of my house and I installed a very elaborate ground to eliminate multiple grounding problems. The ARRL book "Radio Frequency Interference: How to Find It and Fix It" contains more information on this complex topic.

Newcomers Guide: HF Accessories on a Budget

by Bill Shanney, KJ6GR

Last month I wrote about inexpensive ways to get started on HF. Well there are a lot of inexpensive accessories that can make operating more enjoyable. Some folks start on HF CW using a hand key, there's nothing wrong with this but as your code speed increases you will want a keyer or keyboard to send faster. Keyboard keyers are available from AEA and MFJ and are not cheap. Some TNCs can be used as a keyer too. More traditional keyers use a paddle key, and you get perfectly spaced dits and dahs by pressing the left and right paddles respectively.

Handy amateurs who are good machinists can build their own key. Vibroplex and Bencher sell fine paddle keys for less than $70. I've seen good paddles at the swap meet for considerably less. A CMOS keyer circuit draws very little power. Keyer kits' are available for low cost:

- Ramsey ($25) (TRW Swap Meet)
- A&A ($30)* (TRW Swap Meet)
- Ten Tec ($10)
- Oak Hills Research ($40)*
- Kanga U.S. ($30)
- 624 Kits ($34)

These are all easy to build and most are small enough to mount inside a transceiver. Ten Tec sells a paddle key in a small chassis (Model 607) for $40 that is great for housing a small keyer.

An audio filter is a very useful accessory for both CW and SSB. It lowers the amount of noise by reducing the audio bandwidth and also helps reduce interference. If your transceiver does not have narrow IF filters an audio filter is especially handy. It won't prevent overload like an IF filter but it can reduce close signals appreciably. Keeping with the low cost emphasis I'll only list kit suppliers:

- Oak Hills Research ($60)*
- 624 Kits ($40)*
- Tejas RF Technology ($30) (CW only)

Make sure any audio filter you buy has a tunable audio center frequency. The CW sidetone on rigs are different and most are fixed.

For hams operating at powers of 100 watts or less using modern solid state transceivers a Low Pass filter is seldom necessary, so save your money. If your rig doesn't have an SWR meter and you don't have a tuner with one built in I suggest you buy one. SWR is the best indicator of the condition of your antenna system. The MFJ-816 HF SWR/Wattmeter sells for around $30. There are many other models available with more features starting at around $100. I recommend buying a small tuner for $140 instead of spending nearly as much on a meter.

Headphones are another useful accessory. I use a pair of stereo headphones I bought at Radio Shack for $15. I prefer the circumaural design that keeps noise out. For QRP portable I use the walkman earplug style. I find all foam cushioned headphones let me hear too much background noise. Equally important using headphones keeps me from interfering with the rest of my family. If you operate mobile remember that it is illegal and unsafe to have both ears covered. Single headphones are available for mobile use.

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* I have personal experience with these models.

Note 1 - See the April 1995 *Crosstalk* for the addresses of kit suppliers.

Equipment for Sale

1) Diamond MX-214 Duplexer, 2m/220 mhz, 150/100 watts, $35.00

2) Ten-Tec, Titan Linear Amplifier, 1.5 KW output, 1.8-30 mhz, with power supply, $2000.00

3) AEA, Pk-900 Data Controller, $325.00

4) Standard C228A, 2m/220 mhz FM HT package,including spkr mic, soft case, desk charger, DC adapter, etc., $425.00

All reasonable offers considered.

Frank Cartier, WA6RAY
310-812-2292 (8am-5pm)

FOR SALE: Ten Tec Argonaut II QRP transceiver. 5 watts output on all HF ham bands. General coverage receiver. Excellent condition. $900/obo. Call Bill Shanney, KJ6GR, 310-542-9899 evenings after 7 PM.