

RF



ORANGE COUNTY AMATEUR RADIO CLUB, INC.

VOL. LV NO. 7

P.O. BOX 3454, TUSTIN, CA 92781-3454

July 2014

The Prez Sez.....

by Nicholas AF6CF



Once more, this ARRL Field Day was fantastic, with lots of fun, contacts and good food. Thanks to all our FD participants, we had yet another successful Field Day; safe, with high scores and a PR success. This year even the capricious Gods of Propagation helped, with sporadic openings in a couple of bands. It's too early to tell if this success is a real trend or just a good second time. We had over a hundred participants and visitors and many were impressed with the setup and operations, and again we have attained our operational objectives and Public Relations goals.

We also had eleven new hams and upgrades with the WARA VE testing session. I would like to extend a Special Thank You to Tim, the event Co-Chairperson, all the Band Captains, GOTA and logistics persons. Tom and Tim both did a great job as GOTA Captains and the Boy Scouts Troop 788 helped a lot. Also, big thanks to the WARA Club for their support, attendance and help. The scores, the results, QSO's, Bonus Points, etc. are being tallied so we will have them ready for the next edition, but I can tell you that this year's effort is among the four best in our Club's history. This month we will have more activities with a great speaker and Club member about an expedition to a far away island. I'm always impressed by these DX expeditions and the amount of effort that they demand, along with the spectacular results they bring. I think we are lucky to have Arnie N6HC among our members. I look forward to an eyeball contact with you all at the next General Meeting.

Again, thanks to all.

73 DE AF6CF



The next general meeting will be on:

**Friday, July 18th, 2014
@ 7:00 PM**

As usual, we will be meeting in the east
Red Cross Building, Room 208.
See you there!

The next OCARC [General Meeting](#) will be held on Friday, July 18th 2014 at 7 PM. The program will be presented by club member Arnie N6HC about his DXpedition to New Amsterdam Island. Don't miss out!

In This Issue: Page

The Prez Sez	1
Next meeting info	1
CLUB INFORMATION	2
San Diego ARRL Convention 2014	3
Field Day 2014 Collage	4
"How Did We Do?"	5
History of OCARC FD Scores	6
Field Day Quotes	7
Heathkit Book Review	8
Heathkit of the Month	10
June General Meeting Minutes	18
June Board Meeting Minutes	20
N6JUK For Sale List	22
Order DATV-Express board now	23

**ORANGE COUNTY
AMATEUR RADIO CLUB**
www.W6ZE.org



2014 Board of Directors:

President:

Nicholas Haban, AF6CF
(714) 693-9778
AF6CF@w6ze.org

Vice President:

Tim Goeppinger, N6GP
(714) 730-0395
N6GP@w6ze.org

Secretary:

Tim Millard, N6TMT
(714) 744-8909
KJ6NGF@w6ze.org

Treasurer:

Ken Konechy, W6HHC
(714) 744-0217
W6HHC@w6ze.org

Membership:

Doug Britton, W6FKX
(714) 969-0301
W6FKX@w6ze.org

Activities:

Paul Gussow, W6GMU
(714) 624-1717
W6GMU@w6ze.org

Publicity:

Robbie Robinson, KB6CJZ
(714) 478-9713
KB6CJZ@w6ze.org

Technical:

Bob Eckweiler, AF6C
(714) 639-5074
AF6C@w6ze.org

Directors-At-Large:

Greg Bohning, W6ATB
(714) 767-7617
W6ATB@w6ze.org

Tom Cowart W6ETC
(714) 454-0571
W6ETC@w6ze.org

2014 Club Appointments:

W6ZE Club License Trustee:

Bob Eckweiler, AF6C
(714) 639-5074
AF6C@w6ze.org

Club Historian:

Bob Evans, WB6IXN
(714) 543-9111
WB6IXN@w6ze.org

RF Editor (rotating):

Doug Britton, W6FKX
(714) 969-0301
W6FKX@w6ze.org

WEB Master:

Ken Konechy, W6HHC
(714) 744-0217
W6HHC@w6ze.org

Assistant WEB Master:

Bob Eckweiler, AF6C
(714) 639-5074
AF6C@w6ze.org

ARRL Awards Appointees:

Arnie Shatz, N6HC
(714) 573-2965
N6HC@aol.com

John Schroeder, N6QQ
(West Orange Co.)
(562) 404-1112
N6QQ@msn.com

OCCARO Delegate:

Inactive

Contact the Newsletter:

Feedback & Corrections:
RF_feedback@w6ze.org

Submit Articles:

EDITORS@W6ZE.org

Monthly Events:

General Meeting:

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

Club Breakfast:

Second Saturday of every
month at 8:00 AM
Jagerhaus Restaurant
2525 E. Ball Road
(Ball exit off 57-Freeway)
Anaheim, CA

Club Nets (Listen for W6ZE):

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

146.55 MHz Simplex FM
Wed- 8:30 PM - 9:30 PM
Bob, WB6IXN, Net Control

7.086 ± MHz CW **OCWN**
Sun- 9:00 AM – 10 AM
Ann KE6OIO, Net Control

VISIT OUR WEB SITE

<http://www.w6ze.org>

for up-to-the-minute club
information, the latest
membership rosters, special
activities, back issues of RF,
links to ham-related sites,
vendors and manufacturers,
pictures of club events and much
much more.

Club Dues:

Regular Members\$20
Family Members* ...\$10
Teenage Members ..\$10
Club Badge**\$3

Dues run from Jan thru Dec and are
prorated for new members.

*Additional members in the family of
a regular member pay the family rate
up to \$30 per family.

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

MARK YOUR CALENDAR NOW!!

2014 ARRL Southwestern Division Convention Dates: September 12 - 14, 2014



The ARRL SW Division Convention sponsored by SANDARC will be held at the Sheraton Four Points hotel located on Aero Drive near the Montgomery Field airport which is the same location of the 2010 convention.

Our convention will feature tech forums, vendor exhibits, on site radio station, grand banquet, flea market and many more activities. Check this site often to get the latest news regarding our ongoing convention events.

Vendors please check with Paul Rios at kc6qls@cox.net.

Check with Ann Rios, KC6TBG at kc6tbg@cox.net if wish to conduct a Tech Forum.

See www.sandarc.net/convention2014.php for more details

OCARC Field Day 2014

Walter Knott Education Center - Buena Park

W6ZE (with W6ETC for GOTA)



(collage by Ken W6HHC)



How We Did on Field Day 2002 - 2014

The following data was obtained from the ARRL contest data base. It shows how we placed on each of the Field Days from 2002 (The beginning of the ARRL data base) to 2013. I've also included our raw scores for 2014; they won't be official until sometime in late fall.

The chart breaks down our finishing position in three groups: overall, in the Southwestern Division, and in the Orange Section. As you can see, the club has had its up and down years, but only once were we out of the top 20% of entries, and then just barely. Three times recently we have finished in the top three overall and we have finished first in our division four times and first in our section five times. We are expecting to post good results again this year.

73, Bob - AF6C

Orange County (California) ARC FD Position - 2002 - 2014

YEAR	SCORE	# QSOs	CLASS	FINISH: OVERALL			FINISH: SOUTHWEST DIV.			FINISH ORANGE SECTION			
				POS.	OUT OF	%	POS.	OUT OF	%	POS.	OUT OF	%	
2014 *	TBD	5,419	7A										*
2013	21,258	6,859	12A	2	2,548	0.1%	1	170	1st	1	47	1st	
2012	7,684	2,264	5A	118	2,617	4.5%	7	176	4.0%	1	50	1st	
2011	6,504	2,110	6A	159	2,632	6.0%	9	179	5.0%	5	49	10.2%	
2010	5,936	1,878	4A	175	2,617	6.7%	14	182	7.7%	4	50	8.0%	
2009	19,304	5,925	9A	3	2,603	0.1%	1	175	1st	1	45	1st	
2008	11,316	3,265	9A	28	2,409	1.2%	1	161	1st	1	44	1st	
2007	20,246	6,217	9A	2	2,331	0.1%	1	157	1st	1	42	1st	
2006	6,278	1,836	4A	161	2,169	7.4%	7	153	4.6%	2	43	4.7%	
2005	6,742	1,938	3A	128	2,199	5.8%	11	172	6.4%	2	32	6.3%	
2004	5,666	1,792	4A	207	2,242	9.2%	16	152	10.5%	4	41	9.8%	
2003	3,350	946	4A	426	2,079	20.5%	29	150	19.3%	6	32	18.8%	
2002	4,928	1,517	4A	303	2,099	14.4%	20	139	14.4%	4	42	9.5%	
* Unofficial pending ARRL Publication.													

FIELD DAY SUMMARY
THE ORANGE COUNTY AMATEUR RADIO CLUB - W6ZE

by: Ken / W6HHC & Bob / AF6C

YEAR	160M SSB	80M CW	75M SSB	40M CW	40M SSB	20M CW	20M SSB	15M CW	15M SSB	12M SSB	10M CW	10M SSB	6M CW	6M PHN	2M CW	2M PHN	220 PHN	440 PHN	UHF CW	UHF PHN	ATV	RTTY/PSK Dig	SAT- ELLITE	GOTA	---- TOTAL ---- QSO's / (POINTS)
2014	0	111	122	756	723	1059	1113	559	382	0	57	134	25	133	0	43	0	11	0	0	0	121	23	47	5,419 / 16,214
2013	0	269	339	655	1052	895	1960	484	614	0	38	67	6	60	0	60	15	11	0	0	0	144	4	186	6,859 / 18,700
2012	0	14	51	125	78	215	735	185	330	0	0	12	1	50	0	37	5	5	0	0	0	13	0	408	2,264 / 5,634
2011	0	58	176	168	217	253	703	32	198	0	16	40	0	57	0	37	0	16	0	0	0	0	0	139	2,110 / 5,278
2010	0	0	0	240	342	223	727	49	0	0	0	0	1	96	0	32	1	7	0	0	0	0	0	160	1,878 / 4,786
2009	0	277	126	838	807	974	970	495	368	0	5	450	11	375	0	125	18	20	1	0	0	0	2	130	5,992 / 17,446
2008	0	179	204	690	405	411	878	141	43	0	22	68	15	135	0	34	2	14	0	3	0	0	5	16	3,265 / 9,468
2007	1	356	310	910	830	988	1285	381	320	0	18	150	9	145	2	175	40	70	2	9	0	2	11	142	6,156 / 17,648
2006	0	28	20	89	512	156	664	16	10	0	0	0	0	38	1	85	0	7	0	0	0	114	0	113	1,853 / 4,514
2005	0	113	6	158	481	337	534	122	17	0	0	0	0	74	0	36	16	20	0	0	0	0	0	31	1,945 / 5,350
2004	0	166	239	37	412	131	477	31	105	0	1	114	0	0	0	46	12	20			0	0	1	0	1,792 / 4,316
2003	0	0	85	52	127	27	295	0	191	0	0	41	0	52	0	64	1	13			0	0	0	0	948 / 2,054
2002	0	26	69	192	279	76	229	0	485	0	0	18	0	62	0	68	6	10			3	2	0	3	1,528 / 3,648
2001	0	0	25	101	251	0	432	0	675	0	0	109	0	48	0	28	1	0			0	0	3	-	1,673 / 3,548
2000	0	19	20	88	91	0	625	0	794	0	0	121	0	36	0	72	7	15			0	0	1	-	1,889 / 3,992
1999	0	13	20	15	237	0	996	0	724	0	0	22		5	0	2	0	0			0	0	0	-	2,034 / 4,124
1998	0	24	75	65	136	100	250	0	624	0	0	82		0	0	46	17	12			0	7	1	-	1,439 / 3,270
1997	5	81	131	83	306	150	853	14	275	0	0	106		32	0	79	4	0			0	32	1	-	2,152 / 5,024
1996	-	146	228	104	125	283	673	40	605	0	0	217		121	0	32	0	40			0	13	1	-	2,628 / 6,428
1995	-	145	272	203	94	443	572	51	451	0	0	131		66	0	93	29	8			0	33	6	-	2,597 / 6,944
1994	-	114	114	208	45	486	748	85	761	0	13	312		58	0	94	33	0			0	31	0	-	3,102 / 8,078
1993	-	150	100	159	81	530	700	131	812	0	0	179		40	0	86	12	16			0	35	0	-	3,061 / 8,132
1992	-	0	294	200	110	541	555	0	840	0	0	232		13	0	74	0	1			2	41	80	-	2,983 / 7,530
1991	-	105	308	182	182	400	623	9	463	0	0	104		4	0	141	23	11			0	48	0	-	2,626 / 6,740
1990	-	0	0	70	144	0	370	0	747	0	0	131		39	0	114	14	26			0	2	-	-	1,657 / 3,454
1989	-	30	0	98	5	0	906	21	172	0	0	238		3	0	121	24	9			1	18	-	-	1,646 / 3,590
1988	-	127	0	93	75	2	359	0	570	0	144	81		0	0	32	0	-			-	14	-	-	1,497 / 3,726
1987	-	22	0	0	39	0	708	0	18	1	117	0		1	0	51	0	-			-	5	-	-	962 / 2,202
1986	-	0	46	219	78	0	488	0	45	10	0	0		0	0	82	0	-			-	0	-	-	968 / 2,374
1985	-	85	0	315	91	35	662	78	0	-	0	0		0	0	22	0	-			-	-	-	-	1,288 / 3,602
1984	-	18	0	313	0	32	196	32	350	-	0	0		0	0	0	0	-			-	-	-	-	941 / 2,672
1983	-	3	93	200	0	0	776	0	995	-	0	43		18	0	16	1	-			-	-	-	-	2,145 / 4,696
1982	-	0	105	59	238	40	352	19	515	-	0	72		0	0	155	27	-			-	-	-	-	1,582 / 3,400
1981	-	0	167	200	265	60	699	77	717	-	0	105		0	0	197	0	-			-	-	-	-	2,487 / 5,648
1980	-	20	149	205	235	471	318	52	1,025	-	0	226		12	0	100	36	-			-	-	-	-	2,849 / 7,194
1979	-	0	195	198	92	42	773	0	737	-	0	95		0	2	124	8	-			-	-	-	-	2,266 / 5,016
1978	-	16	196	246	170	30	981	57	558	-	13	145		0	1	164	23	-			-	-	-	-	2,600 / 5,926
1977	-	25	243	182	199	0	843	81	486	-	4	309		0	4	234	0	-			-	-	-	-	2,610 / 5,812
1976	-	99	254	152	487	21	600	64	210	-	2	54		0	0	2	0	-			-	-	-	-	1,945 / 4,566
1975	-	80	120	154	274	40	863	140	259	-	0	123		0	0	0	0	-			-	-	-	-	2,053 / 4,934
1974	-	6	161	6	333	0	630	12	342	-	0	110		0	0	0	0	-			-	-	-	-	1,600 / 3,248
1973	-	90	226	0	452	0	932	0	273	-	0	0		0	0	46	0	-			-	-	-	-	2,019 / 4,218
1972	-	0	50	0	350	0	521	0	530	-	0	0		0	0	94	0	-			-	-	-	-	1,545 / 3,090
1971	-	0	274	0	106	0	530	0	136	-	0	0		0	0	0	0	-			-	-	-	-	1,046 / 2,092
1970	-	0	272	0	0	0	531	0	426	-	0	0		0	0	0	0	-			-	-	-	-	1,229 / 2,458
1969	-	0	98	0	50	0	375	0	301	-	0	0		0	0	169	0	-			-	-	-	-	993 / 1,986
1968	-	10	224	62	396	93	328	24	430	-	0	68		0	0	145	0	-			-	-	-	-	1,780 / 3,938

Note: These are raw contacts taken directly from the log sheets. Adjustments have not been made for duplicate contacts, and bonus points have not been added yet. Final scores appear in QST.



Quotes from 2014 OCARC Field Day



"Once more, this ARRL Field Day by OCARC was fantastic, with lots of fun, contacts and good food. Thanks to all our FD participants we had yet another successful and safe Field Day." --- **Nicholas AF6CF**

"In the same community spirit as an Amish barn raising, we built an amazing Field Day infrastructure in about 16 hours. We operated for 24 hours, and used that same community spirit to break it all down in under 5 hours. Murphy (AKA Murphy's Law) struck us 2 times very hard, but we persevered. Heading up this Field Day was an absolute joy, because W6ZE is an absolute "dream team" of hams who know how to get the job done. A huge thank you to the band captains, logistics and construction experts, and operators who all made this happen. Our score should put us in the top 10 of 2500 entries! Congratulations to all!" --- **Tim N6GP**

"It was a pleasure to get to know some of the members during set-up and tear down during this year's FD. Without mentioning any names one ham told me he was licensed 48 years ago and he was attending his first FD. I felt honored to get to know this fellow ham a little better. There were so many members willing to offer a hand in helping this year, which made the event for me a memorable one." --- **Bob AA6PW**

"Thanks for another great Field Day. Your club has always been friendly and welcoming to this non-member and I always have a great time working throughout the night." --- **Dave KE6IPY**

"FD was a great club effort. It was good to see newcomers to ham radio like Tim N6TMT and Tom W6ETC take charge of operating GOTA. This was first Field Day for Doug K6PGH and for Ron W6FPS and they both had a blast and learned to work the pile-ups on 20M PHN like pros." --- **Ken W6HHC**

"The Scouts from Troop 788 had a great time! They were particularly fascinated with the ISS/satellite tracking equipment. And the school was a nice place to camp overnight." --- **Greg WQ9P**

When you look at our impressive field day scores over the past several years, remember - a large part of the credit goes to our talented CW operators! I hope some phone operators visited the CW operations and a urge was kindled or rekindled to dust off their key! --- **Bob AF6C**

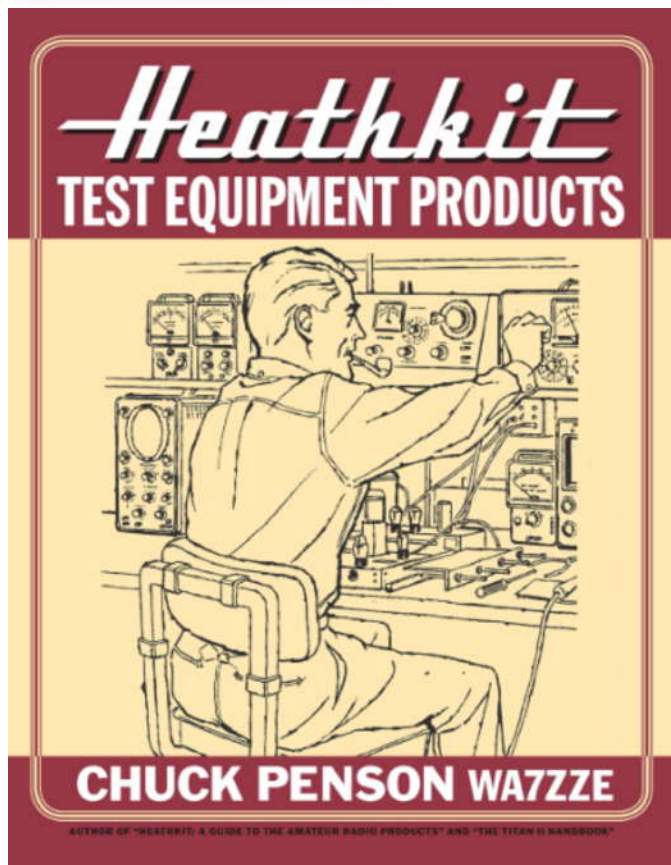
"I had a great time at FD and look forward to participating next year." --- **Doug K6PGH**

"It was the best of times, it was the worst of times, and we still managed to have a fun time!" --- **Tim N6TMT**

"Wish to apologize to all that the ISS contact didn't work out. . .all on me. [During cross-examinations, Ken W6HHC pointed out that Chip stirred up a lot of interest in the minds of Boy Scouts in satellite communications!!] Thanks to many hard workers for making Field Day so smoothly run." 73 de **Chip K7JA**

"I've been in some Region 1 Field Days myself in the last five years with PI4W and was surprised to hear from my friend Paul/W6GMU that your Field Day was to be held on the same weekend I and my wife would be in L.A. to start our 3-week visit to the USA. It was a great opportunity to see how your Field Day works. Since we at PI4W operate FD only on CW as MOAB, I was surprised to see your much larger setup. I really liked the GOTA tent which gives young people the chance to discover Amateur Radio. It was also good to see that having fun was of higher importance than making QSOs. I'd like to thank you all for the warm welcome we received and wish you all best 73s! --- **Fred PA8F**

"Field Day was a great experience. While the "on-air" time was fun, the more important aspect for me was the camaraderie among club members in setting up, tearing down and just sitting around shooting the breeze. I am glad to be a member of such an open and friendly club." --- **Doug K6PGH**

Book Review**by Bob Eckweiler, AF6C*****Heathkit Test Equipment Products*****by: Chuck Penson - WA7ZZE**

ISBN 978-0-615-99133-7

Available from Amazon.com

\$19.95

In 1995 Chuck Penson - WA7ZZE authored the book ***HEATHKIT - A Guide to the Amateur Radio Products***. The book was popular among Heathkit aficionados and was reprinted in 2003 by CQ Communications Inc. Recently Chuck Penson released a second Heath book, ***HEATHKIT Test Equipment Products***. He had contacted me about using some information from the Heathkit articles I have been writing, and in late May a package appeared at my door containing a signed copy of his newly released book!

Thumbing through the book I was immediately impressed. This volume contains photos and a

short paragraph on - possibly - every piece of Heathkit test equipment released in the US market in kit form since the first Heathkit Oscilloscope kit was sold in 1947. I could not find any test equipment that was missing. Each paragraph includes at least one photo of the equipment with the exception of the very short lived V-3 battery operated vacuum tube voltmeter. A picture from a Heathkit flyer was used because none of the numerous collectors could find a photo nor manual. If you have any information, a manual or an actual V-3 I'm sure Chuck would like to hear from you.

The book includes an introduction, twenty-two chapters and three indices. In the earlier Heathkit book the author presented a detailed history of the company; in this book the introduction focuses more on the industrial design of the Heathkit test equipment and less on the history. The author has broken down the different styling Heathkit offered for their test equipment over the years into six categories: Pre-classic, Late Pre-classic, Classic I, Classic II, New Look and Post New Look. He includes photographs showing the changes and how to determine the kit's style category. In my future Heathkit of the Month articles that cover test equipment I will follow the author's styling categories!

Often a kit would receive a styling change and a new model number without any significant changes to the kit's circuit itself. Occasionally a kit would change style without getting a new model number, not even an added suffix letter designation. Other times Heathkit updated a kit with some small circuit change or added feature, or even just a styling change, and added a letter suffix. In the book significant changes without a model number change are noted and, should the appearance change significantly, a photograph of each is shown.

The twenty-two chapters that follow the introduction breakdown the test equipment into categories of similar functions. Table I lists the chapters and the number of kits covered in each (by my count). Each kit covered includes a short

Ch.	Title	# of Items ^{1,2}
1.	Audio Equipment	27
2.	Capacitor Checkers	9
3.	DMMs and Frequency Counters	24
4.	EUW Malmsted/Enke Series	31
5.	FM Equipment	5
6.	Function and Pulse Generators	4
7.	Impedance Bridges and Q Meters	7
8.	Oscilloscopes and Scope Calibrators	62
9.	Power Supplies: Battery Eliminators	9
10.	Power Supplies: High Voltage	7
11.	Power Supplies: Isolation	4
12.	Power Supplies: Low Voltage	14
13.	RF Generators	12
14.	Signal Tracers	6
15.	Substitution Boxes	17
16.	Television Equipment	24
17.	Transistor Testers	14
18.	Tube Testers	7
19.	VOMs Voltmeters and Testers (Analog)	17
20.	VTVMs:	21
21.	Miscellaneous Products	19
22.	Analog Computers	9

Table I: Chapter Titles and Items Listed in Each

1. Occasionally items are listed under two categories.
2. Items updated with new letter designations in their suffix are counted as a single item.

paragraph and one or more photographs. Kits that have letter designations, such as the V-7 and V-7A are covered in the same paragraph but may have separate photos if they are differently styled.

The indices are sorted by model number, product type and by chronological order. They include the start and end year of production, product type and any pertinent comments, as well as the page on which the item is covered.

Chapter 4 covers the educational and scientific equipment that Heathkit offered and that was used in numerous schools, and labs. Many of these devices came factory wired but have been

included for completeness. The author warns that Heathkit changed the letter prefixes on some of the EUW units over the course of their production without changing the unit itself. He suggests using the numbers after the prefix to look for a specific device not otherwise listed.

Chapter 22 is kind of a bonus chapter. It covers the analog computer products Heathkit sold, starting in the 1950s. Heathkit produced two analog computers, the high-end ES series, (known as the Heathkit Analog Computer) and the smaller EC-1. The ES series could be customized with numerous additions with different functions, all but one of which fit in or on the main computer chassis. The one that was separate is the ES-600 Function Generator. This chapter includes a paragraph on each of the two analog computers and the ES-600. The remaining items are described using the actual Heath data sheets. The Analog Computer items are not included in the indexes.

For anyone with interest in or who owns more than a few items of Heathkit test equipment this book is worth having. If you are at all interested in the History of Heathkit and its equipment, the book is a must have. I find myself picking it up and browsing through it (and perhaps feeling nostalgia for those kits I built and dreaming about the kits I should have bought and didn't). I thoroughly am enjoying the book as I did the author's last book, and recommend it to anyone who is a Heathkit fan.

In a few months I plan to review Chuck Penson's earlier book on Heathkit amateur radio products.

73, from AF6C



This review is Copyright 2014 R. Eckweiler and The OCARC Inc.

Thanks - AF6C

Heathkit of the Month #58:
by Bob Eckweiler, AF6C



AMATEUR RADIO EQUIPMENT

Heathkit HA-14

“KW Kompact” HF SSB Linear Amplifier

Introduction:

In March I received an email from Dave Lien - W6OVP. He commented: *“I didn't see an article on the Kompact Kilowatt line. You might find something of value towards such an article in [my web site](#) dedicated to the HA-14.”* This is one kit I was planning on covering, but lacked enough information to make it worthwhile; lacked, that is, until I surfed to Dave's HA-14 website. At that time I had three articles in the pipe and another outlined. However, the “Kompact Kilowatt” is an interesting Heathkit worth moving up a notch in the cue.

In HOM #33 the Heathkit SB-200 HF Linear Amplifier was featured. In table 1 of that article the HA-14 was mentioned. Heathkit announced the SB-200 in mid 1964; 10 months later they announced the HA-14 which draws a lot of its design from the RF section of the SB-200, but was modified for compactness and ease of operation, traits that make it ideal for mobile operation. Still, the HA-14 remains a capable amplifier for use in the ham shack.

HA-14 KW SSB Amplifier:

The HA-14 measures 12-3/16 W x 3-3/16 H x 10” D and weighs all of seven pounds. It was introduced in the May 1965 catalog supplement (#800/54). Over its life it sold for \$99.95. The HA-14 stopped production sometime in 1968; it did not appear in the major 1969 catalog.

In order to make an amplifier this small the power supply is external. Heathkit manufactured two power supplies especially for the HA-



**Figure 1: HA-14 “Kompact Kilowatt”
 HF Linear Amplifier**

Photo courtesy of Dave Lien -W6OVP

<http://www.qsl.net/w6ovp/>

14. The HP-14 DC supply for mobile use (\$89.95) and the HP-24 AC supply for use in the shack (\$49.95). Heathkit recommends the HP-14 be mounted under the hood of the car due to allow the use of a short lead directly to the battery. The HP-24 can be mounted out of the way under the desk in the shack. More on these power supplies in a later section. The specifications of the amplifier are shown in Table I.

The HA-14 (Figure 1) is styled after the HW series of ham equipment which in turn borrowed a lot of its styling from the concurrent SB line (HOM #30) by using the SB series knobs and meters. At first I wondered why this kit hadn't received an SB designation; but upon closer scrutiny the HA-14 has all the features of the HW line including a green vs. gray cabinet with HW style ventilation holes. The only thing it is missing that is common to the early HW line is the two-tone front panel; the HW line front panels generally uses two colors, light green-gray and dark green, with the nomenclature white on the dark green and black on the light green-gray. The SB line is solid dark green with white nomenclature. What makes the HA-14 look, at first, like a member of the SB line is its single color dark green front panel.

Earlier, Heathkit had introduced the HA-10 “Warrior” KW linear (1961) and the HA-20 Six-Meter 125W linear (1962); both of these amplifiers were styled after the TX-1 Apache and RX-1

HA-14 Specifications:

Bands:	80, 40, 20, 15, 10 meters
Input Power SSB:	1,000 W PEP
Input Power CW:	not specified
Driving Power SSB:	100 W PEP
Driving Power CW:	not specified
Duty Cycle SSB:	50% voice modulation
Duty Cycle CW:	33%
3rd Order Distortion:	-30 dB or better @ 1KW PEP
Output Impedance:	50Ω to 75Ω
Max. SWR:	2:1
Tubes:	Two 572-B / T160-L in parallel
Power Reqs.:	2,000 V DC @ 500 ma peak -120 V DC @ 60 ma. (bias) 12.6 V AC/DC @ 4 amperes
Size:	12-3/16" W x 3-3/16" H x 10" D
Net Weight:	7 lbs.
Ship Weight	10 lbs.

Table I

Mohawk with silver/chrome knobs and light green, dark green paint. After the HA-14, Heathkit produced a line of VHF amplifiers, and a discone antenna that carry the HA designation.



**A kilowatt in a car?
The "KW Kompact"
leaves room to spare.**

**Figure 2: HA-14 shown in mobile service
above an HW "Monobander" Transceiver**

The width of the HA-14 is quite close to the width of the single-band HW-12, HW-22 and HW-32 transceivers so it will fit neatly above or below in a mobile setup as shown in the main 1967 Heathkit catalog (Figure 2).

HA-14 Controls and Connections:

The front panel controls are listed in Table II. The HA-14 has a few unusual features. First, the meter measures only relative power output and SWR. Tuning is done for maximum output on the meter. When the amplifier is off, the transceiver power is fed directly through the amplifier and through the meter circuit so the meter also reads relative exciter output and SWR. The meter doesn't measure, grid current, plate voltage nor plate current, all are measurable on the SB-200. Yet, for mobile operation that is sufficient for performing a quick adjustment.

HA-14 Front Panel Controls (L to R):

TUNE	White arc segments marked: 80, 40, 20, 15, 10 Variable HV Capacitor 150 pF
BAND	80, 40, 20, 15, 10 5-position rotary switch
Power	OFF - ON Toggle switch
METER Switch	FWD - SWR 2-position rotary switch
SENSitivity	White arced arrow Potentiometer located concentric with the METER Sw.
Meter	REL PWR (top scale) White arc with 6 ticks and SET above the full-scale tick SWR (lower scale) 1, 1.5, 2, 3 (3 at mid-scale) Meter movement 0-1 ma, 100Ω

(nomenclature in **bold** is as printed on the panel)

Table II

HA-14 Rear Panel Connections (L to R):

HV	Single pin connector Millen 37001D (red) mates with: Millen 3700C (red)
POWER	12-pin male connector Cinch-Jones P-312-AB * mates with: S-312-CCT *
Pin	Function
1.	GND (parallels pin 2)
2.	GND (parallels pin 1)
3.	12V Filament (parallels pin 6)
4.	Not used.
5.	Not used.
6.	12V Filament (parallels pin 3)
7.	Power Switch (ON connects to pin 8)
8.	Power Switch (ON connects to pin 7)
9.	ALC threshold voltage (from pwr sup)
10.	-120 VDC Bias
11.	ALC output (to exciter)
12.	Ant. relay (Ground to operate amp)
RF INPUT	RCA jack, ceramic mates with: RF capable RCA plug
RF OUTPUT	SO-239 UHF connector Mates with PL-259 UHF plug

Table III

* These Part #s are **believed** correct.
Please check prior to purchasing.

The second unusual feature is the absence of a variable load capacitor in the pi-network output circuit. Instead, a fixed 350 pF 5 KV capacitor is installed; and on 80 meters an additional paralleled 500 pF capacitor is switched in. This provides loading but reduces the ability of the amplifier to tune quite as efficiently; it's a small price to pay for the benefits of compactness and ease of tuning in a mobile environment.

The rear panel of the HA-14 has just 4 connectors; they are listed in Table III along with their mating connectors. Besides the **RF INPUT** and **RF OUTPUT** connectors common to HF amplifiers, the HA-14 has a separate **HV** connector

and a 12-pin Cinch-Jones **POWER** connector. The pinout of the power connector is also given in table III. Not only does it accept bias, filament and ALC threshold voltage, it also provides switching leads for controlling the external power supply, an ALC output for the exciter and a lead that the exciter switches to ground to switch the amplifier into transmit mode.

The HA-14 vs. the SB-200

The HA-14 linear amplifier circuit is similar to the SB-200 RF section in many aspects and as such it uses many of the same parts. The ALC circuit is identical (except for the external threshold provided), as is most of the input circuitry. Since the HA-14 offers mobile capability, the 6.3V filaments are wired in series for 12.6 V operation. Though the filament current is half of that used by the SB-200 they both use the same bifilar 10 μ H filament choke part. The input networks are identical for 80 through 20 meters, but on the 15 and 10 meter bands the SB-200 uses an L-network and the HA-14 uses a pi-network. The output pi-network uses the same variable tuning capacitor and coil for 80 - 20 meters but, again uses a different coil for 15 and 10 meters. As mentioned earlier the loading capacitor is fixed (350 pF on all bands except 80 where it is 850 pF). The antenna relay control is similar to the SB-200 circuit except for a few component changes, The same relay is used.

While the SB-200 uses forced air cooling via a fan, the HA-14 relies on convection cooling for the two tubes. This is probably the reason for the lower duty-cycle specification for this radio. Since the HA-14 power supply is external, its associated heat is absent in the amplifier. Also, the low-boy design and extensive ventilation holes allows almost unimpeded airflow around the tubes (See Figure 3).

Mobile Operation:

Since the HA-14 is specified for mobile operation Heathkit took certain steps to prevent failure from vibration. Both the SB-200 and the HA-14 use the same tubes and tube sockets, but the HA-14 includes a mounting ring that

clamps the tube base to the socket, preventing the tube from coming loose. Also the 12-pin Cinch Jones power connector includes locks to prevent the connector from coming loose. The HP-14 mobile power supply also uses locking Cinch Jones connectors.

Circuit Description:

The HA-14 uses two 572B/T-160L triode tubes in parallel in a grounded-grid configuration. Each tube has a plate dissipation of 160 watts and a maximum DC plate input of 600 watts. The tubes are biased for class-B operation, which corresponds to a grid bias of just a few volts negative. This bias voltage is created across a small resistance in the grid circuit, and is effectively near zero. Both tube's grid is bypassed with capacitors to keep their RF potential near zero also. Since the filaments also accept the driving RF, the filament voltage is isolated by a bifilar choke. Normally, as on the SB-200 the filament, return to ground is accomplished at the center-tap of the filament transformer. Since this is not possible one side of the bifilar choke is grounded and the 12V is fed to the other end. The 12V filament power also drives a #53 lamp that illuminates the meter.

Input Circuit:

The input circuitry is a pi-network on all bands except 80 where an L-network is used. No adjustment is provided as these networks are broad enough to function properly with standard component tolerances. The correct network is selected by wafer "A" of the band switch; which also shorts out the unused networks. The output from the selected network is capacitively coupled to the tube filaments.

Output Circuit:

The high voltage to run the finals comes in through a separate Millen high-voltage connector. The voltage is marked as 2,400 volts, but probably sags a bit under load. With each tube drawing somewhat under 250 ma a DC input of 1 KW peak DC input power is easily achieved.

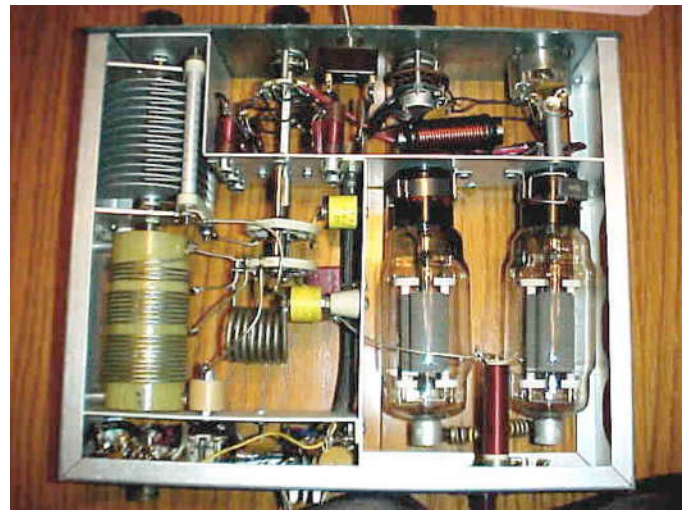


Figure 3: HA-14 Sans Cover
Photo courtesy of Dave Lien -W6OVP

A 150 pF variable capacitor, the same part as used in the SB-200, tunes the plate in conjunction with the proper segment(s) of the output coils. An extra 100 pF of capacitance, needed on 80/75 meters, is switched in in-parallel with the tuning capacitor by the band switch wafer "B". As mentioned earlier, the output pi-network uses fixed capacitors for loading. A 350 pF fixed HV capacitor is permanently connected and a 500 pF capacitor is switched in parallel with it on 80/75 meters by the band switch wafer "C", which also selects the desired coil tap for the selected band; and shorts out the unused coil segments.

Antenna Relay Circuit:

The external power supply also provides a negative 120 volts to operate the antenna relay and bias the amplifier tubes beyond cut-off when in standby. The -120 volts connects directly to the DPDT antenna relay coil, which for some reason is rated for 110 VAC. The relay coil is shunted by a fixed resistor. The other side of the coil goes to the grids of the tubes through an RF choke; it also goes through a small 33 ohm 1W resistor to pin 12 of the power connector on the rear of the HA-14. Grounding pin 12 (ANT RELAY) causes the relay to energize and the bias on the tubes to drop from negative 120 volts down to just a volt or so negative, biasing the tubes from cut-off into class B. In its un-

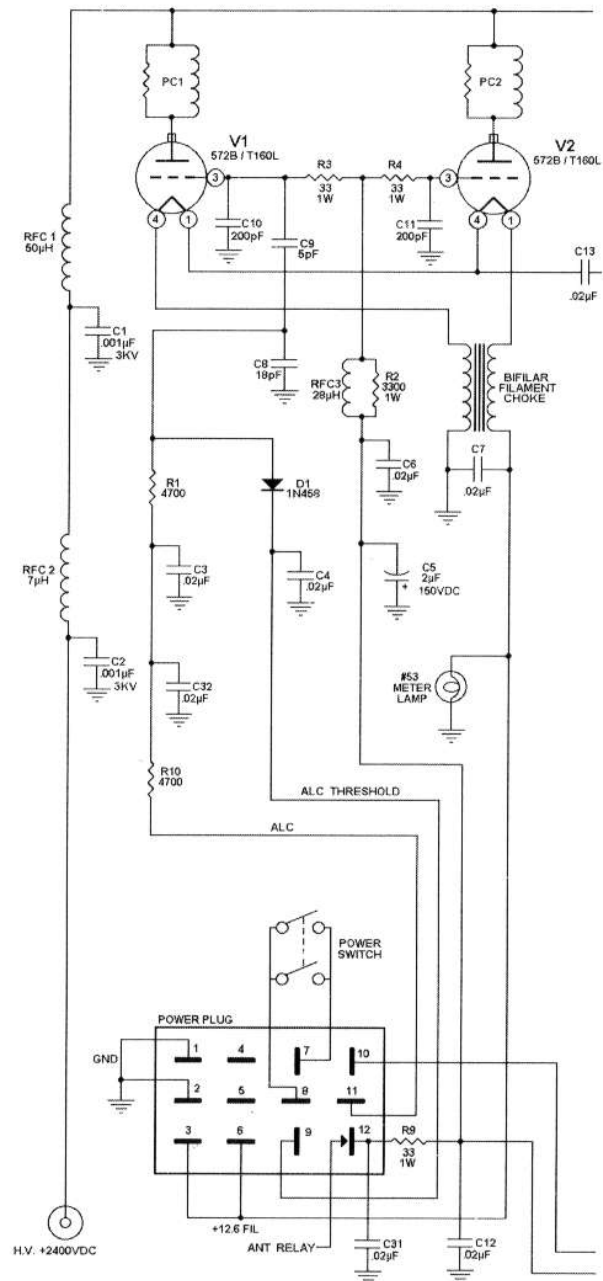
energized state the relay connects the rear panel RF INPUT and RF OUTPUT connectors together. When activated, the relay connects the amplifier circuit between the RF INPUT and RF OUTPUT connectors. The meter circuit sits between the relay and the RF OUTPUT.

ALC Circuit:

Except for some minor RF bypassing changes necessitated by a remote power supply, the ALC circuit is identical to the SB-200 (See figure 5). RF from the grid is divided by capacitive voltage divider made up of C8 and C9. Until this RF voltage gets high enough it is effectively shorted to ground by capacitors C3 and C32. A positive ALC threshold voltage is supplied through pin 9 of the power connector from the external power supply. On the HA-14 this voltage is about 6 volts, and keeps diode D1 biased off. However when the RF energy exceeds about 6.6 volts peak, D1 begins to conduct, and a net negative voltage, filtered by R1, R10, C3 and C32, appears on the ALC output line (pin 11). This voltage is fed back to the exciter and lowers its RF output to prevent overdriving.



**Figure 4: Rear view of the HA-14
With HP-24 AC Supply on top.
Photo courtesy of Dave Lien -W6OVP**



**Figure 5: The ALC circuit of the HA-14.
Full schematics and manual PDFs for the HA-14,
HP-14 and HP-24 are on Dave's web site.**

<http://www.qsl.net/w6ovp/>

While the HA-14 uses an ALC voltage of about 6 volts, the SB-200 threshold voltage is set at 10 volts. The reason, I surmise, is because the SB-200 is rated for a slightly higher output than the HA-14 due in part to the HA-14's lack of forced air cooling (1,200 watts vs. 1,000

watts). I imagine with a well placed fan the HA-14 could operate at the higher power level.

A Word of Caution!

Transmitters and amplifiers with external power supplies can pose a serious risk. The problem arises should the HV be connected to the amplifier yet the ground between them is missing. This puts the RF section at a fatally high voltage potential. Heathkit does a good job of protecting the user by having the power switch on the amplifier assuring the power cable is connected. *Yet I feel assured that, somewhere out there, there are some hams who defeated the remote switch on their HP-24!* It is wise to be sure the amplifier and radio are properly grounded together.

I still remember the story I heard as a novice about a local ham who had a homebrew AM amplifier in a six-foot rack. Plate modulation was the technique in those days and he removed the modulator, which had its own built-in LV power supply but also used the main HV for the modulator tubes. After doing some repairs, he decided to check the amplifier before reinstalling it in the rack. The modulator was sitting on a wooden table but to get it out of the rack he had removed the large grounding braid. Eager to test his repair he turned on the amplifier's power supply, let everything warm up and then grabbed the D-104 mic... The fact he was in his basement on a concrete floor did not help his situation. SAFETY FIRST!

The HP-24 AC Power Supply:

I briefly covered the HP-14 in HOM #40, but failed to mention the HP-24 when I covered the HP-23 (HOM #26). The HP-24 was built specifically to power the HA-14. Its measurements are identical to the HP/PS-23(-) series that powers so many Heathkit tube transceivers from the HW-12 to the SB-102. About the only distinguishing feature that sets the HP-24 (Figures 4 & 6) apart is the red Millen high voltage connector. The power supply specifications are given in Table IV.



Figure 6: HP-24 AC Power Supply
Photo courtesy of Dave Lien -W6OVP

The major differences between the built-in SB-200 power supply and the HP-24 are the power transformer and HV bleeder chain. The power transformer, besides having a different mounting style, has a 12.6 volt filament winding. The high-voltage windings on both are 800 volts which feeds a voltage doubler. One assumes the

HP-24 AC POWER SUPPLY Specifications

High Voltage:	2,500 VDC no load 2,000 VDC @ 300 ma. 1,900 VDC @ 500 ma. (min.)
Duty Cycle:	SSB: 50% @ 500 ma. peak (normal voice operation) CW: 33% @ 500 ma. (normal telegraphy operation)
Bias Voltage	-180 VDC no load -120 VDC @ 60 ma.
Duty Cycle:	Continuous @ 40 ma.
Filament Voltage:	12.6 VAC @ 4 amps.
Power Reqmts:	120 V @ 16 amps. max. 240 V @ 8 amps. max. (VAC @ 60 cps.)
Dimensions:	9" L x 4-3/4" W x 6-3/4" H
Net Weight:	18-1/2 lbs.

Table IV

800 volt rating is given under load since 885 volts is required to give the 2,500 volts no-load specified. The bleeder resistors in the HP-24 are composed of 6 each 100K Ω 2 watt resistors while the SB-200 has a heavier chain of 6 each 30K Ω 7 watt resistors. In both chains there are additional small resistors to generate the ALC threshold voltage, and, in the case of the SB-200, to measure the plate current. One other difference, though it's hardly worth mentioning, is the interesting fact that the SB-200 uses eight rectifier diodes per chain and the HP-24 uses seven. The diodes and voltages are identical, so perhaps Heathkit gained some additional confidence in the reliability of their 57-27 diodes? These are 1N2071 diodes (600 PIV 750 ma).

CW Operation:

The manual for the HA-14 mentions CW operation in two paragraphs that total barely 2-inch columns in length; no ratings are given on the manual's specification page. The first short paragraph sets the duty cycle limit to 33% and recommends that the HA-14 only be used with the HA-24 AC power supply for CW operation.



Figure 7: The HP-14 DC Switching Supply
Photo courtesy of Dave Lien -W6OVP

The second paragraph gives a brief description on how to tune up the exciter for CW operation with this amplifier. Still, CW input should reach a full KW with 100 watts of drive. Indeed this has been confirmed by Dave - W6OVP.

HP-14 DC POWER SUPPLY Specifications

High Voltage:	2,300 VDC no load 2,000 VDC @ 500 ma.peak
Duty Cycle:	SSB: 50% (normal voice operation) CW: (not specified)
Bias Voltage	-130 VDC no load -110 VDC @ 60 ma.
Power Reqmts:	12 - 14.5 VDC (neg. ground.) 25 amps. average. 50 amps. maximum.
Switching Freq.	1.5 kc (approximately).
Dimensions:	7-3/4" L x 8-3/8" W x 2-5/8" D
Net Weight:	8 lbs.

Table V

The HP-14 DC Power Supply:

In order to operate the HA-14 mobile, a power supply that will operate off a vehicle's battery and alternator is needed. Heathkit filled this need with their HP-14 DC Power Supply (Figure 7). Table V gives its specifications.

The HP-14 appears similar to the HP-13 but is actually about an inch longer and a 1/4 inch deeper. Most obvious is its use of four switching transistors mounted on heavy heat sinks instead of two. The HP-14 uses the same transistors as the HP-13, germanium (Heath part # 417-60 - early models and 417-120 - later models). These transistors are nearly impossible to find. The transistors cannot be interchanged without making some other changes to the circuit. See Heath service bulletin HP-14-1D. This bulletin, as well as some suggestions for possible transistor substitutions are given on the W6OVP

website. I have not yet seen any modifications that use silicon transistors. This is possibly due to the design of the transformer which is wound to drive transistors with lower V_{BE} voltages than silicon transistors offer.

Under mobile operation the power supply doesn't need to generate any filament voltage as it is supplied directly by the battery. Thus the car's raw battery voltage is fed to the filaments and only switched by the power supply. The 572B/T160-L tubes are instant warmup, but they are also a bit voltage critical, rated at $6.3V \pm 0.3V$. When in series that means the voltage reaching the filaments should be between 12V and 13.2V. Heathkit is probably counting on some voltage drop in the circuit to lower the 13.8 - 14.2 volts nominally put out by the alternator. Still, the higher filament voltage will not destroy the tubes, only somewhat shorten their life.

Summary:

The HA-14 "KW Kompact" is an impressive little 1KW PEP linear amplifier. While not the most common Heathkit amplifier, they do show up on eBay fairly often. For a ham with limited space or living in a trailer or on a boat they make a good compromise between compactness and performance. The ability to work from 12 VDC or 120 VAC, with the proper power supply, also makes them handy for emergency, in the field, operations. If one ever comes my way, I may pounce on it.

There are modifications for putting the HA-14 on 6 meters (though the 572B tubes are rated only to 30 MHz for full output). Operation on the WARC bands (30 meters excluded) are also possible for this rig just by following some of the modifications offered for the SB-200.

Overall, the HA-14 is one of the more interesting RF amplifier kits put out by Heath. One can only guess that many were sold, even when there was stiff competition with the SB-200. It is an amplifier, that if you come across, might just be an asset to your operations - mobile or fixed.

Acknowledgements:

I can't end without thanking Dave Lien - W6OVP for peaking my interest into writing about this kit earlier, rather than later. His website has been an important asset to this article, as I'm sure it is to the many users of the HA-14 "KW Kompact". On his website you will find the manuals, schematics, repair help, modification data and all kinds of other information to help you if you are restoring, fixing or using an HA-14. When you visit his HA-14 website :

<http://www.qsl.net/w6ovp/>

be sure to spend a moment looking at the pictures of the eleven HA-14 amplifiers Dave has stacked up (once there were thirteen, he says). Dave has used them mobile and in fixed locations and has had great success with them on the air.

Most all of the photographs in this article came from the W6OVP website and are used with his permission.

Next month I'll probably be taking a break to work on some other projects. But I will be back soon with yet another prize from one of the Heathkit catalogs. Oh, and beware! I may have found my topic for next April's Heathkit article, and it's not powered by gasoline!

73, from AF6C



This article is Copyright 2014 R. Eckweiler and The OCARC Inc.

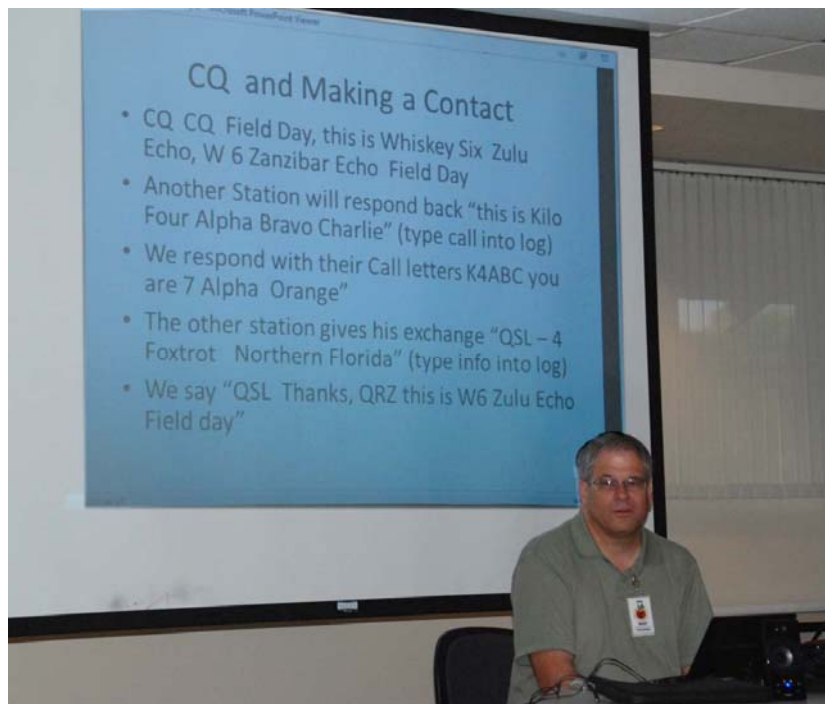
Remember, if you are getting rid of any old Heathkit Manuals or Catalogs, please pass them along to me for my research.

Thanks - AF6C

OCARC General Meeting Minutes for 2014-June-20

The OCARC General Meeting was held at the Red Cross Complex on June 20th 2014. The meeting was called to order at 7:08 pm. There were 35 people in attendance which included 1 visitor.

Prior to the start of the meeting, Tim, N6GP, led another Field Day SSB operator training session. This was the last session offered by Tim prior to Field Day. Everyone who attended felt well prepared.



Several member announcements were made. This included a rundown of the schedule for the Ham Jam event at Anaheim HRO store. The other item was from Arnie – N6HC regarding a request that if available during the day tomorrow he would be at an Elementary school in Fontana for a Kid's Day event and they would be looking to make contacts on 10, 15 and 40 meter upper SSB.

The main speaker for the evening was Chip – K7JA. The focus of Chip's talk was to get us ready for Field Day. One of Chip's focuses for us was some basic knot tying that can be very useful on Field Day.

The meeting then transition to a discussion of very FD details that were either already in the works or still need commitments to ensure their completion.



A break was then called before the formal business section of the meeting was continued. All officers were in attendance.

The membership was informed that lately the “opportunity drawing” is not receiving much support and sometimes brings in less than half what is spent on prizes. Over the last several years we only receive back about 70% of the cost in prizes from the donations for tickets. The question for the membership was what if anything should be done about the “opportunity drawing”?

Nicholas invited the members to speak one at a time, regarding their thoughts on the subject. There was a wide range of opinion such as:

Spend a portion of the money currently spent and just award door prizes,

Get more donated prizes to offset cost,

Not having it at all,

Better quality prizes, improve prizes, worthwhile prizes, and increase quality,

Some members said they saw it as the “icing on the cake” and like have it,

Some questioned the legality of having a prize drawing.

The meeting was concluded without entertaining a specific motion regarding the drawing.

Meeting adjourned at 9:18pm.

Respectfully submitted by: *Tim Millard*, N6TMT, Secretary 2014.

OCARC Board Meeting Minutes for 2014-June-14



OCARC Board Meeting Minutes for: June 14, 2014

The OCARC Board meeting was held at the JägerHaus Restaurant, 2525 East Ball Road, Anaheim, and called to order by President Nicholas AF6CF on Saturday, June 14, 2014 at 8:20 am. All directors except Robbie – KJ6CJZ were in attendance.

DIRECTOR REPORTS

Treas –Ken - W6HHC – So far this year club finances in good shape with about \$980 more received in then spent.

Membership – Doug – W6FKX – reports that club membership currently has reached 96 members. Doug will prepare a 2014 roster. Finally, Doug is not able to be with us on FD but has already worked out the plans for food at FD so we will still be well feed.

Activities - Paul – W6GMU – opportunity drawing continues to be a money loser and looking for new ideas for making it worthwhile.

DAL – Greg – W6ATB – will be bring his mobile command center (RV) and spare generator to FD. Can start staying on site Thursday evening to watch over antennas that are assembled that evening.

No other Directors reports presented.

Old Business:

- 1.) **Newsletter Editors:** July - Doug W6FKX; Aug- N6GP; Sept – AF6CF, Oct-AF6C, Nov-W6ATB.
- 2.) **General Meeting Entertainment,** June – Field Day readiness, July – Arnie – N6HC – New Amsterdam Island, Aug – Arduino II?
- 3.) **FD 2014: Chairpersons and Doc status report.**– see next item
- 4.) **Field Day Site, etc. –**
 - Food Chair – Doug W6FKX,
 - VHF and 10 meters - Chip K7JA
 - PSK31 – Greg W6ATB
 - CW - Bob – AA6PW
 - GOTA – co chair – Tim – N6TMT and Tom –W6ETC.

Food plan as presented by W6FKX is to have dinner from Stonefire Grill available for the Friday setup crew. Assorted Subway sandwiches for Saturday lunch, Pizza for Saturday dinner and McDonalds Breakfast sandwiches for Sunday morning.

Tower transportation is arranged.

Nicholas is taking care of getting club generator to site.

Doug will drop off his large ice cooler on Thursday, with N6TMT taking it home after event for Doug.

Reported that Chris Cutting will be checking with his political contacts to see if any can stop in – last year Chris arranged for Assemblyman Allan Mansoor to stop by.

Bob will bring our club banner and smaller arrow signs for directions. It was mentioned at a FD planning meeting about having signs for each operating location as well.

Greg will have the monitor freq of 146.55Mhz on during the weekend.

Nicholas has the bolts for the towers.

Greg Madden from the Scout Troop has informed us that 13 Boy Scouts are currently signed up to attend the event. He is not sure at the moment how many adults will be there from their Troop.

It was requested that N6GP bring his code practice oscillator for the GOTO booth.

- 5.) **15 meter Beam Balum repair status** –repaired, tested and found good. Also have a spare at this point.
- 6.) **OCARC Coffee Mug orders** – Paul – W6GMU reports that all submitted orders have been received from the vendor. Just needs to coordinate pickup with members that paid for orders.
- 7.) **OCARC at the Scout O Rama** – Tim – N6GP reports that event ran well with large number of kids stopping by and trying their hand on a Morse code practice oscillator. Not sure our efforts there will result in new members or visitors at our Club meetings or Field Day event but there were a fair number of adult hams that stopped by and chatted and received club information. It was a good public relations event.
- 8.) **ARRL Special Services Club status** – Completed.

New Business

- 1.) **Appoint new OCCARO delegate for Club.** – Board voted this down since at this time OCCARO is not meeting and has no definite plans on when they might meet again.
- 2.) **Online interactive membership form.** – The web site company upgraded PHP code and so Bob has made changes to our interactive membership form to accommodate the upgrade. After FD is over he is asking that Board members help him do some testing to insure that the form performs properly once it is released live on our site.
- 3.) **Monthly opportunity drawing losses.** At last meeting a motion was made and seconded to reduce that amount spent from around \$150 per drawing to \$125 per drawing. Paul will spend \$125 for the June meeting. The matter will be discussed with the membership at the June meeting.

Meeting was quickly drawn to a close because facility had another group arriving.

Adjourned at 9:38 am

Respectfully submitted by: *Tim Millard* N6TMT, Secretary 2014.

Hams Out and About



W6SQC, N6HC and N6GP at the Huntington Beach 2014 4th of July Parade

N6JUK - AMATEUR RADIO ITEMS FOR SALE

Last week I was asked by a lady, who has heard about our club, to look over and try to sell the radio equipment that belongs to her neighbor, who is now confined to a healthcare facility. She is selling his house and would like to get the equipment out of the house ASAP. The towers and antennas have already gone.

I've looked over the equipment and some of the less valuable and smaller stuff I will hold for her for the club auction. Much of the stuff is listed here. The equipment is for the most part in very good condition. He took care of his gear! Please make a reasonable offer to me and I will confirm the price with her.

There is also a 220 mobile and handheld that she is holding for a third party.

The SX-100 and speaker look in good shape as does the S-38 and S40. The S-38 appears to be an original S-38 (not A - E)

For information or to take a look contact me at (714) 639-5074 (Bob Eckweiler).

Item	Description
TS-520 - Kenwood	Transceiver
SX-100 Hallicrafters	Receiver/Speaker
S-40B Hallicrafters	Receiver
S-38 Hallicrafters	Receiver
DM-112MVT Alinco	Power Supply
7050 Philco	Tube Tester
BC-625 (?)	Transmitter in 4' rack
206 EMC	Tube Tester
2120B B & K	O'scope - Dual 30 MHz
AM-2 Heathkit	SWR Bridge
IP-27 Heathkit	LV Power Supply
ABC200M Kepco	Power Supply 200V 0.1A
VS-20 Astron	<u>Variable</u> Power Supply
VR-10 Monarch	Meter ?
MFJ-802B	FS Meter

Item	Description
PS-1 Ameco	Power Supply
YS-500 Yaesu	SWR/Power Meter V/UHF
FT-690RII Yaesu	6M transceiver - all mode
WM-77 Bud	Wavemeter (Old-classic)
BC-35 ICOM	Battery Charger
MFJ-914D MFJ	Antenna Tuner
FS-2 Heil	Foot Switch
Classic Heil	Microphone
FT-1802 Yaesu	2m 50W Mobile
IC-27 ICOM	2m 25W Mobile
NC-8A Yaesu	Battery Charger
PK-64 PakRatt AEA	Multimode TNC
MFJ-260 MFJ	Dummy Load 300W
J-38 Key	Telegraph Key
Master NYE	Telegraph Key
HR-2600 Uniden	10 M mobile
V-7A Heathkit	VTVM
TM-231 Kenwood	2m 50W Mobile
MB-17 ICOM	Bracket Mobile
22-210 Micronta	VOM
CY-1205 Comet	Handheld Yagi, 1.2 GHz
710 Eico	Grid Dip Meter w/coil set
FT-470 Yaesu	2/440 Handheld
VX-170 Vertex	2M Rugged Handheld
FT-245 Yaesu	2M/440 Handheld
FT-270 Yaesu	2M Handheld 5W
PA-6 Yaesu	Car Charger Adapter
YM-24 Yaesu	Speaker Mic
FT-208 Yaesu	2mM Handheld 2.5W
FT-708 Yaesu	440 Handheld 1W
NA-8 Yaesu	Charger/Power Supply
FNB-12 (2nd source)	Battery
NC-72B Yaesu	Battery Charger
VAC-400 Vertex	Desktop Charger
IC-12AT	1.2G 1W Handheld
10L-LC Shure	Prologue Mic (Lo Z)

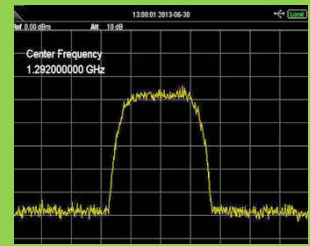
73, from Bob AF6C





Digital Amateur TeleVision Exciter/Transmitter

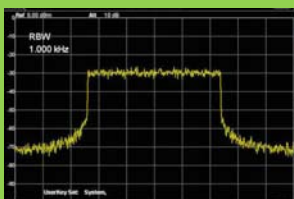
Now available from



DATV-Express



- A more affordable DATV exciter can now be ordered
- Fully assembled and tested PCBA
- DVB-S protocol for DATV (using QPSK modulation)
- Can operate all ham bands from 70 MHz-to-2450 MHz
- RF output level up to 10 dBm (min) all bands (DVB-S)
- Software Defined Radio (SDR) architecture allows many variations of IQ modulations
- "Software-Defined" allows new features to be added over the next few years, without changing the hardware board
- As extra bonus, the team has been able to get the board to transmit DVB-T 2K mode, however we cannot guarantee the performance of that protocol. Caveat Emptor!
- Requires PC running Ubuntu linux (see User Guide)
- Price is US\$300 + shipping – order using PayPal



For more details and ordering

www.DATV-Express.com

Register on the web site
to be able to see
the PURCHASE page

