



RF



Halloween Issue

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October 2017

The Prez Sez.....

by Tim N6GP



Greetings,

It seems like the last 6 weeks have been filled with non-stop disasters and tragedies. From hurricanes Harvey, Irma, Maria and Nate to 2 powerful quakes in Mexico to the horrific shooting in Las Vegas, it has never let up. Of the natural disasters I just listed, the one with the most long-term damage is hurricane Maria, with its devastation in Puerto Rico and the US Virgin Is. As of this weekend, only about 57% of Puerto Ricans have potable water, and under 12% have electricity. Only about 52% have wired or wireless phone service.

The aftermath of the hurricane on Puerto Rico was so dire that the American Red Cross made an unprecedented request of the ARRL. They requested 50 Amateur operators to provide communications for the island. Our League put the word out about this request, and about 450 hams volunteered for this 3 week stint.

Stations were set up at each of the hospitals, and are being manned by this "Force of 50" as well as the local Puerto Rican Hams. Valerie Hotzfeld NV9L, who is a co-host of HamNation is one of these volunteers who is putting in a grueling 16 hours a day handling the traffic. You can follow this effort on the ARRL page [ARRL Puerto Rico Recovery LINK](#). ARRL CEO Tom Gallagher NY2RF said that the "McGyver-like" qualities of the hams have been a great resource in helping to get the power grid and water supply working again. This is truly history in the making, and we will be talking about this for years, with many lessons learned for future events. See elsewhere in this RF for an article on this.

We had a great turnout in Irvine this weekend for our picnic. We kept our promise of it being "laid back" as far as our entry into the Calif QSO Party. But, hindsight being 20/20, I think we needed some directional antennas to make the operating more enjoyable, especially on Phone. We just couldn't get a run going. It was a fun event, and the park was beautiful.

This month we look forward to our auction, lead by our always entertaining auctioneer – Chip Margelli, K7JA.

Tim Goeppinger N6GP
President OCARC



The next **General Meeting** of the OCARC will be held on:
Friday, October 20th, 2017.

The main October program will be

The Club Auction

That, you won't want to miss!

Once again, Chip Margelli K7JA will be Auctioneer. See Pages 3-4 and also

<http://www.w6ze.org/Events.html>
for more information.

The next General Meeting will be on:

Friday, Oct 20th, 2017
@ 7:00 PM

ENTER from the WEST SIDE entrance of the Red Cross Building, Room 208
Take elevator to the 2nd Floor. See you there!

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Monthly Events:

General Meeting:

Third Friday of the month
at 7:00 PM held at:
American Red Cross
600 Parkcenter Drive
Santa Ana, CA
(Near Tustin Ave. & 4th St.)

Club Breakfast (Board Mtg):

Normally First Saturday of month at 8am
Marie Callender's Restaurant
1821 North Grand Ave
Santa Ana, CA
(Between 17th & Santa Clara)

Club Nets (Listen for W6ZE):

28.375 ± MHz SSB
Wed- 7:30 PM - 8:30 PM
Bob AF6C, Net Control
Alt: Corey, KE6YHX, Net Control

146.55 MHz Simplex FM
Wed- 8:30 PM - 9:30 PM
Corey, KE6YHX, Net Control

7.086 ± MHz CW **OCWN**
Sun- 9:00 AM – 10 AM
Ann K6OIO, Net Control



Club Dues for 2017:

Regular/New Members* - - - - - \$30
Family renewal/Join** - - - - - \$45
New Member Join Jul-Sept*** - - \$15
Replacement Badge**** - - - - - \$ 3

* New members Jan-March, w/badge.

** Two members or more, w/badge.

*** New members July-Sept, w/badge.

**** There is a \$1.50 charge if you'd like to have your badge mailed to you.



Illustration originally in RF Newsletter 06/1997 and updated for this issue by Tom W6ETC

Sample of 2017 OCARC Auction Items

The OCTOBER 20, 2017 MEETING will be our annual OCARC auction night with Chip Margelli, K7JA returning as auctioneer. It's a great chance to empty your garages of many treasured boat anchors and buy a bargain addition for your shack. All radio/electronic equipment is welcome. All members and visitors are encouraged to attend. It's always an enjoyable evening

Partial List of Items up for Auction

#	Part #	Manufacturer	Description	Comments
1.	Bird		HF Wattmeter Model 4350 (200W full scale / 2000W full scale)	
2.	260 (APF1-)	Simpson	Volt Ohm Meter	Overload Protected
3.	T7000	Rabbit Sys.	Remote Video Transmitter	
4.	R8000	Rabbit Sys.	Remote Video Receiver	
5.	TX888	Wavecom	RF-Link Video Transmitter	
6.	RX999	Wavecom	RF-Link Video Receiver	
7.	Heathkit		model HD-15 Phone Patch	
8.	Cybernet		Marine VHF transceiver	
9.	DVP-812	EPD	Reg. Power Supply	13.8V 8A CSS OVP
10.	E-DC-5B	Yaesu Vertex	12 DC Adapter	for Handhelds
			• For VX-6R, FT-1DR, VX-7R, FT-60R, FT-270R,	
			• VX-8DR, VX-8GR, VX-8R, FT-250R, VX-170, VX-177	
			• VX-150, VX-110, VXA-220, VXA-300, FT-277, CD-15A, CD-26, CD-41 & others.	
			• Fits all radios that use the EDC-6, EDC-19A, NC-72B, NC-86B,	
			• PA-44B, PA-48B & NC-88B adapters	
11.	NC-28B	Yaesu Vertex	Wall Charger	8.7VDC @ 60ma 2.5mm plug
			• For FT-23/33/73, FT-411, FT-470, FT-530, FT-811 FNB-17	
			• FNB-25 FNB-10FT-26/-76-416/-815/-816/-530 FNB-28.	
			• FTH-2009/-7009 FNB-18 FNB-20 VX-200 FNB-43	
12.	Various	X-10 modules		
13.	Gonset	2M AM transceiver	model ???	
14.	Old radio	#2		
15.	Transmitting	Air-Variable Loading Capacitor	- 50 to 1500 pF.	
16.	Various other items	- and More!		



FOR A MAP TO AUCTION CLICK THIS LINK

Mark Your Calendar



AUCTION

OCARC 2017

ANNUAL AUCTION



Friday, October 20th, 2017 @ 7:00 PM
Room opens 6 PM for Registration and Inspection

Held at...
American Red Cross
600 Parkcenter Drive, Santa Ana, CA
Second Floor Rm #208

by Tom W6ETC

Auction Rules

The room will open at 6:00 PM to allow registration, set-up and viewing. All buyers and sellers are welcome.

The following rules for the 2017 OCARC auction will be in effect:

1. Only Ham radio or electronic equipment / items will be allowed,
2. You must register prior to or at the auction site the day of the auction when doors open. Registration is Free*.
3. Sellers should number each item in their lot. A tag should indicate the minimum bid they expect.
4. Only 3 items from a Sellers lot will be auctioned during each turn and then the auctioneer will move on to the next lot.
 Once the other lots have been offered the auctioneer will start the second round of auctioning with the next 3 items in Lot #1.
5. Auction bidding will take place as follows:
 - (a) \$0.00-to-\$5.00 bidding will take place in \$0.50 increments.
 - (b) Over-\$5.00-to-\$50.00 bidding will take place in \$1.00 increments.
 - (c) Over-\$50.00-to-\$100.00 bidding will take place in \$5.00 increments.
 - (d) Over-\$100.00 bidding will be in \$10.00 increments.
6. Rules 4 and 5 may be changed at the auctioneer's discretion to expedite the auction.
7. Payments for purchased items are due at the end of the auction and shall be by cash or check with the appropriate ID. No two-party checks or credit cards are allowed. Disbursements to the Sellers will be by OCARC check, only.
8. *Sellers will be charged **10% of the selling price** for items sold by OCARC. A special table will be set up for items donated to the OCARC. Proceeds from the sale of donated items will go into OCARC operational funds.

For more information go to www.w6ze.org

[CLICK HERE FOR A MAP TO THE AUCTION](#)



More than twenty of the "Force of 50" volunteer Ham Radio Operators are deployed in Puerto Rico, with a warm reception from fire stations and churches, who are providing safe passage, boarding, food and water. The volunteers initially gathered at Puerto Rico Emergency Management Agency headquarters at the San Juan Convention Center. They are providing communications for local law enforcement and utility managers with island-to-mainland health and welfare traffic, and contact with remote parts of the island after hurricane Maria hit on September 20th.

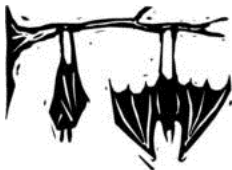
Amateur Radio Operators are positioned and embedded in various places around the island, including PREOC, the American Red Cross temporary headquarters, the Quebradillas station for the Autoridad de Energía Eléctrica, and Jacuo. Requests were made to also provide VHF communications with 51 hospitals on the island.

Two team members got into the westernmost part of the island, and are providing the only emergency communications between Mayagüez and San Juan.

According to a FEMA official, the White House is very pleased with the work Amateur Radio Operators are doing in Puerto Rico in the wake of hurricane Maria.



(paraphrased from ARRL News article *"Force of 50" Amateur Radio Volunteers Deploying Throughout Puerto Rico*, October 2, 2017)



Heathkit of the Month #79:
by Bob Eckweiler, AF6C

Heathkit

AMATEUR RADIO - SWL

Heathkit VF-1 External VFO (Variable Frequency Oscillator).

Introduction:

In 1951 the FCC totally revamped the license classes for radio amateurs. Prior to 1951 three classes existed, **A**, **B**, and **C**. In 1951 the FCC changed the licensing structure into six classes: **Novice Class** (a new introductory class), **Technician Class** (a new class for VHF and UHF advancement), **Conditional Class** (for people unable to be tested in front of an FCC examiner - formerly class C), **General Class** (formerly class B), **Advanced Class** (formerly class A - but no new advanced class licenses were granted after December 31, 1952 until the introduction of incentive licensing in 1968), and the **Amateur Extra Class** (the new top-level class.)

The Novice Class was severely limited in HF operating privileges. Power was limited to 75 watts, and initially operation was limited to CW on a 50 kc band segment on 80 meters and on the full 11 meter band. The transmitter frequency control had to be by crystal. "Rock-bound" was a term used for being crystal-controlled, and most novices owned at most a few crystals for each band they operated. The novice class license was limited to a one-year term and was **not** renewable. You either moved to General, or Technician, or took up a new hobby. Changes took place over the next 20 years to the novice bands, then in 1972 the FCC allowed novices to use VFOs that were FCC Type A accepted.



Figure 1: Heathkit VF-1 VFO

Novices in the 1950s and 60s spent their year operating HF to get their code speed up to the required thirteen words-per-minute, and studying the theory if they wanted to keep their HF privileges. Most stayed away from 2-meters where they had phone privileges, afraid they might squander the year.

Operating "rockbound" resulted in some interesting operating techniques. Since the odds of two hams having the same crystal frequency was low, and it was an advantage to have a crystal at a less common frequency, one had to tune around the novice band after calling CQ. Also, the replying station had to send a long reply so the other station had time to tune to his frequency. Thus, the first thing a graduating novice did when he upgraded to General or Conditional Class was to become "un-rock-bound" by adding a VFO.

During the fifties and sixties Heathkit sold a lot of transmitters for use by novices including the AT-1, DX-20, DX-35, DX-40, DX-60

series and the HX-11. All of these were designed to use crystals and could also use, or be modified to use, an external VFO.

The VF-1 Variable Frequency Oscillator:

In 1952 Heathkit released it's first VFO, the VF-1. It sold for \$19.50 throughout its production. Table I shows the specifications. The VF-1 was originally designed to work with the AT-1 transmitter and uses it to get power and key-line via a three conductor shielded cable that plugs into an octal socket on the rear of the AT-1. A separate coax cable, with a two-prong connector that plugs into the crystal socket, supplies the VFO signal to the AT-1.

The early VF-1 manual discusses only operation with the AT-1 transmitter, though the use of the VF-1 is covered in the DX-20, DX-35, DX-40 and DX-60 manuals.

The DX-20 and HX-11 require the use of a separate power supply to run the VF-1 and the placing of a jumper across the transmitter's oscillator cathode RF choke. The VFO signal is then plugged into the crystal socket as on the AT-1. It is necessary to be sure the grounded side of the coax cable is connected to the grounded side of the crystal socket, which is the left side.

The DX-35 and DX-40 can provide power to the VF-1 through their accessory socket. The two prong plug on the VFO signal coax cable must be replaced with an RCA-type phono plug. These two transmitters are wired with a switch to select between one of three crystals and VFO operation; this switch also shorts out the RF choke when in the VFO position.

The DX-60, DX-60A and DX-60B also have an accessory socket that can supply power to the VF-1, and an RCA jack for the VFO signal. Since the older radios use cathode key-

VF-1 SPECIFICATIONS (from Heathkit VF-1 Manual)

Output Frequencies:	1750 - 2000, 7000 - 7425. 6740 - 6808 kilocycles
Calibrated Bands:	160-80-40-20-15-11-10 M
RF Output:	Approximately 10 volts
Tube Complement:	6AU6 Oscillator 0A2 Voltage Regulator
Power Requirements:	6.3 V AC at 0.45A 250 - 350 V DC at 15-20 mA
Cabinet Size:	7" H x 6-1/2" W x 7" D
Net Weight:	4 lbs.

Table I - VF-1 Specifications

ing and the DX-60 line uses grid-block keying, a simple modification to the VF-1 must also be made.

The VF-1 VFO operates over the full amateur bands of 160 meters through 10 meters

VF-1 FREQUENCIES

Freq. Range 1:

Band (M)	Band (Kcs)	VFO Freq. (Kcs)	×
160	1750 - 2000	1750 - 2000	1
80	3500 - 4000	1750 - 2000	2
40	7000 - 7300	1750 - 1825	4

Freq. Range 2:

Band (M)	Band (Kcs)	VFO Freq. (Kcs)	×
40	7000 - 7300	7000 - 7300	1
20	14000 - 14350	7000 - 7175	2
15	21000 - 21450	7000 - 7150	3
10	28000 - 29700	7000 - 7425	4

Freq. Range 3¹:

Band (M)	Band (Kcs)	VFO Freq. (Kcs)	×
11	26960 - 27230	6740 - 6807.5	4

Notes:

1. Prior to its use for CB, 11 meters was an amateur band.
2. × is the multiplication factor that occurs in the transmitter.

Table II - VF-1 Band Operation

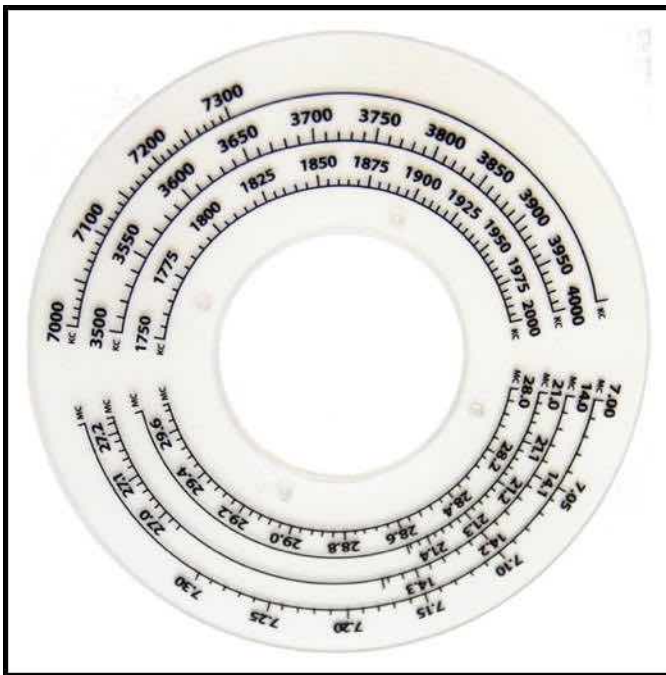


Figure 2: Heathkit VF-1 VFO Dial
Upper scales are range 1 and
lower scales are ranges 2 and 3.

(see Table II). This includes what is now the 11-meter CB band which was a ham band until September 11th, 1958. The VF-1 has just three controls on the front panel and a lighted window with a circular dial with scales to indicate frequency (See Figure 2). A large tuning knob is connected to the dial via a vernier friction drive. The dial is split into two segments, one that covers band range 1 (160, 80 and 40 meters), and one that covers both band range 2 (40, 20, 15 and 10 meters) and band range 3 (11 meters). The tuning capacitor has two sections, 35 μf maximum for range 1 and 11 μf maximum for ranges 2 and 3. The control on the left is a three-position rotary switch that selects the range: (160, 80 40 - range 1), (40, 20, 15, 10 - range 2) and (11 - range 3). The switch on the right is a three-position function rotary switch that selects **OFF**, **STANDBY** and **ON**.

The small panel on the rear contains two grommets allowing the power cable (left side from rear) and VFO signal cable (right side)

to exit. Between the two grommets is a 1/4" phone jack for the key.

The VF-1 continued in production until 1961 when it was replaced by the HG-10. The HG-10 is a completely new circuit with styling to match the DX-60 series. The built-in VFO of the DX-100 AM/CW transmitter (HOM #8) follows the design of the VF-1.

VF-1 Construction:

Heathkit, in their ads and in their manual, touted the mechanical design of the VF-1 and how it adds to frequency stability - a most important aspect for a VFO. They dedicated a full page to the VF-1 in the 1956 main catalog. The chassis is copper-plated with shielding designed for thermal considerations, and structural rigidity in mind. The two tank coils are wound on heavy ceramic coil forms and Q-Max doped for stability. The case is aluminum and vent holes on the rear, top and bottom align with the trimmers and coils so the VFO may be calibrated in situ. Initial rough calibration is done with the case off. Figure 3 is an inside view of a VF-1.

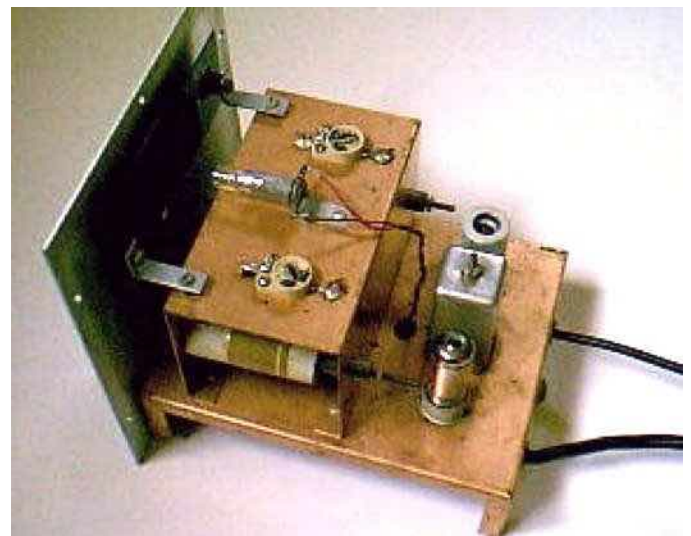
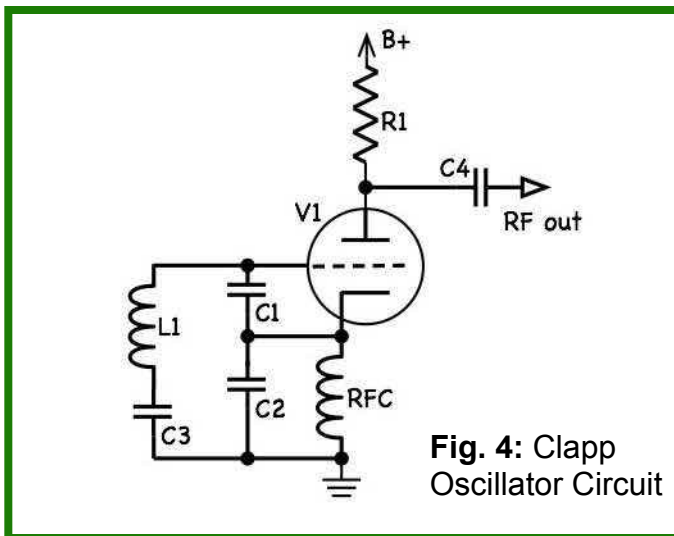


Figure 3: Heathkit VF-1 VFO Internal View

Heathkit VF-1 VFO Circuit:

The VF-1 uses two tubes, a 6AU6 oscillator tube, and an 0A2 voltage regulator tube that



controls the screen voltage. The circuit is a Clapp oscillator. The basic circuit of a Clapp oscillator is shown in Figure 4. It is the standard Colpitts oscillator with an added capacitor C3 in series with the inductance. This capacitance is normally much smaller than C1 and C2 and can be a variable capacitor. In a VFO circuit C3 is generally multiple capacitors in parallel. In the VF-1 C3 is composed of the main tuning variable capacitor, a trimmer capacitor for calibration and two fixed capacitors, one with a negative temperature coefficient to reduce drift due to temperature. The equation for determining the frequency of oscillation is:

$$f_0 = \frac{1}{2\pi} \sqrt{\frac{1}{L_1 \left(\frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} \right)}}$$

Figure 5 is an annotated schematic of the VF-1. The components of the original schematic are marked only with values. The C1 and C2 of the VF-1 circuit are both 510 μf . On range 1 (1750 to 2000 kc) L1 is the 114.5 μh tunable coil and C3 is made up of the 35 μf tuning capacitor, the 4.5 - 25 μf trimmer capacitor and a 47 μf and 10 μf fixed capacitor. The 10 μf has a negative (N750) temperature coefficient to compensate for temperature changes. When on range 2 (7000 - 7325 kc) a different set of coil

and capacitors is switched in for L1 (9.3 μh) and C3. On range 3 (6740 - 6808 kc) the range 2 components continue to be used with an additional trimmer capacitor switched in to lower the frequency to cover the 11 meter band.

The output circuit is electron coupled. The screen grid is regulated at a hard 150 volts by the 0A2 regulator tube and acts as the plate. The actual plate is only coupled to the oscillator by the electron stream. The suppressor grid is hard grounded and acts to further isolate the oscillator from the plate load. The plate voltage is applied through two tuned coils with a 'Q' high enough to provide good output voltage while still having the bandwidth to be effective over the VFO range. On range 1 both coils are in the circuit. On ranges 2 and 3 the larger value is switched out. Output is taken directly from the plate through a 100 μf blocking capacitor.

Plate and screen grid voltage is derived from either an external power supply or from the host transmitter. When the function switch is in the OFF position filament voltage is removed from the 6AU6 tube and the pilot lamp that illuminates the dial window. When in STANDBY filament and pilot lamp voltage is applied, but the cathode is disconnected from ground and no oscillations occur. However, there are two ways the cathode can become grounded when in the STANDBY mode; if a key is plugged into the rear jack of the VF-1 and the key is closed, or if the key-line, which connects to the transmitter via the power cable, is grounded at the transmitter.

When operating CW the VFO can either be kept running during transmissions or keyed along with the transmitter. The AT-1, the DX-20 and HX-11 normally operate in the former mode with the VFO switch at the ON position while transmitting, and the DX-35 and DX-40

operate in the latter mode with the VFO switch at the STANDBY position with the VFO being controlled by the transmitter.

Summary:

The VF-1 VFO can still be found on the air. Some older hams so enjoyed their novice year that they have set up a second station, often closely resembling their original novice station. The two most frequent upgrades they include with that second station are a better receiver of about the same time period, and a VFO. The VF-1 remains a sought after product in today's vintage amateur radio world.

In the spring of 1960 I passed my General Class license. While awaiting the license to arrive I assembled a VF-1 VFO to go with my DX-40 and put my collection of four novice band crystals (two for 40 and two for 15 meters) into a drawer. The VF-1 worked well and did its job. I don't ever remember having trouble with stability, or frequency drift, but I'm sure by today's standards it would be large. The freedom to move around in frequency and call stations on their own frequency made operating a lot easier. Many of the friends I made as a novice had also upgraded and we held short nets a few times a week; one was even on AM phone. Not long after I upgraded, the DX-40 and VF-1 were sold and a new Heathkit TX-1 Apache was assembled and put on the air.

Coming up:

When I started this article I had planned to include the HG-10 and HG-10B VFO's also. In order to keep to a reasonable article size I later decided to feature them in a future separate article. There is little difference between the original and the 'B' model (no 'A' model was produced) so both can be covered easily.

73, from AF6C



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Remember, if you are getting rid of any old Heathkit Manuals or Catalogs, please pass them along to me for my research.

Thanks - AF6C

A Book Review

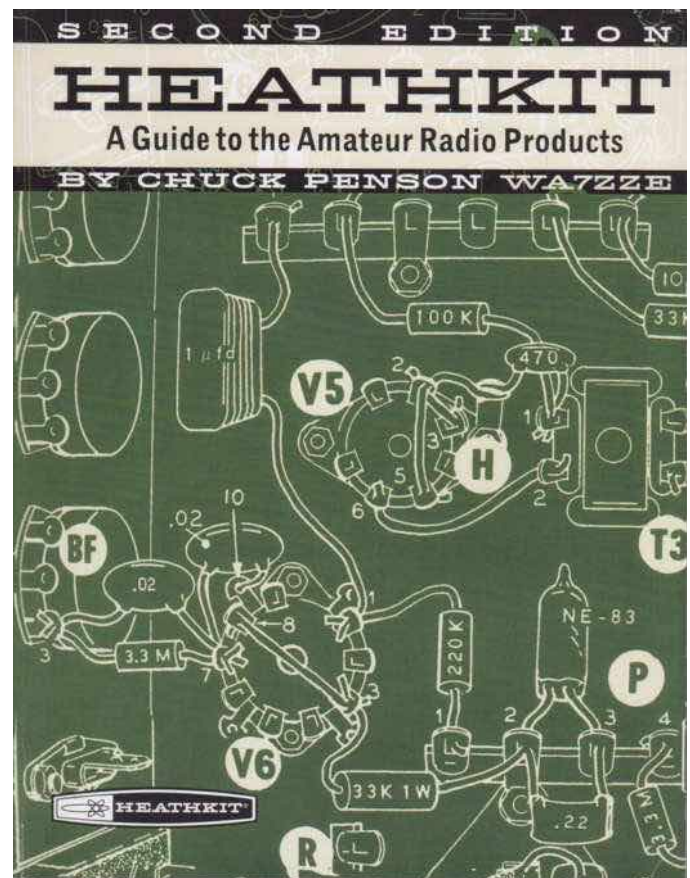
by Bob Eckweiler - AF6C

Heathkit - A Guide to the Amateur Radio Products

by: Chuck Penson - WA7ZZE

ISBN 978-0-943016-23-8

(Not currently in Print - see text)



In the August 2014 issue of the **RF Newsletter** I reviewed **Heathkit Test Equipment Products** by Chuck Penson - WA7ZZE. In 1995 Mr. Penson released a previous Heathkit book that covers the amateur radio

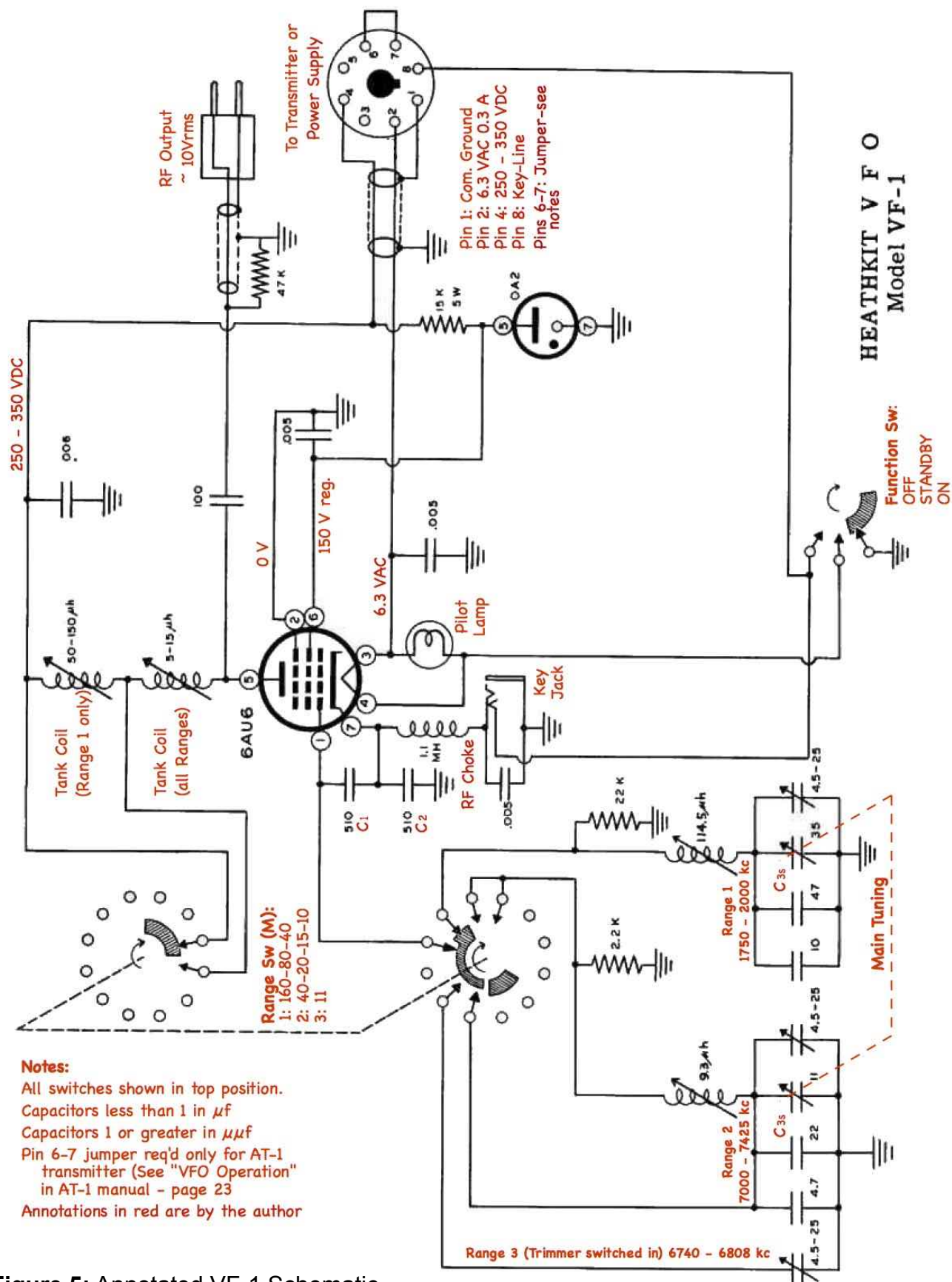


Figure 5: Annotated VF-1 Schematic

products produced by Heathkit over its existence. It was originally published by Electric Radio Press. The book was very popular among Heathkit aficionados and quickly sold out. A second edition with first and second printings was published by CQ Communications in 2003. It again sold out.

When you open the book you are in for a treat. After a short, but interesting, introduction and acknowledgements, the book, in 31 pages, covers a lot of the history of Heathkit, focusing on products related to amateur radio, and it introduces you to some of the people who made Heathkit products what they are. Every successful company has its failures too, and they are also noted in the history. The HW-19 "Ten'er", while engineering-wise was sound, failed to gain acceptance among hams, and the SB-104 and HW-2026 had numerous engineering problems that were later fixed in the SB-104A and the HW-2036.

The next section discusses the collecting of Heathkits, what to look for, and how to shop to choose the best kits for your collection. Here are a lot of good hints for anyone buying off eBay or at a flea-market, collector or not.

The fifth section is the starting point of the heart of the book. The title page calls it *A Guide to the Amateur Radio Products*. This section contains a one to two page synopsis of every ham related kit Heathkit ever made. The list is organized alphabetically by model #. It starts with the AC-1 antenna coupler and ends with the XC-6 six-meter converter. Some ham-related test equipment is also included such as dip meters and a line voltage monitor. Also included are some of the Heathkit weather instruments. This would please my former coworker who often comments that all the hams ever talk about on their radios is the weather! The only Heathkit weather instrument I own is the ID-2295

Another New Heathkit Book:

Chuck Penson-WA7ZZE continues to stay busy. His next book: *Heathkit Hifi and Stereo Products* should be out before the year's end - perhaps as early as November. This book takes a look at all the HiFi, stereo and other miscellaneous audio product that Heathkit sold in kit form.

Relative Humidity Indicator (Indoor/Outdoor) which is not included in the book. The included weather kits are the type hams might be interested in while on the air: wind speed, temperature, and rainfall. Also included are a couple of the weather stations and desk clocks. This section takes up 226 pages and covers around 260 kit models and accessories.

Each synopsis starts with a photo of the model, usually about 1/2 page in size. The text below includes the years the kit was sold, the initial factory price, the net weight and the size. It also lists related products by their model number so you can look them up easily. Between the factory price and the net weight are "**Comments**". This can be a short paragraph, a paragraph covering over a page-and-a-half or something in between. In this paragraph you will find information of interest on the model. This might include:

- Important specifications.
- A brief history of the model.
- Differences between the kit releases. (i.e. HP-23, HP-23A, HP-23B, HP-23C, PS-23, etc.).
- Tables of information. Pinouts, resistances, etc.
- Photos or drawings showing some info of interest.
- Common problems for the model.
- "**Note**"s: Things to lookout for when purchasing, especially if a model can be wired for more than one use when being assembled (An example is the different IF frequencies on the SB-620).

- **“Caution”s:** Common mistakes that can damage the device, operator or surroundings.
- **“Warning”s** More serious than “cautions” relating to possible injury or death. Most noticeably Heathkit left bleeder resistors out of some of their power supplies.
- How common or rare the model is.
- Other things a prospective collector would want to know.

In the sixth section the book covers Heathkit CB Radios and Walkie-Talkies. Heath sold CB radio kits starting in 1959 with the CB-1. The style and design of this model later was used in the *Ten'er*, *Six'er* and *Two'er* “Benton Harbor Lunchbox” transceivers. By 1968 Heath was mostly out of the CB kit market with just one CB radio still in production, the GW-14A.

The final section, is called the Indexes and is full of useful data:

- **Heath Master Product Index By Model:** Page number of synopsis by model #.
- **Heath Master Product Index By Type:** Page number of synopsis by model type.
- **Product References:** An index of articles appearing in CQ and QST magazines by model #.
- **Tube Chart:** A chart of tubes used by each model that uses vacuum tubes.
- **Product Timeline:** Graph of model's period of manufacture.
- **Sales Data:** Partial information on unit quantities sold by Heathkit.
- **Electric Radio Index:** Index of relative Heathkit articles in the online publication *Electric Radio*. (Subscription required). Some of these articles are by Chuck Penson - WA7ZZE.

I purchased a copy of the second printing of the second edition of this book in 2014 from HRO in Anaheim. While the book fascinated me with all the useful information I was disappointed at the photographs. Especially since a review of the second edition stated: *This well-produced book features un-*

usually large and sharp photos. The photos in my book were dark and blurry with a moire pattern in every background. I was told the original photos were lost between the first and second printing of the second edition, and the only guess I can make is that the publisher must have used Xerox copies of the photos from the prior printing.

So why did I write a review of a book that is out of publication? You could go up on Amazon and look for a used copy; the second edition ranges from an unbelievable \$500 to an even crazier \$1,299*. You could buy a lot of used Heathkits for that amount of money. The good news is that a revised and updated third edition is planned. It probably won't be available until 2019 though. Even better news is that Mr. Penson has put information from the book, including color photographs online for free based on *Evernote*, and here's where you can access it:

<http://tinyurl.com/ppj83b3>

You don't need to have Evernote installed on your computer, it works within your browser window. However, some phones and tablets might need to download an Evernote app to view on those devices.

After the page loads click on **View Notebook**. Then find the **View Options** tab at the bottom of the screen towards the left; click on it and select Sort by: **Title Ascending**.

Once you're set up, start by glancing over the 00 sections. Also, consider sending a small donation as you have just saved at least \$500. To view a synopsis, click on the item in the left column and the photo(s) and text for that Heathkit will appear on the right. Enjoy.

73, from AF6C



* Actual low and high used prices on Oct 1, 2017 for the second edition on Amazon.com.

A Net Control Perspective of Amateur Radio Support for the Disneyland (runDisney) Half Marathon September 3rd, 2017

By Tom Cowart W6ETC



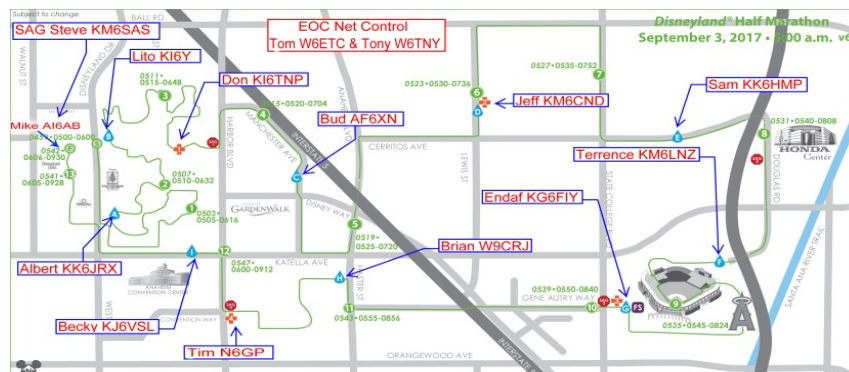
Under the guidance of the [CARA](#) (Catalina Amateur Repeater Association) leadership and [Scott AK6Q](#) a team of Amateur Radio Operators met up at an outrageous time of 3:45 AM in a parking lot of a donut shop in Anaheim CA., for the primary purpose of not eating donuts ... but to provide Emergency Backup Communications to that day's Disneyland Half Marathon ('[runDisney](#)') event.

This early morning parking lot served as a meeting place to facilitate any and all last minute changes to instructions and assignments for the upcoming public service task at hand including distributing credentials, shirts and parking permits for their part of Disneyland Half Marathon Backup Communication team. The team mainly comprises Radio Operators from the CARA membership, but in this event there were a few participants that are members from other local amateur radio clubs. According the roosters of the [OCARC](#) (Orange County Amateur Radio Club) we had 3 attending and 1 additional member came from [SOARA](#) (South Orange Amateur Radio Association).

The main purpose of our Team is to provide Emergency Backup Communications for the event. Keep in mind that in times of crisis and disasters, Amateur Radio is often used as a means of Emergency Communications when wireline, cell phones and other conventional means of communications fail. Participating in events' like these provides an excellent opportunity for Amateur Radio Operators to practice their 'EmComm' (Emergency Communications and Ham Radio Public Service) training with a real time activity.

Some may say that 'EmComm' is the very 'core' of the Amateur Radio Service. Others may feel that 'DX' shares in the limelight. In either case Amateur Radio Operators are willing to step up, get out of bed to put into practice their 'EmComm' training to serve their community. Experiences like this not only helps their community but helps to develop their abilities to provide Emergency Communications when a disaster or crisis strikes their own community. These Radio Operators are developing and practicing a unique series of skillsets that can and will save many lives.

'Toy Story' is the theme of the September 3rd Half Marathon event. The [runDisney](#) website claims this to be a "13.1-mile magical Pixar run through the Happiest Place on Earth." The route (which changes at each event) goes through both the Disneyland Resort and the streets of Anaheim to the celebratory "Toyland" finish line located at the Resort.



On average there are approximately 14,000-15,000 runners that show up for the event, some wearing costumes of their favorite 'Toy Story' characters, some come dressed as their favorite Super Hero, some are dressed in strange and unique costumes and of course some are dressed as Disney characters. Although most are dressed in running attire, many participants, volunteers and observers will tell you that this event is entertaining, fun, rewarding and a lot of hard work.



The participants (runners) come in all shapes and sizes, in all forms of fitness and in a broad range of age and abilities. For completing (or attempting to complete) the course, participants receive the coveted Half Marathon Finisher Medal, a Champion Shirt, a Virtual Goody Bag and various On-course + Post-race refreshments (water/snacks) along the way.

Bottom line is the Disneyland Half Marathon is a unique opportunity to practice EmComm services and methods including working alongside a bunch of interesting 'characters'!



Net Control was tasked to coordinate the following Radio Operators during the run.

Net Control Radio Operators include:

Tom W6ETC (OCARC/CARA)*
Tony W6TNY (SOARA)

Field Radio Operators include:

Tim N6GP (OCARC)*
Lito KI6Y (OCARC/CARA)*
Steve KM6SAS (CARA)
Albert KK6JRX (CARA)
Don KI6TNP (CARA)

Bud AF6XN (CARA)
Jeff KM6CND (CARA)
Sam KK6HMP (CARA)
Terrence KM6LNZ (CARA)
Endaf KG6FIY (CARA)

Brian W9CRJ (CARA)
Becky KJ6VSL (CARA)
Mike AI6AB (CARA)

*denotes OCARC Member

My hat goes off to this outstanding team's ability to have worked through some of the early morning challenges to be ready at their assigned aid stations (Medical, Water, SAG, Start or Finish Line) on-time prior to the start of the race! That's dedication!





Although this was Tom W6ETC first time at the helm of Net Control Operations and Tony W6TNY first time providing Critical Net Control Operational support it wasn't either one's first ball game running Net Control generally speaking.

From my own perspective Net Control is tasked to provide clear, direct and incisive communications. Net Control attempts to maintain and direct orderly and efficient radio traffic that supports efficient information exchanges. Instructions and information is exchanged in real time as requests filter through Net Control from either the aid station managers, or on-site field Radio Operators, and/or information requests or instructions come into Net Control from the runDisney EOC operation coordinators.

I'd like to also state that this was Tim N6GP (OCARC President) first time out in the trenches at the Disneyland Half Marathon. He was able to step right up and provide critical backup and operational support to a busy Medical support station in a key area within the Resort. It was also Tony W6TNY first time with operations as well. A first for many, even when considering those obstacles, we seemed to have pulled it off.

Security as usual is very tight and unfortunately a few Radio Operators' were delayed in obtaining access into the Resort. Fortunately through their dedication and patience those obstacles were eventually ironed out and all Radio Operators were in their respective assigned positions just prior to the start of the race. I want to thank everyone for their consideration, patience and support of Net Control Operations during the race.

The weather started cool in the early morning and there were even a few sprinkles, but as soon as the sun came out it turned hot and muggy just prior to the race. There were concerns that heat related injuries would be higher than normal as they were. Fortunately there were no major problems during the event to my knowledge and the Amateur Radio Operators were essentially the radio safety net that runDisney EOC operations relied on to assist in its operations. Interesting enough they would come to us (Net Control and Radio Operators) from time to time and our network of Radio Operators to get the most up to date information.





Image from runDisney. Modified by Tom W6ETC

Consider volunteering as a Radio Operator at the next Disneyland Half Marathon! New Radio Operators are typically placed with more experienced Operators for the first time in an effort to show them the ropes. This only happens when we have the required minimum OP's.

Truthfully it's not a difficult task to learn and granted does take a little getting used to in terms of the traffic methods, timing and flow of information.

Each event requires a *minimum* of 14 Radio Operators.

So why not join us for the next Disneyland Half Marathon?

The next Disneyland Half Marathon is scheduled for

Sunday November 12th

The theme for this event is **Super Hero's**. It should be very entertaining!
For more information regarding OCARCs' participation contact [Tom W6ETC](#).

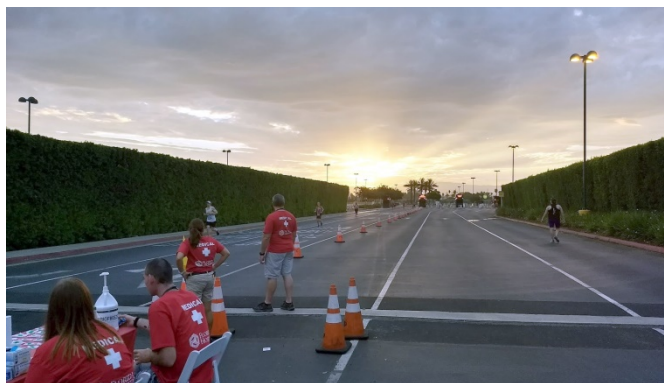
To volunteer as a Radio Operator please **contact** CARA Event Coordinator [Scott AK6Q](#).



Disney images from runDisney website <https://www.rundisney.com/super-heroes-half-marathon/>

ITU PHONETIC ALPHABET

A	Alfa	AL FAH	J	Juliet	JEW LEE ETT	S	Sierra	SEE AIR RAH
B	Bravo	BRAH VOH	K	Kilo	KEY LOH	T	Tango	TANG GO
C	Charlie	CHAR LEE	L	Lima	LEE MA	U	Uniform	YOU NEE FORM
D	Delta	DELL TAH	M	Mike	MIKE	V	Victor	VIK TAH
E	Echo	ECK OH	N	November	NO VEM BER	W	Whiskey	WISS KEY
F	Foxtrot	FOX TROT	O	Oscar	OSS CAR	X	X-Ray	ECKS RAY
G	Golf	GOLF	P	Pap	PAH PAH	Y	Yankee	YANG KEY
H	Hotel	HOH TELL	Q	Quebec	KEH BECK	Z	Zulu	ZOO LOO
I	India	IN DEE AH	R	Romeo	ROW ME OH			

Amateur Radio Support for the Disney Half Marathon**September 3rd, 2017****By Tim Goeppinger N6GP**

Days before the marathon, the Catalina Repeater Association sent a request to OCARC, as they needed a few more volunteers for the event. I queried Tom W6ETC on Saturday to see if they still needed help, and he said "yes". So I offered my help at that point, even though I was unsure if my handheld was ready, and I had not done a public service event since the 2004 Rose Parade with TORRA.

So, I looked at my handheld, and saw that it had the Catalina Repeater frequency, but unfortunately did not have the special PL tone for this event. I frantically looked for about an hour for the programming cable for my radio, and finally found it. I programmed it, and thought I was good to go. I tried to "kerchunk" the repeater. The green receive light came on, but no audio! I researched the issue on the internet, and the issue is with the audio jack when the programming cable is unplugged. I attached the programming cable and shook the connector a bit, and the audio re-appeared!

I reported to our rally point at a donut shop near Disneyland at 3:45 AM

Sunday morning. We were given blue vests and given assignments of where to go. My location was "Med Tent 4" at the intersection of Harbor Bl and Convention Way, near the Disneyland Toy Story parking lot. This spot was at about 11.5 miles into the 13.1 mile race, so it was anticipated that the runners might have issues at that point in the race.

I arrived at the Med Tent, and I asked if I could park in the empty space behind it, and they agreed to that. This was an optimal place, because I was able to put the 1/4 wave mag mount antenna on the roof of my van for full quieting into the repeater. I was close enough to the tent that I could talk with them. I met the team leader for the tent, and he told me that he did not have his commercial radio. So, instead of being a backup communication resource for this tent, I was now the primary one.

The extremely hot, muggy weather on Labor Day weekend became a big factor for this race. At the start of the race at 5AM the temperature was 81 degrees with 68% humidity. (@ KI6X) By the time the race ended around 9:30 it would hit 94 degrees with 45% humidity. We even had a brief rain shower a couple hours into the race. Because of this hot weather, the number of participants dropped from 13,084 in 2016 to 8,717 this year.

(source: www.trackshackresults.com)

Shortly after the race began, the Med Tent team moved their tables 30 feet away from the tent, so they could be closer to the running course. To be lo-

cated with them, I had to give up my mobile antenna, and just use the duck antenna on my HT, so from that point on I was 50% quieting into the repeater and marginal.

The wheelchair racers came zipping by in about 1 hour to much applause from us. After a long wait, they were followed by the elite men and elite women racers. The beginning of each of these groups was reported in to net control which was Tom W6ETC & Tony W6TNY. They did a great job at keeping chaos to a minimum.



Around 8:30 when the bulk of the runners were going by, we noticed that we were running low on the ice bags that we were distributing. When the sun came out from behind the thunderhead, the ice was going fast! I was able to put in a request for more ice to net control. About 30 minutes later, we (and the runners) were so pleased to see the ice show up. It was a feeding frenzy, and the ice was gone in 2 minutes! It was too late to request more.



I had never been to a running race like that before, and I found it interesting that the race sponsor puts in pacesetters who carry flags for a certain race time. If you want to finish in 2 hours, you follow the runner with the 2:00 flag. At the rear of the pack is the “balloon lady”, who sets the slow pace for the end of the race. If you fall behind her at a checkpoint, you have to leave the race. Some of these terminations are tearful, but they are reminded that they still get the participant ribbon at the end.

In addition to a well-run net, the thing that made this event enjoyable was all the Disney, Pixar and Marvel costumes that the runners wore. There were a lot of Pixar ones, because that was the theme of the race. I saw a man all dressed in white with a dog “cone of shame” on one of his arms. I asked one of the med team members – “What was that?” “The Pixar Lamp!”

There are about 4 of these Run Disney races throughout the year. If you are looking for a little bit of adventure, while making a contribution toward public safety, I urge you to try it out.

--Tim Goeppinger N6GP

OCARC GENERAL MEETING MINUTES 2017-09-15

The OCARC General meeting was held at the Red Cross Complex in Santa Ana on September 15, 2017.

Club Officers: There was a quorum with all officers present with the exception of Ron W6FPS, Clem W0MEC, Greg W6ATB and Dan N6PEQ.

Attendance: We had 15 members, one guests and one guest speaker sign the attendance log.

Meeting was called to order at 7:10 pm and was followed by the Pledge of Allegiance to the Flag and introductions of the members and guests.

Announcements:

- Tim, N6GP discussed the role that hams have played in Gulf Region hurricane relief.
- Jim, AF6N discussed the OCARC donation to the American Red Cross Hurricane Relief Fund and urged all members to consider a similar donation to a charity of their own choosing.

September Program:

Jim, AF6N introduced the presenter of the evening, Michael Rickey, AF6FB. Michael presented an overview of the PAPA repeater system and its capabilities. He also presented a discussion and demonstration of the various digital phone systems such as DMR, D-Star, Fusion, etc. A lively Q&A session followed for approximately 45 minutes.



AF6FB talking on PAPA system, D-Star and DMR

Business Meeting:

- Tim, N6GP discussed the status, location, and informal nature of the October 7 picnic/CA QSO party and urged members to come out and enjoy.
- Tim, N6GP reminded members of the December 8 Christmas dinner at Mimi's Café in Tustin,
- Tim, N6GP announced that Chip K7JA may now be available to conduct the annual October auction. Therefore, either Chip or Nicholas AF6CF will serve as auctioneer.
- Tim, N6TMT discussed the planned raffle of an Icom IC7300 as grand prize at the Christmas dinner and the details of the raffle rules.
- Tim, N6TMT reported the details and terms of buying the IC7300 from HRO. A discussion followed regarding whether to purchase now at a \$50 discount or to wait closer to the dinner date in case of possible better discount. The general consensus was to leave it to Tim's discretion.

(Continued Next Page)



Show and Tell:

- Tim, N6GP offered a Show and Tell discussing the infrared output from a TV remote control and the availability of a computer app which would help with repair of the remote.
- **Bioenno Battery:** Vijay KM6IZO won the drawing for the 12V 12amp hour LiFePO4 battery donated by Bioenno Power.

Meeting Adjourned at 9:10 pm

I would like to thank Jim, AF6N for taking the September General Meeting minutes in my absence.

Submitted by *Ron Mudry W6FPS*
OCARC Secretary



Vijay KM6IZO wins drawing for lightweight LiFePO4 battery

OCARC BOARD MEETING MINUTES 2017-10-07

Meeting Called to Order: 8:00 am

Roll Call:

Pres.: Tim N6GP, Present

Sec.: Ron W6FPS, Present

Tech.: Clem W0MEC, Present

Activities: Tim N6TMT, Present

Directors at Large: Greg W6ATB, Absent

Vice Pres. Jim AF6N, Present

Membership: Bob AF6C, Absent

Treasurer: Ken W6HHC, Present

Publicity, Dan N6PEQ, Absent

Nicholas AF6CF, Present

Members Present: Corey KE6YHX

DIRECTOR REPORTS:

- ☐ **Vice President** – Jim AF6N emailed a receipt from the Red Cross for the clubs hurricane relief donation to the club secretary and treasurer.
- ☐ **Secretary** – No Report.
- ☐ **Membership** – Reporting for Bob AF6C, Tim N6GP said we have a new member Wardy, N6SKE.
- ☐ **Technical** – Clem W0MEC reported that he now has his Elecraft KXPA100 amplifier on the air and should be received better on the Wednesday Night Nets.
- ☐ **Treasurers Report** – Ken W6HHC handed out copies of OCARC Cash Flow – Year to Date report. The report will be reissued to show the donation to the Red Cross.
- ☐ **Activities** – Tim, N6TMT will contact Icom regarding applying the factory rebate after the 30 day deadline. An email blast will be sent out with a partial list of the Auction items and that the doors will be open at 6:00 pm.
- ☐ **Publicity** – No Report.
- ☐ **Directors at Large** – Nicholas, AF6CF reported the WARA repeater (145.400 MHz) is failed and is being replaced with a Bridgecom Repeater.

OLD BUSINESS:

☐ **Newsletter Editors**

September - Greg W6ATB, October - Corey KE6YHX, November - Tim N6GP, December - Jim AF6N.

☐ **Entertainment** – Guest speakers are as follows, October – Auction, November – Doug K6JEY Test Equipment, January – Lito KI9H All Star Network, February - ?, March – DX Engineering SKYPE Presentation.

☐ **Nomination Committee** – Tim N6GP, Tim N6TMT, Jim, AF6N and Ron, W6FPS completed the task of putting together a slate of nominees for next year's club officers and directors. The nominees will be listed in the October RF.

☐ **Club Historian** – Corey KE6YHX distributed his current report on his progress with the Santa Ana Library and web site projects. Corey has completed the browsable CD and is working on the process of labeling the CDs.

☐ **Christmas Banquet** – The procedure for the sale of raffle tickets was discussed with the following being the most equitable method. In order to purchase squares the purchaser must have purchased a Christmas Banquet Ticket or have one in his/her possession. Two raffle tickets for each Banquet ticket can be purchased prior to the banquet date. Unsold raffle tickets will be sold at the banquet one at a time. The buyer cannot purchase additional tickets until everyone present has had an opportunity to purchase a ticket. This will be repeated until all tickets are sold. A maximum of 10 squares will be sold to any one person. The winner need not be present at the banquet.

☐ **Promotional Items** – Bob, AF6C has been authorized to purchase business cards that are formatted as a QSL card with club contact information.

☐ **Winter Field Day Site** – Ron, W6FPS will speak to the Ocean View School District about using the field and parking areas behind the District Office for the OCARC 2018 Winter Field Day operations site. The site is located in Huntington Beach.

New Business:

☐ **Conflict Dates** – Looking ahead to next year's calendar there are three months with conflicts with the dates of the General Meetings. March, Baker to Vegas, April, Visalia and May, Dayton. It was approved by the board to re-schedule the March meeting for the 23rd of March.

Meeting Adjourned 9:30 am

Submitted by Ron Mudry W6FPS, Secretary
OCARC Secretary



RadioActivity

October 2017

Upcoming Activities (October 15 to December 15):

- *CQ Worldwide DX Contest:
Oct. 28 0000Z to Oct. 29 2400Z
- ARRL Sweepstakes Contest, CW:
Nov. 4 2100Z to Nov. 6 0300Z
- **North American SSB Sprint Contest:
Nov. 12 0000Z to 0400Z

* Indicates club entries are accepted

** Indicates team entries are accepted

Repeating Activities:

- Phone Fry:
Every Tuesday night at 0230Z to 0300Z
- SKCC Weekend Sprintathon (Straight Key CW):
on the first weekend of the month after the 6TH of the month. 1200Z Sat. to 2359Z Sunday.
- SKCC Sprint (Straight Key CW):
on the 4th Tuesday night (USA) of the month.
0000Z to 0200Z

Recent Activities by OCARC Members:

- CQP: - Tim N6GP, Jim AF6N, Ron W6FPS, Clem W0MEC, Tim N6TMT, Nicholas AF6CF, Vijay KM6IZO, Doug K6PGH, Rodger AI6WV, Bob AA6PW

Send an email to Ron Mudry W6FPS,
w6fps@w6ze.org to have your favorite activity or your recent RadioActivity listed in next month's column.

OCARC Cash Flow - Year To Date

1/1/2017 through 10/7/2017

Category	1/1/2017- 10/7/2017
INFLOWS	
ARRL Membership Income	95.00
Badge Income	5.00
Dues, Family	90.00
Dues, Family (PayPal)	206.03
Dues, Future (PayPal)	86.49
Dues, Membership	742.50
Dues, Membership (PayPal)	778.13
Field Day Food Income	375.00
Opportunity Drawing -Monthly	255.00
Refreshments Income	54.00
Sale Of Equipment	1,058.00
TOTAL INFLOWS	3,745.15
OUTFLOWS	
ARRL Membership Expense	93.00
Bank Svc Chg	45.00
Donations - Red Cross	150.00
Field Day - Flowers	53.88
Field Day - Gas	39.59
Field Day Equipment	212.04
Field Day Food Reinbursement	525.00
Field Day Rental	51.72
Meals - Board Mtg	92.72
OCARC Historian	27.45
Opportunity Drawing - Monthly	142.17
Opportunity Drwg - Christmas Radio	1,292.92
PO Box Rental	64.00
Promotional OCARC Pens	42.00
Refreshments Expense	156.65
Storage Locker	544.00
Supplies	46.62
Trifold Brochure Printing	231.12
Web Site Hosting	140.91
Web Site SSL Fee	69.99
TOTAL OUTFLOWS	4,020.78
OVERALL TOTAL	-275.63

List of Nominations from the Nominating Committee

Nominating period is still open. OCARC members are encouraged to run for any of these offices.

Office	Nominations for 2018
President	Tim N6GP
Vice President	Dan KI6X
Secretary	Jim AF6N
Treasurer	Ken W6HHC
Activities	Ron W6FPS
Membership	Bob AF6C
Public Relations	Tim N6TMT
Technical	Nicholas AA6CF
Director at Large 1	Clem W0MEC
Director at Large 2	Corey KE6YHX



Final Winter Field Day Results for Outdoor Category Top 20 of 182 Entries

Place	Call	# Xmtrs	Phone	Digital	CW	Mults	PWR X	Bonus	Score
1	N1SYE	2	859	54	202	18	2	6000	55356
2	W4FF	2	723	15	10	34	2	3000	28432
3	WOWX	3	349	80	39	16	2	4500	23284
4	WK1DS	1	339	8	4	7	2	6000	20350
5	N4FR	3	100	22	125	10	4	4500	20260
6	N7Q	3	691	11	10	11	2	4500	20142
7	ND9E	2	345	35	12	13	2	4500	16018
8	K7EAR	2	12	36	195	11	2	4500	14950
9	W9W	2	510	66		8	2	4500	14772
10	CG3RB	1	469	4	11	8	2	4500	12468
11	N5OQK	6	120	87	20	11	2	4500	11848
12	K8SCH	4	214	85	8	9	2	4500	11700
13	N4GAS	2	76	103	1	8	2	4500	9044
14	N0OY	2	344	92	29	5	2	3000	8860
15	W6ZE	1	49		75	10	2	4500	8480
16	W0LWU	1	373	4	4	5	2	4500	8390
17	K5RWK	1	207		10	4	2	6000	7816
18	VE2CWI	2	116		27	5	2	6000	7700
19	WA2FON	1	27	5		11	4	6000	7628
20	KW4MG	1	62	49	6	6	2	4500	7252

Source: www.winterfieldday.com

We captured as many multipliers as we could by using as many band-modes as we could. Next year we will do digital to get even more. Ron W6FPS is looking at sites here in O.C. for next year's event. Save the date: January 27/28 2018.





UPCOMING EVENTS

OCTOBER 20, 2017 MEETING

This will be the annual OCARC auction night with Chip Margelli, K7JA returning as auctioneer. Members are invited to empty garages and offer those treasured boat anchors for sale. Even valuable working equipment is welcomed for sale. This is your chance to buy a bargain addition for your shack.

NOVEMBER 17, 2017 MEETING

Doug Millar, K6JEY, will speak on "Test Equipment & Measurements for Amateur Radio". Doug will bring an accurate voltage source. He asks that members bring a personal meter to the meeting and he volunteers to calibrate member's voltmeters at the meeting.

DECEMBER 08, 2017 CHRISTMAS DINNER

Plans are to return to Mimi's for our dinner. Details to be announced when firm.

JANUARY 12, 2018 MEETING

Lito de los Reyes, W16Y will make a presentation on the All Star network. Lito previously presented a very interesting show and tell on the All Star system and will expand upon its growth and advantages.

FEBRUARY 16, 2018 MEETING

To be announced.

MARCH 16, MEETING

Tim Duffy, K3LR, from DX Engineering will present via Skype. The topic will be an introduction to the amazing Multi K3LR contest station.

For the most current Upcoming event information go to: <http://www.w6ze.org/Events.html>

PACIFICON 2017

ARRL Pacific Division Ham Radio Convention
Produced by the Mount Diablo Amateur Radio Club



The ARRL Pacific Division and the Mt. Diablo Amateur Radio Club Present:
PACIFICON 2017 - October 20, 21 & 22, 2017

Youth and Education

- **The ARRL Pacific Division Convention!**
- **One of the Largest West Coast Vendor Shows of Amateur Radio Gear!**
- **Outstanding Technical Forums - All Day Saturday!**
- **All Day Antenna Seminar - Friday**
- **One Day Technician License Prep Class With Rich Harrington**
- **Gordon West and Bob Heil - Special Topics & Appearances**
- **Saturday Banquet Speaker - ARRL President Rick Roderick**
- **Saturday Banquet Speaker - Youth Ham Radio Activities Leader Carole Perry**
- **Sunday Ham Radio 101 & 201 - What Every New Ham Needs to Know**
- **Scout Jamboree-On-The-Air and Radio Merit Badge Work**
- **Sunday Swap Meet!**
- **And...Much, Much More!**

Takes place in San Ramon, California

San Ramon Marriott Hotel
2600 Bishop Drive
San Ramon, California, 94583

For Events, Schedules, Latest Updates, and [Registration and Ticket Reservations](http://www.PACIFICON.org), go to:

www.PACIFICON.org

Youth 17 & under admitted free • College students 25 & under \$5 • Advance registration closes October 8, 2017.

If Hotel lodging is needed:

Call the Marriott Hotel Reservations Desk at 1-800-228-9290, and ask for the Pacificon rate. The special rate will be available until the Pacificon block is sold out.

Unique Forums Programs:

Pacificon 2017 features a long list of great Forums, including presentations from some of the most well-known and respected names in Amateur Radio.

PACIFICON 2017 Events, Forum Topics, and Exhibits Include:

All-Day Antenna Seminar on Friday • Saturday Morning Breakfast with Gordon West •





Outstanding Technical Forums • Large Vendor Show of Amateur Radio Gear - All 3 Days
 • Get-on-the-Air W1AW/6 Special Events Station • "Friday Evening MDARC Meeting – Making Maker Faires Work by David Witkowski" • QSL Card Checking • Scout Jamboree-On-The-Air and Radio Merit Badge Work



Saturday Evening Banquet with Guest Speakers, ARRL President Rick Roderick, & Youth Ham Radio Activities Leader Carole Perry • Excellent QRP Program • Ham License Testing • One-Day Technician Class Followed by License Testing • Gordon West Ham Instructor Academy • Kit Assembly/Soldering for Youth and Adults • Daily Radio Prize Drawings • Parachute Mobile Radio Transmissions • Wouff Hong Ceremony

Great Sunday Swap Meet • Sunday Ham Radio 101/201 Seminar - What Every New Ham Needs to Know • Sunday Annual ARRL Pacific Division Forum • Sunday Emergency Communication Exam (EC-001) • Bill Feist Discusses Salvation Army/SATERN Disaster Response to Harvey and Irma



Come and Experience the Many Facets of Ham Radio!



Pacificon
 2017 T-Shirts
[Order Here](#)

Deadline: October 8



Pacificon Committee general inquiries - info@pacificon.org
www.pacificon.org - (925) 288-1730

*** Events are subject to change - check Pacificon website ***

ABOUT THIS E-MAIL

This message was originally sent to ARRL members subscribed to the Division and Section News list.

If you have an ARRL website user account, you can manage all of your e-mail preferences at www.arrl.org/myarrl.

