Worldradio

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1981 Dayton Hamvention sets new records

Robert R. McKay, N8ADA

In spite of sagging economy, unemployment and outrageous gas prices, the 30th Annual Dayton Hamvention — held 24-26 April — attracted a record crowd. General Chairman Noel McKeown, WB8QQC, announced that over 20,000 had attended. These enthusiastic amateurs had come to buy, sell, see what was new, get an update on technology, meet old friends and all the other things that — in April — make Dayton the center of the Amateur Radio world.

In recognition of the international nature of the event, announcements this year were made in six languages.

One hundred eighty-six exhibitors filled the halls of Hara Arena to capacity. All the major manufacturers were there, along with the specialty manufacturers and some newcomers to the amateur field. As usual, many wait for Dayton to announce and display new products for the first time. This year was no exception with Drake, Kenwood, Hal, J.W. Miller, Cubic, Heath, ICOM, Bencher, Ten Tec and many others showing new products. An indication of the future was evident in the eight large satellite dishes in the parking lots and exhibit halls.

The flea market also broke all previous records for size. The fences enclosing the area had to be moved out twice to accommodate the crowd of sellers. When it all settled down, there were 1,500 selling spaces covered by acres and acres of electronic equipment.

Over $20,000 in prizes were awarded to several hundred lucky ticket holders. The top three ticket holders were: Judith McCune, N8AIM of North Canton, Ohio, who won the complete Drake station which included the new Drake 75 Linear Amplifier. Mike Hoshiko, W9CJW of Carbondale, Illinois won the Kenwood TR9000 2-meter Transceiver and Dave Hansen, N8BLX of Holly, Michigan took home the J.W. Miller AT2500 Automatic Antenna Tuner.

Twenty-six forums covering just about every area of amateur interest were manned with some 90 speakers. The DX and Contest forums, along with Wayne Green's talk on "Lost Technology," played to standing room only crowds. The forums provided easy access to the experts and gave the rank-and-file amateur a chance to meet and talk to these people on a one-to-one basis.

About 1,400 attended the grand banquet on Saturday evening to hear Lloyd and Iris Colvin, W6KG and W6QL, discuss their lives as DXers. The Amateur of the Year Award was presented to Eric Shalkhouser, W9CI, and the Special Achievment Award went to Bill Pasternak, WA6ITF and Bill Orenstein, KH6IAF/6, of Westlink Amateur Radio News. Nobuaki Minakawa, JA1EYW — representing the Japanese Amateur Radio League — spoke and brought greetings from the amateurs in Japan.

In the prize drawing, Ron Moorefield, W8ILC won the complete TS-130S station. Since Ron is a committee member, an identical item was awarded on the next ticket drawn, since that is what Hamvention policy requires when a committee member wins. Lloyd Colvin's ticket was next and he declined the prize. So the third ticket drawn was held by Cliff Kiehl, W8WY of Dayton, Ohio. George Myers, W8NXF of Circleville, Ohio won the Drake L-75 Amplifier and Harold Bols, N8BRX of Dayton won the Kenwood TR-2400 2-meter Handi-talkie. Four other major prizes were awarded.

In the CW proficiency competition, Perry Ballinger, W8AU and K3KE had the best scores. A special event station set up in the Dayton Amateur Radio Association Emergency Van made 400 contacts, even though sunspot activity made operating difficult. A commemorative certificate is available for those making the contact.

A belly-dancing demonstration was included in the ladies program and — much to the chagrin of thousands of guys — the "Ladies Only" sign was out.

Seven bus lines started at 7:00 a.m. and ran until activities ceased in the evening. They made rounds of all the major hotels, motels and camp grounds. The buses ran on one-half to one hour intervals, and also stopped at several shopping center parking lots set aside for Hamvention visitors.

Talk-in crew began on Thursday and operated almost continually until Monday, vectoring visitors into their accommodations, parking lots or the arena itself. These two services eased the visitors into the city and reduced confusion, traffic and parking problems.

As the thousands headed for home on Sunday night, tuning in the DARA repeater revealed why these amateurs return year after year. A typical comment tells it all: "Great job Dayton. We had a wonderful time; see you next year." □

Iris W6QL and Lloyd Colvin, W6KG were inducted into *CQ Magazine's* DX Hall of Fame at the International DX Convention. (See story on page 3.)

Law changed in Texas

"IT'S THE LAW" read the envelopes. "These plates cannot be displayed on a vehicle unless mobile transmitting equipment is installed." Amateur Radio operators in Texas have been concerned for years that when their equipment was being repaired, or for some other reason was temporarily not installed, they were breaking a law. Every fall when they renewed their registration they had to sign an oath saying they would do something which from common sense and experience they knew was impossible.

While it appears that no amateurs were ever harassed by DPS or law enforcement personnel over displaying plates when equipment had been left at home or transferred to another vehicle, that possibility always existed. Now, thanks to the efforts of a conscientious radio amateur, a concerned legislator and a responsive state official, this situation will be changed.

"I think this shows that sometimes the 'little guy' can be heard in state government," said Jerry Shields, W5SRN, of Austin. Jerry, who himself is employed by a large state agency, is a law-abiding citizen who could hardly bring himself to sign the yearly form saying that equipment "is installed," knowing full well there would be occasions when this was not possible or practical. Amateurs had griped about "the law" for years, but Jerry decided the law needed to be changed and wrote a letter arguing his case to his State Senator Lloyd Doggett.

Senator Doggett put his staff to work on the problem and discovered that "the law" was in fact just outdated departmental policy and not a statutory requirement at all. Finding the right person in a big bureaucracy is often the key to a solution. When the amateurs' problem was

(please turn to page 3)

Restrictions lifted

Effective 10 June 1981, FCC will permit U.S. Amateur Radio stations full power privileges on the frequencies 1800 to 1900 kHz, 1000 watts maximum DC plate input. However, some power and operating restrictions will continue to apply to some parts of the United States for the frequencies 1900 to 2000 kHz for protecting LORAN A radionavigation systems operated in eastern Canada.

Before operating on the frequencies 1900 to 2000 kHz, either send an SASE to ARRL Headquarters for details or wait for the details to appear in July 1981 QST League Lines. Mode limitations of A1 and A3 emission remain in effect for the entire 160 meter band. □

World Radio History

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Worldradio (USPS 947000) is an international conversation. You are invited to take part. Our newspaper is written by its readers.

Our goal is to be a valuable resource of ideas and experiences beneficial to the Amateur Radio community. We publicize and support the efforts of those who bring the flame of vitality into this avocation.

Our readers are participants — an alliance of active radio amateurs who are concerned with reality, who use radio as a communications tool. We ask your cooperation in helping us develop the skill, quality and full potential of Amateur Radio.

We are positively-oriented. We print all the news of this great activity, and particularly desire an input of stories dealing with the dramatic, the personal and humanitarian uses of Amateur Radio.

Worldradio needs your help to reflect the invaluable service of Amateur Radio.

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Subscription rates: $8.64 per year, $16.28 for two years, $22.92 for three years and $86.40 for life; $1.50 extra per year for surface mail delivery outside the U.S. Overseas, please remit international postal money order. IRCs and local currency will be accepted.

Controlled circulation postage paid at Sacramento, CA.

AACS reunion

Former members of the Army and Air Communications Service (AACS) will hold their fifth annual reunion in Tucson, Arizona, 15-18 October. Contact Evert O. Wogstad, P.O. Box 35215, Tucson, AZ 85740 for reservation information, before 15 September.

AACS, a former activity of the WWII Army Air Forces, provided radio communications, air traffic control and air navigational facilities throughout the world. Many AACS veterans are still in electronics. A large number of them are amateurs.

In July, 1961 AACS had a name change to AFCC (Air Force Communications Command). It now has about 45,000 men and women, providing complete communications for the United States Air Forces, throughout the world. □

1981 repeater list available

The new TASMA/Rio Hondo summer 1981 repeater list is now available. FOR FREE. This year the list includes both 2 meters and 220 MHz for Arizona, Nevada, Mexico, and Southern and Central California.

Because of the expanded size, SASE *MUST* be no smaller than 7″ × 9″ manila envelope, with two first class stamps attached. It will not fit in a regular business envelope.

Send requests to: Tom Polley, WA6GEV, P.O. Box 603, La Mirada, CA 90637. Or to: Karl Pagel, N6BVU, P.O. Box 6490, Orange, CA 92667. □

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AMSAT correction

On page 34 of our June issue, Kate Saul, AE2Z was listed as having been transferred, leaving an ARRL position open. Norm Chalfin, K6PGX informs us that the person transferred was Mark Wilson — not Kate Saul. □

FCC renews Smithsonian call sign

The FCC's Private Radio Bureau has authorized the Smithsonian Institution Radio Club to continue using the call sign NN3SI for its Amateur Radio station for another five years. That renewal is newsworthy because NN3SI is not a typical amateur station.

It was set up in 1976 as part of a bicentennial exhibit called "A Nation of Nations" in the National Museum of History and Technology. The FCC issued the call sign NN3SI as a one-year authorization for a special event station, but later extended it to a full five-year term when the Smithsonian made the station a permanent exhibit.

Since then, the Commission changed its Amateur Radio rules to eliminate special event call signs so the renewal of NN3SI required special action by the Private Radio Bureau before the term expired in June 1981. The bureau acted on 29 April to renew the special event call sign as an exception to the rules because of the station's unique position as a national historical exhibit, which may be viewed in operation by museum visitors and heard by other radio amateurs throughout the world.

Cards and letters received by the Smithsonian radio club acknowledge the unusual call sign NN3SI representing Amateur Radio in the United States. The Private Radio Bureau agreed it was in the public interest to keep that call sign on the air. □

If you received this publication and are not a subscriber of WORLDRADIO, it was no accident. Please consider it an invitation to join. We can be very friendly.

Viva la France

In accordance with the French national holiday Bastille Day, commemorating the fall of the Bastille in France in 1789, the people of Paris, Texas will conduct festivities around 14 July 1981 — the day celebrated as Bastille Day. The Red River Valley Amateur Radio Club of Paris, Texas will operate the club station WB5RDD as part of this celebration on Saturday 18 July 1981 between the hours 1300 and 1900 UTC.

Look for the station near the following frequencies: 40 meters 7.285 MHz ± 5 kHz; 20 meters 14.285 MHz ± 5 kHz; 15 meters 21.385 MHz ± 5 kHz; 10 meters 28.585 MHz ± 5 kHz.

For those stations working WB5RDD, a certificate-type QSL card suitable for framing will be made available from the Red River Valley Amateur Radio Club. QSL via the Callbook address or Rt. 6, Box 515, Paris, TX 75460. An SASE would be appreciated with request for QSL. □

Work Little Gull

Radio Central Amateur Radio Club will sponsor an unusual 24-hour mini-expedition to Little Gull Island, commencing 8 August at 1600Z, and ending 9 August 1600Z. Call sign will be WA2UEC.

Little Gull Island is a small island in Long Island Sound about 15 miles northeast of Orient Point. They will operate on the lower portions of the General bands 10 to 80 meters both CW and SSB. There will also be a Novice station operation. A photo QSL card will supply all information about the trip.

Please QSL via Callbook WA2UEC with SASE, the W2 Bureau or IRC's. This will be the first of a series of mini-expeditions. □

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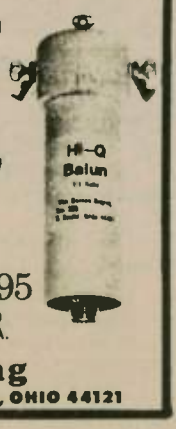

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Public Service Manual

The updated edition of the *Public Service Communications Manual*, regarded as the most authoritative source of information on Amateur Radio public service, is again available. Along with detailed explanatory material on ARES, RACES and NTS, the latest edition of the *PSCM* now contains third-party traffic agreements, ARRL section leadership job descriptions, UTC time conversion, NTS routing guide, and more!

This pamphlet is distributed free by the Communications Department, and can be obtained from your friendly section League Official or direct from headquarters for a 6″ × 9″ SASE with two units of first class postage. □

Contact Worldradio for hamfest prizes.

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World Radio History

A manifestation of the deep and absorbing interest in DX.

1981 International DX Convention — Visalia

John Minke, N6JM

DX Forum

The DX Forum was chaired by Jim Rafferty, N6RJ, of the DX Advisory Committee, who gave a brief report of the DX-AC. SMOM, the Sovereign Military Order of Malta (1A0KM), is still not accepted as a DXCC country. The decision at the moment was a 50-50 split. Jim reports that there is a change in rules pending on the CW DXCC, where both transmissions must be made using CW. It must be two-way CW, no transmitting CW and receiving phone. The group in attendance was in favor of this rule change. This does not mean the contacts must be made in the CW portion of the bands.

Also participating in the forum was Don Search, W3AZD, of ARRL headquarters; Hugh Cassidy, WA6AUD, the new editor of CQ Magazine; and Harvey McCoy, W2IYX, editor of the *Long Island DX Bulletin*.

The floor was given to Don Search, W3AZD, who gave a report on activities regarding DXCC applications. Don says that the department processing the applications is six weeks behind. In 1980, 600,000 QSL cards were checked involving 8,600 applications (new and endorsements). 153 5-band DXCC applications were processed and the number is increasing. In March 1981 alone, 24 applications were checked. The total number of DXCC certificates issued is now 21,000 mixed, 11,000 phone, and 1,300 to 1,400 CW. Don has four to six people checking the QSL cards.

Don also commented on the 9U5DS Burundi situation. This station is a bootlegger who is using the call of a station who has not been on the air since 1977. It has been reported that the operator of the station is 9U5DL, but Don questions why he doesn't sign his own call instead. 9U5AC is acceptable, and 9U5JM still needs proper authorization. As for the G/5A operation, no official documentation has yet been received.

The forum was opened for questions with a multitude of questions fired at Mr. Search. 7Z2AP is not being accepted for DXCC credit as 7Z2AI is reported to have been the last call issued by the Saudi government. What about the status of the new country of Velau, or Western Caroline Islands? Don said there is no change and to refer to the pre-1954 DXCC listings where Western Caroline Islands were listed as Palau Islands. At that moment, Alfred Flipos — the operator of 7Z2AP — came forward presenting his authorization.

This raised another question on authorization or unauthorized calls such as that in Turkey. Don explained that although Amateur Radio has been illegal in Turkey since 1937, all calls are assigned by the Turkish Amateur Radio Club, and stations using calls assigned by them are acceptable.

As it is difficult to define a DXCC country, a question was asked regarding the 225-mile rule. Is it land miles or nautical miles? The 225-mile rule is based on land miles.

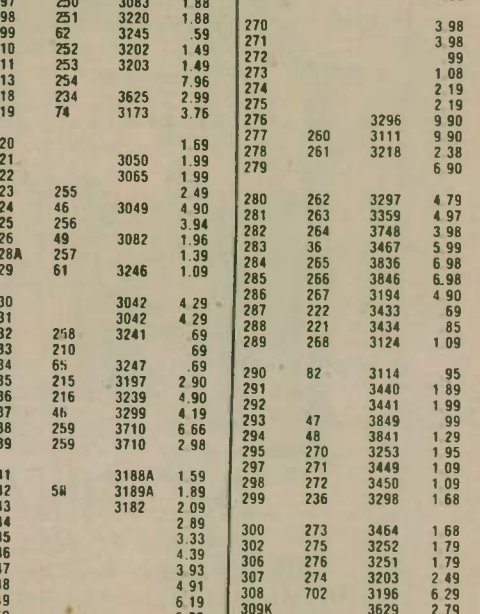
Why is there an East and West Germany on the DXCC listing, but no North and South Korea? The answer to this was that the two German countries recognize each other as such, where Korea is not recognized as such.

Other inquiries included the counterfeit QSL cards that were surfacing on the West Coast, the African homelands and the passing of logs over the air to QSL managers. Regarding the bogus QSL cards, it was suggested you check the report of the QSL card very carefully against your log. The African homelands are technically not completely independent, which is why they count only as South Africa for DXCC purposes. There are no restrictions to the passing of logs over the air to QSL managers.

If you had a Franz Josef Land QSL card that was rejected as UA4HSK was the QSL manager, you may resubmit the card. Both UA1OSM and UA4HSK are acceptable QSL managers. Stations signing with the KB6 prefix on Canton Island are still good, as the treaty is still in effect.

As to the most recent operations, no documentation has been received from the AD0S group for their Palmyra Island operation. Although the island is part of U.S. territory, documentation or authorization is necessary as Palmyra Island is private property.

No questions were fired at the DX editors and the forum was adjourned for a presentation by Steve Orland, AA6AA, and Don Jones, N6ZV.



Don Search, W3AZD, of ARRL Headquarters, reported on activities regarding DXCC applications.

Tromelin, Rodrigues, etc.

A slide show was presented by Steve and Don on their recent DXpedition to Tromelin, Rodrigues Island, Comoro and other spots. As it is difficult for this simple reporter to write in the dark, this will be very short. On Rodrigues the population is about 26,000 people. Moussa, 3BAE/3B9, was there and wondered what

Texas law

continued from page 1

brought to the attention of Vernon Callaway, Assistant Director of the Motor Vehicle Division of the Highway Department, he was quick to respond.

"These are very reasonable points," said Mr. Callaway, "and this is the first time I have heard them made."

The offending envelope with its misleading statement has been replaced. And when renewal forms go out this fall, the phrase "is installed" will be changed to "is regularly operated." The application and acceptance forms will make the same change. So now, if someone runs down to the grocery store while the "rig" is in the house, you can be assured no law is being broken. Leaving your equipment safely at home while your truck is parked in a stadium parking lot all afternoon will still put you in compliance with state regulations. Your conscience can be clear even if your equipment is in the shop.

And all it took was a citizen's initiative, a legislator's willingness to help, and a state agency which was ready to respond.

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100	1	3721	.89
101	8		.98
102	2	3722	.92
102A	52	3004	.98
103	8		.98
103A	59	3835	1.09
104	16	3719	1.99
105	4	3012	2.99
106	21	3118	.78
107	11	3293	.78
108	11	3452	.78
109	IN34AS	3090	.26
112	IN82A	3089	.59
116			.39
118	CR-1	3066	1.59
119	CR-2	3109	.89
121	239	3717	2.09
123	20	3020	.68
123A	20	3444	.68
123AP		3854	.68
124	12	3021	1.49
125	510	3081	.38
126	52		1.29
127	25	3764	4.27
128	243	3024	1.09
129	244	3025	1.09
130	14	3027	1.98
131	44	3198	1.85
132	FET-2	3834	.99
133	FET-1		1.09
134A	ZD-3.6	3055	.49
135A	ZD-5.1	3056	.49
136A	ZD-5.6	3057	.49
137A	ZD-6.2	3058	.49
138A	ZD-7.5	3059	.49
139A	ZD-9.1	3060	.49
140A	ZD-10	3061	.49
141A	ZD-11.5	3092	.49
142A	ZD-12	3062	49
143A	ZD-13	3750	49
144A	ZD-14	3094	49
145A	ZD-15	3063	49
146A	ZD-27	3064	49
147A	ZD-33	3095	49
148A	ZD-55	3096	49
149A	ZD-62	3097	49
150A	ZD-82	3098	49

Equivalents ECG	GE	SK	COST
151A	ZD-110	3099	.49
152	66	3054	1.38
153	69	3083	1.48
154	40	3044	1.78
155	43	3839	1.98
156	512	3051	.79
157	232	3747	1.39
158	53	3004	.99
159	82	3466	89
160	51	3006	1.59
161	39	3716	.97
162	35	3559	5.39
163A	36	3439	5.79
164	37	3133	5.55
165	38	3115	4.95
166			99
167			1.29
168			1.59
169			1.98
170			2.95
171	27	3201	1.29
172A	64	3156	.72
173BP			4.95
175	246	3261	1.59
176	80	3845	2.49
177	300	3175	.49
179	76	3642	4.68
180	74	3437	4.99
181	75	3535	4.44
182	55	3188A	3.27
183	56	3189A	3.36
184	57	3190	1.69
185	58	3191	1.69
186	28	3192	1.44
186A	247	3192	1.39
187	29	3193	1.64
187A	248	3193	1.39
188	217	3199	1.49
189	218	3200	1.49
190	217	3232	1.79
191	249	3232	1.98
192	63	3137	99
192A	88		99
193	67	3138	1.09
193A			1.09
194	220	3275	79
195A	46	3765	2.89

Equivalents ECG	GE	SK	COST
196	241	3054	1.88
197	250	3083	1.88
198	251	3220	1.88
199	62	3245	.59
210	252	3202	1.49
211	253	3203	1.49
213	254		7.96
218	234	3625	2.99
219	74	3173	3.76
220			1.69
221		3050	1.99
222		3065	1.99
223	255		2.49
224	46	3049	4.90
225	256		3.94
226	49	3082	1.96
228A	257		1.39
229	61	3246	1.09
230		3042	4.29
231		3042	4.29
232	258	3241	69
233	210		69
234	65	3247	.69
235	215	3197	2.90
236	216	3239	4.90
237	48	3299	4.19
238	259	3710	6.66
239	259	3710	2.98
241		3188A	1.59
242	58	3189A	1.89
243		3182	2.09
244			2.89
245			3.33
246			4.39
247			3.93
248			4.91
249			6.19
250			6.29
251			6.29
252			6.29
253			1.79
254			1.98
257			2.07
258			2.90
259			2.22
260			2.95
261			1.79

Equivalents ECG	GE	SK	COST
262		3181A	1.95
263		3180	1.79
264		3181A	2.59
265			99
266			1.09
267			89
268			99
269			99
270			3.98
271			3.98
272			99
273			1.08
274			2.19
275			2.19
276		3296	9.90
277	260	3111	9.90
278	261	3218	2.38
279			6.90
280	262	3297	4.79
281	263	3359	4.97
282	264	3748	3.98
283	36	3467	5.99
284	265	3836	6.98
285	266	3846	6.98
286	267	3194	4.90
287	222	3433	69
288	221	3434	85
289	268	3124	1.09
290	82	3114	95
291		3440	1.89
292		3441	1.99
293	47	3849	99
294	48	3841	1.29
295	270	3253	1.95
297	271	3449	1.09
298	272	3450	1.09
299	236	3298	1.68
300	273	3464	1.68
302	275	3252	1.79
306	276	3251	1.79
307	274	3203	2.49
308	702	3196	6.29
309K		3629	2.79
310	701	3196	6.66
311		3196	1.94
312			1.09
313			1.98
314			7.77
315		3250	1.94
316	280	3039	2.49
317	281		24.40
318	282		19.75
319	283		1.29

Send for complete list

World Radio History

Among the many overseas amateurs at the bash was the popular Martti Laine, OH2BH (center), shown here with his XYL. On the right is Bahri Kacan, DJ0UJ.

was going on with the antenna going up and came over to investigate. Upon discovering it was a DXpedition to Rodrigues, Moussa ran home to get on the air so he could work a new country. He had never worked Rodrigues Island. The group made 3,500 contacts in two days of operating.

From Tromelin, where they flew in as there was no other way, they made 11,000 contacts. The island was maintained by a crew operating the weather station and prepared all the meals for the group. Upon leaving the island they left all the food they had brought in.

China tour

The Tromelin adventure was followed by another slide show conducted by the McCoys. In addition to the slides shown of mainland China some facts of Amateur Radio in China were given. The JA6HOY/BY1 operation sometime ago was permitted for demonstrational purposes with only one frequency and a duration of five minutes. As soon as they came on, a jammer came on and destroyed the communications. The Chinese officials would not let them change frequencies, but did allow them 20 minutes instead.

Later it was discovered that the operation was really unauthorized, as permission is to come from the central government and not the local goernment as it was in the JA6HOY/BY1 operation.

There is Amateur Radio in China, but transmitter power is at a very low level and communications are restricted to within one's own city. As for a DXpedition to there in the near future, there is little hope for that. There is no basis for the recent rumors you may have heard regarding a mainland China operation. □

The Contest Forum

Norm Brooks, K6FO

Your reporter was taken down a peg or two at the Contest Forum at the 1981 International DX Convention, Visalia, California on 1 May 1981. At least a part of my ego was shattered very early in the program.

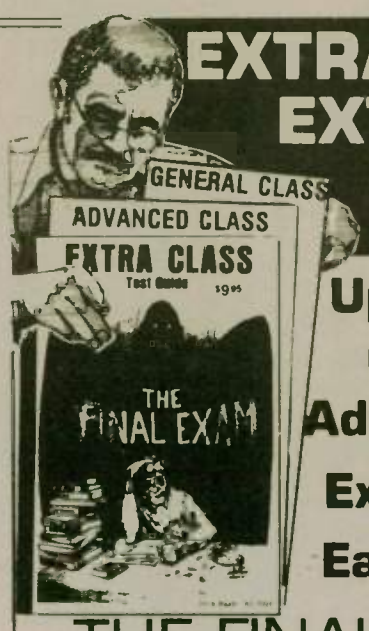
Here was this Extra Class licensee, who likes to work CW better than phone, and the first item in the Contest Forum was a code receiving test. Not the kind the FCC gives you. Instead, it was 2½ minutes of call signs, sent at various speeds and with various tone frequencies. One hundred forty call signs were used. All were call signs from the CQ Worldwide CW contest of last year.

The bedlam of calls sounded very authentic — just like a pile-up. The 2½ minutes seemed to be over before it started. Your reporter hung his head in shame. Others copied two to three times as many calls as I did. Oh, well — back to the code practice!

Tom Schiller, N6BT chaired the forum, assisted by Larry Brockman, N6AR and Alan Brubaker, K6XO. Tom set the stage by reciting to us the different kinds of contesters.

(please turn to page 6)

No, 20 meters wasn't dead that weekend. Many of the big guns were at the International DX Convention in Visalia, California.



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World Radio History

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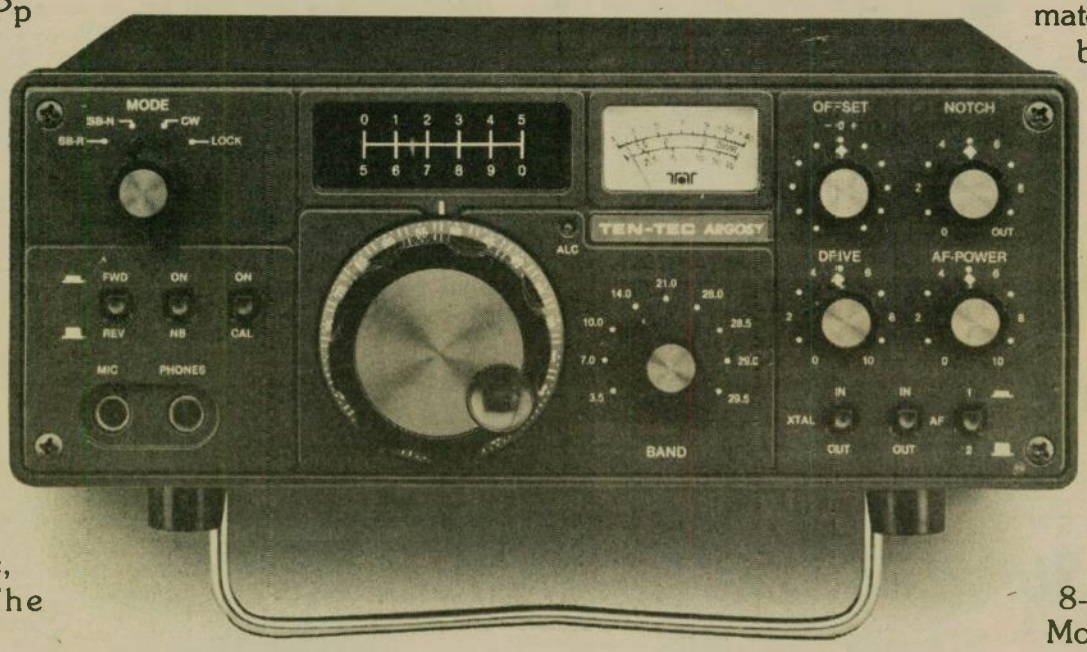

The right design — for all the right reasons. In setting forth design parameters for ARGOSY, Ten-Tec engineers pursued the goal of giving amateurs a rig with the right features at a price that stops the amateur radio price spiral.

The result is a unique new transceiver with selectable power levels (convertible from 10 watts to 100 watts at the flick of a switch), a rig with the right bands (80 through 10 meters including the new 30 meter band), a rig with the right operational features plus the right options, and the right price for today's economy—just $549.

Low power or high power, ARGOSY has it. Now you can enjoy the sport and challenge of QRPp operating, and, when you need it, the power to stand up to the crowds in QRM and poor band conditions. Just flip a switch to move from true QRPp power with the correct bias voltages to a full 100 watt input.

New analog readout design. Fast, easy, reliable, and efficient. The modern new readout on the ARGOSY is a mechanical design that instantly gives you all significant figures of any frequency. Right down to five figures (± 2 kHz). The band switch indicates the first two figures (MHz), the linear scale with lighted red bar-pointer indicates the third figure (hundreds) and the tuning knob skirt gives you the fourth and fifth figures (tens and units). Easy. And efficient—so battery operation is easily achieved.

The right receiver features. ***Sensitivity*** of 0.3 μV for 10 dB S+N/N. ***Selectivity:*** the standard 4-pole crystal filter has 2.5 kHz bandwidth and a 2.7:1 shape factor at 6/50 dB. Other cw and ssb filters are available as options, see below. I-f frequency is 9 MHz, i-f rejection 60 dB. ***Offset tuning*** is ± 3 kHz with a detent zero position in the center. ***Built-in notch filter*** has a better than 50 dB rejection notch, tunable from 200 Hz to 3.5 kHz. An optional noise blanker of the i-f type has 50 dB blanking range. ***Built-in speaker*** is powered by low-distortion audio (less than 2% THD)

The right transmitter features. ***Frequency coverage*** from 80 through 10 meters, including the new 30 meter band, in nine 500 kHz segments (four segments for 10 meters), with approximately 40 kHz VFO overrun on each band edge. ***Convertible power:*** 100 or 10 watts input with 100% duty cycle for up to 20 minutes on all bands. ***3-function meter*** shows forward peak power on transmit, SWR, and received signal strength. ***PTT*** on ssb, ***full break-in*** on cw. PIN diode antenna switch. ***Built-in cw sidetone*** with variable pitch and volume. ***ALC control*** on "high" power only where needed, with LED indicator. ***Automatic*** normal sideband selection plus reverse. ***Normal 12-14V dc*** operation plus ac operation with optional power supply.

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World Radio History

Contest forum

(*continued from page 4*)

Different kinds of contesters

DX optimist enters a DX contest with 50 watts and a Gotham vertical.

Contest pessimist figures he can't win his own section, even when he's the only entrant.

Contest masochist works full time in both modes in a closed CD party.

Categorized contest operators

Type A

The Type A contester eats, sleeps and drinks Amateur Radio; schedules his whole life around the contest calendar; can recite the top 10 in every sweepstakes since W6RW won it in 1959. He can usually be found on 75 meters with other Type A's, telling stories about contests. These people are top competitors and very difficult to beat. They carry airline tickets to Puerto Rico and Barbados in their pockets, and can never use a pacemaker due to extremely high levels of RF.

Type C

We'll come back to Type B. Type C people have all worked some contest or other — before most of were born. They all hold original 1 × 2 call signs. They remember the two-weekend sweepstakes contests and even today, send the time and their birthday in an exchange. They finish an ARRL DX contest contact by saying, "I'll get you on the second weekend." Type C even reads the "25 years ago" column in **QST** and makes notes on the technological improvements.

Type B

Now we get to Type B, which may be most of us. Type B can be called the weekend fanatic. For some reason, this bird isn't active except for contests. This includes those hired guns who live in apartments with no stations of their own. Type B operates the nearest superstation, and turns into a Type A for the duration of the contest.

After being administered the proper sedative, he returns to normal until the next big contest. These people are hated by those who work hard to build their own stations. They also write very boring contest articles and are usually murdered.

There are two sub-categories to Type B:

Type B-1

This person is basically the same as a straight Type B, except that he's actually very insecure. He listens during the week. He listens from his apartment during the week to make sure no one is saying bad things about him behind his back.

Type B-2

Another weekend fanatic. This person does have a station of his own, but has decided it just isn't good enough. Consequently, he finds a bigger station and goes there. These people sometimes have an identity crisis, never sure which call to send.

Al Brubaker, a member of the ARRL Contest Advisory Committee, reported on a motion made at the ARRL Board meeting in Miami, Florida last March.

Minute 66

On a motion made by Gay E. Milius Jr., W4UG, seconded by Bill Stevens, W6ZM, the Board unanimously voted that the ARRL Board of Directors endorse the policy adopted by the 1980 Region 2 IARU (International Amateur Radio Union) Conference, whereby contest operation and operating award credits will not be encouraged in the new 10.1 - 10.15 MHz band, as long as amateur use of this band is on a secondary shared basis.

Obviously, the implications are that we won't be doing much contesting on that band for awhile.

Al presented a series of ballot items for group vote. He wanted this input for the ARRL Contest Advisory Committee.

1) Change IARU points for QSO scoring from the present 1-3-5 system to 1 point per QSO in your own region and 2 points per QSO outside your region. North and South America are in Region 2 (the world is divided into three regions). *Majority against.*

Larry Brockman, N6AR, *CQ Magazine* contest chairman. He sees that everything is "fair and square."

2) Allow multi-op stations in the sweepstakes to run the full 30-hour period. *Majority "didn't care."*

3) Multi-op stations will send 'M' instead of 'A' or 'B' for the precedence letter. (The purpose is to identify multi-op stations.) *Majority "didn't care."*

4) Award a certificate to each of the top 10 single-op contestants in the sweepstakes and DX contests, regardless of standing in the section competition. (Some people may come in second place, but make the top 10 because of the heavy competition in those sections.) *Majority in favor.*

5) Require multi-op stations to indicate the operator or operators during each time period in the log that is submitted to ARRL. (Larry Strain, N7DF explained that in case of disqualification, the operator at fault could be more clearly identified.) *A slight majority against.*

6) In the 10-meter contest, have only mixed mode entry category with 2 to 1 point ratio for CW vs. phone QSOs. Presently, the 10-meter contest has three separate entry categories: CW, phone and mixed modes. *Majority in favor.*

7) Field Day — leave Field Day dates as they are. (How many would like Field Day moved to a different weekend? January 1st? Laughter.) *Majority in favor.*

8) Do not eliminate the battery category in Field Day. *Majority in favor.*

9) Wilbur Bachman, W6BIP suggested putting back the use of the slant bar in ARRL-sponsored contests. Reason: confusion brought on by people moving to a different call area and operating in contests. *Majority in favor.*

Larry Brockman, N6AR, CQ Worldwide Contest Director, explained: "A little while ago, we talked about signing portable. I'm going to clarify this rule as used in the CQ Worldwide DX Contest. I'm running the risk of thoroughly confusing you, though.

"In a CQ contest, it you move out of a CQ zone or outside of the country, you must sign the call district you have moved into. For example, a W7 or a W6 can move anywhere within W7 or W6, which is Zone 3, and not have to sign portable. If you move from California to W3 land, you must then sign portable 3, because you have moved from Zone 3 to Zone 5.

"We are not considering extending any of our contests to the new bands," he continued. "We just haven't gotten around to it. I don't know what our feeling will be when we do; we may wait until we are actually on the bands. If you have strong feelings about that, let us know.

"We have had some flak thrown our way. There was some controversy about the operators at the VP2KC multi-multi operation of two years ago. There was concern about the ethics of a CQ DX contest participant also being a member of the CQ contest committee. We are very, very careful with the current PJ2CC log. It is not being checked by anyone who was connected with the operation. I am personally involved in making sure the log is handled in a fair and equitable fashion.

"We are alarmed at the decrease in participation in the contests from Africa and some of the Third World areas. We have looked at the logs of the late '60s and seen those CR6s, CR7s and some of the other rare and exotic prefixes that existed then. They've now disappeared. It's very hard to work zones like 36, because there isn't any activity.

"There is some activity in those places now, and we plan to assign each member of the DX contest committee a certain area. It will be each member's assignment to send copies of the rules, copies of the CQ contest log forms, and to write personal letters inviting active amateurs to participate in the contests.

"If you have friends in the Middle East, Africa, etc., it would be appreciated if you would do the same thing."

In the Q&A session, an amateur commented that in the recent sweepstakes contest, an amateur signed portable NX4. There was a letter of complaint to the WPX manager on the same subject. It was explained that a foreign amateur operating in the United States asked the FCC which call sign to use when signing portable. They are reported to have

(*please turn to page 9*)

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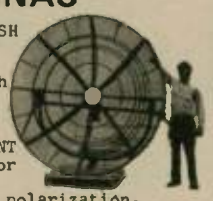

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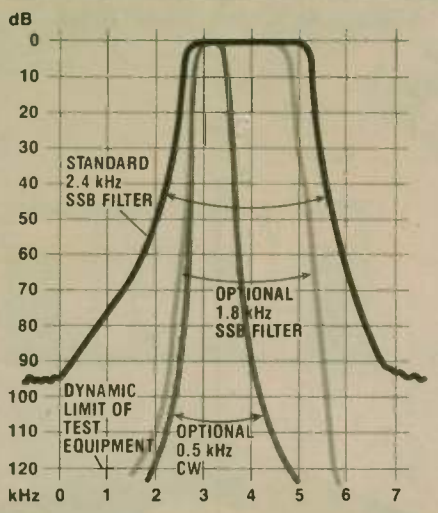

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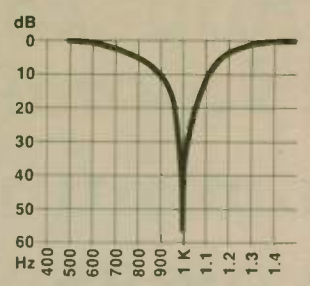

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World Radio History

Juan Fernandez DXing

Norm Brooks, K6FO

The main banquet speaker at the 1981 International DX Convention on 2 May 1981, was Dr. Dave Gardner, K6LPL. Dave is famous for his DXpeditions to rare spots of the world. This time he reported on his trip to Juan Fernandez Island, CE0Z.

As Dave tells it, "The excitement started when I was arrested for taking a picture of the airport at Santiago, Chile. I don't know why — it looked like the Van Nuys airport. I had no idea there might have been something military there.

"Then I had to buy three tickets, because you can take only 30 kilograms with you. I left my amplifier at home, and even then I barely got under the weight limits.

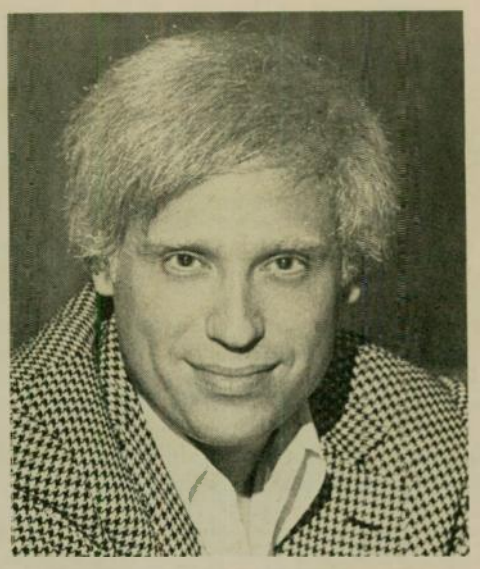
"Juan Fernandez is a volcanic island about 800 kilometers west of Santiago, Chile; it's about a 2½ hour flight from Santiago to Juan Fernandez. The island is about 10 miles long and very, very narrow.

"When I made my reservations, they told me that if it was raining or windy, we wouldn't be able to land; we'd have to go back, and we'd have just enough fuel to do it.

"When we took off, it wasn't windy, but it was raining. I started to worry because a day before, a plane lost its right engine on takeoff. The plane made it back, fortunately, but blew the right engine off.

"As we approached the island, I asked, 'Where is the airport?' The passenger behind me pointed and I said, 'I still can't see the airport.' It turned out that some of the dirt was a little darker than the other dirt — that was the airport! I said, 'We're not going to land here?' I started to cross myself — and I'm Jewish!

"I took a TH3 Junior. So far, I've bought five TH3 Juniors. When I go on a DXpedition, I always find some reason to leave them behind. I also took an



Dr. Dave Gardner, K6LPL, one of the banquet speakers.

18-AVQ, TS-820, TS-830, VFO-120 and my driver power meter — I call it my good luck power meter.

"After landing, I had to find my way to the village. I had heard that I might have to take a shrimp boat, that the trip took 2½ hours, that I might get seasick — but no one told me I'd have to run through the water to jump into the boat. And I lost my Rolex watch while doing it!

"The fishing boat people were very nice. They spoke a Spanish dialect and had never been off the island — not even to Chile, although they are of Chilean extraction.

"It started to rain like crazy. One of the smartest things I did on the whole trip was to bring a raincoat. (My wife made me do it.) Plus, I didn't get seasick.

"We finally arrived at the village in the pouring rain; I couldn't see a thing. Just then, the lights came on — the power in the village comes on at 9:00 p.m.

"The place I was supposed to stay had a generator, but it hadn't worked in three months. Thev found me a convenient place to stay for $70 a night. The fishermen were very nice and really did try to help me. Then I found out that the lights are on from 9:00 to 11:00 each evening. I began to have second thoughts about coming on this DXpedition — just as I have done on other DXpeditions, by the way.

"The island has a point called the lookout point of Alexander Selkirk. He was the person who was marooned on 'Robinson Crusoe' island. The Chileans call it Robinson Crusoe Island, not Juan Fernandez Island.

"Selkirk was marooned there for four years, but after being there two years, a Panamanian slave was washed up on shore — he was 'Friday' in the novel *Robinson Crusoe.* But most of *Robinson Crusoe* was a fabrication. The two were eventually picked up. They made smoke flares, and finally a ship came by and pulled them off.

"It rained the whole time I was there, except for three hours. At one place, I walked and fell six times before I wised up and walked where everybody else was walking — in the mud.

"I got to the hotel. What was I to do? Nobody would let me use their generator. Even if they had, there was no gasoline. Besides, they wouldn't let me operate anyway. I had already gotten permission — what I thought was iron-clad permission from the Chilean ambassador — but I didn't have permission yet, according to the local people.

"The first thing I had to do was line up a generator. We looked around and looked around. I said I'd pay anything. I came all this way, and I *had* to operate. My friends would never talk to me again if I didn't operate while I was there. The islanders told me there was one place, but that I wouldn't be able to use it. I said, 'Where's that?' They said, 'The weather station.'

"I walked up to the weather station. Two nice young fellows were there — meteorologists. They observe the weather every three hours and report it to

(*please turn to page 41*)

Contest forum

(*continued from page 6*)

responded, "Take your pick." He used /KX1.

An amateur recommended that when a contest operator's score is reduced, he should be told about it before the score is published, in case he wants to defend himself. Larry said he was very much against that, because it would be extremely difficult to do. Probably 70 percent or so of the competitive scores are reduced in one way or another. The labor involved in processing the paperwork to notify everyone of the score changes would be horrendous.

The Northern California Contest Club (NCCC) has come a long way in its 10 years of existence. The club has had six consecutive national highs in the ARRL sweepstakes, and recently, a couple of national highs in the ARRL DX contest. In recognition of the skills of the operators who are members of that club, there is a NCCC Founders Trophy. This is the second year it has been awarded. It is a special trophy because it requires exceptional skills, not only in phone operating, but also in CW. It is given to that member of the NCCC who comes up with the highest aggregate score — phone and CW, all bands.

This year, the winner of the 1979 sprint contest was announced — Ken Keeler, N6RO, for a total of 4,077,423 points.

Bob Vallio, newly elected president of the NCCC, presented an award for the ARRL International DX Contest (multi-multi-CW North America 1980) to Lloyd and Iris Colvin, operating from VP2KAH. (See photo on page 1.) □

Do you remember your first QSO?

Mike Peterson sure does! His exciting first contact was the beginning of a new world for him — a world without restrictions — a world supported by the Courage HANDI-HAM System.

The Courage HANDI-HAM System is an organized group of disabled and able-bodied licensed hams, who help individuals with physical handicaps become involved with Amateur Radio.

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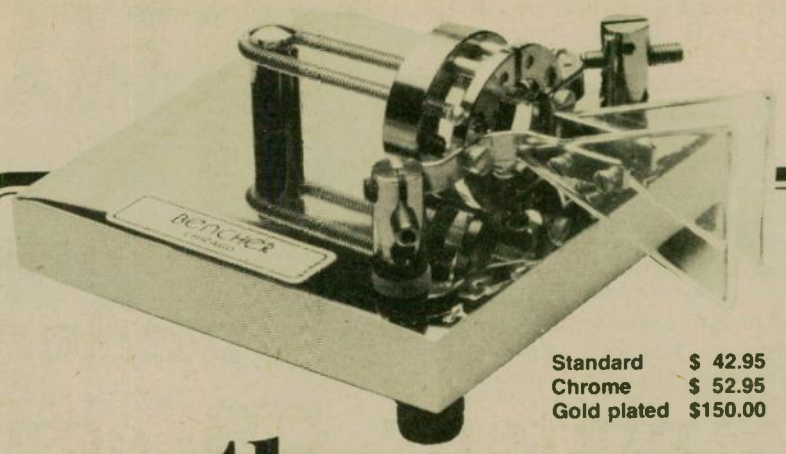

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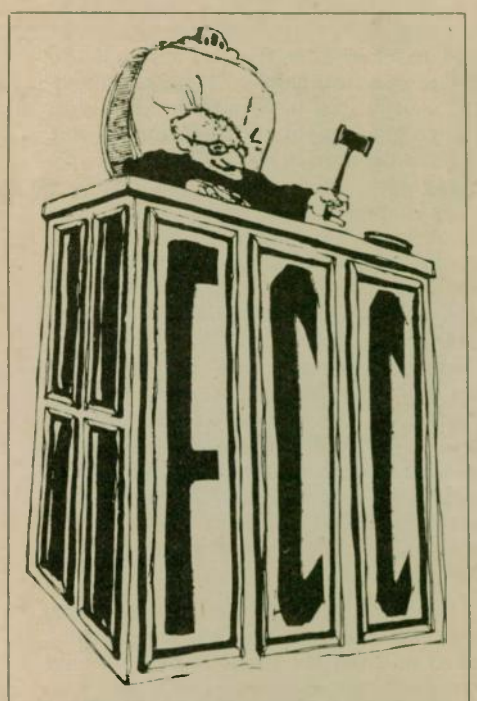

HIGHLIGHTS

Bill Grenfell, W4GF

The Third Party Agreement with Gambia, effective 15 April 1981, permits the exchange of messages on behalf of third parties, *but not 'phone patches,* between amateurs of the United States and of Gambia (prefix C5).

•

. The Quiet Zone rules for amateur repeater stations became effective 13 May 1981. The June Highlights report contains details essentially correct except that the rule amended is paragraph 97.84(f). For details, interested amateurs should request a copy of FCC 81-122, 29063, from FCC, 1919 M St., N.W., Washington, D.C. 20554. (The Zone is in eastern West Virginia and western Virginia.

•

Mark Fowler's appointment as FCC commissioner has been confirmed by the U.S. Congress and he succeeds Acting Chairman Robert E. Lee as President Reagan's selection for the permanent Chairman. Commissioner Lee is expected to retire at the end of his term, 30 June 1981.

•

Petitions to: ban AM modulation; permit use of a typewriter for a code test; and permit autopatch business calls were recently denied by FCC

•

FCC action on San Francisco Bay area repeater jamming. The FCC Regional Director's February 26 Notice summarized action by the local Field Offices since May 1980. A condensed list of names, calls and rules alleged to have been violated follow:

M. Traumann, KA6KXF; 97.7(e), 97.82, 97.84(a), 97.103, 97.121. *P. Traumann, KB6IL;* 97.84(a), 97.121. *D. Gilbeau, N6OZ;* 97.84(a), and 97.123/97.125. Unidentified individual; unlicensed operation on 147.66 MHz. *Donald L. Rhoads,* Restricted Permit; unlicensed operation on 146.22, 97.84(a), 97.113, 97.115, 97.119, 97.121, 97.123. *G. Kerr, WA6JIY;* 97.78, 97.113, 97.125. *A. Vance, K6MMZ;* 97.119, *W. McQuien, KA6KWN;* 97.7(e), 97.123.

Abbreviated descriptions of the violations follow: 97.7(e) Operation on frequency not authorized for Novice Class; 97.78 Not operating in accordance with good amateur practice; 97.82 Unavailability of license; 97.84(a) Unidentified transmissions/failure to transmit call sign; 97.103 Non-maintenance of station log; 97.113 Broadcasting; 97.115 Music; 97.119 Indecent language; 97.121 Use of false call sign; 97.123 Unidentified signals; 97.125 Causing malicious interference/causing interference to normal repeater operations.

Sanctions imposed or proposed ranged from designation of (renewal) applications for hearing and orders to suspend licenses, to issuance of a Notice of apparent liability to forfeiture in the amount of $750.

In addition to the foregoing FCC Regional Director's Notice, the May 1981 QST "Washington Mailbox" (page 63) has a Table of sample FCC enforcement actions which include the concluding disposition and final punishment imposed for several representative cases. Page 61 of the same QST relates the details of the K6EOA license revocation proceeding which involves threats by the licensee to kill the FCC inspectors! An FCC law judge ruled that, because of his mental condition, he was not qualified to be or remain a licensee.

Senator Goldwater's S 929 bill would exempt amateur transmissions from the secrecy provisions of the Communications Act. The last sentence of Section 605 of the Act now reads: "This section shall not apply to the receiving, divulging, publishing or utilizing the contents of any radio communication which is broadcast or transmitted by amateurs or others for the use of the general public, or which relates to ships in distress." The Senator would substitute the following: "This section shall not apply to the receiving, divulging, publishing or utilizing the contents of any radio communication which is transmitted by any amateur station, or by any station for the use of the general public, or which refers to ships, aircraft, vehicles or persons in distress."

In the past years, interpretation of the last sentence of Section 605 has varied greatly as to whether it fully, or only partly, removed amateur transmissions from the mantle of secrecy that the earlier sentences of the Section impose on transmissions originating from stations in other radio services. In my opinion, S 929 provides an excellent modification of the language of Section 605.

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Other amendments of the Act proposed in S 929 are:

1) "... establishing minimum performance standards for audio and visual electronic equipment to reduce their susceptibility to interference from radio frequency energy." (302(a));

2) Provide that the FCC "... Have authority to regulate or prohibit delivery by sale, lease, gift or otherwise of radio frequency transmitters, radio frequency power amplifiers, or component kits thereof to a person not then possessing a valid authorization or license for operation of such transmitters, amplifiers or kits."(303(t));

3) "For purposes of monitoring any violation of any provision of this Act, and any regulation made by the Commission pursuant to this Act, relating to amateur station transmissions, the Commission ... may (i) recruit and train an individual licensed by the Commission to operate an amateur station, and (ii) accept and employ voluntary and uncompensated services of such individual. For purposes of recruiting and training such individual, ... the Commission ... may accept and employ voluntary and uncompensated services of any amateur station operator organization." (Section 4(f)(4)(A));

4) "For purposes of preparing or administering any examination for the least privileged class of amateur station operator license, the Commission ... may accept and employ voluntary and uncompensated services of any individual who is licensed by the Commission to operate an amateur station and whose license is not of such class." (Section 4(f)(4)(C));

5) Amendment of Section 307 is proposed to provide for issuance of other than broadcast station licenses for up to 10 years, instead of the present five-year limit. Amateurs who wish to comment on S 929 should address it to their Senator, Senate Office Building, Washington, D.C. 20510.

P.S. Since "the objectives of reducing interference to radio reception and to electronic equipment" may raise the cost of producing such devices and electronic equipment, objections from manufacturers thereof may be forthcoming.

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Senate bill S 821 proposing an FCC schedule of fees does not include amateur licenses. It was introduced by Senator Packwood on 27 March 1981.

•

Type acceptance requirements for amateur RF amplifiers are extended by FCC, effective 28 April 1981. In effect, this means manufacturers of amplifiers or amplifier kits must continue to omit the 10-meter band so as to discourage "the marketing of external amplifiers designed for illegal operation in and around the Citizens Band Radio Service." (FCC 81-118, Docket 21117, Second Report and Order, Adopted: 23 March 1981.)

•

A bill to amend the Communications Act to permit volunteer monitoring and license examining aid to the FCC was introduced 26 February 1981, by U.S. Congressman William S. Dannemeyer of Fullerton, California. The bill is H.R. 2203 and would permit FCC "... to employ voluntary services for purposes of monitoring violations of the Act by amateur and citizens band radio service station operators and for purposes of preparing and administering examinations for certain amateur station operator licenses."

Elsewhere the text refers to "... preparing or administering any examination for the least privileged class of amateur station operator license ..." This obviously refers to the longtime practice of volunteer administering of Novice Class operator license examinations by higher class amateur operator licensees. Title 31, United States Code, Section 665(b) precludes the use of voluntary services by an office or employee of the U.S. government. This bill effectively grants an exception to this rule for both FCC examining and monitoring volunteers. Section 605 of the Communications Act of 1934 precludes revealing a radiocommunication to a person not authorized by the sender. Exception is provided for FCC employees.

To clarify the status of volunteers, Congressman Dannemeyer's bill provides that "Sec. 2, Section 605 of the Communications Act of 1934 (47 U.S.C. 605) is amended by adding at the end thereof the following new sentence: 'This section shall not apply to any receipt, divulgence, publication or utilization of the contents of any amateur or citizens band radio service station transmission by any individual in the course of providing voluntary and uncompensated monitoring services to the Commission under subparagraph (A) or (B) of section 4(f)(4) of this Act.' " The Congressman states that: "It should be made clear that volunteers will only monitor transmissions and are in no way empowered to invade property rights of others or issue sanctions and other enforcement actions. In addition, nothing in the bill should be interpreted to require the FCC to operate both a CB and an amateur volunteer program in concert. One may be operated independently of the other."

In his letter of 27 March, Congressman Dannemeyer's assistant, John E. Shelk, advised he has learned "... that the language of H.R. 2203 will be incorporated into a yet to be introduced Senate bill on various personal radio issues." Amateurs who wish to comment on H.R. 2203 should address it to their Congressman, House Office Building, Washington, D.C. 20515. According to *HR Report* an SASE to Ray Frost, WA6TEY, will bring a copy of H.R. 2203.

•

FCC lost the battle to shut down an illegal Florida broadcast station in the 40-meter amateur band. In April, the responsible U.S. attorney requested the

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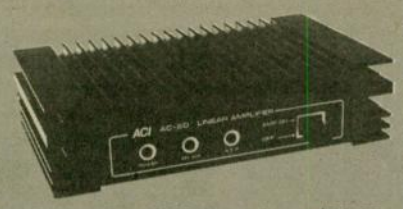

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World Radio History

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charges be dropped. Thereby, the station operator who was making anti-Castro broadcasts went free despite the hard work by FCC field personnel to provide a strong case against him.

•

FCC was requested to expand the 20-meter 'phone band to 14.15-14.35 MHz by ARRL in its 3 March 1981 petition. The League recommended that the band be sub-allocated as follows: 14.150-14.175 MHz, Extra Class only; 14.175-14.225 MHz, Extra and Advanced Class; 14.225-14.350 MHz, Extra, Advanced and General Class.

•

Limiting the 30-meter band to CW only was also requested by the ARRL in its 3 March 1981 petition to FCC. The League recommended that use of the 10.10-10.15 MHz band be limited to 250 watts power input; A1 and F1 emissions; and to General, Advanced and Extra Class amateur licensees.

•

Abolition of CB licenses has been proposed by FCC Acting Chairman Lee in recent speeches, according to *HR Report*, 1 May 1981.

•

How to keep your desired call sign at renewal time

There is a unique situation where the August 1980 FCC Form 610 does not fit the amateur applicant's needs. If you have a primary and a secondary amateur station license, you can only renew one. The primary license document also serves as your operator license and will therefore specify your operator class. Suppose you decide you want to keep your secondary station call sign rather than the primary station call sign.

On Form 610, skip items 2A through 2J. In item 3 enter the call sign you wish to keep. Fill in items 4, 5 and 6. Fill in items 7 and 8 with the addresses you want to have on the modified and renewed license. Fill in items 9 thru 18. Attach copies of *both* licenses as per instructions in item 1. *Attach a note or letter describing exactly what you want.* Be sure to use the August 1980 Form 610.

I *suggest* you apply *at least* several days prior to the earliest expiration date of any one of your current licenses. Good luck! ☐

Amateur Radio Call Signs

Amateur Radio operators have continually expressed an interest in what are the latest call signs which have been systematically assigned. To further our policy of making the new call sign assignment system public, a list of the last call sign issued, by group, for each radio district and non-contiguous area is published. The following is a list of the last call signs assigned as of 1 May 1981.

Radio District	Group A	Group B	Group C	Group D
0	KJ0R	KC0AZ	N0CQD	KA0KYH
1	KD1O	KA1RE	N1BNP	KA1HBX
2	KM2M	KC2AL	N2CNZ	KA2MMS
3	KD3S	KB3QL	N3CDO	KA3HJH
4	NN4G	KD4II	N4ETJ	KA4UHP
5	KR5N	KC5OW	N5DHY	KA5LLY
6	NB6G	KD6XQ	N6EKW	KA6PNO
7	KI7P	KB7ZZ	N7CRK	KA7KJA
8	KN8D	KC8FS	N8CSW	KA8MTS
9	KF9W	KB9ZK	N9CFS	KA9KSW
N. Mariana Is.	AH0A	AH0AA	KH0AC	WH0AAE
Guam	AH2L	AH2AK	KH2AP	WH2ACW
Johnston Is.			KH3AB	WH3AAB
Midway Is.		AH4AA	KH4AC	WH4AAF
Hawaii	NH6K	AH6CU	KH6NC	WH6AOV
Amer. Samoa	AH8A	AH8AA		WH8AAL
Wake Wilkes Peale				WH9AAA
Alaska	NL7W	AL7CL	KL7NM	WL7AQE
Virgin Is.	KP2B	KP2AF	NP2AJ	WP2ACN
Puerto Rico	NP4F	KP4CJ	NP4CE	WP4BVB

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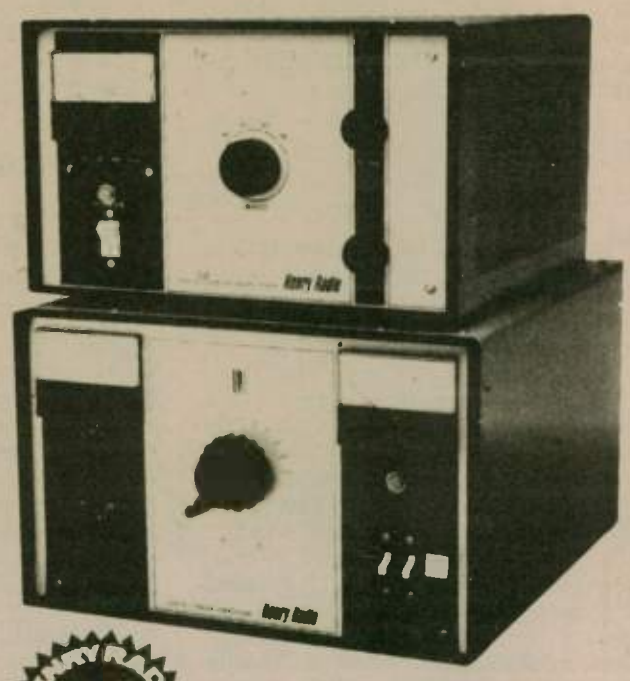
The 3K Classic/X with heavy duty power supply and 10 meter operation is available for sale outside the USA where FCC type acceptance is not required.

The 2K Classic The 2K Classic represents the culmination of years of experience in developing, manufacturing and improving the 2K series. It remains as always a "workhorse", engineered and built to loaf along at full legal power for days or weeks without rest. A look inside shows why! It is truly a "Classic" amateur amplifier. Heavy duty, top quality components along with its rugged construction assures you trouble free operation. It will put your signal on the air with greater strength and clarity than you ever dreamed possible. The 2K Classic operates on all Amateur bands, 80 through 15 meters (export models include 10 meters). Price $1295.00

The 1KD-5 ...Another fine member of the famous Henry Radio family of superior amplifiers. And we're still convinced that it's the world's finest linear in its class. The 1KD-5 was designed for the amateur who wants the quality and dependability of the 2KD-5 and 2K-4, who may prefer the smaller size, lighter weight and lower price and who will settle for a little less power. But make no mistake, the 1KD-5 is no slouch. Its 1200 watt PEP input (700 watt PEP nominal output) along with its superb operating characteristics will still punch out clean powerful signals...signals you'll be proud of. Compare its specifications, its features and its fine components and we're sure you will agree that the 1KD-5 is a superb value at only $695.

The 2KD-5 We have been suggesting that you look inside any amplifier before you buy it. We hope that you will. If you "lift the lid" on a 2KD-5 you will see only the highest quality, heavy duty components and careful workmanship...attributes that promise a long life of continous operation in any mode at full legal power. The 2KD-5 is a 2000 watt PEP input (1200 watt PEP nominal output) RF linear amplifier, covering the 80, 40, 20, and 15 meter amateur bands. It operates with two Eimac 3-500Z glass envelope triodes and a PI-L plate circuit with a rotary silver plated tank coil. Price $945.



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With the abundance of awards now available to the amateur, interest in "Award Hunting" has been significantly on the increase. Likewise, the demand for information has heightened. Because of this, the Awards column will now become a regular part of the monthly issues of Worldradio.

Along with presenting awards available from accredited domestic and foreign radio societies and clubs, we will try to provide a few bits of helpful information to aid in the paper chase, while describing the awards with regard to appearance, and show an example when possible.

We will also keep you posted on happenings in the "Certificate Hunters Club" and list recipients of the CHC A-1 Operators Certificate of Merit. This award became available on 1 May 1981 with the reorganization of the USA-CHC, to recognize above average contributions, operating practice and service in Amateur Radio.

Your comments, suggestions and information on awards offered by your local club will be most welcome. When submitting award information, always try to provide a sample certificate for evaluation and reproduction to the address heading this column.

Comments on award applications

Where specific forms are not required for an award, a fairly standard log extract similar to that in your logs book should be used.

Most award managers are doing this duty on a voluntary basis. A clear, easy-to-read form reduces the amount of work involved in processing your application and will usually bring a faster response. If verification signatures are required, provide appropriate space. Always type your application whenever possible and don't forget to include any endorsements desired along with a notation of the amount and method of payment.

Methods of payment for overseas applications

The IRC is the most accepted but also the most expensive method of payment, with the cost of one IRC now at 42¢. When we compare the average exchange rate of 5 IRC's to $1, we are actually saying $2.10 or $1. OUCH!

Ah, the proverbial "Green Stamp." This is the easiest way to forward the funds, but not always the least expensive. How many QSL cards have been lost to trained HAM MAIL postal clerks in various countries? With a lost application you may not realize there is even a problem until four or five months of waiting have gone by without receiving your award. Then add the time taken by correspondence to the DX organization to inquire and the length of time to receive a response which usually reads that no application was ever received. Now add the time and expense of the re-application, and it is quite possible to have a six-month to a one-year wait for that award. Also don't forget that a number of countries have laws against the passing of currency through the mail.

The money order: This is the safest way to send funds to cover the application fee. There are no laws against it and theft is much less likely to occur than with IRC's or currency, which are negotiable to the bearer without the necessity of a signature or identification. Also, you have a receipt with which to trace your funds should this become necessary.

International or domestic money orders?

International money orders change our currency to that of the receiver's country, and for this you pay a price. The last time I checked the flat rate fee, drafts under $100 were $4. The domestic money order, on the other hand, costs only 75¢ to $1.50 from your local bank or post office. Although I have been told by many banks that the domestic type is not acceptable, they have served me well for years without problems. The lack of currency conversion is no problem since almost all fees are stated in U.S. currency, and to date, I have not been advised of any problems encountered by foreign award sponsors that would preclude their use.

XE-EA Award

This award is jointly issued by both the Mexico DX Club and the Iberia DX Club for confirmed QSO's with XE and EA stations in any HF band or mode, in two classes.

Class A — Confirmed contacts with three different XE districts and eight different EA districts.
Gold Seal — Confirm all four XE (including XF4 Revilla Gigedo) districts and all nine EA districts.

In both cases it it necessary to contact at least one member of both the Mexico DX Club and the Iberia DX Club. Only contacts made after 1 April 1979 are valid. A handsome 8½" × 11" certificate with ribbons and seals on thick quality paper. Membership list and additional info available upon request. Send your application or information request to: Mexico DX Club; Elicio Munoz, XE1OX; P.O. Box 21-107; Mexico 21, D.F. Mexico.

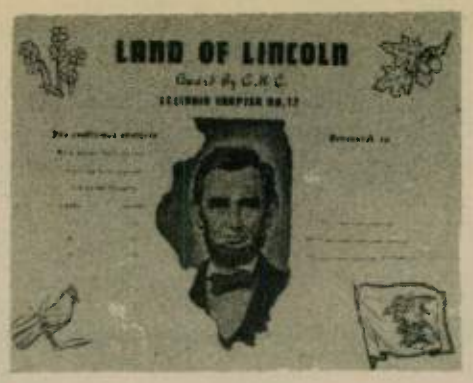
Worked All Bermuda "WAB" — Bermuda

This award is available to licensed Amateur Radio operators for confirmed contact with each of the nine parishes in Bermuda. There is no fee but QSL's must be submitted with your application and log extract. You may request further information or forward your application to: Awards Manager, Radio Society of Bermuda, P.O. Box 275, Hamilton, Bermuda.

Land of Lincoln Award — USA

This award is available to licensed Amateur Radio operators (and SWL's) for contact with amateurs residing in the state of Illinois. The award is issued in three classes,

C= 30 cities B= 40 cities
A= 50 cities (size 11"x14")



Send your log extract listing the cities worked along with the award fee of $2 to: Certificate Hunters Club, Scott R. Douglas Jr. KB7SB (address in column head).

WAOY Award — Faeroe Islands

Issued to licensed Amateur Radio operators for confirmed contact with FRA member stations on or after 11 April 1965. Mixed Mode or Cross-band contacts are not valid. European stations require 35 points and all others require a total of 20 points. For European station, each FRA member station counts as 1 point and may be worked on multiple bands to increase the total score. OY6FRA and OY6NRA count as 2 points on each band worked.

For stations outside Europe, FRA member stations count for 1 point on 28, 21 and 14 MHz and 2 points on 7 and 3.5 MHz. OY6FRA and OY6NRA count for double points on each band.

Do not send QSL cards. Instead, send a list giving full details of the contacts (log extract) verified by another licensed amateur and a fee of 10 IRC's or the equivalent in U.S. dollars ($2) to: FRA Awards Manager; P.O. Box 184; Torshavn, Faeroe Islands.

A-1 Operators Certificate of Merit — USA

Issued free of cost by its sponsor, the Certificate Hunters Club, to radio amateurs observed displaying an above average level of operation in various areas of Amateur Radio. You too can nominate an amateur you feel is deserving. Just sent a short statement of why you feel he or she should receive this honor with all information pertaining to the nomination. Three different nominations are required for issuance from three different geographical locations. You do not have to be a member to nominate, so send in the names of those you feel should be recognized. Upon issuance, their names and call signs will appear in this column.

Additional information on this award can be obtained by sending a SASE to this columnist.

A-1 recipients June 1 1981

1/W#1	K6LPL	Dave Gardner
2/W#2	W7PHO	William Bennett
3/VK#1	VK9NS	Jim Smith
4/W#3	N6QX	Thurman Smithey
5/ZL#1	ZL2GX	Jock White

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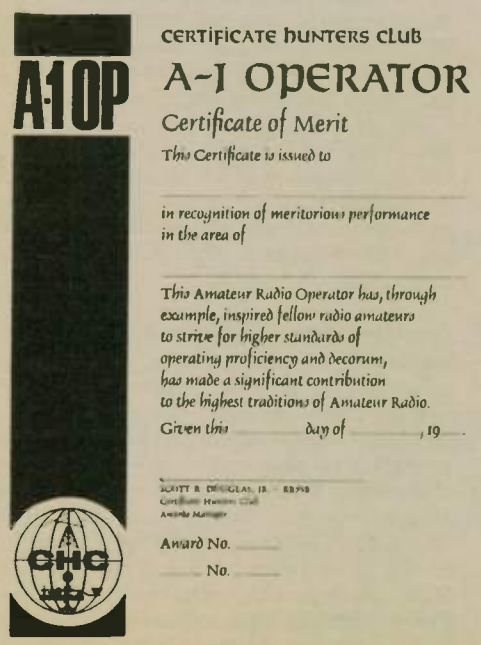
6/W#4	W6AM	Don Wallace
7/W#5	W2NSD	Wayne Green
8/W#6	W1FB	Doug DeMaw
9/W#7	K6HTI	Elias Wilson (Deceased)
10/W#8	KA7AMF	Reid Blackburn (Deceased)
11/W#9	W6TQF	Jerry Martin (Deceased)
12/W#10	KP2A	John Ackley
13/W#11	W7TVF	William Dawson
14/G#1	G3KDB	Peter Miles
15/W#12	KB5FU	Galen Graff
16/W#13	N6AR	Carl Brockman, Jr.
17/YS#1	YS9RVE	Robert Ehrhardt
18/W#14	N6WR	Armond Noble
19/W#15	W6NAZ	Lenore Jensen
20/W#16	W6KG	Lloyd Colvin
21/W#17	W6QL	Iris Colvin
22/J3#1	J3AH	Don Atkinson
23/ZD7#1	ZD7BW	Gerry Smillie
24/VK#2	VK2BKD	S. Ray Chambers
25/W#18	KB7SC	Andrew Isar



Certificate Hunters DX Net on 14.300 MHz ± lkc from 0130Z to 0400Z daily. Till next month, 73's and good hunting. □

Congrats to #2

Congratulations to Steve Bamber, VE3JPJ. He has become the second amateur to earn the 5-Band Canadaward. Steve achieved this by working amateurs in each province and territory on each of five bands, using a trapped dipole. He did not use an amplifier.
—*Canadian AR Federation* □

W2JIO named '80 Armstrong Pioneer

Have you sent the Armstrong Memorial Amateur Radio Club your nomination for the annual Armstrong Pioneer Award? Amateurs who nominated Bob Gunderson, W2JIO, are glad they did, because he was voted the 1980 recipient of the award. It was given to him in recognition of his outstanding contributions to Amateur Radio via his work with — and for — blind amateurs. Bob, who was born blind himself, has designed and built many kinds of test instruments with audio outputs as well as other methods of working with electronics for the sightless. He also founded the Braille Technical Press, and taught electronics for 37 years at the New York School for the Blind, directing many students toward rewarding careers in electronics. Thanks to him, the ranks of Amateur Radio have been enriched by many sightless people who would not otherwise have been able to join us in our hobby.

The award was presented at the 1980 ARRL Hudson Division Convention main banquet. Although Bob could not be present that evening, it was heart-warming to hear the normally blase conventioneers burst into spontaneous applause at the mention of his name during the presentation ceremony. A tape recording of this event was sent to Bob along with the plaque.

The award, a sort of "Most Valuable Player" of Amateur Radio, honors the memory of Major Edwin Armstrong, inventor of frequency modulation and other technical advances which have benefitted Amateur Radio. It will be given each year to one amateur for his or her outstanding service to the amateur community. Some of the current nominees are Copthorne MacDonald, W4ZII, father of Slow Scan TV; Don Stoner, W6TNS, driving force behind the original OSCAR program; and HRH Hussein, JY1, for his help in promoting the concept of Amateur Radio throughout the Middle East.

If you would like to nominate someone, just send a note to Awards Committee, Major Armstrong Memorial Amateur Radio Club, Box 1234, Englewood Cliffs, NJ 07632. □

Contact Worldradio for hamfest prizes.

QRP ARCI revises awards program

QRP Amateur Radio Club International has revamped its awards program to reflect internationally recognized low-power levels and has named a new awards manager and secretary-treasurer.

"We are going to can all 100-watt awards," said Thom Davis, K8IF, president of the club which celebrates its 20th anniversary this year.

With one exception, QRP ARCI's board of directors has approved changes effective 1 June 1981, requiring awards to be based on a power *output* of not more than five watts CW or 10 watts PEP on sideband. The organization previously offered awards with an optional power limit of up to 100 watts input for CW or 200 watts PEP for sideband.

The restructuring is in keeping with the club's main objective of showing use of limited power permits maximum enjoyment of Amateur Radio, minimizes interference on crowded bands and offers operators a genuine challenge. As QRP ARCI's motto says: "Power is no substitute for skill."

Leading QRP ARCI's awards is the popular KW/M Award, or the thousand-miles-per-watt certificate, as it is known. It is available to any amateur transmitting from or receiving the signals of a low-power station such that the Great Circle distance between the two ends, when divided by the power output, equals or exceeds 1,000 miles per watt. Additional certificates may be earned on different bands and with different modes.

DXCC-QRP, as its name implies, is awarded to any amateur station for confirmed contacts with stations in 100 of the ARRL's approved countries. **QRP-WAS** is available to any amateur for confirmed contacts in each of the 50 United States, and **QRP-WAC** goes to any amateur for confirmed contacts with a station in each of the six continents.

For each of the above awards, the following rules apply:

1) Power *output* may not exceed five watts CW or 10 watts PEP on sideband.

2) Since members' QRP numbers are not made available by the club, it will accept as proof for any club award a QSO with a club member giving his/her QRP number and power level in the log data. Otherwise, a QSL card is needed for confirmation. Copies of cards or a General Certificate Rule list is acceptable.

3) Special endorsement seals are available on awards for which power output on both ends of the contact was within the QRP limits set forth in #1 above.

4) An all-one-band or -mode (AOBM) en-

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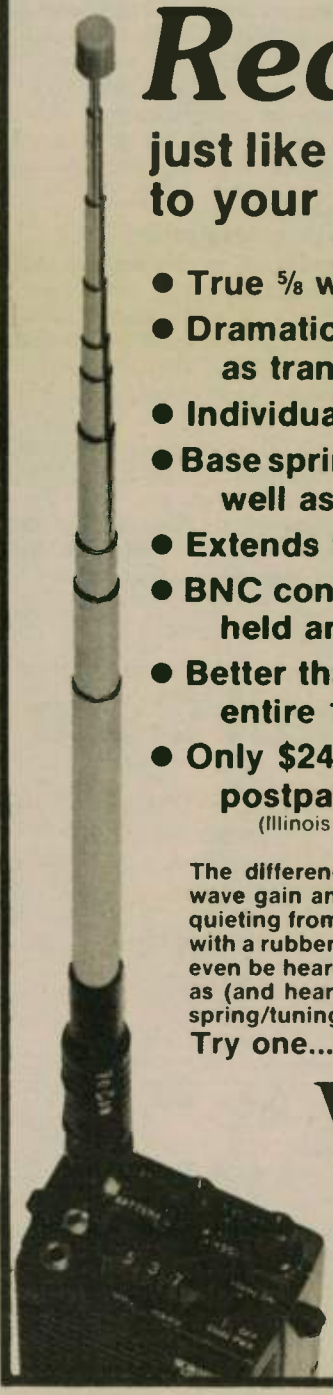

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dorsement is also available on request and if supported by log data, QSLs or GCR list.

5) All awards are endorsed for power used and whether "one-way" or "two-way."

6) Under the General Certificate Rule, award sponsors will accept as proof of confirmed contacts and that claimed QSLs are on hand if the list is (a) signed by a radio club official, (b) signed by two Amateur Radio operators of General Class or higher or (c) signed by the applicant with his/her signature notarized and attesting that the QSLs are as claimed. If QSLs are sent as proof and are to be returned, they must be accompanied by sufficient postage.

The only club award to be "grandfathered" in during the restructuring of the program is the **QRP-25 Award.** It is issued to any amateur who works 25 QRP ARCI members, and endorsements are available for 50, 100, 200 and so on in multiples of 100. Associate members must have been running 50 watts output or less on CW (or 100 watts PEP on SSB) to qualify.

To apply for any of the club's awards, send copies of log data, QSLs or a GCR list plus power and mode used by all stations together with $2 or 10 IRCs to the new awards chairman: Doug Crittenden, WB1ESN, 33 Taylor Street, Pittsfield, MA 01201.

QRP ARCI's secretary-treasurer, who has additional information on membership, is: Edwin R. Lappi, WD4LOO, 203 Lynn Drive, Carrboro, NC 27510. □

QRP ARCI: a history

Edwin R. Lappi, WD4LOO

QRP Amateur Radio Club International, Inc. was founded in 1961 by Harry Blomquist, K6JSS, as an organization for the growing segment of amateurs which enjoys the challenge of running low power.

The club's principle of helping reduce interference on crowded bands is reflected in its motto: Power is no substitute for skill. QRP ARCI's power limits are 50 watts output on CW and 100 watts PEP output on sideband, although its officially recognized definition of low-power operation is the internationally used five watts output on CW and 10 watts output PEP on sideband. The club does not advocate the reduction of power limits authorized by any nation, however.

QRP ARCI has a comprehensive awards program; holds informal monthly QSO parties the first Sunday; sponsors two formal QSO parties, one in spring and one in fall; sponsors weekly national and regional phone and CW nets; joins with other QRP groups in activities; and publishes QRP Quarterly, a newsletter rich in technical articles and news of QRP-related events and activities.

Additional information on the extensive awards program can be had by sending a large SASE to Doug Crittendon, WB1ESN, 33 Taylor Street, Pittsfield, MA 01201.

Full information on club membership, which is available to domestic and foreign amateurs at a moderate, one-time initiation fee and an even more reasonable annual renewal thereafter, can be had by sending an SASE to the secretary-treasurer, Edwin R. Lappi, WD4LOO, 203 Lynn Drive, Carrboro, North Carolina, 27510.

Traditional QRP frequencies are:

CW — 1810, 3560, 7040, 14060, 21060, 28060, 50360.

Phone — 1810, 3985, 7285, 14385, 21385, 28885, 50385.

Novice — 3710, 7110, 21110, 28110. □

US-CHA landmark

Les Jefferey, W8WT, received US-CHA Award #77 for contacting all U.S. counties five times with five different stations in each county — the first known person to accomplish this. Les has been in Amateur Radio for 51 years.

Information on the US-CHA award is available for a large SASE from **Paul Schuett, WA6CPP, 13779 No. Wells Lane, Lodi, CA 95240.** □

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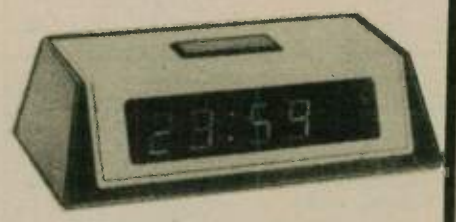

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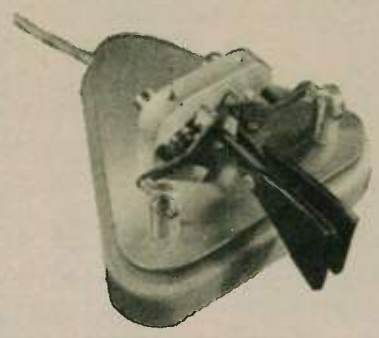

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World Radio History

"Look around you," he said. "Everything in this house, everything I have, everything I've been able to accomplish is because of Amateur Radio!" It was Byron Paul, WA6RNG, in the radio room of his handsome Brentwood home, sitting at the same console where Dick Van Dyke appeared in the ARRL film, *"The World of Amateur Radio."*

Byron had gestured about the interesting room where a golden Emmy stands above other nominations and memorabilia of a successful career in radio and television.

Possibly the only disappointment of his long partnership with the star is the inability to convince Dick to take up our hobby. (He hasn't given up!) However, he did convince him to record seven public service announcements on our behalf for broadcast, two TV spots and the appearance in our latest film.

•••••

WA6RNG is serious about the role Amateur Radio has played in his own life. He first admired it as a 7-year-old when the man next door would fire up a spark transmitter; its raucous noise and sparking was enchanting!

At age 12, then in Jackson Heights, New York, he discovered a Gernsback magazine article describing how to make a crystal set "to pull in short wave." The famous Grebe company disposed of its surplus in the local dump. Young Byron pawed through it to rescue a galena crystal, a capacitor of unknown value, a lot of bell wire and headphones. He added an oatmeal box and finally enjoyed the thrill of hearing a signal — even though it turned out to be a fellow across the street!

Knocking on the door to meet the operator, he found a great experimenter, then using loop modulation. The teenager was allowed to watch and learn rapidly, enough to earn a real ticket in 1932.

"In those depression days, our family didn't have a sou to spare for Amateur Radio," he remembers. "My father was a doctor-teacher and my mother was the first lady pharmacist in the United

Byron Paul, WA6RNG

States, but we weren't rich."

"I managed to get a 199 tube and made it oscillate on 5 meters, using an old telephone across the grid leak resistor. Oh, you bet it was exciting."

His talents and interests have always been divided between scientific and creative work. In high school he "majored in anything about physics, English and drama." (An A student!)

When his father died, Byron took a year off from school to work for the WPA as an electrician's helper. (His boss was an amateur.) "I remember bending electrical conduit for three hangars still at La Guardia airport. I always tried to work the midnight shift, so I'd have days to myself."

Back in high school, he carried such a heavy load of courses, dawn to dusk, that he finished in one semester and went on to RCA Institute.

He heard about the National Youth Administration (inspired by Eleanor Roosevelt) and found that his ham ticket qualified him for their radio workshop in Manhattan. There he met other beginners all destined to reach the top in show business: Carl Reiner, Howard Morris and Alfred Drake.

"I was the studio engineer/director and remember the excitement of my first opening of an audio fader and pointing a cue to Carl as *he* did his first show, too." (Later, they were to work together for years in top-flight TV. Also, Byron acted in Carl's feature film, *"Oh, God."*)

His scientific leaning prompted him to a technician job opening at Cruft Lab, Harvard University. "I sent a wire, signing it with my full name, Byron Socrates Paul."

Back came a telegram from the professor in charge, "There is no way I could not hire a man named Socrates!" The Amateur Radio experience was helpful, too, as Byron soon was working on their underwater sound-detection project; this lasted until shortly before the Pearl Harbor attack.

He wasn't completely happy in the lonely life at a lab. He applied for work as an engineer at the organization later called the Office of War Information. (Again, Amateur Radio helped.) Here, he worked with more fascinating people turning out

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World Radio History

radio broadcasts. One of the announcers was Yul Brynner.

With the war in full fury he decided to offer himself to the Army Air Corps as he had a civilian pilot license. He ended up in Special Services, arriving in Oklahoma on the last day of George Gobel's stint as commanding officer. George waved goodbye and turned him over to a lieutenant. *She* was a gorgeous, intelligent redhead and needed someone to prepare a program for the local radio station, on the double!

Byron immediately dreamed up a show called "*Flight Time,*" scouted the local talent and produced a sure hit. He only needed an announcer.

"We sent out word that we'd audition men to announce, the reward being to escape KP. About a dozen responded. So, going down the list alphabetically in proper Army style, I located them and had them read. Terrible, no talent to be found. I was down to the last name: Van Dyke, Richard W."

"I chased the fellow all over the post and finally discovered him in the latrine where I handed him the script. He read it perfectly."

Thus started the association and friendship which eventually found Byron as Dick's manager and business partner. "If it hadn't been for Amateur Radio, we'd never have met."

.....

The beautiful redhead assigned the pair to dream up a stage show to improve morale — a show which would travel by bus to many Army posts. Byron's flair for acting plus his talent at dialects (he does them all) made him, at first, the comic with Dick as straight man.

Needing a good finish to the act, Byron thought up a wow — he would bound across the footlights into the audience brandishing a rolled newspaper. As the officers always sat on the aisle it was easy to delight the GIs by soundly swatting "the brass" with gusto.

"It was an unheard of thing to do — but never once in 500 performances was I ever reprimanded. They took it with good humor."

One evening the redhead decided not to present a show but rather to stage a dance. The fellows set up a band, made all arrangements, then relaxed to enjoy the evening.

Byron was leaning against the wall when he noticed Dick dancing with a lovely blonde. After the number ended, he caught up with his friend and demanded, "Get her to dance with you again, find out her name and introduce me. That's the girl I'm going to marry!"

Her name was Betty. The marriage has been a tremendous success. (They have a daughter and three grandchildren. Their son, also a Byron, is getting a high rating with his early morning show on clear-channel KFI: "*Byron and Tanaka.*")

Betty has always been very friendly to Amateur Radio, loves to listen and enjoys his many radio friends. You see her walking with WA6RNG/pedestrian-mobile in the film.

.....

After being injured in a plane crash, Byron received a medical discharge and returned to Manhattan. On the day he bought civilian clothes, he happened to find himself in front of CBS.

"I asked the doorman which floor Engineering was on. He told me the wrong floor, however. When I left the elevator, I bumped into a gentleman."

"What are you looking for?" the man asked with a German accent.

"Engineering, I want to ask for a job."

"Oh? What have you done?"

When he heard Byron include the fact he was an Amateur Radio operator, the man promptly said, "Tomorrow we start work developing a color television camera. When can you be with us?" It was the famous Dr. Peter Goldmark in September of 1945.

Byron helped build that first color television camera. It was tricky to operate, so he became the cameraman for its demonstration before the FCC. (The CBS and RCA systems were rivals. CBS won the first round, RCA the second. However, Byron understands the NASA Surveyor camera on the moon was of the Goldmark type, with a rotating drum.)

His deft touch with cameras led to his being assigned to big CBS shows of the time — such as the 1948 Convention which nominated Truman, anchored by Walter Cronkite.

Later, Byron was asked to work the prestigious series of live dramas, "*Studio One.*" Most of them were wonderful. But one director made a "glorious mess" of his production. Afterward, while going

(*please turn to page 21*)

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World Radio History

American Radio Relay League

J.A. "Doc" Gmelin W6ZRJ
Past Director, Pacific Division, ARRL
Honorary Vice-President

My last two columns about the American Radio Relay League organization and operations concerned emergency communications planning and implementation. We discussed some of the problems of working with diverse Amateur Radio organizations and the difficulties of establishing plans at the local and national levels.

As my friend Al Gaetano, W6VZT, has said, "It is far easier to be critical than to be correct."

Perhaps in my last two columns I have been overly critical of the League's planning and of the abilities of individual amateurs to carry out well-organized emergency communications plans in actual disaster situations.

None of this was meant to show that we amateurs and the ARRL have not done an outstanding job in providing needed communications in many diverse emergency and disaster situations. We amateurs have done *an outstanding job* for nearly a century.

We may have done a far better job than anyone can reasonably expect of volunteers; this shows that as a whole, we radio amateurs are an outstanding group of individuals. Perhaps our main problem is that we expect too much of ourselves and expect that we can do more than a volunteer group can or should expect to do. After all, we have done so much over the years in the technical development of radio communications, and all this from a "bunch of people just having fun with a hobby."

Lest someone jump me for calling Amateur Radio a "hobby," may I point out that it is just this great willingness to serve by that vast majority of radio amateurs that has qualified us over the years as a "radio service," even though we do this as an avocation.

Nonetheless, there are vast numbers of Amateur Radio operators who are striving to improve and organize our Amateur Radio emergency communications organization — and with more or less success.

As a final comment in the area of emergency communications planning in this series on emergency communications and the ARRL, I would like to make the following suggestions:

1. As a group, radio amateurs must overcome the political and organizational differences that cause so much poor communications coordination. Whether or not an individual agrees with an organization's philosophy of amateur operation, we must work together to give the best possible overall service to the community as a whole.

2. Whether one agrees with the political and operational structure of the American Radio Relay League or not, it must be recognized that at the present time the ARRL is the only national organization with an emergency communications structure. We must work cooperatively with ARRL leadership at all levels even if we cannot for some reason join directly with this organization.

3. Become aware of the many materials available from ARRL Headquarters in the areas of amateur operation, particularly in emergency communications planning. While much of this material can only be obtained at a cost, much is also available free, *and to both members and non-members of the League.*

4. Even if you are not a member of the ARRL, become aware of the basic organizational structure, especially at the section level. At least be aware of who the Section Communications Manager, the Section Emergency Coordinator and the Emergency Coordinators in your area are and how to contact them if necessary.

5. Become aware of the amateur nets that operate on a regular basis in your area — both on CW and phone, as well as the workings of the ARRL National Traffic System. If you do not do any traffic operation yourself, at least try to become aware of someone in your area who is a traffic operator.

6. Even if you do not operate on the VHF bands or through Amateur Radio VHF repeaters, become aware of these communications channels. If you operate on one or more repeaters, remember that *all of these repeaters will be needed in a major disaster and no one has authority over any others.* Learn to work together cooperatively.

7. Recognize the fact that both low and high band Amateur Radio operations have their use and place in amateur communications, especially in time of communications emergencies. Try to find some way to establish communications between all groups, no matter what bands or modes are used. Nothing hurts Amateur Radio more than conflicts between various nets, amateur groups and the use of various bands and modes of operation.

8. Even if you are not a member of a local radio club nor interested in being involved with Amateur Radio club work, at least find out how you can make contact with at least one local radio club. In time of emergency communications work, such information can become most important.

9. Try to have at least some part of your own radio equipment capable of operating independent of standard AC power sources. Even a hand-held VHF transceiver or a mobile rig will be available for help in a major disaster.

10. Don't count on the telephone as a means to communicate with others when a disaster strikes. Have some frequency to monitor to find out what is happening. Copying W1AW is just one source of information. Even if you don't work a local net, at least know where to listen when you need information.

11. Finally, don't expect everything to go according to plan. In any major disaster, the first thing one encounters is mass confusion. Jumping in may only add to this confusion. The best advice may still be to "shut up and listen."

The ARRL is still one of the best sources for information about emergency communications planning and operations. Even if you are not a member of the League and don't agree with what is done by the League's members and leadership, take advantage of what is offered to you. *There are no strings attached.*

I recently received a copy of the Sixth Edition of a booklet on emergency communications planning called the *Public Service Communications Manual,* published by the ARRL Communications Department.

This manual, which is Publication No. 16 of the Radio Amateurs Library, is available from your local Emergency Coordinator or from ARRL Headquarters, 225 Main St., Newington, CT 06111. (You will need to send a self-addressed stamped envelope if you request this from ARRL Headquarters.)

There is a great deal of valuable information in this booklet. Again, it is designed as an explanation of planning on the national level with some suggestions and information on local level operation.

Not all of this may apply to you, but at least you will know something of what can and is being done at all levels for emergency planning and for the Amateur Radio Public Service Corps.

A final comment to those who are leaders in emergency communications planning and operation — especially the local Emergency Coordinators, as well as to individual radio amateurs interested in emergency communications work:

Remember that in dealing with individual radio amateurs, you are dealing with individual people. *We are all volunteers.* We all do this for the good of our fellow man as well as for the good of Amateur Radio. No one, no matter what his position in the ARRL or any other organization, *has any direct authority over the operations of any individual radio amateurs.* The amateur bands belong to all of us.

The job of the Emergency Coordinator is to do just that — "coordinate the operations of radio amateurs and existing amateur nets." *The Emergency Coordinator has no authority to give anyone any orders.*

When I first became Section Emergency Coordinator of the Santa Clara Valley

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World Radio History

Section over 20 years go, I established an advisory group of leading members of the section to help me with emergency planning.

John Kipp, then K6MPX, gave this advice which I have never forgotten:

"Don't expect that we are going to be able to take over all of the communications of any community in a disaster. At best, we can only help with some of the important communications necessary before regular communications channels can be established."

He went on to say that we should only expect our brothers in Amateur Radio to give what they are capable of giving. Never condemn them if they are less than perfect. After all, we are only volunteers.

In looking back over my years of amateur operation, I have also learned this: when someone has an idea that differs from my own, I should always respect him for that idea, for someday his idea *may become my own.* □

More than QST

Bob McGarvey, WB2EVF

I wouldn't go so far as to say the American Radio Relay League never makes a mistake. But I would say it is something every American licensee in the Amateur Radio Service needs, whether he or she knows it or admits it.

Occasionally I hear someone say, "I still get QST, but I don't know for how long. The way they keep raising their subscription rate . . . " In other words, they regard membership as subscribing to a magazine. Only that. All the other benefits that come in the ARRL membership package are overlooked or not utilized, in such instances.

The Overseas Membership QSL Service alone is worth the membership fee if you are any sort of busy DXer. In combination with the call area QSL bureaus for distribution of incoming cards, it's a boon to the amateur who collects cards and is not heir to an oil field.

If you want information, you can get it by calling ARRL headquarters. Should you prefer to write, you can do it that way. In either case, the information will be forthcoming and it will be the work of an expert in whatever field it concerns.

Consider the code lessons on W1AW. If all the amateurs who learned to read CW by that means were dues-paying members, the league would be even bigger and stronger than it is.

Don't overlook the years of work that went into solidifying the American amateur position prior to the last World Administrative Radio Conference. Some of the best minds in radio were enlisted by the ARRL to work together in preparation of a blueprint for the years ahead.

If you remember the doomsayers, you will recall there was a feeling the United States was going to come back from Geneva with its head in its hands. That didn't happen. The American amateur community gained rather than lost.

I could write at much greater length about the equipment insurance program, the listing of hamfests, the opportunity to visit headquarters and operate W1AW itself, but you may have gotten the idea already.

Shop around and see what other "magazine" offers so many fringe benefits. Come to the realization that you're paying to be a part of the American Radio Relay League, a proud organization dedicated to the interests of a very special person — the American radio amateur.

You get a subscription to a magazine thrown in as a fringe benefit.

— *The Home News* □

OFF THE AIR

Steer clear of faulty info

Having found a copy of your magazine in the waiting room I saw the article by Chuck Clark under "Traffic" pertaining to death messages.

What he has written for any ordinary group is absolutely correct. As a former chaplain, I concur. If I am not incorrect . . . and I may well be . . . at one time telegrams were sent to the so-called next of kin of military personnel. This was later changed to the delivery of the message by military personnel, so designated. Well, that had problems and through no fault of the military. The U.S. government made every effort to notify the next of kin with all accuracy possible, and for the most part that was done.

Amateur Radio operators have made splendid contributions to public service, but my personal opinion is that when it comes to notifying families/relatives of death or injuries and the like, the amateur may be reduced to the status of the messenger of bad tidings who — while he may be correct — will be "killed"! Most of the time, the message will be sent through commercial channels and with medical confirmation. It will be a very rare occasion when an amateur will be required, by virtue of his public service mission, to report such information.

Amateur Radio operators might better steer clear of what might be misleading information, which could bring problems not anticipated. Civilian and/or military authorities are better able to deal with this dismal aspect of communications.

John Connollay
Ayer, Massachusetts □

Sun City effort aids California club

You will recall that several months ago you ran a very interesting article on how the radio amateurs in Sun City, Arizona, were attempting to raise $4,000 for a ham station for their club. (ED. *The article was on page 13 of our December issue.)* At about that time, the Leisure World Amateur Radio Club in Laguna Hills, California was soliciting funds from the Golden Rain Foundation in Leisure World for some new up-to-date equipment for our club station, W6LY. We sent the Board a copy of the Sun City article and it helped to produce an appropriation for the equipment shown in the accompanying photos.

Station W6LY's new equipment.

The new equipment, purchased from Walt Henry of Henry Radio in Anaheim, consisted of a Yaesu FT 107M transceiver, a Yaesu FC 107 antenna tuner, a Henry linear, a 40-foot crankup tower and a TH 3MK tri-band beam. Believe it or not, in less than two weeks time after the money was appropriated, we had the new rig on the air through the very fine cooperation of the Board, the Purchasing Department and, of course, Uncle Walt Henry.

All this new equipment is complemented by a 4,500-watt gasoline generator that the Board bought for us a few years back. Besides this new rig, we have a 2-meter rig with a 2-meter vertical above the new beam and a Swan 500C for standby. We have an inverted-V beam for 40 and 75. All rigs working very nicely. We are tied in with Security and the Red Cross on an emergency net and we hold monthly drills on 146.52. We have about 35 amateurs in the club, and we are offering to start a ham teaching course for any of the 22,000 residents of Leisure World who might be interested. We have phone patch facilities for both rigs for the use of our residents. I think you will agree this is a very fine and complete station.

W6LY's new TH 3MK tri-band beam, with a used 40-foot crank-up tower and ham M rotator, was erected on the roof of Clubhouse One.

Sincerely and 73,
James F. Abbott, W6FAA
Leisure World EC
Laguna Hills, California □

Grimme's study tip

I think I found a way to make studying for the General written test almost painless. At least it helped me get my General ticket and I pass it along for what it is worth. The only premise is that you use the Bash book. I have heard most of the arguments about learning the theory behind the answers, etc. But from what I can gather, more than half the test is based on questions that require sheer memory. Just look at some of the subject matter covered — Rules and Regulations; Operating Requirements and Procedures; Prohibited Practices; Frequencies; Emergency Operations; Types of Emissions; Formulas; Definition of Electronic Terms, etc. So spend some time learning theory, but you'll never pass the test unless you know the other stuff.

How do you get to know it? You've got to memorize it, pure and simple. And how do you memorize it? Ah, that's what I am going to tell you.

First, who knows what you need to know the most? Who knows what you

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World Radio History

have the most trouble remembering? You do! So you be the teacher!

Take the Bash book and check off the questions you already know. Use an "X" so you'll skip over them. Then check the rest you need to remember. Some that you have particular trouble remembering, you may want to check twice so you'll spend more time on them. Skip the math questions that require a calculator, but if a formula is involved, be sure to memorize that.

Then use your cassette recorder to record the questions and answers in the Bash book. Beg, buy or borrow one if you don't have a recorder. The cheapest one will do. Read the question into the recorder and then read the answer. Read each question and answer twice before you go on to the next one. You may even want to paraphrase the question and answer in your own words. Be sure to emphasize the items you know are giving you trouble.

This sounds like it would take a long time but it really doesn't. It took me about an hour and a half at two sittings. This exercise alone will give you a big headstart on memorizing this stuff.

Then use the cassette player in your car or put the battery-powered one on the seat beside you and listen to it whenever you get in the car. If you commute by car, you can really do a lot of listening to a great voice that knows all the answers (yours). If you're in a car pool, use an earpiece. I do not suggest listening with the XYL in the car (unless she wants to get her license too) as she may not appreciate the fine instructor you have on tape and the subject matter may not be a replacement for Johnny Carson. You are really better off alone so you can concentrate on the pearls of wisdom that melodious voice is dispensing.

By the time you have heard your lecture umpteen times, you will be able to recite the answers word for word. But there will be a few who still need repeating, and you can make another short tape with just those few tough questions on it. Save the first tape as you are going to listen to it as you drive to the FCC on the day you are going to take the test.

I followed this routine and when I sat down to take the test in New York City, the answers jumped out at me. Some of the questions were turned around and you have to be a careful reader to be sure you are checking the right answer. Only four questions required the use of the calculator. Incidentally, I noticed almost all the applicants waiting to take the exam were using the Bash book or a photocopy of it to do some last-minute cramming.

I missed six questions, but that is pretty good for a 62-year-old Novice who has been out of school many, many years.

The system really seems to work. Try it!

Don Grimme, KA1GSE
Stamford, Connecticut □

If your club is involved in any emergency situations, send the story and pictures to WORLDRADIO.

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Dear fellow amateurs,

I wish to thank everyone for the overwhelming response for my plea for assistance and for everything you are doing to help locate my ham equipment that was stolen from my home QTH. I would like to take this opportunity to urge all club members and MARS members to do what I did not, *MARK ALL YOUR EQUIPMENT* with your license number and have a separate list of your serial numbers in a safe and *different* area, other than your shack.

Listed below is the equipment taken, with serial numbers. I am offering a reward of $1,000 for the arrest and conviction of the person or persons responsible. For any information, you may call me at home collect, 503-642-2628 (Darrell Parham, WB7BBH) or call the Washington County Sheriff's Dept. 503-648-7141. Again thank you all for your time and help. 73, Darrell WB7BBH.

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Kenwood TS-820 VFO	0040126
Kenwood TS-120S	950228
Kenwood MC-50	None
Shure 444	None
Heath Kit Ant. Tuner	Model SA-2040
Heath Kit Phone Patch	Model HD-15
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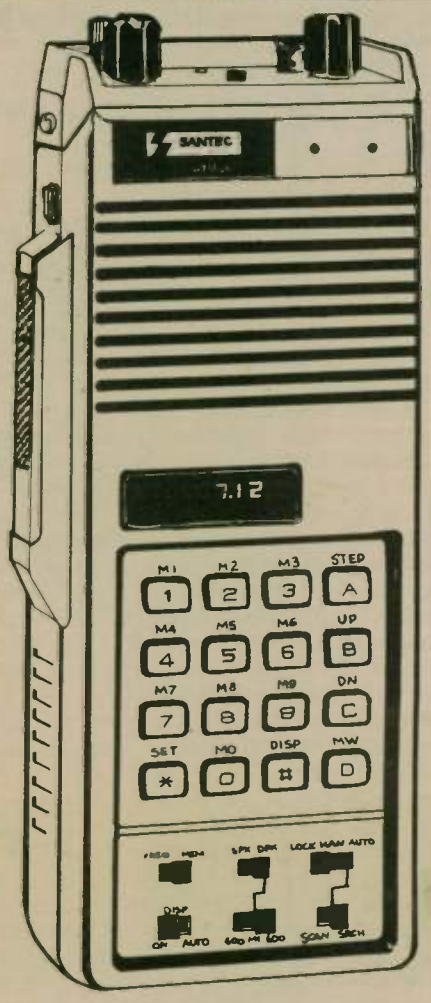

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10 programable memories with frequencies preloaded on cold boot.	5 programable memories. All memories loaded with 144.00 on cold boot.	10 programable memories. All memories loaded with 148.00 on cold boot.
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World Radio History

QCWA offers suggestion

FCC Secretary
FCC 1919 M Street, NW
Washington, D.C. 20554

Re: Docket 80-729

Now comes Charles Robert Cox, AB5X, acting as secretary for and at the direction of 85 licensed, experienced radio amateurs in the Houston, Texas area known as the Houston Chapter of the Quarter Century Wireless Association, by vote of that body for the purpose of

(A) Requesting additional time for filing with reference to Docket 80-729, and

(B) To state a few of the flaws, deficiencies and possibly illegal acts contained therein, said docket being known as PROPOSED PLAIN LANGUAGE RULES.

We therefore respectfully request additional time be granted for the purpose of filing comments with regard to Docket 80-729.

We now offer our comments as follows;

(a) Proposed rule AR55 is apparently illegal and would probably bring suits against the FCC because it grants regulatory authority to the telephone company which is not within the power of any federal agency to grant. AR55 on its face appears illegal to grant or to enforce.

(b) It is indeed unfortunate that the FCC did not permit direct citizen involvement in the preparation of these Plain Language Rules because as a result, even the definition of the Amateur Radio Service has been distorted. Radio amateurs know that the basic reason for the existence of Amateur Radio is to serve the public in time of emergency and not solely the self-centered, self-serving statement made in the proposed AR-1.

(c) Proposed rule AR-41 does not include a network identifier, and would work a hardship on the networks of this organization.

(d) Proposed rule AR-33 takes away the privilege of retransmitting a recorded transmission back to a station for technical evaluation.

(e) Proposed rule AR-30 contains new and unnecessary antenna restrictions and is at best a copy of a rule from another service having nothing whatever to do with Amateur Radio.

Summary:

We submit that the proposed Plain Language Rules are *not* new words for old rules, but instead are a sweeping revision and addition to the rules containing numerous errors of commission, errors of omission, and possibly illegal provisions which — if adopted — could bring costly litigation to the FCC.

They are not in the best interest of the FCC or of the radio amateur fraternity.

We therefore ask for dismissal in total of the so-called "Plain Language Rules" and we respectfully suggest that if another attempt be made later, that public input be solicited, that no new rules or rule revisions be contained in the Plain Language Translation, and that competent persons fully familiar with the existing rules be retained for the purpose next time.

As taxpayers, we wish to avoid costly litigation against the FCC. New and revised rules should be handled within existing framework of the FCC. We feel that it could well be a violation of constitutional rights for the FCC to issue sweeping revisions and all new rules thinly disguised as a plain language interpretation, without public input and without sufficient time for comments.

Respectfully yours,
Charles Robert Cox
Secretary of Houston Chapter
QCWA □

Ragchewers gather

C.T. Nickell, W6FMW

Mr. and Mrs. C.T. Nickell, W6FMW, of Woodland, California hosted the 6th Annual Get-together of several local amateurs on Saturday, 9 May 1981. For the past several years, these amateurs have kept in touch by tuning in for a short ragchew each morning. Some have been licensed since the 1930s.

Those who attended were: Len Boroviak, W7KSN; Charles Coates, WB6BSN; Herb Jeffries, KB6KVT; Mr. and Mrs. Allen Lemmon, W6KVT; Mr. and Mrs. C.W. Nelson, W6EKF; Walter Erwin, W6THO; Jerry Crowley, W6TLC; Mr. and Mrs. Clay Goodpastor, WA6UHV; Mr. and Mrs. Chris Jorgensen, WB6YUM; Mr. and Mrs. Willie Dodds, K6ZY; and Mr. and Mrs. Red Erickson, W2KWN/6.

Unable to attend the Get-together were: Mr. and Mrs. Everett Hawkins, WB6TUR; Mr. and Mrs. Warren Griffith, WB6PKM; Mr. and Mrs. Jack Kendrick, K6CTU; and Mr. and Mrs. Joe Merryman, WB6KUT. □

Who's Who

(*continued from page 17*)

down in the elevator with the producer, Byron was disgusted and exclaimed, "If I couldn't direct any better than that, I'd quit!"

The producer replied, "Put up or shut up. You are now a director."

From then on, Byron Paul's creative side came forward and his directing credits appeared on countless live shows from CBS. In those days, a good director had to be very understanding of the technical problems and possibilities.

Meanwhile, he'd kept in touch with his old Army friend — Van Dyke, Richard W. — who was performing in various Southern cities. Dick had consistently declined suggestions that he come to Manhattan. Finally, Byron's insistence was so great, he arrived for an audition. His enormous talent was recognized instantly by executives and he joined the staff.

•••••

The rest is success-laden history in television, as they went to Hollywood. Byron served as executive producer on most of Dick Van Dyke's shows. But Byron found time for his own career in acting, which he thoroughly enjoys. Among his fun jobs has been The Mary Tyler Moore Variety Show; he was also a regular on the Redd Fox programs. He's appeared in many features (in addition to "*Oh, God*") such as "*Day of the Locust.*" He does his "schlumpy characters" (short, dumb and terribly vulnerable) on commercials.

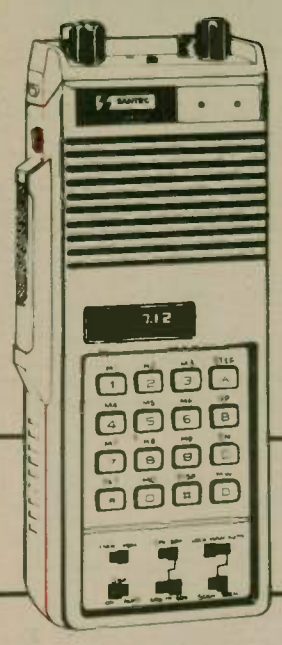
In 1981, after nearly 50 years, he's as in love with Amateur Radio as at the start but has added several computers to his radio room. Byron's eyes light up when speaking of their possibilities.

"You know, I really think computers are rivaling Amateur Radio as a motivating hobby for kids. But Amateur Radio was, and is now, a door-opener for anyone wanting to break into a variety of different allied businesses: entertainment, engineering, science, research . . . or if one only wants to relax the brain, it's a tremendous hobby which gives us back more than we put into it."

Betty and Byron love to summer in France, as a rule, where he operates as F0DGQ. But this time they also plan a long car trip, carrying along several rigs including one for 14 MHz. At hotels, he puts his fishpole antenna out the window and winds out 250 feet of number 32 wire ending with a 4-ounce sinker.

All of which proves Betty is a remarkable wife. □

Little Big Rig



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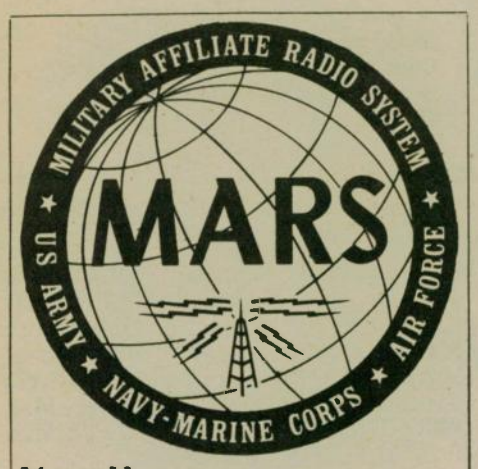

Vern Hansen,
WB6UWQ/AAA9W

The following article originally appeared in **The Union,** *of Grass Valley — Nevada City, California, entitled "Antenna A Symbol of Couple's Devotion."*

A huge antenna has been installed on the roof of the Weymouth home in Penn Valley, as much a monument to a dead youth as a tool for broadcasting and receiving radio signals from all over the world. It's a symbol of Don NNN0LUV/WD6EMA and Bea Weymouth's dedication to helping young people — and parents of children who have met untimely deaths.

The Weymouths went through a family tragedy in May, 1968. Their son Ted, a Marine, was killed in a blast from a fragmentation bomb in Vietnam. It was almost more than they could bear. "How often do you say, 'I know how you feel,' to someone," Don said. "You don't though. You just don't." After the shock and a funeral and the agonies they entailed, the couple slowly began rebuilding their lives.

"Then a few months went by and BAM — his personal effects showed up on the doorstep." That shock was almost as hard to bear as hearing of their son's death, but out of it comes a story about two people who have dedicated a major portion of their lives to helping other people deal with what they went through. For Don, it meant establishing a Military Affiliate Radio Station (MARS) — a vital link used for low-cost communications between servicemen stationed overseas and their families in the United States. For Bea, the tragedy of her son's death and the kindness of a neighbor produced an unusual service — a personal aid to anyone who has lost a child.

Shortly after Ted was killed, a still-stunned Don Weymouth went to the mailbox of his Torrance home and inside found a note and poem that changed his life and generated a near full-time job for Bea. The poem is written to parents who have lost children, and in light religious tones relates how all children — all people — are on Earth for only a short stay.

"We went to a printer friend of ours and had some printed up," Don remembers. "And then we started sending them to parents of boys killed in action." That expanded quickly, however. Bea now sends out the poem, a letter of condolence and a remembrance of their son to many parents each year who have lost children. "I guess we're well into 7,000 of these," Don says rummaging through stacks of poems and memorabilia in his garage. "She sent out at least 5,000 during the Vietnam campaign."

Why do it, and bring back memories every time an envelope is addressed? "Because it helps; we know it helps people. Back during the early 1970s," Don says, "we were subscribing to half a dozen different newspapers to get the names of boys who were killed." A garage filled with yellowing newspapers attests to their efforts.

Although not nearly so many go out anymore, both Bea and Don still watch **The Union** and other newspapers for deaths of young people. "Sometimes it's not easy getting the addresses. Some people, like the police, just don't seem to understand we're trying to help," Don says. Help in another fashion for servicemen is on the way once Weymouth gets his MARS station back on the air. "Back in 1969 to 1971, I'd go on the air at 3:30 a.m. until 8:00 a.m., go to work and then go back on from 6:00 p.m. until midnight. It was hectic, but it was worth it." Awards and commemoration for their work — both the radio relays and the poems and letters — were numerous during the late 1960s and early 1970s.

Don became familiar with the names of thousands of servicemen as he relayed messages. Bea became a fount of advice for people who wanted to do something for our men in the war but weren't sure how to go about it. "They wanted spices to liven up their K-rations," Don remembers, "not candy and cookies." During his monitoring of calls, Don remembers best the sounds of a tough sergeant straight from battle.

"Guys would come down from out of the boonies to take radio calls. This one time a master sergeant came to take a call and as soon as he heard his wife's voice he

THE EVOLUTION OF A CHAMPION!

FT-101ZD Mk III

The FT-101ZD Mk III is the latest chapter in the success story of the FT-101 line. Armed with new audio filtering for even better selectivity, the FT-101ZD now includes provision for an optional FM or AM unit. Compare features and you'll see why active operators everywhere are upgrading to Yaesu!

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Diode Ring Front End
The FT-101ZD now sports a high-level diode ring mixer in the front end. This type of mixer, well known for its strong signal performance, is your assurance of maximum protection from intermod problems on today's crowded bands.

WARC Bands Factory Installed
The FT-101ZD Mk III comes equipped with factory installation of the new 10, 18, and 24 MHz bands recently assigned to the Amateur Service at WARC. In the meantime, use the 10 MHz band for monitoring of WWV!

RF Speech Processor
Not an additional-cost option, the FT-101ZD RF speech processor provides a significant increase in average SSB power output, for added punch in those heavy DX pile-ups. The optimum processor level is easily set via a front panel control.

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Every FT-101ZD comes equipped with a multi-tap power transformer, which can be easily modified from the stock 117 VAC to 100/110/200/220/234 VAC in minutes. A DC-DC converter is available as an option for mobile or battery operation.

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Designed fundamentally as a high-performance SSB and CW transceiver, the FT-101ZD includes built-in VOX, CW sidetone, semi-break-in T/R control on CW, slow-fast-off AGC selection, level controls for the noise blanker and speech processor, and offset tuning for both transmit and receive. The Mk III optional FM unit may be used for 10 meter FM operation, or choose the optional AM unit for WWV reception or VHF AM work through a transverter (AM and FM units may not both be installed in a single transceiver).

Full Line of Accessories
See your Yaesu dealer for a demonstration of the top performance accessories for the FT-101ZD, such as the FV-101Z External VFO, SP-901P Speaker/Patch, YR-901 CW/RTTY Reader, FC-902 Antenna Tuner, and the FTV-901R VHF/UHF Transverter. Watch for the upcoming FV-101DM Digital Memory VFO, with keyboard frequency entry and scanning in 10 Hz steps!

Nationwide Service Network
During the warranty period, the Authorized Yaesu Dealer from whom you purchased your equipment provides prompt attention to your warranty needs. For long-term servicing after the warranty period, Yaesu is proud to maintain two fully-equipped service centers, one in Cincinnati for our Eastern customers and one in the Los Angeles area for those on the West Coast.

Note: A limited quantity of the earlier FT-101ZD (with AM as standard feature) is still available. See your Yaesu dealer. FT-101ZD Mk III designates transceivers bearing serial #240001 and up, with APF/Notch filter built in and AM/FM units optional.

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World Radio History

started to cry like a baby." Three minutes later — when the MARS linkup was over — he had to be taken away, still so shaken he was unable to talk. "Most had trouble talking, of course, but a lot used their time to get their feelings across quickly."

An RCA manager, Don said he had always felt the press for time before his son was killed. "After that, I found you can come up with lots of it."

For the most part, Mrs. Weymouth likes to stay in the background sending out cards to parents who have lost children. She likes to help the parents, but likes to keep her own sorrow to herself. "This thing has done much to help people. I know because we've gotten so many letters telling us so," she said. "When someone loses a child, it's important to let others know how you feel."

The Weymouths moved to Penn Valley in 1978 after Don left RCA. He is a director of Western Gateway Park and active in his church and many community organizations. They have two other grown sons, one in Torrance, the other in North Hollywood. When not busy setting up his MARS station, the park or other activities, Don finds time for gardening — including a flowering orchard in the side yard. But when that antenna is in place, Don will add his MARS station to his schedule. "I'm going to get back into it, just as soon as I can get that antenna up." And Bea will still be sending out cards and letters. □

To All Parents

"I'll lend you for a little while a child of mine," He said.
"For you to love the while he lives and mourn for when he's dead.
It may be six or seven years, or twenty-two or three,
But, will you 'til I call him back, take care of him for me?
He'll bring his charms to gladden you, and shall his stay be brief,
You'll have his lovely memories as solace for your grief.
I cannot promise he will stay, since all from earth return,
But, there are lessons taught down there I want this child to learn
I've looked this wide world over in my search of teachers true,
And from the throngs that crowd life's lanes I have selected you.
Now will you give him all your love, nor think the labor vain,
Nor hate me when I come to take him back again?"
I fancied that I heard them say, "Dear Lord, Thy will be done,"
For all the joy thy child shall bring, the risk of grief we'll run,
We'll shelter him with tenderness, we'll love him while we may,
And for the happiness we've known forever grateful stay.
But shall the angels call for him much sooner than we've planned,
We'll brave the bitter grief that comes, and try to understand.

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Please see page 11.

STATION Appearance

L. Lyle Baker, K5QJT, relaxes at his station.

L. Lyle Baker, K5QJT, is our July Station Appearance winner. Judging from the carpeting and wood-paneling, Lyle enjoys "comfortable working conditions."

Lyle describes his station in detail here:

"After some years of experience with home-built gear and the Johnson line, time and retirement seemed to justify the purchase of all new equipment. My choice became Kenwood and ICOM as follows: TS-820S, SP-820, AT-200, MC-50 and IC-255A.

"Coil winding, cat whiskers and Ford spark coils made up my primary interest back during the early 1920s. Learning began in real earnest when later I accidentally reversed the A & B voltages and blew the first pair of tubes I ever owned.

"Today my antenna farm consists of a TA33jr with a Ringo Ranger on top. Nearby is my 40-75 meter trap inverted "V" and also a long wire inverted "L" for 160 meters.

"I managed to keep my old HQ-150 AM receiver which still does a good job. It comes in handy for receiving WWV on each of its frequencies, as well as SWL.

"My shack consists of a portion of what used to be a double garage, now converted into additional living quarters. A school teacher's desk fills the bill for the scant size of modern gear, plus an added shelf for some of the "extras" kept in easy reach. I owe my actual existence as an amateur to the Dallas Amateur Radio Club of which I was a member, where during the '50s I studied and earned my first license.

"While teaching elementary electronics in the Dallas Independent School District, it was my pleasure to encourage a number of boys to begin experiencing Amateur Radio by earning their Novice licenses." □

Share your knowledge with your fellow amateur and Worldradio reader

WOODPECKER PRACTICE TARGETS

AND PROTEST DEVICES FOR HAMS WHO ARE SERIOUS ABOUT BLOWING UP THE BIRD

HELP TARGET THE RUSSIAN WOODPECKER FOR EXTINCTION

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Since 1976 the Russian Woodpecker has disrupted global communications. For 5 years the bird has clobbered Amateur, Commercial, and even vital Military communications. What has been done? Commercial op's in 10 European countries threatened to boycott communications with Russian shipping. FCC protested via the State Dept. Most nations filed diplomatic protests. WARC 79 *talked* about it. Vigilantes try various electronic countermeasures of dubious value, but which add to QRM. Defeatists devised semi-effective blankers; and the Australian hams whipped up a May Day protest to Soviet Embassies....a good idea, at last, but so lacking in publicity that you probably didn't hear about it. For 5 years the Russians have been giving YOU the bird! Don't Get Mad - Get Even! Give it back to them!

With *Russian Woodpecker Hunting Club's* OFFICIAL WOODPECKER TARGET you can laugh as you practice, and get ready to ambush the bird on his next fly-by. Blow him up, or just devastate the 10 Ring with a paper punch. The cute, uniformed bird is unmistakably Russian. Unlike the real bird, this one sits still, begging to be blasted. Poor shots get 2 points just for blowing his tail off. 5 years of his rat-tat-tat have been hard on your nerves, so for a buck, indulge yourself. Have some fun...Zip Public Enemy Number One! Also makes an appropriate dart board for your ham shack. When he forces you to QRT, throw darts!

Now all of this is not without purpose. It is hoped it will start a protest that will be successful in putting the Russian Woodpecker on the Extinct Species List. 5 years of soft diplomacy only got us more Woodpeckers; they now seem to hammer in shifts! Isn't it time for some heavy-duty diplomacy? Send a no-nonsense message, and urge others to send them! Send your best target to: Brezhnev, PO Box 88, Moscow. Shoot the Soviet Ambassador one!!

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° T-Shirts: *Russian Woodpecker Hunting Club*, Expert ° Marksman, Target Logo. Give Adult size. A real ° banger for hamfests & meetings. $8 PP US & Canada

HUNTING LICENSE: A gag of course, but you might need this.....especially if you're into electronic countermeasures (ECM). 50¢ or 2 IRC's, PP, with target order.

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Happy Flyers

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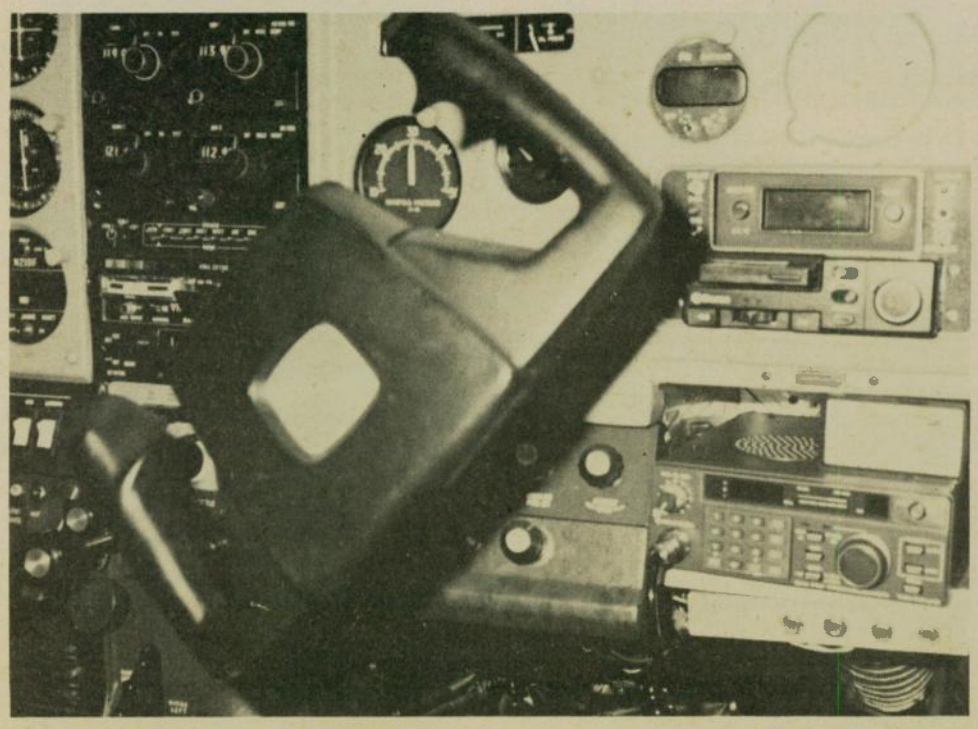

Close-up of the Amateur Radio installation in HAPPY FLYERS N21DF, a Cessna Skylane II. It is operated on 2 meters, CAP (brownbear 120), and MARS (AAR9KD). It is connected to the airplane audio system and to its special four-band DF system. Note the 64 tone encoder permanently mounted to the Kenwood. The unit above is a Heathkit digital clock/timer and a cassette stereo tape player. Above that is the digital VOR readout used in conjunction with the DME for positive ELT and jammer ground point identification.

Placer Sheriff's Communications Reserve

I received a nice letter from Jack Crusinberry, WB6BPO, of the Placer County (California) Sheriff's Communications Reserve. He has given permission to share some of the information with you. We hope letters like this will help some of you who are willing to do public service work, and to realize there are many places where your help is needed. We would appreciate more letters from groups like this — that might encourage others.

"The Placer County Sheriff's Communications Reserve (PCSCR) has been in existence for 20 years. We have grown from an initial membership of 10, to our present allotted membership of 40 badge-carrying communications reserve deputies.

"The addition of ELT monitors at three of our repeater sites will provide the high Sierras, including Tahoe area, with an ELT Alert Net. This ELT Alert Net is a much needed capability in Placer County as we are in a major East/West corridor. The light plane air traffic between Sacramento, Lincoln, Auburn, Reno, Tahoe and Truckee airports is increasing yearly and the terrain in our high country is severe. Based on your articles in the February and March 1981 issues of **Worldradio**, I solicit your assistance in our acquiring three each Collins ELT receivers.

"Our Eastern Sheriff's Command Post Van has a Sheriff's Office DF assigned. The Western Van will also have a DF Unit, when the equipment installation is complete. Your HAPPY FLYERS articles in **Worldradio** have kept a spark burning in our organization since your first ELT writing. It's more than just a spark now! I will mail you a picture of our first installed receiver as soon as possible. . .

"The objective of the Communications Reserve Unit is to provide volunteer emergency communications back-up to the Placer County Sheriff's Department in an effective manner.

"The 30 members of this communications unit are volunteers and sworn uniformed deputies of Placer County. These deputies come from various backgrounds but have one thing in common; they are all communications specialists (Amateur Radio operators) licensed by the FCC. These volunteers are in radio communication daily with each other and other amateurs. Their communications are enhanced through the use of hilltop repeaters. The working and planned repeater sites enable the members to communicate with any other member or amateur in the county.

"A nine-passenger van was donated to the PCSCR in 1980. This van has been converted into a Sheriff's Command Post vehicle by the PCSCR Van project members in the Tahoe area. The van is based at the Tahoe Sheriff's substation. Its purpose is to provide an immediate Sheriff's Mobile Command Post. It has proven to be invaluable in the Eastern Placer County Sheriff's SAR emergency operations.

"The PCSCR is active on a duplicate Sheriff's Command Post Vehicle project for Western Placer County. This van will be stationed at the DeWitt Center Sheriff's Office and be available for immediate dispatch. The PCSCR is active on the continuing project for a Placer County-wide radio repeater network.

"The Roseville railroad yard bomb explosions, local county forest fires, the annual Tevis Cup endurance rides and SAR participation have proven the unit's capability to provide organized communications."

Included with the information was a copy of their very well-organized call-out procedure. No matter how well a team can perform, it must first be called into service — or it can do no useful service. We have observed that many of the volunteer groups around the country have allowed their call-out lists to get out of date. Some areas, we found, have not had a call-out procedure for years. It might pay all of us to give some thought to what would happen if a real emergency were to develop

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without our knowlege. What would we do as a group to locate and utilize those who would be the most needed? We live in the San Francisco Bay area, where the experts claim it is only a matter of time until a major earthquake will hit. Are we prepared? They are certainly attempting to get ready. I have taken part in three disaster exercises, and know of many more. How about you, in your area? Are you ready?

One of the first areas of concern should be the arrangements for your own family. We need to prepare, in advance, a primary and a secondary plan. We cannot do a good job during the disaster if we are worried about the welfare of our own family. I am fortunate, since Janie and two of our daughters are Amateur Radio operators with long hours of experience. We can take advantage of the side benefits of our hobby, and contact each other on a prearranged list of special frequencies expected to remain operational. One never knows when this type of preparation will be helpful. It certainly is worth some consideration. We have the capabilities; we should be prepared to use them.

Once this preparation is complete, we can put proper planning into where we can do the most and be contacted the easiest. With all the available encoder/decoder devices today, it seems amazing that more amateurs are not equipped with selective calling. Years ago, bay area amateurs built many different types of selective calling devices. In the days of tubes, our end results were large and not very versatile. Not long ago, I responded to one of the very colorful ads (full color with beautiful food) for the new breed of small encoder/decoders, with tremendous versatility. I needed the encoder for my CAP repeater work. The side benefit of being able to contact Janie has been great. I had almost forgotten the value of being able to get someone who is not in a position to listen to the constant chatter of an active repeater.

I have included a picture with this column, showing my TR 7800 with the Communications Specialists unit mounted on the top panel. It allows me 32 burst tones and 32 sub-audible tones at will. I also have some of the smaller units, as well as some of my own "silent monitor" decoders designed for home-building years ago. By using high sub-audible tones, I can let those who might wish to contact me know I am on the radio. If I wish to contact a specific individual who is decoder equipped, such as for Search and Rescue (or Janie), I just dial up the proper frequency and make a directed call. It gives one great flexibility.

Very few areas have taken advantage of this type of call-up system. It allows volunteers to have a radio (receiver or transceiver) at work, home or wherever — and be available. There are many of the old belt-type paging receivers available at flea market sales for very reasonable prices. One might be very surprised at the life that can be added to a group when a worthwhile project is underway. Someone could be assigned to locate reasonable sources, etc. Add this to your ELT monitor program and when the entire project is operational, call in the local media. Amateur Radio can certainly use some good publicity. Also, you can attract some very valuable new blood from among those who hear of your activities. As a matter of fact, if you have been an amateur for years and run the full trials of CW, AM, SSB, ATV, Fac, RTTY, moonbounce, etc., you might find a special satisfaction by helping construct a good alert system to go along with your ELT monitor system.

ELT receivers

The interest in placing 121.5 receivers at amateur repeaters to monitor for signals from the Emergency Locator Transmitter (ELT) for downed aircraft continues to increase. The ELT has been

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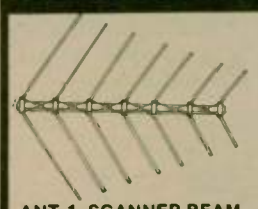

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World Radio History

credited with being a major contributing factor to saving scores of lives in the past few years it has been around.

One of the present problems is that of an adequate monitor system nationwide. Ground-based listening stations presently available are extremely inadequate. If a sufficient number of Amateur Radio repeater sites installed these receivers, we would not only have an effective "alerting system", but would have quasi locating information. By knowing each repeater's coverage area, we could calculate "high probability" areas when only one repeater heard an ELT.

All of the receivers donated by Aeronautical Radio Inc. (AIRINC) have been distributed. We hope to receive more, but if all repeaters were to wish to install these receivers (as we hope), the surplus market could never keep up.

We need a supplier/s, of a good solid state 121.5 AM receiver that can live at a repeater site. Coincidentally, thousands of Search and Rescue (SAR) volunteers need a small receiver for 121.5 (ELT), 121.6 (practice frequency), and 123.1 (SAR frequency). What an opportunity for some company or amateur to do a great public service, and make money as well. If any reader can help spur someone into considering this project, it would be greatly appreciated by many. I would be happy to explain the needs of the SAR community to any interested party. I prefer to answer your questions on the telephone (afternoons or evenings).

Medical operation

I wish to thank each of you for your cards, letters and phone calls. The operation will involve a bone graft, metal pins, removal of accident debris, and relief of pressure on nerve roots. Probably should never have mentioned an up-coming operation, but had expected the operation months ago. Due to printing delays, I wished to avoid correspondence delays caused by my period of recuperation. We have been receiving about three letters a day. Most require answers.

Presently, we hope to have had the operation by the time you receive this. We would appreciate most written correspondence to be sent to Vice Commander Paul Hower, WA6GDC, P.O. Box 2323, La Mesa, CA 92041. He is always the one with whom to correspond when you wish to borrow either or both of our free loan slide/sound shows. He will attempt to answer all letters while I am unable to.

As always, I will be happy to answer DF or SAR questions during afternoons or evenings, seven days a week, at my home phone (415) 341-4000. Once home from the hospital, I would even enjoy just visiting with you for a few minutes on the phone. I will be "restricted" for a number of weeks after the operation. □

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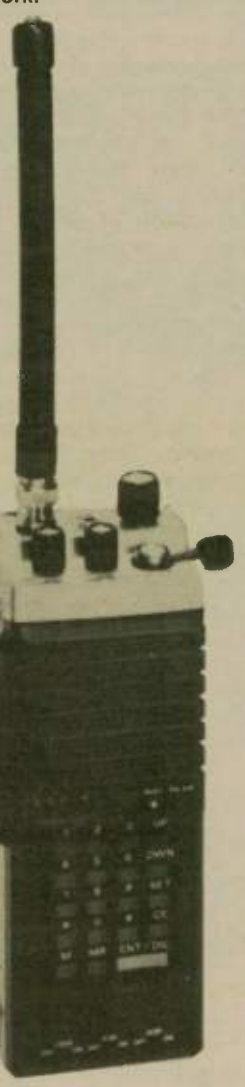

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USQS

Laryl Myers, N7BMY

Well, here is the latest update! We sure receive a lot of favorable comments about **Worldradio**!

This month, I will attempt to answer some of the more commonly asked questions aout USQS. I would also like to make a couple of comments.

We have been receiving a number of cards for U.S. QSL managers for DX stations. That is great, as we will accept any cards going to U.S. and Canadian stations. HOWEVER, it is commonly accepted practice to send the manager an SASE for return of the DX cards. I do not know of any manager who will forward the DX cards without one. Also, we file cards and hold them for an SASE from the station to receive the card.

We will be glad to address and handle any cards to managers for you if you enclose postage (and an SASE for each manager), to cover our costs of directly mailing the cards. Doing so, however, defeats the purpose of USQS, which is to reduce the cost of your QSLing! I hate to talk anyone out of using our service for all of their QSLing, but more importantly, I want everyone to benefit from USQS! If having us look up addresses, etc. is a benefit to you, great! I just want to make sure you are fully aware of our methods and policies.

One of the most commonly asked questions about USQS is how we can make a profit by charging only 25¢ per 20 QSLs. We do not make a profit! As a matter of fact, we had a net loss last year of over $800 and expect to continue to operate at a loss again this year. We are not doing this to make money. We are doing it to provide a needed service for amateurs in the United States and Canada. We are lucky to have a parent corporation, owned and managed by active amateurs who are willing to absorb our losses! The letters of thanks make it worth it, and we have only heard from two amateurs who were unhappy in any way, so I guess we are doing okay.

Another commonly asked question is what we do with cards we receive that do not have an SASE from the recipient. We file the cards, make every possible effort within our budget to notify them they have cards on file, and wait! If you want your cards returned to you if not forwarded in a specific amount of time, we will be more than happy to do so! As an added note, if you do not want to have less than a specified minimum of cards returned in your SASE, simply mark on the SASE "3 cards" or however many you wish minimum per SASE. We will do anything within reason to make the service of value to you.

We have received several SASEs from people who have QSLs on file who have not seen their call listed in **Worldradio**, and they have asked why! The list printed

(please turn to page 49)

World Radio History

WITH THE HANDI-HAMS

Bruce L. Humphrys, KØHR

Getting at the real question!

Coupla months ago I ran some funny math in this column — trying to prove that 1+1=0, remember? Well, several of you wrote in saying I was all wet. Most of the arguments against my method said you cannot divide by zero, which was what A-B was. Hokay, so you can't divide by zero . . . why not? Zero is a number just like any other number; it takes a certain place in a numbering system; it has a value; it behaves quite regularly when used in addition and subtraction — what gives?

Well, what gives is that zero is a SPECIAL number — it has to be treated with special consideration in computations. There are things you can do with other digits that you just cannot do with zero. No, that's not quite right — you can do them; we just cannot conceive of the outcome. For example: you can square the number 5 to get 25. No sweat. We can count five apples and we can count 25 apples. But you can't count zero apples; you can't because they aren't there to be counted! Therefore, you can't count the square of zero for the same reason

Need further proof? Try this — think of temperature for a moment. Let's say it's 50°F outside. If it were only 25°, it'd be twice as cold, right? And if it were 100°, it'd be twice as hot. Simple. Now, however, how cold is it if the temperature outside is TWICE as cold as zero degrees F? And don't you dare tell me zero is not a valid temperature! We Minnesotans know better! Zero degrees occupies a valid place on the scale of temperatures — and there has got to be some temperature that is twice as cold (or hot) as that one! I've got an idea of how to solve the problem — let's see what you come up with.

What this has to do with radio is this — let's think about taking FCC exams (yuch!). The questions on the Amateur Radio exams are not tough (no, they're not!). For the most part they can be broken down into three categories: definitions, circuit recognition and math. It's pretty easy to identify which questions are definitions: Rules and Regulations certainly. But also other things concerned with radio, like "cross modulation"; "QTH"; "Alternating Current"; "F2 Layer"; "Resonant Frequency"; "Trans-equatorial propagation"; etc. I have lifted these words off the FCC's own study syllabus (contact your local Field Office for a copy). Nobody should have any problems studying definitions. You do, however, have to be very careful to understand not only the definition of a particular concept, but how that *differs* from a very closely aligned concept. For example: There are some very subtle differences between "cross mod" and "inter mod". But nothing that can't be remembered.

Now we come to circuit recognition — maybe a little tougher because there are so many of them. Here, again, it's helpful to notice what makes similar circuits *different* — rather than try to remember each and every resistor and capicitor in an oscillator circuit.

Now we get to the math! First and last: *There is absolutely no substitute for knowing the right equation!* There are all kinds of ways to tackle a math problem, but unless you know the proper equation, you're sunk. There is just no way you can get the right answer (unless you happen to stumble across it making a math mistake, like I usually do!). Let's examine the way we have our Radio Campers approach a problem.

First — read the question and look at the circuit diagram (if any). Then, close your eyes and try to ask the same question in your own words. Then look at the problem again and write down the numbers they give you *with the units* (ohms, volts, etc.). Now — identify precisely *what* they're asking for and write that down, like this: "X" = ? ("X" can be "V" or "A" or "F", etc.)

Take a look at what you've been given (whether it's ohms, of reactance, or whatever), and see if you can plug those quantities into a formula. In fact, write the formula down on the scratch paper — just like you remembered it.

Okay, now you're ready to plug the values into the formula and carefully do the math. If you're certain you have the correct formula, *you can disregard any information which does not fit into it!* Ah ha! This is where our 1+1=0 comes in. In that little exercise, we threw in something extraneous — we squared some numbers. When you do that, particularly if you want to extract roots later, you have to contend with negative roots as well as positive roots. Similarly, the FCC exams have a tricky way of splashing *too much information* into the question. Let's take a look at an example:

What is the value of the capacitive reactance of a parallel resonant circuit containing an inductor whose value is 1.33 microhenry; a capacitor whose value is 390 picofarad; a resistor whose value is one kilo ohm; and whose resonant frequency is 7.0 MHz?

Step One: Re-read the question.

Step Two: Close your eyes and put the question into your own words.

Step Three: Write down the numbers with units: 1.33 microhenries (inductor); 390 picofarad (capacitor); 1,000 ohms (resistor); 7.0 MegaHertz (frequency).

Step Four: Identify precisely what they're asking for:

What is the reactance (capacitive) —

$$X_c = \frac{1}{2 \quad f \, C}$$

Step Six: Plug in the values:

$$X_c = \frac{1}{2\,(3.14)\,(7.0)\,(390)}$$

and see what you get . . .

$$= 5.8328 \times 10^{-5}$$

OOPS . . . that's not one of the answers! But there *is* an answer with those numbers in it — just different places. Go back and make *sure* you put in the right numbers. Ah ha — you have to enter the capacitance in farads, but you're given the value in picofarads; so enter the value as 0.000390 and you've got it.

Let's take a look at everything that was given to us to see if 1) there might be an easier way to do the problem and/or 2) there is some information which is intended to cloud the issue:

Well, we don't really have to know this is a PARALLEL circuit, do we? Nor do we need to know there's a resistor in the circuit. We would, of course, if we were to solve for "Q" — but we're not asked that. All the other information is necessary. One little hint — since they say this is a RESONANT circuit, we know from definition that $X_c = X_L$ right? And, for my money, inductive reactance is easier to solve for than capacitive reactance (you don't have to divide into one). So try solving for inductive reactance and see how close you come . . .

Well . . . this is a long, drawn-out way of saying, "You don't necessarily have to use all the information given to you in a problem or question." Sometimes stuff is thrown in just to confuse the issue. Also, remember that there are easy ways and hard ways of doing something — always take the easy way!

Radio Camps coming

All of this tommyrot is designed to get us in the mood for cracking the books at Radio Camp! As previously described, Radio Camp is a special service of the Courage HANDI-HAM System for students and handicapped members of the System where we spend an entire week at a residential camp designed specifically for handicapped campers learning radio communications skills. This year, we are holding our first session 29 August through 4 September at Camp Courage near the Twin Cities in Minnesota. Session Two will be held 23 January through 29 January (1982) at Camp Joan Meir, near Los Angeles, California. If you would like more information on these sessions, and are not now a student or member of the Courage HANDI-HAM System, drop me a line at Courage Center, 3915 Golden Valley Rd., Golden Valley, MN 55422. □

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STARTER KITS include 1 wall charger, appropriate holder clip and 2 cells in the size listed. (1-9 volt).

PSAA AA Penlites	7.25
PSC C cell size	7.65
PSD D cell size	8.35
PS9 9 volt (1)	8.95

NEW 6 VOLT LANTERN Gel-Cel construction 4.5 AMPHR. Spring and Screw type contacts. Uses overnight charger.
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Handicapped do their share of walking

Larry Demattei, W6SJA

Fourteen Napa County ARES members supplied 2-meter communications for the 3rd Annual March of Dimes Walk-a-thon on Sunday, 26 April. They manned five check-in locations and three "poop out" vans for the 22-mile walk, using 2-meter simplex frequency 147.58, handi-talkies and mobiles.

A total of 1,200 persons participated in the event, getting pledges of $50,000.

The most gratifying part of the walk-a-thon was the participation of three seriously handicapped young men — all 17 years old. The most seriously handicapped had been crippled with cerebral palsy since birth. Using crutches, he was able to literally drag himself some six miles before he was stopped by his mother. I had the honor of taping his shoes.

He showed a great deal of interest in the mobile equipment, but stated that financially, he was unable to pursue Amateur Radio. So we plan to obtain donated equipment and start him on his way to possible "ham-dom".

Napa County amateurs who participated in the nine-hour walk-a-thon were: John Wehren, N6XN; Albert Ammons II, WA6SRP; John Campbell, W6NVV; W6NVX; Tomas Oja, KA6IDT; WB6PMS; Demetra Lewis, W6TXU; Ronald Martin, W6ZF; Kingsley Klarer, WB6VGC; Louise Klarer, WA6FHH; Larry Drouin, WA6UHO; Henry Petersen, W6TIG; James Lee, KA6DFP; and Larry Demattei, W6SJA. □

Don't be bashful!

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World Radio History

40 W, 15 memories/offset recall, scan, priority, DTMF touch-pad

TR-7850

Kenwood's remarkable TR-7850 2-meter FM mobile transceiver provides all the features you could desire, including a powerful 40 watts RF output. Frequency selection is easier than ever, and the rig incorporates new memory developments for repeater shift, priority, and scan, and includes a built-in autopatch touch-pad (DTMF) encoder. A 25-watt output version, the TR-7800, is also available.

TR-7850 FEATURES:

- **Powerful 40 watts power output**
  Selectable high or low power operation. High 40-watt output provides reliable signal for wide area coverage.
- **15 multifunction memory channels, easily selectable with a rotary control**
  M1-M13...memorize frequency and offset (±600 kHz or simplex). M14...memorize transmit and receive frequencies independently for nonstandard offset. M0...priority channel, with simplex, ±600 kHz, or nonstandard offset operation.
- **Internal battery backup for all memories**
  All memory channels (including transmit offset) are retained when four AA NiCd batteries (not Kenwood supplied) are installed in battery holder inside TR-7850. Batteries are automatically charged while transceiver is connected to 12-VDC source.
- **Extended frequency coverage**
  143.900-148.995 MHz, in switchable 5-kHz or 10-kHz steps.
- **Priority alert**
  M0 memory is priority channel. "Beep" alerts operator when signal appears on priority channel. Operation can be switched immediately to priority channel with the push of a switch.
- **Built-in autopatch touch-pad (DTMF) encoder**
  Front-panel touch pad generates all 12 telephone-compatible dual tones in transmit mode, plus four additional DTMF signaling tones (with simultaneous push of REV switch).
- **Front-panel keyboard**
  For frequency selection, transmit offset selection, memory programming, scan control, and selection of autopatch encoder tones.
- **Autoscan**
  Entire band (5-kHz or 10-kHz steps) and memories. Automatically locks on busy channel; scan resumes automatically after several seconds, unless CLEAR or mic PTT button is pressed to cancel scan.
- **Up/down manual scan**
  Entire band (5-kHz or 10-kHz steps) and memories, with UP/DOWN microphone (standard).
- **Repeater reverse switch**
  Handy for checking signals on the input of a repeater or for determining if a repeater is "upside down."
- **Separate digital readouts**
  To display frequency (both receive and transmit) and memory channel.
- **LED bar meter**
  For monitoring received signal level and RF output.
- **LED indicators**
  To show: +600 kHz, simplex, or -600 kHz transmitter offset; BUSY channel; ON AIR.
- **TONE switch**
  To actuate subaudible tone module (not Kenwood-supplied).
- **Compact size**
  Depth is reduced substantially.
- **Mobile mounting bracket**
  With quick-release levers.

More information on the TR-7850 is available from all authorized dealers of Trio-Kenwood Communications, Inc., 1111 West Walnut Street, Compton, California 90220.

KENWOOD
...pacesetter in amateur radio

Matching accessory for fixed-station operation:
- KPS-12 fixed-station power supply for TR-7850

Other accessories not shown:
- KPS-7 fixed-station power supply for TR-7800
- SP-40 compact mobile speaker

TR-7850 is subject to FCC approval.

Specifications and prices are subject to change without notice or obligation.

World Radio History

Hand-shack.

Synthesized, big LCD, 10 memories, scanning, DTMF

TR-2400

Put a ham shack in your hand. The TR-2400 is the ideal hand-held for 2 meters FM. It features a large LCD readout that can be read in direct sunlight or in the dark, 5-kHz-step PLL synthesized operation, 10-channel memory, scanning, and 16-button autopatch DTMF encoder.

TR-2400 FEATURES:

- **Large LCD digital readout**
  Readable in direct sunlight (better than LEDs). Readable in the dark (with lamp switch). Virtually no current drain (much less than LEDs) and display stays on. Rugged and dependable in hot or cold temperature ranges. Shows receive and transmit frequencies and memory channel.
- **5-kHz-step frequency selection**
  PLL synthesized keyboard channel selection system. No "5 up" switch needed. Selects from 144.000 to 147.995 MHz.

CONVENIENT TOP CONTROLS

- **UP/DOWN manual scan**
  Single or fast continuous 5-kHz steps from 143.900 to 148.495 MHz for Amateur and MARS or CAP simplex or repeater operation.
- **10 memories**
  Retained with battery backup (only 2.0 mA). "M0" memory may be used to shift the transmit frequency any desired amount to operate on repeaters with nonstandard split frequencies.
- **Built-in autopatch DTMF encoder**
  All 16 buttons of keyboard provide telephone dual-tones while transmitting.
- **Automatic memory scan**
  Checks all 10 memory channels. Programmable to lock automatically on either BUSY (signal present) or OPEN (no signal) channels.
- **Repeater or simplex operation**
  Convenient mode switch shifts transmit frequency +600 kHz or -600 kHz or to the frequency stored in "M0" memory.

- **Subtone switch**
  Activates subaudible tone encoder (not Kenwood-supplied).
- **Extended operating time**
  With LCD and overall low-current circuit design. Only draws about 28 mA squelched receive and 500 mA transmit (at 1.5 W RF output), for longer operating time between charges.
- **Two lock switches**
  Prevent accidental frequency change and accidental transmission.

Microphone PTT and audio terminals

Charger terminal

Earphone Jack

- **Reverse operation**
  Push-button switch shifts receiver to transmit frequency and transmitter to receive frequency.
- **BNC antenna connector**
  Easy to connect external antenna.
- **LCD "arrow" indicators**
  Show "ON AIR" "MR" (memory recall), "BATT" (battery status), and "LAMP" switch on.
- **High-impact case and zinc die-cast frame**
  Extremely rugged with antenna counterpoise.
- **External PTT microphone and earphone connectors**
  Easily accessible on right side of transceiver.
- **Compact and lightweight**
  Only 2-13/16 inches wide, 7-9/16 inches high, and 1-7/8 inches deep. Weighs only 1.62 pounds (including antenna, battery, and hand strap).

Standard accessories included:

- Flexible rubberized antenna with BNC connector
- Heavy-duty (450-mAh) NiCd battery pack
- External-standby (PTT) plug
- External-microphone plug
- AC charger • Hand strap
- Earphone

More information on the TR-2400 is available from all authorized dealers of Trio-Kenwood Communications, Inc., 1111 West Walnut Street, Compton, California 90220.

Optional accessories:

- ST-1 base stand (shown) which charges to 90% (to protect battery) in 1.5 hours, with 4-pin connector for dynamic microphone and SO-239 antenna connector
- BC-5 DC quick (90%) charger
- SMC-24 speaker/microphone
- LH-1 deluxe leather case (top-grain cowhide)
- PB-24 extra battery pack with charger adapter
- BH-1 belt hook

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World Radio History

DX WORLD

John F. W. Minke III, N6JM
6210 Rio Bonito Drive Carmichael, CA 95608

Easter Island types take time-out for their picture. Left-to-right: Cesar, CE0COJ; Jim, W4PRO/CE0; Father Dave, CE0AE. In the foreground are two Easter Island youngsters who like to have their pictures taken. Photo courtesy of W4PRO, and probably taken by W4GSM, as he is not in the picture.

Activities calendar

13-14 June	RSGB National Field Day
20-21 June	JARL All Asia Contest (Phone)
04-05 July	Venezuelan Contest (Phone)
11-12 July	IARU Radiosport Championships
18-19 July	SEANET World-Wide DX Contest (CW)
18-19 July	RSGB WAB Contest (CW)
25-26 July	Venezuelan Contest (CW)
08-09 August	DARC European DX Contest (CW)
22-23 August	JARL All Asia Contest (CW)
12-13 September	DARC European DX Contest (Phone)
14-15 November	DARC European DX Contest (RTTY)

Thanks to CQ Magazine, (Contest Calendar by Frank Anzalone, W1WY), and the Deutscher Amateur Radio Club, (Conni Wollner, DJ1QQ), for the above information.

W-100-N

Seven applications for the Worldradio Worked 100 Nations Award were received for listing in this issue. Our congratulations go to the following amateurs:

118. AG2K	Robert F. Imhof
119. WD9FOE	Anthony Tomalewicz
120. WA8COE	John Paul Jones
121. VK6AJW	John A.E. Woodings
122. WN5MBS	Ray E. Wormley
123. AG3S	Robert K. Saulpaugh
124. W6LUR	Michael M. Elliot

John Paul Jones, WA8COE, submitted the required QSLs for contacts — all made on 10-meter SSB over a period of seven months. John Woodings, VK6AJW, the third application to be received from Western Australia, confirmed his contacts with 151 nations in less than a year. John has been licensed only since May of last year.

W-100-N review

As can be seen, most applicants for the Worked 100 Nations Award are from stateside. I will list all the DX applicants who have applied since the start of Series II of the W-100-N:

2 DJ9ZB Franz Langner (Plaque for Europe)
4 JH1VRQ Nao Akiyama (Plaque for Asia)
30 WA4UAZ/HC1 Steve Hawley (Plaque for South America)
42 KL7JFV Gregory Nightingale
53 VK6YL Jill Weaver (Plaque for Oceania)
62 VK6NE Neil Penfield
65 JH4PRU Jiro Iseya
67 VQ9KK Bill Hatcher (Plaque for Africa)
69 EA8TY Eric Lund
94 VK2FD Bruce Thomas
104 VK3NSY Ron O' Grady
108 VK2DEJ John Sanders
121 VK6AJW John A.E. Woodings

As of this writing, there have been no applications from Canada. This really surprises me as there are many DX'ers up there.

As for the stateside applicants, the first ones in each call area are as follows in order received:

1 W8AH Albert Hix (Plaque for North America)
3 W7OK Don Brickey
5 WA6KTZ Terry Falke
6 K0VRW Dick Garrison
7 WB3CIW Howard Smith
11 WD9CWJ Don Bucholtz
14 K1RH Ralph Hirsch
15 N4MM John Kanode
25 KA5ACC Gregg Breitegan
31 K2SP James Sheats

And finally, to top off the YL/OM teams we have:

35 W6GO Jay O'Brien
52 K6HHD Jan O' Brien (First YL applicant)

Easter Island DXpedition

Jim Wise, W4PRO, reports on his February-March DXpedition to Easter Island with Terry Appleton, W4GSM. The team left stateside for Easter Island on 22 February, returning four weeks later.

Operating as W4PRO/CE0, Jim and Terry made 11,000 contacts operating 160 through 10 meters, CW and SSB. The rig was an IC-701 and an Alpha 76. Antennas included a two-element quad at 68 feet and inverted "V's" at 95 feet on 160, 80 and 40 meters.

When they left, Father Dave, CE0AE, was active on the air again and really enjoying DX'ing after being off the air for quite some time. His equipment problems have been solved by the two DXpeditions — this one and that of Steve Boller, N0NO, and his group.

At the end of March, Charles Harris, WA1SQB/CE0, was there giving out contacts to those who missed W4PRO/CE0.

Monaco

Mid-July there will be a DXpedition to Monaco by a Dutch group that call themselves the Monaco DX Group. The operators will include J.M.M. Simons, PA0SIM; W.J. Leenders, PA2WLE; R.O. de Meijer, PA3AKP; L.P.M. Schreurs, PE1AMC; T.C.G. Hesen, PE1AUX and R.J.M. Kuijpers, PE1CUG.

Beginning 10 July 1981, they will operate most of the day on the HF, VHF and UHF bands, with some attempt with OSCAR. The operation will run for 10 days using an FT 101, TH3 Jr and Long Wire for HF, IC211 with amplifier and 10-element Yagi on VHF and FT780R and 22-element Yagi on UHF.

No call sign was given, but there is a possibility it will be a 3A0 prefix. On the HF bands look for the group on the following frequencies:

CW: 3.505, 7.005, 14.005, 21.005, and 28.005; SSB: 3.790, 7.065. 14.141, 21.312, and 28.582.

All frequencies are in MegaHertz; there no indication as to whether it will be a split-frequency operation. That 20-meter SSB frequency is of no use to the American amateurs. To work them on CW, you will need an Extra ticket.

Labrador

Obviously not DX, but if the bands are dead, perhaps you might take a VO2 as an alternate. Bob Hazelton, WB2IVX, and Micheal Harodecki, WB2TKD, plan to operate QRP for one week beginning 03 August 1981 from Labrador City, Labrador. Operation will be CW and SSB, 10 through 80 meters. The operators will handle their own QSL cards.

Market Reef

There is in the planning another trip to Market Reef by W6EUF and the Helsinki DX Gang. The dates are set at 06 to 14 July 1981 for operation on all bands 10 through 160 meters.

The operation by OH0XX/OJ0 and OH0XZ/OJ0 took in 11,000 contacts. About two-thirds of these contacts were with stations outside of Europe, which included about 200 North Americans and Japanese on 40 and 80 meters.

The March group had to go in via helicopter due to the ice conditions at that time of year. If you missed this one, you will have another chance this summer. Propagation is usually good into this region in the summer.

Propagation

Maximum Usable Frequency from Burbank, CA
(courtesy of W6LS)

The numbers listed in each column are the Maximum Usable Frequency (in MegaHertz) for contacting five major areas of the world (Nairobi, Tokyo, Melbourne, Frankfurt, Rio de Janeiro) for low fire angle antennas.

You can get a free *complete* set of these predictions for both high and low angle antennas, Maximum Usable Frequency (MUF) and Frequency of Optimum Transmission (FOT). Requests should be sent to W6LS, 2814 Empire, Burbank, CA 91504. Each request should be accompanied by a self-addressed stamped (35¢) envelope at least 9" × 11½".

AUGUST 1981

UTC	AFRI	ASIA	OCEA	EURO	SO AM
0100	24.3	25.5	33.5	17.0	25.8
0200	21.8	25.4	33.0	16.0	26.2
0300	19.4	25.1	32.6	15.2	24.6
0400	20.7	23.7	31.5	15.3	23.5
0500	19.1	21.8	29.5	16.2	23.0
0600	17.4	20.3	27.8	17.5	21.3
0700	15.4	19.7	26.9	16.6	17.9
0800	13.4	19.3	24.5	15.1	15.0
0900	12.0	18.7	22.1	13.9	15.2
1000	11.7	17.6	20.0	13.4	18.6
1100	12.4	16.3	18.8	13.5	17.7
1200	13.8	15.3	18.3	14.4	17.8
1300	15.9	15.5	18.2	16.4	20.0
1400	18.1	17.5	18.3	19.3	23.0
1500	19.7	20.1	18.1	21.7	25.0
1600	20.5	19.7	16.9	22.6	25.5
1700	20.8	19.7	14.8	22.9	26.0
1800	21.1	19.7	13.3	23.2	27.5
1900	21.5	20.5	15.1	23.2	29.3
2000	21.9	22.9	20.7	22.6	30.1
2100	22.2	25.8	27.6	21.4	29.6
2200	22.9	27.1	32.4	20.0	28.1
2300	23.7	26.8	34.2	18.8	26.3
2400	24.2	26.0	34.1	17.9	25.4

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World Radio History

Desecheo Island

Two different groups have filed for permission to operate from Desecheo Island. No dates have been given nor have the two groups been identified. As details come in, we will keep you posted.

South Orkney Islands

Look for Juan Carlos, LU1ZA, who checks in with LU3ZY on South Sandwich Islands at 0100 UTC. He has been found on occasions on Tuesdays and Fridays. No frequency was given, but if I remember correctly, the schedule that LU3ZY maintained was the lower part of the 20-meter phone band.

Another station to look for is VP8ZR who hangs about 14.275 MHz from 1930 UTC. Dennis, the operator, is also active on 21.240 MHz at 2000 UTC daily. Perhaps he can be persuaded to move up frequency somewhat.

South Shetland Islands

While you have your beam down in that general direction, look for Bogden, HF0POL, who is operating from a Polish scientific expedition base on King George Island. He prefers the low two kiloHertz on the 40-meter band from 0030 UTC. He has also been reported there, 7.001 MHz, plus or minus, as late as 0645 UTC. Bogden also operates near 14.002 MHz from 0300 UTC for the 20-meter buffs. You may QSL this one via Boguslaw Radzimski, SP5EKZ, or the Polish QSL bureau.

Neil, VP8AEO/CE9, is another station from this location who prefers SSB. Look for him near 28.547 MHz from 2400 UTC, or 14.254 MHz from 2000 UTC.

Guinea Bissau

Erik Sjolund, SM0AGD, and company, report that 20,442 contacts were made during their recent J5AG DXpedition to Guinea Bissau. Of that total, 10,343 were made on CW — pretty near a 50-50 split between CW and SSB.

Erik had hoped to make the Visalia DX bash, but was laid up with water on the knee. He was quite pleased with the operation and gave the following statistics:

North America	11,254 QSOs
Europe	5,479 QSOs
Asia	2,383 QSOs
All other	1,326 QSOs

For the band break-down, 80 to 10 meters respectively, they were 1037, 1145, 6033, 6665 and 5561.

The operators included Jorgen Svensson, SM3CXS; SM0AGD; Gunnar Brundin, SM3DVN; and Leif Wall, SM3RL. Of the nine days of operating, they only had electricity 14 hours a day. During the outages they used car batteries for the IC-701 rigs.

If you missed the J5AG DXpedition, you will still have a chance to work this country. Hillar Loor, who is a resident of Guinea Bissau, is now licensed as J5HTL, and will be active for about a year, on 10 and 15-meter SSB only. He has been reported near 28.596 MHz at 1420 UTC, and also on 15 meters, but out of the American phone band.

Palmyra Island

The AD0S crowd altered their plans by going directly to Kingman Reef and then to Palmyra Island. The group included George Carleton, AD0S; Bill Boykin, W6HTH; and Jack Binder, KB7NW. Bill Zachman, W6TPH, was originally scheduled to go, but there was a change in plans and he was replaced by W6HTH.

Most of the operation was on SSB with split operation. The operation didn't follow the normal DXpedition formalities, as they were found checking into nets or working from lists.

Japanese prefixes

Nac Akiyama, JH1VRQ, of our Japan desk, sends the latest on the call signs as given in the table below:

District	Last call sign issued as of 27 Feb 1981	Stations licensed as of 03 Mar 1981	JARL members as of 02 Feb 1981
Kanto	JN1KDJ	121,999	37,728
Tokai	JG2INN	63,703	14,262
Kinki	JI3NPC	74,802	17,527
Chugoku	JR4SRL	33,108	8,518
Shikoku	JH5NRL	17,088	4,127
Kyushu	JE6WBA	43,973	10,516
Tohoku	JE7ADJ	33,793	9,739
Hokkaido	JR8APG	22,370	7,271
Hokuriku	JH9EFF	12,955	3,298
Shin-etsu	JH0TQV	18,314	4,926
Total		442,105	117,912

Now, don't go check the Callbook to see if those figures are correct. The listings there do not reflect most of the licensees of Japan.

Incidentally, as I understand it, non-members of the JARL do not have the privilege of the Japanese QSL Bureau. As the Japanese are avid QSL'ers, that would explain it if you don't receive a card from a non-member of JARL.

A reader query

A query was received at Worldradio from Richard B. Howe, K7QCS, from the Phoenix, Arizona area. From the tone of his letter, it appears that OM Howe is not a DX'er. He had contacted Ivor Stafford, VK3XB, on 21.155 MHz cross-mode (VK3XB on SSB and K7QCS on CW). All Ivor wanted was his RST and was not interested in any other conversation. He went on further to wonder if Ivor would QSL or not. In defense of Ivor, I will comment on the above.

Yes, from past experience and knowing Ivor, he does QSL. Most likely he didn't care to continue with you in QSO because he was on SSB and didn't care for a cross-mode ragchew. If he did care to carry on with CW, I'm sure he would have been on CW himself. When DX stations are on SSB below the lower limits of the American phone bands, they are not necessarily looking for contacts with Americans. Because some DX stations do this doesn't mean they all do this.

OM Howe further went on to request a mailing or QSL address for VK3XB. I hope you are a subscriber to Worldradio so that you can read your answer as you did not provide an SASE for an answer. If you refer to the Foreign Edition of the Callbook, you will find his address. You could also send your card via the VK3 QSL bureau, or if you are an ARRL member, via the Overseas QSL Bureau at ARRL headquarters.

All DX'ers should have a copy of the Foreign Edition of the Callbook, not necessarily the latest edition. The American Edition is helpful too, for looking up QSL managers. A final reminder — if you QSL direct and expect a direct answer, provide IRCs for postage. Without the IRCs, your QSL will most likely come via the QSL bureau route. Do you have an envelope on file with your QSL bureau?

IDXF

IDXF — International DX Foundation! Are you aware that many of the DXpeditions you may have worked lately have been supported wholly or in part by this organization? Such operations included John Ackley, CR9A; Harald Becker, XT2AW; 8Q7AR, and several others.

The International DX Foundation was established by John Ackley, KP2A, in the latter part of 1978 to promote international goodwill and understanding by international person-to-person contacts via Amateur Radio. Membership is open to all radio amateurs, with a present membership of approximately 300.

Membership is by donation, which of course, makes it a tax-deductible item when preparing your income tax forms. The suggested donation schedule in U.S. funds is as follows:

Life	$500 (Lifetime)
Full Sustaining	25 (Year)
Associate	10 (Year)

All donors will receive the IDXF newsletter which keeps you up to date on the foundation activities. Write to the International DX Foundation at P.O. Box 117, Manahawken, NJ 08050. If you have equipment to contribute, you may send it via United Parcel Service to IDXF, c/o Jim Grauser, WB2KXA, Route #1, Box 161, Allentown, NJ 08501.

Here on the West Coast is the Northern California DX Foundation, which works on the same principle. Both foundations deserve credit and thanks for their support of the many DXpeditions; and lastly, thanks to you who contributed.

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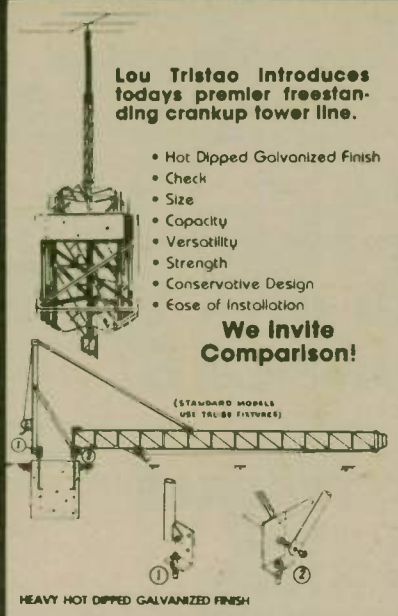

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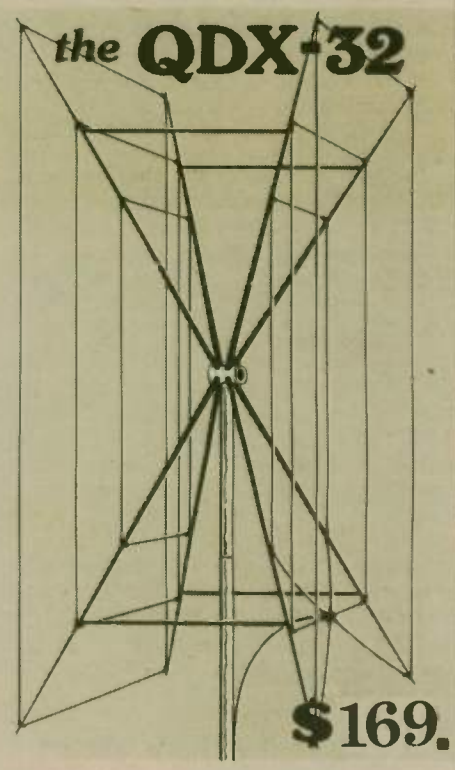

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IRCs for sale

Wally Cameron-White, S83W, has IRCs he would like to unload. He has several hundred and is asking $25 per 100 IRCs. Wally did not say if that was U.S. dollars, but I suggest you include a little extra to cover postage. If interested, you can contact Wally at P.O. Box 814, Umtata, Republic of Transkei.

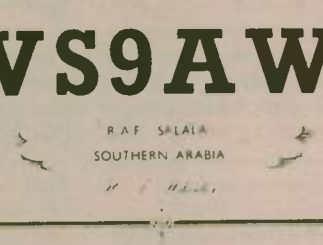
As you are well aware of the cost of IRCs at the post office, these should be grabbed up fast. So don't sit on it too long. Wally also adds that IRCs are not redeemable in the Republic of Transkei.

It was reported a few months ago that the older type of IRCs are no longer acceptable for redemption in the post offices, at least in the United States. Geoff Watts reports in his *DX News Sheet* that in accordance with Article IX of the final protocol of the 1974 Lausanne Convention of the Universal Postal Union, as of 01 January 1981 certain countries (including USA and Eire) will no longer accept older types of IRC for exchange. All IRCs are still exchangeable at post offices throughout the United Kingdom.

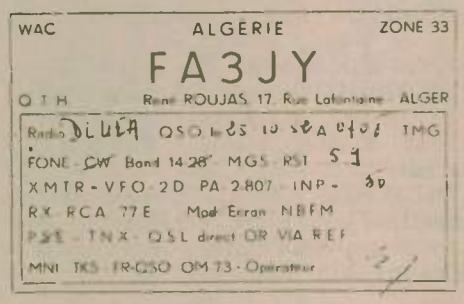
Antique QSL Bureau

Al Miller, VE7KC, provides us with the 1949 QSL card for VS2CQ from Malaya. This station was operated by Dr. George F. Bloomfied, G2NR, at Kuala Lumpur, on the Malay Peninsula. George is listed in the 1980 Callbook as G2NR, but it is not known how active he is. In 1963, Malaya was added to the Deleted Countries List, being replaced by West Malaysia, 9M2.

The VS9AW QSL is from the early 1950s and was submitted by Ray, W6SYM. Ray made the contact 09 September 1952 on 20 meters. The country is indicated as Southern Arabia, with Oman listed on back. The present name of this one is South Yemen, or People's Democratic Republic of Yemen. The location on the card was listed as RAF Salala, so perhaps it is Oman instead. Either way, it is still Southern Arabia.



Ray also submitted the QSL card from Algeria. FA3JY was the call used by Rene Roujas at Algiers in 1952. A check with the Callbook for the 7X listings shows no Rene. Maybe he is back in France.



John Ackley, KP2A, writes that he was very surprised and pleased to see his old PX1AA card in the "Antique QSL Department" (March 1981). That was his first DXpedition in 1951 — 30 years ago!

John is looking for someone who worked him as PX1AA who would care to part with the QSL. He would also like to have one of the other calls he operated from such as J2USA, D4AIA, DL4IA or 3A2AP. These were some of his early operations for which he has no QSL cards.

If you do not care to part with your card, I'm sure John will settle for a good copy. Contact John at P.O. Box 10245, Charlotte Amalie, St. Thomas, U.S. Virgin Islands 00801.

RTTY

Not much to report for the radioteletype buffs this month. This list is from 'Bandpass' of the *DX Bulletin*, edited by Jim Cain, K1TN. All frequencies are in MegaHertz and times are UTC.

FP8DF	14.092	1200
OX3PT	14.090	1100
PJ3SF	14.087	1300
VP1RY	14.089	1200
YS2MFI	14.087	1200

160 meters

Stew Perry, W1BB, reports that back in February, Bill Pfaff Jr., K2GNC, out on Long Island made a first ever. Bill was looking for VKs and thought he would just take a look for JAs after his CQ. To his amazement, there they were! He worked JA6ITF at 1120 UTC and received a 459 signal report. After signing with him, he also worked Yukihisa Yamashita, JA6LCJ, and JH6OFC. No other contacts, as far as it is known, have been made between Japan and the East Coast of the United States (call areas 1, 2 and 3).

The following is a listing of DX stations that have been reported on 160 meters. Again, the times are UTC and frequencies in this case are kiloHertz.

VP2VHL	1826	0400
GM4FNE	1835	2350
UL7CAD	1850	2235
ZS1XR	1823	2250

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World Radio History

An article in the Western Washington DX Club's newsletter had some helpful hints for 160-meter DX'ing. As the summer months are about here, I will save the article and print it later this year.

YL DX'ers

The following are reported to be YL stations. Frequencies and times are of the usual.

6T1YP	28.509	1000
ZD7SS	14.243	1940
H44JE	28.420	1035
VK9NL	21.028	0545
VK6YL	14.332	1000

Prefixes

Mato Grosse do Sul is a new state in Brazil and has been assigned the PT9 prefix. This makes a total of 27 Brazilian prefixes in normal usage. Brazil has for some time now been using other than the former 'PY' prefix. PT9LAS has been reported worked on 14.184 MHz at 0700 UTC.

RG4C is another one of those special Soviet prefixes that has been on recently. This one was to commemorate Yuri Gagarin, the first man in space. QSL this one via UK4CAA. If you hear RG8U, most likely Slim.

Russian DX Net

UA4CDC, manager of the Russian DX Net, is looking for more check-ins from North America. Look for this operation Wednesdays and Fridays at 1300 UTC on 28.700 MHz, 1400 UTC on 21.250 MHz and 1500 UTC on 14.250 MHz. Those rare Soviet republics may be there waiting to be worked by the deserving.

QSL managers

I haven't seen this mentioned before and perhaps it isn't a problem. Recently, with the FCC policy on call signs, it has been necessary to have on hand a late edition of the Callbook. With several QSL managers on the move and changing their calls, it is difficult to keep up. Before I go off on one of my things, let me give a bit of history on QSL managers.

Years ago, with the increased interest in DX, it became apparent that the work of answering QSL cards by the DX station became time-consuming, not to mention a financial burden. Enter the QSL manager. A stateside manager not only eased the burden on the DX'er, but made it less expensive for the stateside amateur who worked him. (SASE is much cheaper than SAE plus IRCs.) But then everybody wanted a QSL manager. This now has a reverse effect. Normal run-of-the-mill DX seem to have managers. Do you QSL his manager or send it via the bureau? Will he answer anything that comes to him other than from his manager?

I have seen some cases where an American station operating as a DX station abroad uses a European QSL manager. Now why wouldn't an American at least use a stateside QSL manager? This comment is going to offend some. If you wish to be a QSL manager, please stay put. Don't change your address all the time, and try to keep the same call. If you change your call, use your former call for QSL manager purposes until your new call has been around for a year or two for the Callbook to catch up.

One final note. If the QSL manager is slow in answering your QSL, it could be due to reasons beyond his control. Most likely, he is overloaded with requests. But it could be that the station he is managing will not cooperate and fails to send his logs.

QSL Managers Directory

A copy of the AB4N QSL Managers Directory was received here recently for evaluation. The directory is the work of Samuel S. Yates, AB4N, of Durham, North Carolina. The directory is a computer printout of over 2,600 QSL manager listings. Approximately 200 listings are being added each month. The directory covers the period from mid-1979.

The printout is a string of 8½" × 11" sheets with a wide left-hand margin to allow for mounting in a standard notebook binder, after separating the pages. All calls are in alphabetical order and in a single listing — not the dual listing used in this column; (i.e., QSL managers given by call only in the first listing, followed by those with addresses). Special instructions are given where necessary for the specific call on the same line.

The rates as of 01 June 1981 are $3 postpaid in the United States and Canada, and $4 elsewhere for a single issue. Subscriptions (six issues), will be $17 (United States and Canada), and $23 (elsewhere).

Further details are available from AB4N Directories, 1514 Cotherstone Drive, Durham, NC 27712.

Effective 1 May 1981 — ARRL QSL guidelines return rates for DXCC awards and endorsements

Award	UPS	Registered	Certified	First Class
DXCC† (new application)	1.50	5.50 (9.00)[1]	3.00	2.25 (6.00)[1]
DXCC†† (endorsement)	1.50	4.25 (5.00)[1]	1.75	1.00 (2.00)[1]
5BDXCC	2.25	8.25 (11.00)[2]	5.75	5.00 (8.00)[2]

† Initial 100 cards

†† 25 card endorsement

UPS or Registered mail is recommended

1 Small packet Air Mail
2 Surface Mail

IRCs valued at $0.30 U.S.

These rates are subject to change at anytime

ARRL QSL postage guidelines return rates for awards

Foreign small packet Air Mail

	Mexico, Central America, the Caribbean Islands	South America except Colombia & Venezuela, Europe (except Estonia, Latvia, Lithuania, & U.S.S.R.), & North Africa	Estonia, Latvia, Lithuania, U.S.S.R., Asia, Pacific Ocean Islands, Africa (other than North Africa), the Indian Ocean Islands & the Middle East
WAS	1.54	2.14	2.74
5BWAS	4.66	7.66	10.66
"600 Club"	1.28	1.68	2.08
SATELLITE '1000'	1.28	1.68	2.08

United States

	UPS	REG.	CERT.	F.C.
WAS	1.35	4.28	1.78	1.03
5BWAS	1.75	6.68	4.18	3.43
"600 Club"	1.35	5.50	3.30	2.50
SATELLITE '1000'	1.35	3.30	1.10	.30

All the above are U.S. Funds.
Registered Small Packet Air Mail add $3.25 to above fees
Do not use UPS if delivery is to a post office.
IRCs valued at $0.30 U.S.
These rates are subject to change anytime.

QSL via . . .

A35JW	—KL7CQ	S79MC	—AK3F
AD0S/KH5K	—AD0S *(See Note 1)*	SV2IL/5	—SV2MT
		SV0AP	—WB7NCF
AH2K	—KH6JSG	SV0AU	—W3FYT
AN3SF	—EA3SF	SV0BC	—WB7NCF
AO2HAM	—EA2OP	SV0BL	—K9QXY
C5ABL	—KB9IE	TA2TAT	—WA4JQS
C21CC	—JG3FCI	TI0HE	—TI2VVR
C31IQ	—F6BUM	TL8CN	—W5RU
C31UM	—EA3CAC	TL8RC	—F6EZV
C31YF	—G4HNP	TR8ESS	—TR8MX
CR9BE	—JA1UT	TU4BA	—W2TK
CS0OF	—CT1OP	TY9ER	—DL8DC
CT2DQ	—W4PKM	TYA11	—*(See Note 4)*
CX5RV	—G5RV	VK7RX	—K6YGX
DJ6SI/TZ	—DK9KD	VK9NYG	—VK6NE
EC9AQ	—EA9GN	VK0WW	—VK3XX
EL2FY	—JH0KAI	VP1RY	—K0BJ
EN3D	—UK3DAU	VP1TKJ	—WA0TKJ
FB8XAA	—F6DHI	VP1TV	—G3RPV
FB8YH	—F3KH	VP2ARS	—OE2DYL
FB8YI	—F3KH	VP2MIX	—W0IJN
FG0GDI/FS	—F6AXX	VP2MKV	—N6ST
FK8DD	—KA3A	VP2MLB	—W2IRS
FO8GL	—DF6EX	VP2MP	—W2KF
FR7AI/G	—FR7AI	VP2VHK	—N6ZV
G3PQA/5N0	—G3RPB	VP2VHL	—N6DX
GB1IARU	—G3LQI	VP2VIA	—W0ANZ
GU3TVY	—G3TVY	VP2VIB	—W0ANZ
GU4AFJ	—G4AFJ	VP2VJR	—VE3MJ
H5AK	—WB2ULI	VP8AEN	—GM3ITN
H44RW	—ZL1AMO	VP8AGX	—G4JDT
HC1BP	—N4BPO	VP8NJ	—WA4JQS
HC1SK	—SM6DYK	VP8PU	—WA4JQS
HG1W	—HA1KVM	VP8QG	—WA4JQS
HG6V	—HA6KVB	VP8QJ	—WA4JQS
HM1SX	—KB2EN	VP8WA	—WA4JQS
HM0U	—JA6HNK	VP8ZL	—WA4JQS
IP5FGM	—I5JHW	VP8ZR	—G3KTJ
J28AZ	—I8JN	VP9MZ	—WD4NBX
J73FW	—KB4SA	VQ9CCT	—VK5QX
J73LC	—WB2JVP/1 *(See Note 2)*	W31VP/5N1	—W4FRU
		YB8AEG	—WA2JOC
JX3P	—LA3DH	YZ3F	—YU3TAQ
JY9RC	—W1CKA	ZD7BW	—G3PEU
K2LE/DU2	—W2AYJ	ZD8SH	—JA1YYI
KA1AA	— *(See Note 3)*	ZF2EC	—WA4OBH
KJ6BZ	—KH6JHE	ZF2EK	—W8TN
KN1FPQ/C6	—DJ9ZB	ZK1AR	—AA6Z
KN5N/VP2A	—K9MK	ZK1XJ	—3D2ES
KP2A	—K2TJ	ZS1DM	—WA4JQS
LU1ZA	—LU2CN	ZS2MI	—ZS6AJG
LU2ZG	—LU5HDJ	ZZ3ZZ	—PY3ZZ
OE8AJK/YK	—OE8AJK	3A8EE	—3A2EE
OX3OA	—OZ1FAO	4A9LCH	—WD8NKT
P29GG	—VK2BUW	4N3ZV	—YU3ZV
P29GT	—K0BTH	5B4JP	—SM2DYS
P29LB	—WB2FLB	5T5AZ	—KB7HB
PU8ZBJ	—PY1ZBJ	5V7HL	—*(See Note 5)*
RG4C	—UK4CAA	5W1DF	—KL7CQ
6Y5JT	—J6LT	9Q5AB	—DL7AH
7P8BI	—WB0MSZ	9Y4VT	—WA6KZI
8Q7BF	—JA1ITE		*(See Note 6)*
8Q7BG	—DK4KY	9Y4XX	—WA6KZI
HS4ANK	—P.O. Box 38, Knonkain, Thailand		
KC6IN	—P.O. Box 296, Ponape, Eastern Caroline Islands 96941		
P29JM	—P.O. Box 12025, Arawa, Bougainville, Papua New Guinea		
PT9LAS	—Luis, P.O. Box 55, 79100 Campo Grande (MS), Brazil		
VS5PP	—Al Cantley, P.O. Box 1200, B.S.B., Brunei *(See Note 7)*		
YK1AO	—Omar, P.O. Box 35, Damascus, Syria		
9X5OW	—P.O. Box 1287, Kigali, Rwanda		

Notes:

1. Address given for AD0S: G.R. Carleton, P.O. Box 43, Merrifield, MN 56465
2. No address was given for WB2JVP/1. Suggest QSL managers submit to all DX publications their address changes to avoid guessing games.
3. KA1AA is Minami-Torishima — not New England! CW contacts go via KA6CWR, and SSB contacts go via WA4TKR.
4. Contacts made by Karl (K4YT) may be sent via K4YT. All other contacts with TYA11 shall be sent via ON5OT.
5. All contacts made by Karl (K4YT) at 5V7HL shall be sent via W2TK. All contacts made by K4YT on his African tour are handled by W2TK, except that of TYA11 which Karl will handle himself.
6. Applies for contacts made with 9Y4VT in contests only.
7. This station requests that all QSL cards be sent direct only.

I would like to thank the following contributors for this month's column: W1BB, W4FRU, WB2TKD, W0IJN, N4BPO, WA4JQS, W6LUR, S83W, JH1VRQ, W4PRO, AB4N, K7QCS, KP2A, WA2KTM, DJ1QQ, VE7KC, W6SYM, Monaco DX Group, Western Washington DX Club, Lynx DX Group (EA1QF), *the Long Island DX Bulletin* (W2IYX), *DX Report* (VE3FRA), *DX News Sheet* (Geoff Watts), *The DXer* (AC6V), *The DX Bulletin* (K1TN), and the *DXers Newsletter*.

The DX Convention in Visalia was great and included several overseas visitors including 7Z2AP, OH2BH, OH2BE, HV2VO, GU4EON, DL7FT, OH2FR, OH2TC, HB9MX and HS1AMI. One of the TS-830S transceivers was won by Dave Gardner, K6LPL, who can make good use of it on his next DXpedition. Tony Borgia, K6DR, won a KT-34 Yagi, which he can do without. Tony lives too close to me and can do without any antennas.

I had just got home from Visalia when the phone rang. It was the XYL who was down at Railfair with my daughter, Rachel, who was performing in the "Song of the Iron Horse". I had seven minutes to catch the bus, three-quarters of a mile away. The bus was about two minutes late (fortunately for me, as my 48-year old body wouldn't go any faster). As a result, I spent the rest of the night watching the performances, and even got a ride on 4449 — the resurrected Southern Pacific GS-4 steam engine. As I used to be a dedicated railfan prior to Amateur Radio 27 years ago, I was in my glory. It was my kid who got me a ride on the engine. Now, if she can get me rare DX . . . 73 de John, N6JM. □

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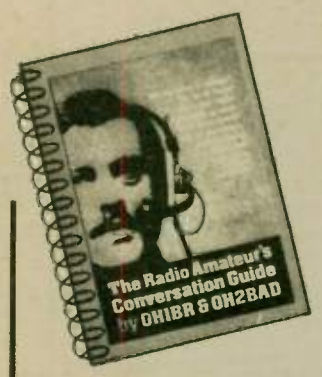

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World Radio History

AMSAT OSCAR K6PGX

Dr. Norman L. Chalfin

Jupiter, a source of 18-21 MHz noise

The other night on one of our local nets, someone asked a question about signals from Jupiter being received on 20 MHz. Jupiter is a strong astronomical source of radio frequency noise which was first discovered by Karl Jansky in the late '20s. Jansky was investigating the radio noises which were interfering with radio telephone circuits, then in their infancy. As it happens, John Kraus, W8JK, in "BIG EAR" discusses the fact that Jansky's original papers describing what he believes to have been the signals emanating from Jupiter were destroyed after Jansky' death.

There seems to be such radio noise over the range of 18-21 MHz that has been observed by some of the astronomers using radio telescopes. Jansky's antenna was a highly directional crenulated antenna. That is, it was arranged to go up and forward and down in the manner of a square wave with its longitudinal direction pointing toward the stars. When pointed at the sun in the daytime or in particular directions at night a considerable increase in a hissing noise is heard. With multibeam arrays pointed in the direction of the planet Jupiter you too can probably repeat these observations. The noise may occur at irregular intervals and jump from one frequency to another in the range.

Some of you may be interested in OSCAR contacts during Field Day which may not yet have occurred when you read this. If so there was a note in last month's column about the OSCAR conditions during Field Day (June 1981).

OSCAR 7 Mode A uplink frequencies

OSCAR 7 Mode A uplink frequencies are 145.85-145.95 MHz with a downlink on 10 meters (29.4 to 29.5 MHz). To determine where to listen to your own frequency, coming back down from the spacecraft the IF is 116.45 MHz. So, if you subtract 116.45 MHz from your 2-meter output frequency, CW or SSB, you should pick yourself up at the resulting frequency: 145.9 in, 29.45 out.

Mode B OSCAR 7 uplink is 432.125-432.175 with a downlink on 145.975 to 145.925. Note that the Mode B bandwidth is only 50 kHz as opposed to the 100 kHz of Mode A. Also note that there is an inversion of the passband on Mode B while Mode A is linear. Thus on Mode A, lower sideband in gives you lower sideband out. On Mode B *upper* sideband in gives you lower sideband out. The beacon on Mode A OSCAR 7 is 29.502. The Mode B beacon is at 145.972 MHz.

Listening for the beacon is a first step in making an OSCAR contact. The next step is to check to see if your signal is being translated to the downlink pass band. On the uplinks, *never transmit at more than 100 watts ERP.* If you do, you will defeat the purpose of your wrongful high power — that is, to make more contacts. When you do that, the signals returning will be weaker because the small power of the output transmitter of the satellite will have to be shared and it is in proportion to your input power. Your 10 watts in and the other guy's 10 watts in at the same time divide the output power equally between you. If the input ratio is 10 to 1, the outputs received on the ground will be on a 10 to one basis.

SYNCART progress

Dr. John Pronko, W6XN, gave us an update on the progress of the SYNCART Project under way simultaneously in Canada, Northern California and in Southern California. The Project OSCAR Group, of which John is the president, is engaged in the development and construction of the RF portion of the SYNCART system. SYNCART, as most of you are aware, is a synchronous satellite package being built in anticipation of a near future opportunity to install an amateur communications transponder on some future geosynchronous communications satellite to be launched by a commercial or other entity. Possibilities which have been discussed included ANIK, SYNCOM and others.

The frequencies currently being worked on for the SYNCART Transponder Package are 1269 MHz uplink and 435 MHz downlink. At the present time there is a linear transponder on a mountain top overlooking the San Francisco Bay area in California, with a 1296 MHz uplink and a 1240 MHz downlink. This machine is being equipped with a 2-meter uplink to permit more amateurs to become familiar with receiving the GigaHertz frequencies. The Project OSCAR group has been putting together three linear translators for use by the Canadian SYNCART group, the Southern California SYNCART group, and the Project OSCAR groups in the San Francisco area. Thus, tests will be possible from Canada to Southern California in advance of any spacecraft operations. The translators will have the input and output frequencies expected to be used for the ultimate SYNCART project.

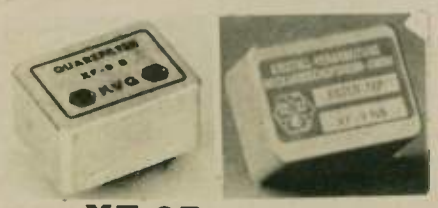
The activity in the Bay Area is under the general direction of W6XN, with James Eagleson, WB6JNN, as project leader; Dr. Paul Shuch, N6TX; Bob Stein, W6NBI; and others.

The Project OSCAR group was the sponsor of the recent West Coast VHF Conference in Sunnyvale. Its theme was the 20th anniversary of the OSCAR program. Project OSCAR was instrumental in launching OSCAR 1 in December 1961.

At the VHF Conference, John Pronko was the principal speaker. He discussed the future of the OSCAR projects in which AMSAT/U.S. and the Canadian AMSAT groups are presently involved along with AMSAT Deutschland and JAMSAT. These include the Phase III B and C, the SYNCART and the UOSAT. The latter is a project of the AMSAT United Kingdom group at the University of Surrey in England. It will include a series of beacons operating on the major amateur HF, VHF, and UHF ranges, and also at microwaves.

UOSAT will be a downlink-only amateur satellite transmitter with sensors for several scientific observations. The data derived by the sensors will be

State of the art



by K.V.G.

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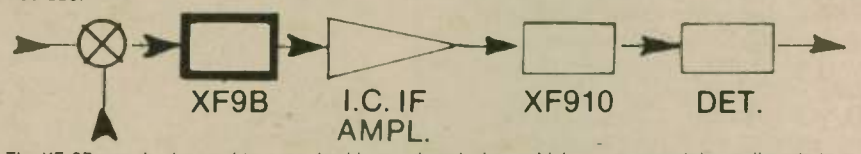

The XF-9B can also be used to upgrade older receiver designs which use vacuum tube or discrete transistor IF amplifier stages. PRICE $68.60 plus shipping.

Specification XF-9B

Centre Frequency	9.0 MHz	Shape Factor 6:60dB	1.8
Bandwidth	2.4 KHz	6:80dB	2.2
Passband Ripple	◄2.0 dB	Ultimate Attenuation	100 dB
Insertion Loss	◄3.5 dB	Terminations:	500 ohms
			30 pF

Export Inquiries Invited

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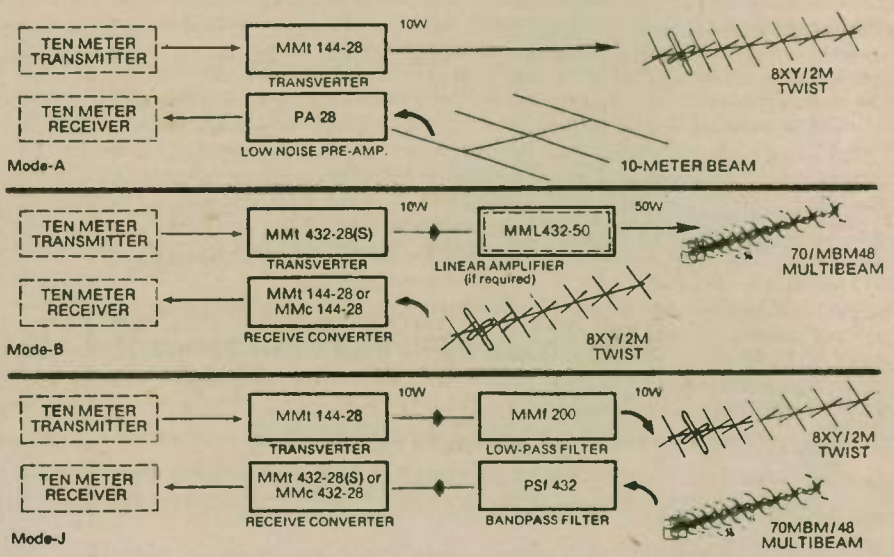
Transverters by Microwave Modules and other manufacturers can convert your existing low band rig to operate on the VHF and UHF bands. Models also available for 2M to 70cm and for ATV operators from Ch2/Ch3 to 70cm. Each transverter contains both a Tx up-converter and a Rx down-converter. Write for details of the largest selection available. Prices start at $199.95 plus $3.50 shipping.

Attention: owners of the original MMt432-28 transverters — update your transverter to operate OSCAR-8 and Phase III by adding the 434 to 436 MHz range. Mod kit including full instructions $26.50 plus $1.50 shipping.



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World Radio History

telemetered back to Earth on the 2-meter bands. One of the data sources will be the output of a slow-scan TV camera aboard the UOSAT, which will transmit cloud cover images that amateur ground stations will be able to receive with appropriate slow-scan converters. We hope to be able to provide specific scanning data for translating the UOSAT slow-scan images in a future column. The expected launch of the UOSAT is early September 1981.

What makes for a successful amateur satellite? When OSCAR 7 was launched, the wind caught the Delta Rocket contrail and turned it into a perfect "7" in the sky. We thought this was a portent of good tidings. Now along comes the editor of *AMSAT Satellite Report* with an intriguing announcement which suggests there might be other reasons to expect the success of amateur spacecraft projects at launch. It's all in the timing.

New frequency scheme aired

AMSAT's Vice President for Engineering, Jan King, W3GEY — who recently returned from England — reports that a review of the proposed frequencies to be employed on the Phase IIIB and C satellites has yielded a more comprehensive list than the previous proposals. The reevaluation was undertaken at the suggestion of Dr. Karl Meinzer, DJ4ZC, President of AMSAT DL during his recent visit to the United States. The new plan is shown on this page.

It should be emphasized that these frequencies are current working models only, and are subject to modification as required. Nevertheless, the overall scheme seems well-considered and at worst, only minor "tweaking" may be expected on the numbers shown. Frequency Coordinator John Henry, VE2VQ, president of AMSAT Canada will be reviewing the overall proposal. AMSAT Canada is collaborating on SYNCART with Project OSCAR.

SYNCART is to be the world's first geosynchronous Amateur Radio transponder and is slated for launch in the 83-84 time frame, and is thus an integral part of overall frequency planning.

Future Satellite Frequency Plan as of 5 May 1981

Phase IIIB

Mode B

Uplink	435.175 - 435.025
Downlink	145.825 - 145.975
EB	145.990
GB	145.8125

Mode 'X'*

Uplink	1269.85 - 1269.05
Downlink	436.15 - 436.95
EB	436.02
GB	436.04

Phase IIIC

Mode B

Uplink	435.575 - 435.425
Downlink	145.825 - 145.975
EB	145.990
GB	145.8125

Mode 'X'*

Uplink	1268.85 - 1268.05
Downlink	437.15 - 437.95
EB	437.02
GB	437.04

SYNCART

Uplink	1267.95 - 1267.75
Downlink	435.60 - 435.80

Expansion

Uplink	1267.75 - 1267.00
Downlink	435.80 - 436.00

*Mode designation to be determined by AMSAT DL

Notes: 1. Unused frequencies function as guard bands or future expansion zones.

King family omen

AMSAT's VP-Engineering Jan King, W3GEY, and his lovely wife Donna became the parents of a baby girl, Nadia Marie on Sunday, 8 March. Nadia Marie weighed 7 lb. 7 oz. at birth. Both mother and daughter are doing well. The two men of the family, Jan and son Ian, welcomed the ladies home Tuesday.

Other AMSAT officials made some astute observations regarding the arrival of Nadia Marie. W3IWI advises that the blessed event occurred 9 months and 5 days after Jan's return from Kourou prior to the launch of Phase IIIA. Hmmmm! Maybe it was something in the French Guianese water. G3ZCZ notes that daughters of AMSAT officials are good omens. Joe's daughter was born prior to AO8 launch and Perry Klein's (W3PK) daughter was born prior to AO7 launch. Since all were notable successes (daughters and satellites), Joe believes Nadia Marie's birth portends good. (Joe, G3ZCZ, is editor of *ORBIT* and holds the rank of soothmumbler, one grade inferior to soothsayer!)

—From the 23 March *AMSAT Satellite Report*

Orbital prediction charts

Orbital prediction charts for OSCAR 7 and OSCAR 8 are available from Project OSCAR for July-Septmber 1981. Address is **P.O. Box 1136, Los Altos, California** 94022 and enclose a #10 self-addressed envelope stamped with 18¢ postage. 40¢ postage will be required for airmail to Europe, South America and Asia.

Practice tracking Phase IIIB now: avoid rush later

If you are interested in having a real time demonstration of your access window for Phase IIIB, why not try tracking SRET-2 (1975-49B). This Soviet-launched French built spacecraft is in an orbit that is close enough to that planned for Phase III to give most radio amateurs in the northern hemisphere a good enough approximation of their access to Phase IIIB. SRET 2 is transmitting at 132.500 MHz and 137.530 MHz. It was launched on 5 June 1975 from Plesetsk aboard the same launch vehicle as Molniya 45 (1975-49A) and was the second in a series of French experimental satellites in a joint French-Soviet program of space research.

The main objectives of the double octagonal, 21.5-kg, 0.56-meter long, 0.56-meter diameter spacecraft, the second *Satellite de Recherches sur l'Environment et la Technologie* was to perform technological experiments and study radiation and thermal control systems under orbital conditions including the qualification of spacecraft systems for future space programs.

The spacecraft was commanded and interrogated by French ground stations and telemetry was transmitted from the spacecraft through two crossed dipole antennae deployed after orbital insertion.

Nominal lifetime was one year but the spacecraft is still transmitting after 5.5 years in space.

—*ORBIT*, Mar./Apr. '81

Voyager II Saturn Flyby Commemorative

Voyager II, the interplanetary spacecraft now approaching the planet Saturn, will make its closest approach to the planet on 25 August 1981. In celebration of this event, the JPL Amateur Radio Club station W6VIO will be on the air in a special event mode from 15 August through 30 August. As with similar commemoratives in the past, W6VIO will reformat and transmit slow-scan TV images of Saturn and its rings and satellites as these pictures are received at JPL from the spacecraft.

The SSTV operation will be on 14.235; 21,340; or 28,680 kHz (± 5 kHz) as conditions warrant. Other modes and bands will also be used: SSB and CW on 40 through 10 meters, SSB and FM on 2 meters and FM on 220 MHz.

Announcements of other frequencies of operation will be made every 10 minutes or so during the operation. Most of the activity will be conducted each day between 1830 and 2030 hours and also between 2330 and 0330 hours GMT, with additional times as staffing is available.

An attractive photo QSL card in color will be designed for the event. Amateurs who have in the past made contact with the JPL Amateur Radio Club will recall the QSLs they have received on those occasions. You can expect equally interesting and attractive QSLs this time around. Self-addressed stamped envelopes (SASE's) sent to W6VIO are required from domestic stations. DX stations may QSL via ARRL.

For information contact: George Morris, W6ABW; JPL Amateur Radio Club; Jet Propulsion Laboratory; 4800 Oak Grove Drive; Pasadena, CA 91109 USA; (213) 354-7066. □

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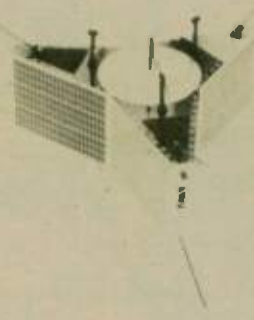

Dear Fellow Radio Amateur:

Do you know that the AMSAT Phase III Program is designed to bring you a new world wide DX/local Amateur band via communications satellite? This new band will be scarcely affected by the ionosphere, so that unlike the current hf bands or the three new bands we gained at WARC-79, propagation via this band will be 100 percent predictable. For the first time, the technology used to provide the reliability, predictability and ease of use of a two-meter repeater will be applied to provide world wide coverage. The AMSAT Phase IIIB satellite will be capable of providing repeater quality contacts to all stations within its range, be they local to you or DX up to half way around the world. There will be no skip zones in this new satellite communications band: for example, stations in New York, New Jersey, London, Paris, Tel Aviv, Moscow and Tokyo will be able to hold a round table QSO. The potential for nets, Jamboree-on-the-air, RTTY, computer, emergency, and public service communications is tremendous.

You owe it to yourself to be informed about this new band. The new band almost happened last May, but the launch vehicle malfunctioned and the Phase IIIA satellite did not achieve orbit. Our replacement Phase IIIB satellite is a million dollar undertaking. We are going full steam ahead secure in the knowledge that we can do our part to make the new band happen following the successful launch of Phase IIIB. Why don't you join the AMSAT Team and receive regular news as to the status of the Phase IIIB Program.

73,
The AMSAT Team

P.S. We still have two working communications satellites in orbit, AMSAT-OSCAR's 7 and 8, and are building a satellite for Science, UoSAT, due for launch in the Fall of 1981. It will contain scientific experiments as well as a slow-scan television (SSTV) camera. This satellite will be ideal for use in classrooms all over the world for live demonstrations of various aspects of space research.

Yes, I want to be a member of the AMSAT Team and receive ORBIT Magazine. Enclosed are my dues of $16 ($20 overseas) for 1981 ($200 for Life Membership).

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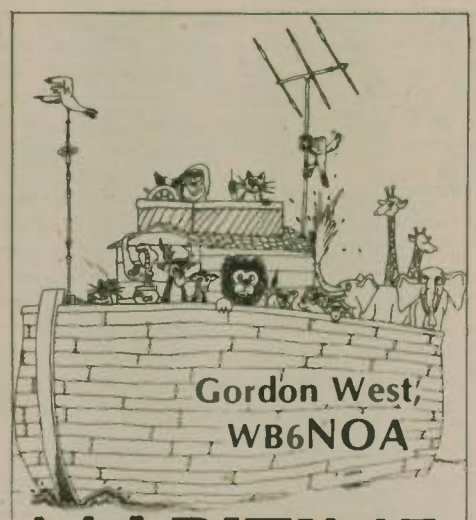


MARITIME MOBILE

Statistical summary of Amateur Radio Maritime Mobile Calls audited by the Committee for Legal Maritime Mobile Amateur Radio Operations.

Call Area	Total Checked	License Class: General	Advanced	Extra	Other	Not Issued	Novice	Technician	Sum: N.I., Nov., Tech.	Percent of total
#1	9	3	2	1	0	2	1	0	3	33
#2	15	4	3	1	0	5	1	1	7	47
#3	10	3	3	0	0	2	1	0	4	40
#4	22	14	4	0	0	2	1	1	4	18
#5	25	14	2	4	0	4	0	1	5	20
#6	155	80	32	4	1*	18	7	13	38	25
#7	37	18	9	2	0	5	2	1	8	22
#8	1	0	1	0	0	0	0	0	0	0
#9	2	0	0	1	0	1	1	0	2	67
#0	10	3	4	1	0	2	0	0	2	20
	287	139	60	14	1*	41	14	17	73	25.4

*(A club station)

Maritime mobile update

This month we will cover several topics in the Maritime Mobile column. Once you reach your weekend destination afloat, pull out this article on a variety of maritime mobile Amateur Radio subjects.

Ham stowaways

Our amateur airwaves are still plagued with a problem of Amateur Radio frequency stowaways. Maritime mobile Amateur Radio operators seem to be the worst violators. Their illegal operation falls into four categories:

a) The operator has no license of any kind. He studies the Callbook and picks out a call that appears "safe" — usually one that is not issued — and takes it over as his own call.

b) The operator has no license of any kind. He borrows a call that is a legal call, sometimes with the knowledge and permission of the licensee, who in this case is probably inactive and doesn't care.

c) The operator has a Novice or Technician Class license, therefore a valid call sign, but operates on a maritime mobile net as a general or higher class licensee.

d) The operator uses a call sign of some country other than the United States, even though he is an American citizen aboard a vessel of U. S. registry.

On that last one, the operator doesn't even actually get licensed by the foreign administration; he just picks the call out of the air and starts using it. It's also note-worthy that the country whose call sign is used will almost always be one which has a third-party traffic agreement with the United States.

The Committee for Legal Maritime Mobile Amateur Radio Operations is bringing to light the fact that these folks are doing their illegal thing on our airwaves. At a recent meeting of this organization, there were over 30 amateurs who decided to take it upon themselves to help rid our airwaves of these stowaways.

Here's how the plan works:

a) Most maritime mobile nets are eager to cooperate and assist this committee in exposing those operators without the proper call sign. Every call is checked in the current edition of the Radio Amateur Callbook. File cards are made of all the calls identified in the Callbook as being of General Class or higher license.

b) Those calls identified in the Callbook as being of Novice or Technician Class, and those calls which could not be located in the Callbook, are checked against the latest FCC microfiche and any supplements to the microfiche which have been published.

c) Calls which were found in the microfiche to be "good" calls were treated the same as the "good" calls from the Callbook.

d) Calls which, after the microfiche check, remained identified as Technician, Novice or not issued, were published back to the net control stations on an "audited call list."

Now it's up to the net control to inquire about the particular call sign in question. At no time will a net control station challenge the authenticity of a call, nor will at any time a maritime net control station not handle emergency traffic. However, on routine calls from stations in question, the net control operators will usually ask the operator to phonetically state the call sign he is using, and indicate his name and the class of license he holds. This is usually enough to shock the "frequency stowaways" off the air.

"Sure enough, here is that call sign on our audited questionable valid call list," comments one Committee member. "I simply ask him to repeat his call sign phonetically and state his name and license grade. Although this station usually has an outstanding signal, no further transmissions have been heard. I think he got the message."

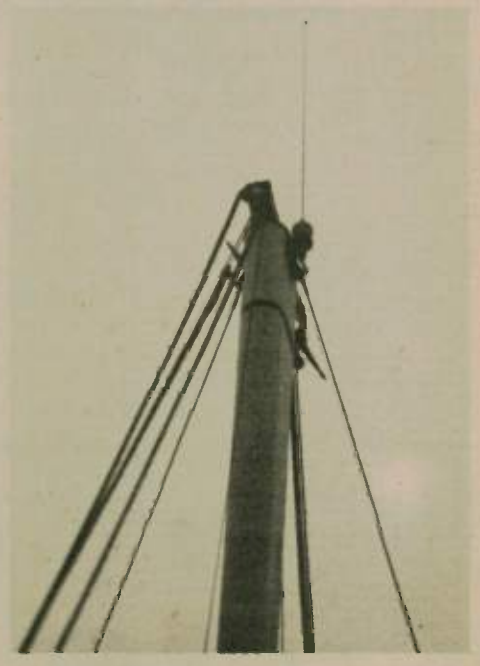
One final note — since the Committee has been in operation, the number of stations using illegal call signs is dropping dramatically. Four months ago, over one-third of the maritime mobile check-ins were from stations with questionable call signs. Now it's dropped down to just 25 percent.

The word is out — if you don't have the proper call sign, don't try and use any of the maritime mobile nets for placing phone calls or staying in touch with loved ones. They're making a list and checking it twice. Frequency stowaways, beware.

Ham stowaways

VHF hints

Plan on taking your 2-meter hand-held or your 2-meter mobile cruising this summer? Your VHF set will work quite nicely on your marine 156 MHz antenna. Although the SWR will zoom up to 2:1, most sets will handle this mismatch nicely. Most marine antennas will do a superb job of giving you some nice receiver and transmit gain while out on the waves.



Marine VHF antenna used for 2 meters.

I would caution hand-held users not to run full power or talk over long periods of time into a 2:1 mismatch. Hand-held sets simply don't have heat sinks large enough to dissipate the extra heat into a semi-mismatch. Although I have heard nothing but glowing reports of long-range contacts from hand-helds on a marine antenna, I still caution against running full vore from your tiny sets.

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World Radio History

Mobile sets into a marine antenna seem to work fine. You will usually notice less power output on your metering system. For you newcomers, that means you're not going to get a full selection of red lights.

I wonder why that one manufacturer didn't silkscreen S unit numbers over the green and red lights. It would have certainly made our Amateur Radio service on 2 meters sound more professional, rather that "you are one red over three greens" . . . "my set is putting out about 3½ lights — what's yours doing?" Pet peeve. In case you are interested, when the last red led extinguishes, it usually

means that your SWR is 1.5 to 1, with a power output decreased by about 3 percent. No big deal.

Power amplifiers

If you really want good DX range on the water, hook up to a good fiberglass or stainless steel 2-meter antenna and add a power amplifier. This would be suggested for long range simplex use, or single sideband 2-meter use. Mirage, KLM, TPL, Tempo and V. J. Products are all good amps to bring aboard. High-powered 2-meter signals just a few feet off the water may often travel hundreds of miles from tropospheric ducting. Look to the FM simplex channels for some fun high-powered communications over long distances.

Power amplifiers will take 10 watts and amplify it to 160 watts.

Also try 2-meter single sidebands over the water, using a horizontally polarized antenna, for some exciting results.

West Coast mariners may even capture Hawaii this summer from a stationary high pressure system. In Texas, you should hear Florida fine. In Florida, you should hear stations up and down the East Coast quite well during stationary high pressure systems.

Who knows, maybe this summer we will be treated to some 2-meter sporadic E band openings where higher power levels will certainly help.

HF portables

I knew that would get your attention. Although the sets I have in mind really aren't portable, they are about the same size as a CB radio. In fact, some are converted CB radios. If you enjoy working HF skip, but don't relish the thought of dragging along your big home 10-160 meter set, read on!

Those small converted CB radios make dandy 10-meter sideband or FM sets. On the water, a little CB antenna using the water as a ground will give you phenomenal range. Summer E skip will enhance your coverage, and you should be able to work stations throughout the world with only about 5 watts of power and a small base-loaded antenna.

There's also a manufacturer selling a dandy little 15-meter set that works all states and many foreign countries with just a few watts of output. It looks like a CB set, but isn't. It's a high-quality single sideband transceiver, ideal for maritime mobiling. A small loaded antenna, a sea water ground, a General Class license or higher, and off you go! Worldwide DX capability that you can put in your sea bag and not even know it's there. Try it.

Have a good cruise this summer, and don't forget to take your radio along. Watch out for the stowaways, try FM simplex, and for heaven sakes . . . don't tell the other guy he's pounding in with two greens and a red, and you're hitting him with at least a full house of lights. Ugh!

73's, de NOA. □

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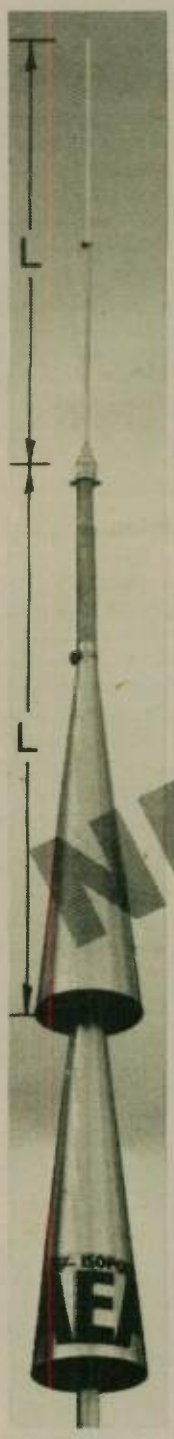

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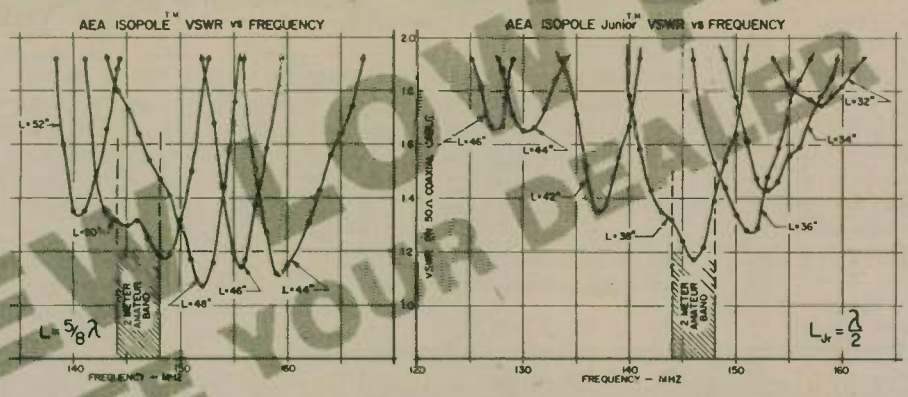
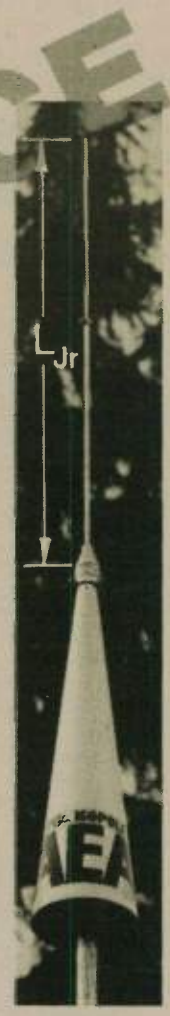


Outstanding mechanical design makes the IsoPole the only logical choice for a VHF base station antenna. A standard 50 Ohm SO-239 connector is recessed within the base sleeve (fully weather protected). With the IsoPole, you will not experience aggravating deviation in SWR with changes in weather. The impedance matching network is weather sealed and designed for maximum legal power. The insulating material offers superb strength and dielectric properties plus excellent long-term ultra-violet resistance. All mounting hardware is stainless steel. The decoupling cones and radiating elements are made of corrosion resistant aluminum alloys. The aerodynamic cones are the only appreciable wind load and are attached directly to the support (a standard TV mast which is **not supplied**)

Operating on MARS or CAP? The IsoPole and IsoPole Jr. antennas will typically operate at least ± 2 MHz outside the respective ham band without re-tuning. However, by simple length adjustment, the IsoPoles can be tuned over a wider range outside the ham bands.

Our competitors have reacted to the IsoPole, maybe you should too! Order your IsoPole or IsoPole Jr. today from your favorite Amateur Radio Distributor. For more information on other exciting AEA products, contact Advanced Electronic Applications, Inc., P.O. Box 2160, Lynnwood, WA 98036. Call 206/775-7373



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World Radio History

Coast Guard/ Coast Guard Auxiliary direction-finding

Keith F. Cordrey, W6KVR
1980 Chairman,
Direction Finding Network
Eleventh Coast Guard District Auxiliary

The need for a direction-finding (DF) network along the coast of the Eleventh Coast Guard District was solidified by Case No. 5127 in May 1979 when a family of four on a pleasure cruise to Avalon, Catalina Island from Redondo Marina in an 18-foot outboard cruiser suddenly found their boat sinking. The father communicated a MAY DAY call to the Coast Guard. He did not report the location of his sinking boat before the radio went silent. Three members of the family were lost, and one was saved after more than 20 hours of search by an armada of Coast Guard and Coast Guard Auxiliary boats, ships, aircraft and helicopters. Had there been a DF net operating at the time of the MAY DAY call, a line of position to the distressed craft could have been established within two seconds of the father's transmission and perhaps those lives would have been saved.

Over 50 percent of distressed boats calling the Coast Guard do not know their location within 5 to 30 miles of their actual position. Such lack of understanding of piloting has caused the need for countless hours of boat and aircraft search time by the Coast Guard, with its corresponding expense.

The first Coast Guard Auxiliary DF station was established in Newport Beach. During the summer of 1980, the DF station demonstrated to the Coast Guard its effectiveness in locating distressed vessels and aircraft downed at sea with a single line of position (LOP). As additional DF stations are established, a FIX position of a distressed boat will be given as contrasted to the single line of position.

This first DF station has saved fuel, boat, ship, aircraft and helicopter time, not to mention the man-hours conserved. The Eleventh Coast Guard District has informed the Auxiliary that it will increase its assistance to the Auxiliary by equipping and maintaining our DF stations, but that the Auxiliary must supply all manning requirements.

The first Newport Beach DF station was established with privately owned equipment. The AVCO Financial Corporation was contacted about the use of their roof for an antenna site as their building is 17 stories high. Mr. A. J. Laventall, Director of Building Facilities, quickly agreed that AVCO would be pleased to cooperate with the Coast Guard Auxiliary on the DF project. Not only did AVCO provide an antenna roof site, but they made available a room from which to operate as well as the use of their telephone lines free of cost. The Auxiliary is most grateful to AVCO for their great public spirit in assisting the boating public.

Using the Regency Polaris NC 7200 VHF transceiver and DF, preliminary tests were made at two locations in Dana Point Marina, Newport Beach and Oat Mountain NIKKI site in the Newhall-Santa Suzanna mountains. Other tests were made in San Diego and Santa Barbara. A DF station is ONLY a listening station on Channel 16, occasionally switching to Channels 21, 22, 23 and 83A as circumstances dictate. Each DF station operator is trained to maintain a station log, prepare message forms for records and future evaluation, plot true verification lines of position, and use proper telephone procedure to contact the Coast Guard Rescue Coordination Center (RCC) in Long Beach. The major training of the DF operator is directed toward the adjustment of true bearings or azimuths because of anomalies in VHF radio bearings.

Auxiliary amateurs stand ready to help on marine or Amateur Radio.

Experience has shown that when vessels equipped with Regency Polaris DF units are cruising within the confines of a harbor, the bearing readout is unintelligible because of the maze of sailboat masts and other land obstructions which interfere with the proper use of any DF unit. As the craft puts out to sea, good bearings can be read. Antennas installed on boats are aligned with the fore and aft axis of the vessel. With such orientation, the DF unit indicates a bearing relative to the boat's heading. Any unknown errors in DF bearings can be overcome by simply steering the rescue boat so the readout bearing or azimuth continues to read 000 degrees until the disabled craft is found.

When the DF unit is installed on top of a building — which of course is unmoveable — the use of relative bearings is cumbersome, as the antenna would require constant turning (electrically or by hand) to align with the radio signal from the distressed craft. To simplify the operation, true bearings — not relative bearings — are used. If all DF bearings from all vessels at all times indicated constant values, our task would be simple. Such is not the case.

Testing from only the Newport Beach location has indicated many anomalies in received VHF DF bearings. These anomalies vary with land effect, solar heating, altitude and density of cloud cover, night effect, inversion layer effect, and the disarray of radio signals caused by director and reflector effect at the transmitting antenna, and confused wave effect adjacent to the DF receiving antenna. It was originally thought that a deviation table of signal anomalies could be prepared for the operator by which bearing values could be added or subtracted from the computer bearing readout to determine accurate true bearings within ± 5 degrees. This concept proved utterly hopeless to operate. When one realizes that a dozen or more deviation tables must be prepared for hourly varying conditions, the task to acquaint the operator with this multitude of deviation tables is insurmountable. A much simplier solution was found. With two hours of practice, the operator can determine relatively reliable true bearing information.

There is a primary sector of boating activity adjacent to a DF station. From Newport Beach, this sector is the Catalina Channel from Pt. Fermin to the Isthmus to Avalon to Newport Beach. The secondary sector covers the Dana Point to Pt. Loma (San Diego) area. Fortunately, close to the center of the Catalina Channel sector is the transmitting antenna on AVCO Tower, which is about 400 feet above sea level. With little land effect, a DF bearing on Channel 16 from San Pedro Marine with their periodic announcement of holding calls for vessels is our primary orientation signal. This signal comes on Channel 16 three or four times an hour. The DF operator monitors this signal along with all other signals, noting the changing azimuth as the day progresses.

The true bearing from Newport Beach DF station to the San Pedro Marine antenna is 235 degrees when plotted on a chart. In the morning hours, this value is read on the DF receiver. Toward noon and mid-afternoon, this orienting bearing begins to increase to 240, 245 and sometimes to 250 degrees. The difference between these latter readings and 235 degrees is the easterly deviation, which is subtracted from the DF read-out bearing.

Repeated tests have indicated the reliability of this system. Further tests

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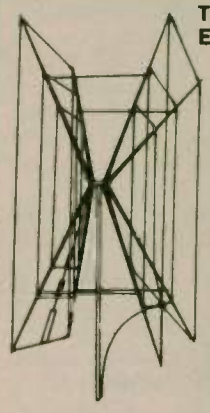

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World Radio History

have been made from reliable locations of vessels. The DF operator plots on a chart all bearings from all vessels which give a definitive location in their radio message to help determine the reliability of DF bearings. With this procedure the DF operator can maintain in his mind the deviation value for each hour. It is assumed that as the orientation bearing from San Pedro Marine antenna drifts, the same drift would apply to a bearing from a distressed boat within the same sector.

Experience has shown that the 150 degree true DF bearing toward Pt. Loma Coast Guard antenna is more constant than bearings from San Pedro Marine antenna, and that all bearings from the outer and inner harbor of the Los Angeles-Long Beach sector have wide deviation and are unreliable, probably because of land effect.

Coast Guard Radio San Diego can operate from one of three antennas by the flip of a switch. These antennas are located on Pt. Loma, San Clemente Island and San Pedro Hill. For traffic in the Catalina Channel sector, the San Pedro Hill antenna is used. At the DF station, the operator can tell instantly when any one of the three transmitting antennas is used.

The Coast Guard transmitting antenna on San Pedro Hill is about 23 air miles from the DF antenna on the AVCO roof. This antenna is line of sight on a clear day. Fourteen miles of signal travel over water with nine miles over land. Bearings from this transmitting antenna are not used for orientation purposes because of excessive and varying deviation. This was tested using a relative bearing technique. The black dot on the DF antenna was pointed directly at the San Pedro Hill antenna on a clear day. Received signals from the Coast Guard antenna should read 000 degrees. The actual reading was 305 degrees, which gave a westerly deviation of 055 degrees. Most other commercial fixed antenna signals have been plotted and checked for deviation including those of the three antennas of Redondo Marine; Weather station #1 on Mt. Wilson; Dana Point Marine, whose antenna is located on Santiago Peak in Orange County; San Diego Marine; and San Diego Weather station #2. All of these stations are unsuitable for orientation purposes on a daily and/or hourly basis — probably because of land effect, primarily. Only the *CG antenna* located on *Pt. Loma*, the *CG antenna on San Clemente Island*, and the *San Pedro Marine antenna are useable for orientation purposes.* Deviations of some stations were submitted to the Coast Guard, Chief, Electronics Engineering Branch in a letter dated 15 April 1980.

Why these anomalies of DF signals? The answers to some anomalies of radio wave distortion appear to be explainable, such as land effect where wide deviations are consistently found, solar heating as the day progresses which shows a gradual increase in deviation, and cloud cover at approximately 1,000 feet which decreases deviation. Other anomalies have not been determined from our testing to date.

Seven months of testing consisting of 50 six-hour days indicated that VHF radio waves have their direction changed by other antennas close to the transmitting antenna site. These other antennas act as reflectors and directors. At the DF receiving site, radio waves can become disoriented by the bulk of adjacent buildings and neighboring antennas. This maze of influences can disturb the line of sight VHF wave, causing such confusion as to materially change direction of the received wave.

A superficial preliminary test at Oat Mountain might lead one to consider that the higher the altitude of the received signal, the less that signal is subject to ground effect. Near ground-level VHF waves are known to go over a 9,000-foot mountain range. Such waves can pass through mountain valleys; they are often reflected, turned, distorted and fractured into vertical vanes as small as two inches in width. The study of VHF anomalous wave patterns will require testing from several DF sites in different areas over a period of months before definite conclusions can be reached.

Sixteen sites for additional stations were investigated in November and December, covering the Santa Monica Bay and the Oceanside areas. Of those 16, three will probably be selected as DF sites. Three DF sites — one located on Pt. Loma, one in Long Beach, and one at Channel Islands Harbor — are presently being established by the Coast Guard. The Auxiliary DF stations will help to fill in the void areas. Eventually, we expect to cover the coastal area of this District with two position fixes rather than single lines of position.

During five months of operation, the Auxiliary DF station performed 47 assists of distressed vessels and aircraft at sea for Coast Guard Rescue Coordinating Center. In one aircraft case where the plane fell into the sea, the DF station determined within seconds a line position on a sailboat close to the plane's

For information on how to get your club listed in this column, plus receive many other benefits, write to Dave Tykol, WA6RVZ, Club Liaison, Worldradio, 2120-28th Street, Sacramento, CA 95818.

VISIT YOUR LOCAL RADIO CLUB

ARIZONA

Metropolitan Amateur Radio Club
J.C. Penny Restaurant, El Con
Tucson, AZ
Call in on 34/94 K7CC/R
Every Saturday morning - 8:00 a.m.

CALIFORNIA

East Bay Amateur Radio Club
P.O. Box 6017, Albany CA 94706
Salvation Army Bldg., 36th & Rheem,
Richmond (415) 525-6200
2nd Friday/monthly — 7:30 p.m.

Fresno Amateur Radio Club, Inc.
P.O. Box 783, Fresno, CA 93712
Meets; 2nd Friday/monthly — 8:00 p.m.
Wawoha Middle School; 4524 N.
Thorne; Fresno. W6TO/R 146.34/94

Lake Elsinore Valley Radio Club
Wildomar Elem. Sch. (corner Palomar Rd. & Central)
Take Baxter Rd. turn off 71 Freeway
Monitor 146 55 simplex
3rd Thursday/monthly — 7:30 p.m.

Marin Amateur Radio Club (Founded 1933)
Coop Meeting Room
71 Tamal Vista Blvd.
Corte Madera, CA 94925
1st Friday/monthly — 8:00 p.m.

North Hills Radio Club
P.O. Box 41635, Sacramento, CA 95841
Meets: Gethsemane Lutheran Church
4706 Arden Way, Carmichael, CA 95608
3rd Tuesday/monthly

Satellite Amateur Radio Club, W6AB
PO Box 1615
Vandenberg AFB, CA 93437
1st Thursday/monthly — 8:00 p.m.
Building Z1160, Vandenberg AFB

Sonoma County Radio Amateurs, Inc.
Box 116
Santa Rosa, CA 95401
3400 Chanate Rd.
1st Wednesday/monthly 8 p.m.

S.C.A.T.S./WB6LBU
S. CA Amateur Transmitting Society
P.O. Box 1770, Covina, CA 91722
Cortze Park Rec. Hall
1st Monday/monthly — 7:00 p.m.

Stockton Amateur Radio Club
University of the Pacific, Room 122
2nd Wednesday/monthly — 7:30 p.m.
Club repeater net roll call:
Wednesdays 8:00 p.m. — 147.165/765

CONNECTICUT

Tri-City ARC, Inc.
P.O. Box 686, Groton, CT 06340
Meets: Groton Public Library
Rt. 117, Groton, CT
2nd Tuesday/monthly — 7:30 p.m.

GEORGIA

Atlanta Radio Club
Box 77171 Atlanta, GA 30357
1st Thursday/monthly — 7:30 p.m.
Community Rm./Perimeter Mall Shopping Center
Call (404) 971-HAMS Net Sun. 9:00 p.m. 146.22/82

Columbus Amateur Radio Club (CARC)
David Nulty, N4ATI, Secretary (404) 687-3272
The Quonset Hut next to Food Stamp Center
Buena Vista Road at the "Spider Web"
2nd and 4th Thursday/monthly 7:30 p.m.

ILLINOIS

Illiana Repeater Systems, Inc. (IRS)
Palmer Amer. Nat. Bank Comm. Rm.
Danville, IL
3rd Monday/monthly — 7:00 p.m.
Call-in WB9YJF/R 146.22/82 "Super 82"

Tri-Town Radio Amateur Club
P.O. Box 302, Hazelcrest, IL 60429
Above Hazelcrest Police Station
Net every Wed. 8 p.m./146.49 MHz
1st & 3rd Friday/monthly — 8 p.m.

INDIANA

Allen Co. Amateur Radio Tech'l Society, Inc.
P.O. Box 10342, Ft. Wayne, IN 46851
Allen-Wells Chapter House • Amer. Red Cross
1212 E. California Rd., Ft. Wayne, IN 46825
3rd Tuesday/monthly — 7:30 p.m.

Fort Wayne Radio Club
Ron Koczor, K9TUS
2512 Glenwood Ave., Fort Wayne, IN 46805
The Salem Church
3rd Friday/monthly — 7:30 p.m.

MICHIGAN

The Eastern Mich. ARC (EMARC)
St. Clair County Comm. College
Student Center Building (Cafeteria)
Port Huron, MI (313) 364-9640
1st Tuesday/monthly — 7:30 p.m.

SE Michigan Amateur Radio Assoc. (SEMARA)
PO Box 646
St. Clair Shores, MI 48083
South Lake High School
1st Friday/monthly (excet July and Aug.)

MISSOURI

Heart of America Radio Club
3521 Broadway
Kansas City, MO
3rd Tuesday/monthly

NEW JERSEY

Glouster County ARC, W2MMD
PO Box 370, Pitman, NJ 08071
American Legion Post
Delsea Dr., Rt. 47, Clayton, NJ
1st Wednesday/monthly — 8:00 p.m.

Old Bridge Radio Assoc. (OBRA)
Cheesequake Firehouse — Route 34
Old Bridge Township, NJ
Daily 8 p.m. Net on 147.72/.12 MHz
3rd Thursday/alternate (odd) months 8 p.m.

NEW MEXICO

Eastern New Mexico ARC
First National Bank, Clovis
Box 206 • Clovis, NM 88101
(505) 763-6960/356-5993
2nd Tuesday/monthly — 7:30 p.m.

NEW YORK

Genesee Radio Amateurs, Inc. (GRAM)
PO Box 572, Batavia, NY 14020
State Civil Defense Center, Batavia
(behind NYS School for the Blind)
3rd Friday/monthly — 7:30 p.m.

Staten Is. Amateur Radio Comm. (SIARC)
Northfield Savings Bank (side entrance)
Richmond and Castleman Avenues
Call KA2CUS (698-2006) or WA2KQN (981-0372)
3rd Thursday/monthly — 8:00 p.m.

OHIO

Ashtabula County ARC
Ken Stenback, AI8S (964-7316)
County Justice Center
Jefferson, OH
3rd Tuesday/monthly — 7:30 p.m.

C.A.R.S. (The Clyde Amateur Radio Society)
Gary A. Kauffman, WB8MUG, Secretary
2nd Tuesday/monthly 7:30 p.m.
Community Rm., City Building, Clyde, OH
Repeater 147.075/.675 MHz

NOARS (Northern Ohio ARS, Inc.)
P.O. Box 354, Lorain, OH 44052
K8US (216) 988-2345/near OH T.P. Exit 8
3rd Monday/monthly — 7:30 p.m.
K8KRG/R 146.10/70 — 144.55/145.15 — 449.8/444.8

OREGON

Clatskanie Amateur Radio Club
Route 2, Box 553
ClatsKanie, OR 97016
ClatsKanie Grade School Library
2nd Tuesday/monthly — 7:00 p.m.

TEXAS

Garland Amateur Radio Club (GARC)
146.775/146.175 K5QHD/R (Info Net Mon. 8 p.m.)
Garland Women's Activity Building
713 Austin Street, Garland
4th Monday/monthly — 7:30 p.m.

Oak Ridge Amateur Radio Club
Dick Church, N4ARO (615) 482-9054
Oak Ridge Civic Center
W4SKH/R 146.28/88
2nd and 4th Monday/monthly — 7:30 p.m.

VIRGINIA

Southern Peninsula Amateur Radio Klub (SPARK)
P.O. Box 9029, Hampton, VA 23670
Call Steve Silsby, WA4BRL (804) 599-6877
VEPCO Bldg. (Pembroke and G St.)
1st and 3rd Wednesday/monthly

WASHINGTON

Seattle Wash. Area Mike and Key ARC
305 S 43rd St. (across from VG Hospital)
Renton, WA 98055
The Good Neighbor Center
3rd Saturday/monthly — 10:00 a.m.

World Radio History

location. Two lives were saved from the downed plane.

All DF stations will be linked with RCC Long Beach by telephone. Intercommunication between adjacent DF stations will be done by VHF radio through a repeater located on Santiago Peak at an altitude of 5,600 feet. Government frequencies outside the 2-meter amateur band will be used.

The work of direction-finding is one of several communication services that a civilian can do for his government. To those Amateur Radio and commercial operators who are interested in public service, membership in the United States Coast Guard Auxiliary offers an interesting operational challenge. Please contact the author through Worldradio for further information on how you can become part of this team.

CONCLUSION: The establishment of a Coast Guard- Coast Guard Auxiliary DF net from the Mexican border to the mouth of the Santa Maria River will increase the effectiveness of saving lives and property, reduce search and rescue time, and materially reduce Coast Guard cost of operations. This DF program is just another way that cooperating private industry and the Auxiliary can serve the Coast Guard and the people of Southern California. □

Easter Island: an intriguing DX spot

Norm Brooks, K6FO

The dream of most DXers is to go on a trip to some rare part of the Earth and operate Amateur Radio from there. Just think — you would then be the objective of the pile-ups. Everybody in the world would be calling *you!*

This is almost the situation in which Chod Harris, WA1SQB, found himself. Chod is an archaeologist who signed on with an expedition sponsored by the National Geographic Society, the University of Wyoming, and others. The destination? Easter Island! The object of the trip was to learn what caused the breakdown of the early Easter Island society, and to get what information could be obtained on the later culture, which became a birdman society.

Easter Island . . . what an opportunity to be rare DX! And every amateur DXer *needs* a contact with Easter Island, right?

Wrong!

In the spring of 1981, three separate groups came to Easter Island to operate Amateur Radio. By the time Chod got there, most of the active DXers of the world had already contacted the first two groups. Also, there are amateurs among the permanent residents of the island. The most famous of these is Father Dave Reddy, CE0AE — a Catholic priest stationed there. (Father Dave does not have the time to battle pile-ups and operate in contests.)

The first group to arrive included Steve Boller, N0NO and a few others who came for just a week. They brought a tri-band beam with them, powered with barefoot rigs.

The 0's were gone before Chod got there, but Terry Appleton, W4GSM and Jim Wise, W4PRO came down right afterward. They brought a 60-foot portable tower with them. Chod said, "It is probably the worst tower I have ever seen in my entire life." The advantage of such a tower for a DXer is that a 10-foot section of the tower can be packed in a box 3-½ feet long, 6 inches around. Thus, one person can include a 60-foot tower with his luggage. It is all aluminum and bolted together.

Since there is a little flex in every intersection, the tower gets more and more wobbly the higher you go. You can't walk up it like you can with most towers. If you must climb it, you pull yourself up hand over hand. By the time you get to the 60-foot level, you're already exhausted.

The amateurs using this particular tower put up a 2-element quad for 10, 15 and 20 meters.

For the low bands, Terry brought along a 30-foot fibreglass pole, which was put at the top of the tower. This held up the centers of dipoles for 40 through 160, over the top of the quad. Thus they turned out to be inverted vees. The tower creaked back and forth due to the constant 35-mile-an-hour wind.

As the tower was being built, the natives looked on, amused that these Americans were doing these strange things on their island.

Operating was done from a "residencia" — a home in which an island family usually lives, but which is rented if necessary. The family then moves into a little shack in the back of the home, preparing meals, etc. for those renting the "residencia."

Terry brought an ICOM, an Alfa 76 and all the assorted goodies one needs to do a DXpedition. The group made about 12,000 contacts — 3,500 in the ARRL phone contest.

Chod operated from this station the first couple of weeks he was down there — when he could find time away from the archaeological work.

Before this group left, they took down the tower and took it to Father Dave's location — the Catholic church in the middle of town. Rising above the church is an 18AVT vertical and a 3-element tribander. Father Dave himself lives in a tiny building behind the church. He has two separate power lines to his house — one to run the radio shack and one to run the rest of the house. Neither has more than 190-200 volts.

The U.S. Air Force built the air field on Easter Island in the early 1960s. Scraps of Air Force material can be found all over the island. Gardens are lined with diesel oil drum tops, metal runway strips and the like. The people there use every scrap of everything.

Father Dave is trying for 5BDXCC. He still needs a few countries on 80. There are other amateurs on the island, too. CE0COJ is the Port Captain — the Number 2 man in charge of the island after the governor. He's likely to be the governor in six months, when the present governor's term expires.

Easter Island will be a friendly place for Amateur Radio for awhile. CE0COJ just put up Father Dave's old TA33, using an "armstrong" rotation system. Fortunately, you don't have to turn the antenna very much — from Easter Island, everything is north! CE0COJ has an FT101 in his living room. □

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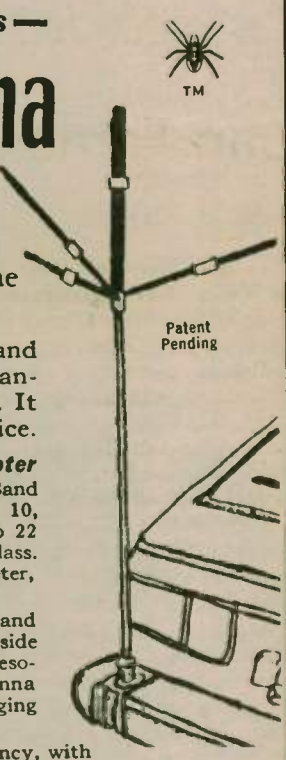

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World Radio History

Packet radio — a new frontier

The KA6M repeater is San Francisco's first, and possibly the nation's first, all digital simplex packet radio repeater for use in Amateur Radio. The repeater went into operation on 10 December 1980 and since then has been running both as a packet repeater and a beacon. Here are some facts about the repeater and its operation:

• A packet radio repeater or digital repeater — or "digipeater", as the Canadians call it — is a machine which receives a message or block of data, and after verification, retransmits that message on the same frequency channel where it was received. Thus, only a simplex channel is used, and the message transmitted is the same as the message received, except for the possible modification of some address or control bytes. The primary function of a packet repeater, as with a more conventional repeater, is to extend the geographic range and coverage of fixed or mobile stations.

• The KA6M/R repeater is currently operating on a simplex channel assigned for non-voice use, 146.580 MHz, and transmits data at a speed of 1200 Baud. The machine consists of a Z-80 microprocessor, a Bell 202 compatible modem, and a solid-state transceiver. The initial site is in Menlo Park, California.

• The basic format of a packet or message block is an HDLC frame. The word HDLC stands for High-level Data Link Control, which is a new and internationally recognized standard in the communications industry. A frame consists of an opening flag byte, an address byte, a control byte, an information field, two bytes of CRC checking, and a closing flag. The repeater uses NRZI (Non Return to Zero Inverting) encoding of the frame, which allows both clock and data to be recovered from one signal. The use of HDLC framing and control procedures guarantees highly reliable, nearly error-free communications. The first use of HDLC framing by amateurs was done by members of the Vancouver Digital Communications Group, and we are following their lead.

• As a beacon, the machine transmits three packets every five minutes, immediately following its CW identification. Each packet contains approximately 70 ASCII characters. In functioning as a repeater, the machine will repeat any packet it receives which has the correct address and CRC check sum. The information field is currently limited to 256 bytes maximum.

This repeater is just a first step in what will someday be a nationwide network of interconnected computer systems. Packet radio is a new frontier for Amateur Radio, a new medium unlike anything we are accustomed to today.

Please contact me if you are interested in more information about the repeater or wish to communicate with it: Hank Magnuski, KA6M, 311 Stanford Ave., Menlo Park, CA 94025. (415) 854-1927. □

Juan Fernandez

(*continued from page 9*)

Valparaiso. They said they had two brand new Onan 6kW generators, but they couldn't let me use them without permission. I replied, 'Didn't you get my papers? I'm Colonel Gardner from the U.S. Army, and I've come to do propagation studies. Why haven't you received my papers?' I started to get mad. I was desperate.

"They responded, 'We don't care if you operate, but we have to get permission from our commanding officer.' Fortunately, it was Constitution Day — the day everyone above the rank of corporal celebrates the anniversary of their new constitution. The two men called their headquarters, but there was no one around. Some girl came on the line, and she was afraid to say no. And these fellows wanted to help me. She finally said, 'If he's a colonel, it's OK.'

"Now that I had the generator nailed down, we had another problem. We checked the tank for diesel fuel and it was empty. 'But Thursday, there will be a shipment coming, and we will be able to help you then.'

"I went down and talked to the mayor of the village. I told him I was in the travel business in California and that he had a real nice spot for tourists. I told him my radio contacts would give him a lot of publicity. He was a real nice fellow. He whispered to an assistant, and the next thing I knew I had 150 gallons of diesel fuel, which was supposed to be nonexistent on the island. I think I impressed him when I told him we'd make 50,000 contacts all over the world.

"I was all ready to go, when the sergeant at the fort told me, 'You can't operate.' I argued, 'Here is my license.'

"'Sorry, you don't have permission from the military,' he said. I argued, 'Here's my license from the government of Chile. The military *is* the government of Chile.'

"It turned out that he had had a bandito there a few years ago, and he got busted because he didn't find him. He used to be a sergeant; now he's a corporal, and he wasn't taking any chances with a gringo.

"I was desperate. I sat there for about eight hours and went to sleep. The next day, I was all set to go. Had the fuel and everything. I knew I had permission. They could throw me in jail for a couple of days — what else could they do?

"I got going. I worked some Wls. Meanwhile, the corporal kept running up and down the hill, telling me to wait.

"While I was waiting for permission, I had medically taken care of about eight or 10 people on the island — people who needed to see a doctor, but hadn't for months. I think that helped smooth things over a little.

"Because of the nearby mountains, I was shielded from Europe by a 1,000-meter mountain. I worked no VKs or JAs short path because of mountains. I did, however, get a few long path.

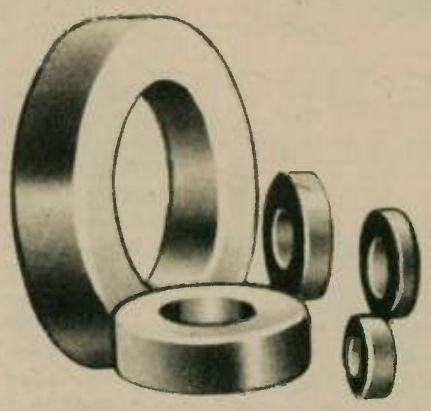
"About this time, the commander of the Valparaiso Military District, which included Juan Fernandez Island, came for his annual visit. He was very nice and knew I was on the island because I had told his friend in Los Angeles that I would be there.

"He dropped in to see me in his helicopter, and asked if I needed a helicopter ride back to the airport. The ride back to the airport and home was uneventful.

"I'd like to say a couple of things about DXpeditions. If I go to another rare spot again — which I will — I'm not doing any more 'When ya goin' down to 80' or 'When ya goin' down to 40' stuff. (The audience applauded.) It's not fair to the people who are getting started in DX. If I can work five a minute on 15 meters, why should I go to 80 and work one a minute for people aspiring to 5-band DXCC? One band is enough for rare DX.

"The thing that turns me on most is when somebody says to me, 'Dave, thank you for a new country.' I'll be going out again, and I hope to work you all. □

Toroid Cores



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T-106	135			1.06	1.75
T-80	55	45		.80	1.05
T-68	57	47	21	.68	.95
T-50	51	40	18	.50	.70
T-37	42	30	15	.37	.60
T-25	34	27	12	.25	.45

RF FERRITE TOROIDS:

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F-87	900	300		.87	1.25
F-50	750	250	5000	.50	.80
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F-23	250	100	1500	.23	.50

Chart shows uH per 100 turns

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World Radio History

The Exchange

Armond Brattland, K6EA

The National-International Net

Although I fully agree with the thoughts expressed in letters from several of the prospective regular net members — a net must operate daily handling traffic if it is to be of any value as a traffic net — let us consider this operation carefully. The NNN "balloon" was sent up immediately on a daily basis. From the encouraging letters from Novices who complained about their lack of opportunity to handle traffic on Novice frequencies and from letters otherwise offering help, it looked like a good safe journey could be expected. However, higher class licensees who promised to act as net controls failed to show: Novices who "wanted to handle so much traffic" didn't check in, could not hear NCStations, or failed to bring any traffic. After trying to make a "flight" only on Sundays, it became apparent "the net habit" was not being established, so the "balloon" settled back to Earth!

That same experience, as we've written it, happened with a number of so-called "Novice nets." Whether a national international net/NIN can operate on 21,150 kHz successfully is the question. It could serve the Novices ashore, as well as those at sea; it can also serve those higher class licensees who either wish to help, or who have the need for help from a CW net. It has not been tried before, but if the net purposes are broad enough this time around, there may be reason to believe it will "take." With the purposes of the net being registered as ETWO — Emergency, Traffic handling, Weather and Other purposes — it could hardly be broader. To insure that there would be no "balloons" sent up without preparation, how about just meeting Sundays at 2300Z on 21,150 kHz and talking it over? As stated in prior issues, I firmly believe NIN must operate in a similar manner as ARTS — *without regular net controls.* Also, unless a solid *nucleus* can be established, upon which to build, the daily flight may be hard to sustain. Do not depend on my presence; *you* must take the initiative. *Get on the frequency at such time and "talk it over!"* At this time of high postage, passing telephone numbers back and forth (for radiograms) is essential.

Also, all the participants of the Sunday round tables should make up rosters for themselves of calls, names, addresses and telephone numbers. Good luck!

"Hey OM, why don't you propose calling frequency"

That was thrown at me a couple of months ago, when a station close to a prominent operating spot was calling "CQ" and seemed to be concerned by my calling a station on schedule. Actually, we were over 100 kHz apart. I told him I'd move right after making contact, which I did. It must have satisfied him, as he held up his "CQ-ing" until arrangements were made to QSY. Whether he knew that ARRL had for many years made a strong effort toward calling emergency spot frequencies, is a good question. Perhaps only a few readers know of such effort. That subject was "Number One" with the oldtimers and the Communications Department for many years, until it became apparent to George Hart, W1NJM, as manager, that it was a lost cause — then it was dropped and the proposed frequencies forgotten. It had become a "sore thumb" for those in favor and they took much heat from those against it. I shall not propose that Worldradio take on such battle on either side, but it's been mentioned — some remember it, others don't. To be fully informed, you should know about it.

Commercial services use regular calling/emergency frequencies. Thus, they avoid the frustrating mess amateurs are accepting as "par for the course." If you should have a real emergency and seek to be heard on certain bands using low power, you may literally "run down" without being heard. To eliminate that situation, ARRL set up "silent periods" and calling/emergency spots on the bands, and "broke its spear" trying to convince amateurs there was an easier, better way than the way amateurs were and are doing it. Of course, practicing the Golden Rule would be necessary — calling, then moving. If you wish to know more about this arrangement that ARRL sought to establish, you can dig back into the older issues of QST. Some old-timers who were "agin it" then may see merit in such plan now.

Let us adjourn to the "skating rinks!"

Imagine — at one time, all radio shared "one piece of ice" — no divisions. That was in the beginning. As characteristics about "the ice" became known, divisions grew, and so did the purposes and numbers of the "skaters." So it was that "skaters" using narrow, CW-width "skates" were given the right to skate on all "rinks." Fine for emergencies, but there were strong objections from those using wider "skates." Then along came "skaters" as beginners, who sought room to practice anywhere but "on the ice." Does it all make sense? In the "long skate" perhaps, but throw in some others who don't really care to "skate," who get their kicks out of blocking what some other "skaters" are trying to do. Then, with approval from "the keepers of the ice," add many other means of "skating."

So you ask, "When are the 'skaters' out of 'ice?'" Some "skaters" complain that time has come now. Other "skaters" using narrow "CW-width skates" are continually losing "ice" as the keepers of the "ice" take it away and give it to those using wider "skates." No "ice" is available for less skillful "skaters" to use it exclusively for their practice, or for "falling down" while practicing. Naturally, serious-minded "skaters" view the future for our "rinks" with concern and know something must be done. It would be unfortunate if the keepers of the "ice" were to follow the present trend and out of their frustration, decide they can permit the use of the "ice" at only certain times. Actually, if any favoring needs to be done, should not the keepers favor the skillful "skaters" with "narrow skates?" But then, what about enough "ice" for the less skillful? Can there ever be *enough* "ice" in the future, or "in the long skate?" What does that mean for future generations of "skaters" and those determined to "skate" as they please, without regard for others? Keepers of the "ice" must "keep cool heads; hot heads may melt the 'ice!'" Confucius didn't say that — WE SHOULD ALL SAY IT.

Is there "an easy way?"

Letters from those seeking Novice licenses or wishing to upgrade, usually ask the above question. NONE ask for a "hard way" and very few express any interest about going to school. Some do indicate they live at some remote place and attending classes would be impossible. Not a few, however, mention that they wish to operate CW and handle traffic. You remember the fable about the blind men and how confused they became when each tried to express his idea concerning the elephant. The subject of teaching can be very confusing at times, for we don't all learn in exactly the same manner or at the same rate of speed. However, whatever mode you wish to operate, if you have access to a typewriter, why don't you use it when you write letters? When asking that question, the answers have varied. One kept his typewriter in a clothes closet. In several cases, the typewriters were owned by their wives — seemingly in such cases, the husbands did not deem it necessary to learn to use it; they just continued sending out "hen scratches" that were nearly impossible to read at a glance.

Learning while you type

It is possible. Both code and typing relate to each other — both are skills. You speed up by practicing. You learn to read the printed word rapidly, as you type it. This cannot be accomplished reading "hen scratches;" nor can you receive bad code rapidly — both require concentration in proportion to the variations you see or hear.

Prior to WWII, a former average amateur was sent to a remote government radio station in Alaska. He had passed the entrance examinations at 20 wpm for code, slightly higher for typing. The latter was mixed with "hunt and peck" methods. While on such job, he practiced typing from the books and papers found at the station. He also required a commercial license, so he typed the question and answer manuals over and over, until he could "see" such "Q &

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World Radio History

manual page by page. Within a few nths, he transferred out, wrote the exinations for two commercial licenses ter perfect, then received a promotion o a position where he trained rators.

had the opportunity to ask him what considered to be the most important ng that contributed to his progress? s answer was simple — *"learning to e at higher speeds, without need for centration."* He went on to explain at *it gave him time to think!* One might d, neither "hen scratches" nor "bad le" give you time to think. Much time sed up wondering, "What was that — at's coming next??" □

Through the eyes of a Novice

The long awaited slip of paper from the FCC finally arrived. All of a sudden I wasn't so anxious to get on the air. What would I do? What would I tell them? What if I couldn't understand what they sent?

With my OM at my side for moral support and first aid in case I passed out, I tuned up on 10 meters. We heard a ZS5 and decided it would make an exciting first contact. I gave a call and for a minute I thought, "Maybe they won't answer." I was a nervous wreck!! Back he came to me and began sending a long schpiel to me right off.

My sweaty hand and shaking pencil were only copying three-fourths of the QSO. It was my turn to send and with a big sigh — away I went.

Each time it was a little easier when he turned it back to me. I couldn't get the QSO ended! We had been at it for over an hour and each time I'd send 73, he would come back with a question. I had to get off, the baby woke up — and besides, how much more could my nerves take?

After the ordeal was over, I felt real proud, but still dreaded the next contact. Maybe it will get easier and I'll learn more each time. Guess that is why they call us Novices. We are in training and, boy, do I have a lot to learn!!

Sincerely,
Kathy KA9KKD

P.S. A special thanks to all who have encouraged me and urged me on!
—Western Illinois ARC, Quincy, IL □

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The TTT

Fred Bonavita, W5QJM

A loose-knit group of QRP operators in the Austin, Texas area is pleased to announce the advent of the Texas Traveling Trophy (TTT). They urge each of you to try to be its first winner. Win it three times and it's yours. Even if you lose it after winning it one or two times, you get to keep the special certificate which attests to your success.

The TTT will "piggyback" on established QRP contests. It will be awarded to the Texas-based operator logging the highest point total in the contest, regardless of that score nationwide. Duplicate logs and contest entries must be received by W5QJM by the same deadline as the contest involved. Winners will be announced in *The Texas QRP Report* and the next contest in which the TTT will be up for grabs will be disclosed.

Full contest information is in the various Amateur Radio magazines. (Page 96, April QST)
—CHARRO, TX □

QRP nets

Fred Bonavita, W5QJM, advises that the Gulf States Net (QRP GSN) has abandoned its 3560 kHz spot because of summer atmospherics. You will find them at 7040 kHz for the rest of the summer. Net starts at 2100 CDT, speed 13 wpm.

QRP Transcontinental Sideband Net (QRP TCSN)

The debut of this net was held on Sunday, 5 April 1981, 2000 UTC (1400 CST), 21.385 MHz. Jerry Felts, WA5TFU in Minot, North Dakota is NCS.

QRP International Novice Net (QRP TCNN)

The balloon went up on this net at 2300 UTC (1700 CST) on Monday, 30 March, 21,110 kHz. John McNeil, WA2KSM in Shirley, New York is NCS. The net speed is slow.
—CHARRO, Brownsville, TX □

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World Radio History

TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

The basics

The subject matter of this month's column has appeared here several times previously, but for the benefit of new readers it bears repeating. While ARRL's recent survey shows **Worldradio's** readers to be in the older age groups of amateurs, the increase in circulation from 18,000 to 24,000 in the past two years also shows we are getting more readers, so we who write should not forget the new readers too.

And many newcomers — and even a surprising number of experienced amateurs — do not even seem to know organized traffic handling exists, or at most, know of it as a source of QRM. This is an invitation to find out about it. If you're interested, try it out for yourself.

In the early days of Amateur Radio, the station that could work 100 miles was good, so any communications outside one's local area had to be relayed. As a result, relaying was developed into a fine art in the days before World War I. After the war, it was resumed. As ranges increased, longer distances were covered by each relay, and the routes were modified accordingly. Even when it became routine to communicate anywhere in the world via short waves, traffice handlers continued to pass messages back and forth over their routes. They still do today, although we now have satellites.

It was found that relaying traffic had other uses besides making communication possible over distances that could not be spanned by direct contact. It can help reduce spectrum congestion and save time for busy people. Instead of two dozen people getting on 20 meters and trying to raise someone on the opposite coast, it saves their time if they give their messages to someone who can relay them all to a station on the coast who can pass them to their addresses. And it leaves the band free for others to use.

As the end result of about 70 years of amateur traffic handling, there is the National Traffic System, plus many independent nets and amateurs with private schedules. Now, anyone can give a message to any amateur participating in traffic handling and have it transmitted anywhere in the United States or Canada, and to a few other places as well. It only takes a few minutes of your time — less than it does to write a postcard and mail it, in most cases. And it's absolutely free.

Getting started

To secure greater accuracy and more reliability, a standard form for messages has developed over the years. Reading ARRL publications that go into all the details can be confusing to a beginning traffic handler; but many of the details are of limited application. Simply put, here is how to prepare a message to send.

First, write out the address: first and last name of addressee, amateur call if any, complete mailing address with ZIP code, and telephone number (area code generally not needed). Then write the text of the message, trying to keep it as short as possible (25 words or less are preferred). No punctuation is used except X where you would otherwise use a period (not at the end of the text, however), and QUERY where you would put a question mark. Add the signature of the person sending the message (yourself, most likely, for your first message anyway). Use a nickname, your full name, name plus call, even address and/or phone number, if you think best, depending on who is to get the message. Include whatever it takes to identify the sender.

Then write the preamble. The message number: if it's your first message, it's NR 1. Amateurs usually number their messages beginning with NR 1 either every month or every year. Follow the message number with R for routine. Give your call sign. Count the number of words in the text; each X and each QUERY counts as one word. The total number of words in the *check;* write it after your call sign. Then add your city and state, and the date — month and day. The finished message, ready to transmit, should look like this:

NR 1 R K4ZN 15 MONCKS CORNER SC JULY 4
MR MRS FRANK CLARK
4012 NORTH WISHON
FRESNO CA 93704 229 8996 =
HOPE YOU AND THE FAMILY HAVE A HAPPY FOURTH X
ALL WELL HERE X LOVE = CHUCK

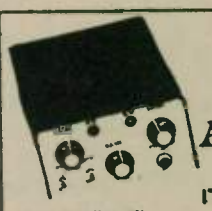
Putting the message on the air

If you're a Novice, you will have to send your message by CW. If you have any other class of license, you may send it by voice if you prefer. The usual way in either case is to put it on a net. You just check into the net and say you have one message for wherever your message is going. If it's for someone on the net, you give the call sign of the addressee. If it's for a town within the net's area, you say what town it's for. If the destination is outside the net's coverage, you either give the destination state or simply say "Through." On NTS nets this indicates the message should go to the station appointed to handle all traffic destined for places outside the net's own area of service.

This is the same, regardless of whether the net uses CW or voice. Of course, t
are some differences between the mo
You can learn much about how to do i
listening. On voice, here in So
Carolina, I would list the message g
above as follows: "W4NCS, this is K
I have one through. Over." On
W4NCS DE K4ZN QTC 1 THRU
After that, it's simply wait for net con
to tell you what to do. You will be tol
send your message to someone, and
what frequency. On voice nets, it's n
likely to be the net frequency; on
nets, it may be the net frequency (
"here"), or some nearby frequency (U
DOWN 10, etc.).

Just read the message when you
by voice, at a speed that will allow
other operator to copy. One suggestio
to write it yourself as you read it. S
unusual words or words that can
misunderstood. Use either the ordi
alphabet or the ICAO phonetics
necessary. Break frequently, take
finger off the mike button and listen
tween phrases. That way, you may a
coming to the end of the message onl
find that the other station didn't
any of it. I would read the above exa
as follows: "Number one, routine,
four Zulu November. Fifteen. Mo
Corner, South Carolina (usually I
Moncks Corner unless I'm sure
operator knows), July four. Mr. and
Frank — F-R-A-N-K Clark — C-L-A-
Figures four zero one two direction n
Wishon. I spell Whiskey India Si
Hotel Oscar November. Fresno — F-
S-N-O California. Figures niner t
seven zero four. Telephone figures
two niner. eight niner niner six. Br
Hope you and the family have a ha
fourth x-ray. All well here x-ray. L
Break. Chuck. End of message. Over

On CW, the message is sent just as
written above, except that amateurs



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AA (didahdidah) after each line of the address. This is the American Morse comma and is taken from the procedure followed by wire-line telegraphers of 50 to 75 years ago. A break or double dash (dahdididah) is used between the address and text, and between the text and the signature.

The receiving station may ask for fills if something was missed; otherwise it simply acknowledges receipt (R, "Roger," QSL). If you are off the net frequency, you return and let net control know you are back. No need to explain that you passed the message, as it is assumed you did what you were sent to do unless you say otherwise. On CW nets, you wait until net control excuses you (QNX); on voice nets the custom varies. In many cases you are free to leave when you have cleared your traffic, but in some nets you are expected to remain until net control excuses you or until the end of the net.

That's all there is to it. Once you have put your message into the system, you can forget it. In fact, you may so forget it that when your Aunt Susie calls you long distance in a couple of days, it may take some time to figure out what she is so excited about. It's a sure-fire way to surprise people, sending them messages by Amateur Radio, and most people are delighted to get them. The system is there, is generally under-utilized, and all amateurs are invited to use it.

But what net?

Where will you find the net to put the traffic into? The first place to look is the ARRL Net Directory. This is published every summer, so the new edition should soon be available. Send a 9-by-12-inch envelope with 52¢ postage to ARRL, 225 Main Street, Newington, CT 06111, and ask for your copy. In addition to listing 600 or so nets, it has much valuable information on handling traffic; for Novices and Technicians, it has a special listing of nets that operate in the Novice bands.

Other ways to find a net: ask your SCM (Section Communications Manager, address on page 8 of any issue of QST) for the times and frequencies of nets in your area, or look in the "Station Activities" in QST where you will often find listings of nets in the various SCM reports. Or ask any amateur. Before long you will meet someone who knows. And don't forget Armond Brattland, K6EA, who has for some years in his "Exchange" column (formerly the "Novice" column) been promoting the use of 21,150 kHz as a frequency for swapping traffic. You could get on that frequency and send a CQ to the place where you have traffic, like this CQ CALIF CQ QTC CALIF DE K4ZN K4ZN K.

This idea of a general calling frequency has often been suggested for amateur traffic handling, but has never been widely accepted. It works, as can be seen by the success of ARTS — the Amateur Radio Telegraph Society — which uses 7060 kHz for the purpose in the morning hours, and it has been successfully used in the Maritime Mobile Service for 70 years on 500 kHz.

One difficulty we have in the Amateur Radio Service, however, is that many of us cannot spot our frequency accurately enough to use a calling frequency unless we hear someone there already. Many of our rigs can't be spotted closer than 5 kHz or so by the tuning dials. And that's not nearly close enough. 200 Hertz is more like it. The second problem is that, unless such a frequency is very active, it will soon be occupied by other amateurs not involved in traffic handling. One possibility would be to imitate the commercial stations and use what they call a V-wheel to hold the frequency. If you listen to the frequencies assigned to coast stations you will hear many stations sending something like this: VVV DE WCC WCC WCC QSX 6 8 OR 12 MHZ K. This is continuously repeated until a ship station calls with traffic. Then the wheel is stopped, the coast station takes the traffic, then turns the wheel on again. That might not be too welcome on amateur bands, however.

But ask around, and you should find someone who can direct you to an outlet for your traffic. Don't be afraid to ask questions. My father always told me that you give a compliment when you ask a question. In effect, you give the person you ask credit for knowing something you don't know yourself. And he added, "Sometimes you will encounter an attitude that says, 'Don't you even know that, stupid?' But don't let that bother you. Such people are insecure and subconsciously aware of their own ignorance, so try to give themselves an ego-boost when they find someone they can look down on. The answers you get from such people wouldn't be worth much anyway. People worth asking are always glad to share what they know."

Why handle traffic anyway?

There's no law that says amateurs must handle traffic, and many — probably most — do not. Nor is there any rule that says we have to work for WAS, DXCC, or any other award, or to participate in contests. But traffic handling does have two aspects that make it a highly recommended activity for amateurs: it is a way to serve the public, and it is a way to become a better operator.

When emergencies occur, it's a great help to have an already organized network of experienced operators to move the traffic. Even the ordinary routine things like birthday greetings, birth announcements and family news bulletins are much appreciated by those we serve.

As for improving our operating skills, there is nothing like regular traffic handling for this. Want to get your code speed up to 132 wpm for your General or to 20 for your Extra? There's nothing like passing traffic on CW to do it. And handling traffic on voice will sharpen your phone operating habits, too. When you handle traffic, unlike in ordinary amateur QSOs, you have to get 100 percent accuracy. Nothing less will do. And the operating habits you develop will carry over in your other amateur operation too, unless you get so addicted to handling traffic that you don't do any other operating! Yes, there are a few like that. □

NCE Net

The Northern California Emergency Net call-up is every Sunday morning at 1000 on 3.920 MHz.
—RAIN, Eureka, CA □

Earpiece tip

Lee Hemink, WD4JFR

Prior to a recent trip to Florida, I felt I needed an external speaker for my 2-meter rig so I could hear better over the "road noise." My search brought me to the small earpiece which accompanies most new tape recorders, transistor radios, etc. This little gadget let me listen clearly to even the faintest signals on .52 without driving to distraction me or my family. (The earpiece fits the external jack of my FT 227R and disables the unit's regular speaker.)

So, if your XYL can't stand the "jabber" or if you might have lost some of your audio perceptiveness — listen up!! Light-weight, easy to wear, this little idea made a 1,300-mile trip a joy.
—Brightleaf ARC, NC □

SSTV

Dave Ingram, K4TWJ

Combining Fast Scan and Slow Scan capabilities

There are a number of ways Fast and Slow Scan TV can be combined and used in a truly unique and meaningful manner. Think about that for a few minutes, and you'll probably come up with some clever ideas. Let's say for example, a special event or "open house" station is set up in a shopping mall, etc., during a summer weekend. A nearby amateur receiving SSTV views from England, Japan, JPL or wherever can relay the scan-converted pictures via 70cm Fast Scan TV directly to the "open house" station, which would display them to the public. The system could be expanded into two-way television (nationwide or worldwide), if desired, by including FSTV transmitting capabilities at the "open house" site. In this case, the nearby amateur would merely connect his scan converter's Fast Scan input to the 70cm receiver, and the Fast Scan output would connect to the 70cm transmitter. A separate viewing monitor, in conjunction with the scan converter's "memory hold," could be used to preview/edit views before relaying them.

A small 70cm transmitter can be mounted inside a Fast Scan camera and used with a 70cm converter and regular TV for "wireless" camera applications near the home setup. One of the presently popular "pocket TVs" could also be included at the camera site for viewfinder functions. A 70cm converter and a regular TV set placed at the scan converter would "round out" the setup. The best place to take off Fast Scan video in a television will vary somewhat between various circuits, so you'll need to check and experiment. The video detector's output may seem like a logical point, but it is often necessarily shielded and difficult to reach — or it may be easily loaded down — or extraneous connections could upset bias on the following video amplifier stage. If you can get around those problems, grand. Connect to the video amplifier, and you're set.

One connection point I've always found useful and reasonably accessible is the television's contrast control. I merely place a .1mfd from that control's wiper to a cable's center conductor and connect the cable's shield to ground (watch out for AC/DC, or transformerless TVs. If you can't get around the "hot" chassis, use an isolation transformer. Measure between the cable and scan converter cabinet *before* connecting cable to be *sure*).

Another interesting Fast Scan/Slow Scan arrangement centers around a 2-meter FM rig, a digital scan converter and a 70cm ATV transmitter. This setup is used for remote, portable or mobile SSTV copy without the necessity of extra gear. Local non-SSTVers or mobile amateurs can tune in SSTV transmissions on their HF rigs, send the signals to the scan converter via a discreet 2-meter frequency, and view the resulting Fast Scan pictures on a small portable TV operating with a small 70cm converter on its input. Now that we've "whetted your appetite" on Fast/Slow combinations, start devising your own systems — and remember to let us know the results so we can brag about your ingenuity here in Worldradio.

UOSAT satellite progress

Britain's first amateur satellite, UOSAT, will include an on-board SSTV camera in its features, and launch time for that unique spacecraft is rapidly approaching. The satellite is presently in its

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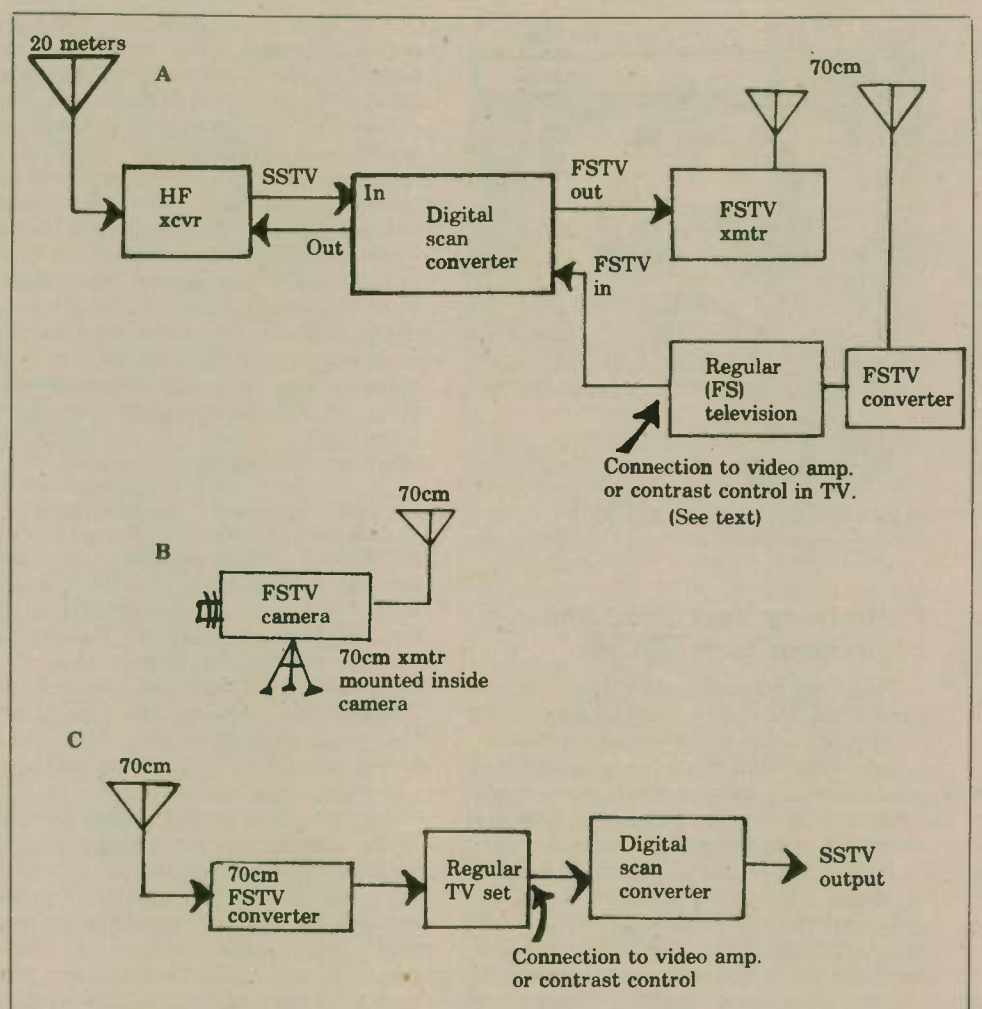

***Figure 1* — Three examples of combined Fast and Slow Scan setups. A) An HF to 70cm link for special events; B) A "wireless camera" for "instacam remotes"; C) Receiving setup for 70cm FSTV to SSTV. A fourth idea is outlined in text.**

final stages of construction at the University of Surrey in England. The craft is scheduled for launch on a NASA Delta 2310 rocket, accompanying a Solar Explorer spacecraft, at 1119 GMT, 15 September 1981, from Vandenberg, California. The predicted orbital parameters are: altitude — 530km, period — 98 minutes, and inclination — 97.5 degrees. Prelaunch test/accomplishments are proceeding very well, indicating the upcoming launch should initiate some exciting times for experimental-minded amateurs.

Several very special systems (including the digitalized SSTV system) will be included on UOSAT. An on-board microprocessor will handle data processing, modifying in-flight functions as directed by ground control, rectifying

General Data Beacon		Engineering Data Beacon	
145.825 MHz	— Frequency	435.025 MHz	— Frequency
NBFM	— Modulation	NBFM	— Modulation
AFSK	— Data Format	AFSK	— Data Format
450mW	— Power Output	400mW	— Power Output

Data rates (both beacons)
1200, 600, 300, 110, 75 baud ASCII, 10 or 20 wpm Morse, synthesized voice.

***Figure 2* — Operational parameters of upcoming UOSAT satellite which feature digital SSTV transmissions via its General Data Beacon. Pro Manager is: Dr. M. N. Sweeting, Department of Electronic Engineering, Uni sity of Surrey, Guildford Surrey, GU2 5XH, England.**

hardware malfunctions, etc. Particle counters will provide real-time data on solar activity and auroral events, while a 3-ANS, wide range, flux-gate magnetometer will measure structure and disturbances to the Earth's magnetic field. Resultant data will be stored in memory until directed to downlink via one of two beacons. A voice synthesizer will also be employed for actually speaking this data in English. The mode will be narrow band FM.

UOSAT's TV system is a "cross" between SSTV and digital video. It consists of an Earth-pointing solid-state, CCD array-type camera which will provide land/sea views for digital transmission. This mode will be afsk at 1200 b.p.s. via the general data beacon on 145.825 MHz. The video image format is 256 by 256 pixels, with 16 shades of gray. The camera will view an approximate 500km by 500km area of earth surface, and yield a resolution around 2km (you could almost see your neighborhood or house!). The estimated "from scratch" cost of a homebrew display (less, of course, 2-meter receiver) is approximately $200. Additional operating parameters of the TV system, plus suggested circuits, are due to be released soon from UOSAT. We'll include them in this column at that time. Meanwhile, stand by with your 2-meter FM rig for some exciting action.

SSTV view of Ernie Hagena ZS6BQT, as received in Alabama 20 meters. Ernie relates that m than six other ZS6 amateurs are a active on SSTV.

The Autek audio filter and SSTV

If you've experienced problems trying to copy SSTV pictures through excessive adjacent channel QRM (and who hasn't!), you should check out the Autek Research QF-1A multi-function audio filter. This unit is a blast! The filter can be adjusted to sharply roll off frequencies about 2300 Hz or below 1200 Hz . . . or both; plus a very steep and deep notch (−70dB) can also be inserted either between 1200 and 1500 Hz or wherever else it's needed. The unit connects between your station's receiver output and speaker/SSTV monitor input, and you're ready for action. There are front panel controls for setting received audio bandwidth and that bandwidth's center audio frequency, plus another control for setting the −70dB notch frequency. If the notch is not desired, merely turn its control to the lower limit (80 Hz) or upper limit (11,000 Hz). Other Autek filter functions include "peaking ability" for either high or low audio frequencies as necessary to avoid adjacent channel QRM. Nice, indeed.

The unit I've been using lately does a creditable job of "enhancing" received pictures by boosting white frequencies slightly more than black frequencies. (This effect is also readily noticeable on the station speaker.) Whenever QRM gets rough, I can peak and notch my way through the interference and at least produce a poor but visible picture on the screen rather than missing views altogether. It takes a while to become accustomed to the Autek filter (that's when you're really learning its capabilities and how to use them). After then, however, the filter handles like a sports car in a mass of unwieldy roads. It's a pity s effective audio filters aren't an inte part of all SSTV monitors. The QI filter is manufactured by Au Research, Box 5127T, Sherman Oaks, 91403. It's a gem.

Happenings on the air

This month's hearty congratulation the world of video activities are direc toward Dr. Don Miller, W9NTP. Du early March, Don wrangled a color F Scan QSO with Chicago — an approxim 200 mile path. Considering our mo tainous and wooded terrain here in deep South, we can only marvel at t feat. W9NTP runs approximately watts output on 432 MHz TV t 64-element collinear array. Jolly g show! How about you other FSTVer what have you been up to lately?

Ernie Hagenaar, ZS6BQT, rep SSTV (and some FSTV) is alive and in the South African region. Ernie us Wrasse Scan Converter and keyboar "barefoot" SSB transceiver homebrew quad at 50 feet. His signa usually S9+ in the United States, and frequents 14,230 and 28,680 kHz. Wa for him!

Remember Joe Trombino, CP1BCC, active SSTVer in Bolivia? He's a mem of the Foreign Service (part of the S Department), and thus susceptible moving around the world. He retur stateside during April and regeared video, then left for an assignment Monrovia, Liberia. Joe has been check into the SSTV Net and operating 14,230 kHz other times, so watch for from Liberia soon. Thus far, we only k his call will be EL2 . . .

Ken Rothmuller, WA6NFA, reports has developed a complete SSTV syst designed for the Apple II computer, that plans for distribution of the interf board plus associated software should firmed-up by summer. The arrangem

(please turn to page 49)

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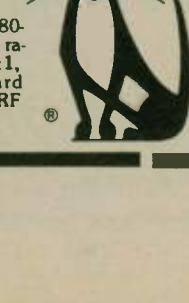

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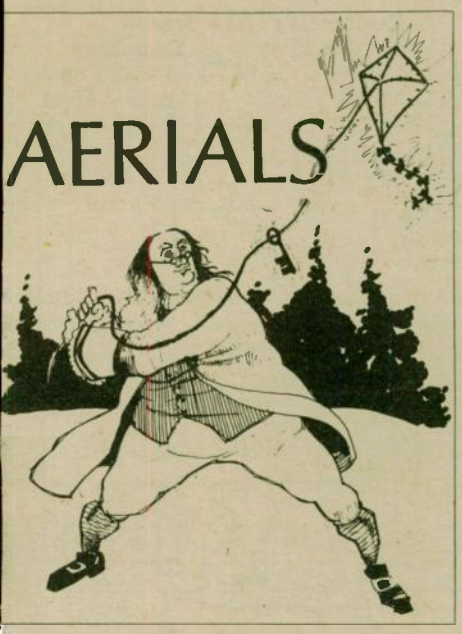

Kurt N. Sterba

The editor of this fine journal received a letter chastising him for having an "unsigned" writer in the newspaper. The person writing in felt that "anonymous" authors were not very credible and all that. I'd be the first to agree. However, I'm too old to accept the agitation from argumentative telephone calls and I'd like to walk around Dayton in peace.

If you think being a columnist is a big bowl of cherries, you're wrong. For example, one other columnist was sent a letter in which a very foul comment was made about "Lil Paddle." The letter writer mentioned having been a radio officer in the Navy. All I can say to him is that Congress may have made you an officer, but you missed out on the gentleman part.

The Navy — big deal. Those are the guys who got their frequencies so balled up that ships in the Atlantic wanting to talk to each other ended up talking to the ships in the Pacific!

Here's one experience with our Navy. I had gone through a waist-deep swamp, spent the night in a rice paddy and then ended up on an aircraft carrier. My gold leaf status got me into the officers' dining room where some freshface asked me if I had a clean uniform. (One thing about groundpounders — they have their feet on the ground.) I thought about replying that my valet would be bringing my wall locker aboard shortly but figured, why bother?

I've got to give the Navy one thing though — they live well. The coffee came out of a service that would have done justice to "the governor's wife poured" in the society column. The only thing wrong was the pourer. He was a DU. That was about all the Navy could find for DUs to do. On the other hand, I once served under a DU captain who was the epitome of soldier, patriot and American. He could also throw a hand grenade further and more accurately than anyone I had ever seen. Good thing he hadn't gone into our Navy.

Another letter told us to read some articles by an author who worked for RCA. I suppose that is presumed to be some qualification. That is one of the biggest myths ever to hit radio. Ask most broadcast engineers what they really think about RCA equipment.

Years back, a pal of mine started building a product in direct competition with them. Out of his quonset hut, he started taking sales away from them. I asked him how he felt he could ever compete with them and he replied, "They make junk."

If anyone wishes to disagree with anything here, you will be given "equal space." However, base your arguments not on specious twaddle but climb into the reaction of reactance. Trot out your C and L. Then we'll talk turkey.

Now to some nice letters. One from a W2 had questions about a phased vertical system on his roof. The queries had to do with adding another set of verticals. As the letters have been answered in detail, this will be a summary and hopefully of help to others.

First, a phased vertical set will only have about 3dB gain over one vertical, or about half an "S" unit. Adding another pair will only pick up another 3dB over the first pair. A lot of work for not much. The fly in the ointment is — without a good radial system, the vertical will not perform to expectations.

There may be a better answer. If you are willing to put a lot of 16-foot poles (the verticals) on your roof, go to a configuration of inverted V's in Yagi fashion. Actually, just a two-element job will give you nearly as much gain as the four verticals and you've used up a lot less wire and coax.

A Yagi built of wire is still a Yagi. Possibly one of the mini-beams which cover 20-15-10 could be an answer.

For those fighting real problems with neighbors over roof-mounted antennas, don't forget the configuration of the horizontal loop. That is like a quad turned sideways. You may find that a ground screen underneath it may help.

Speaking of verticals, here's something that could use some more experimentation. Instead of feeding the vertical at the bottom, run the coax up the aluminum pipe and fasten the center conductor at the top. Attach the radials to the shield side at the bottom of the vertical. There are, of course, no guarantees on this one but it would serve the function of getting the feedpoint up in the air and away from lossy material.

Just realized, that's a bit of jargon that needs clarification. "Lossy" means absorbent. The ground is absorbent. Pipes sticking up from your roof are absorbent. Anything you can do to get away from absorbent is good.

Another letter from a WB3 showed the amateurs he had called on for help could have used a little help themselves. Unfortunately, it seems this one aspect of the game is the most misunderstood. If your antenna is a dipole fed with coax, and use of a tuner results in zero reflected power, it means nothing. You have done nothing more than protect the transmitter. You have not corrected the problem at the feedpoint.

If saying this really grinds some readers, don't challenge me to a duel at dawn. Write to the ARRL and have them change their books.

Next, as far as the actual efficiency of the antenna goes, low SWR is no indication at all. Remember, a dummy load will give you zero reflected power.

One letter we received bemoaning poor results gave the antenna dimensions. They were off a great deal. Here is a way to check your math calculations; or possibly, your calculator got a glitch or something. The length of a half-wave antenna is 468 divided by the frequency in MHz. Then you cut that dimension in half for each side of the antenna.

Here's another way to check your work. Divide the number 300 by your frequency in MHz. That will give you the full-wave in meters. Take that figure and divide it in half. There you have a half-wave in meters. Multiply that by .95 (Note: that is *point* 95.) Multiply what you have now by 39.37 (Note: that is 39 *point* 37.) Take your answer and divide by 12. There you have half-wave antenna, in feet. Remember if the answer is 32.95, that is not 9-½ inches but rather 11 inches plus 6/16.

Here's a little tip that doesn't seem to get much notice lately. If you have a dipole up on 40 meters, just go ahead and use it on 15 as is, and forget whatever SWR you get. It will work out just fine. just fine.

Also, if you resurrect the Windom, remember that a good ground connection is an absolute must; do your math work from both sides to insure accuracy. For example, if the connection is supposed to be .36 from one end, do your math and then to check your work, do it .64 from the other end. Then check to see if you are .14 from the center. It is better to be safe than sorry.

As I write this column, Field Day is practically upon us, and many groups will run to the highest mountain. They will wonder why groups down in the valley beat them out. Easy answer. Mountaintops are terrible for HF. Chairman Kurt gives you this bit of reasoning. If mountaintops were so good for HF, the Voice of America would be on the top of Mt. Whitney. Instead, look where they are.

One on the East Coast is located where tobacco is grown; another on the West Coast is where they grow grapes. Those antennas are on nice rich, moist agricultural soil — not up on some rocky, dry, lossy ground. Take heed.

If you should have any questions, comments, etc., consider yourself invited.

In closing, I offer you the story of the humble bumblebee. The engineers say the bumblebee should not be able to fly. Its dimensions are all wrong. However, the little insect pays no attention and keeps on flying.

At one time in the antenna handbooks, there was an antenna known as the coaxial or bazooka antenna. Many enthusiastic claims were made for this antenna. Along came an engineer who said that antenna couldn't possibly work well. They took it out of the book. However, amateurs keep putting them up and seem to be very pleased with the results. Thankfully, no one has told the antenna it can't radiate.

(Obviously, Kurt N. Sterba is an alias. We must honor his request as he wishes to protect his privacy. As he puts it, "Let them pick on Judge Glanzer." When Woodward and Bernstein tell who "Deep Throat" was, so will we.) □

Beacons 'down under'

Two new beacons are reported operating in Australia. VK5WI on 28.2585 MHz from Adelaide area in South Australia and VK2WI in New South Wales on 28.3335 megs. Both are sponsored by the Wireless Institute of Australia.

—Canadian AR Federation □

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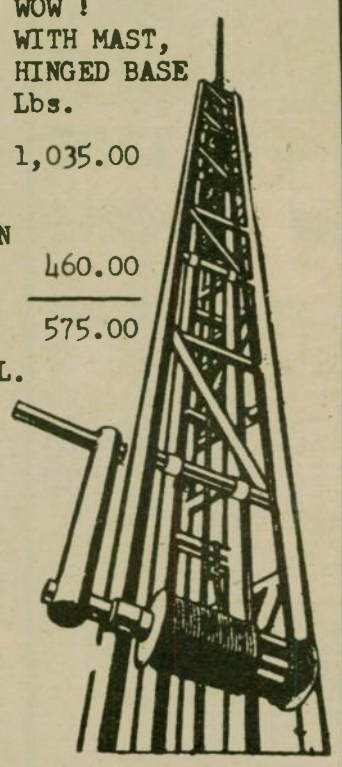

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World Radio History

CONSTRUCTION

Chuck Clark, K4ZN
Assistant Director, Roanoke Division, ARRL

The command sets

Many of the topics treated in this column have been suggested by readers, and several of those suggestions have come from Ken Hand, WB2EUF, whom some will remember as the author of the very popular article in the January 1980 issue on converting a transistor radio into a hearing aid. Ken recently suggested that something should be said on using the ARC-5 Command gear on the amateur bands.

ARC-5 equipment was made in vast quantities during World War II, and formed a complete LF, MF, HF and VHF package for aircraft. It is simple, light and rugged, and very inexpensive on the surplus market. By now, surplus dealers no longer carry the huge inventories of the early post-war years, but there are still plenty of the units around — in the attics and basements of amateurs, if not on dealers' shelves. They offer about the lowest-cost route to amateur operation that is available today.

During World War II, single sideband was still a laboratory curiosity; its application to radio communication was still in the future. As sideband is now the normal voice mode, the ARC-5 equipment will not be of much use on voice. Everything here, even on VHF, is AM. Some amateurs, however, have successfully converted Command transmitters into SSB transmitters, and the receivers can give a good account of themselves on SSB. But the transmitter conversion is more elaborate a project than this column is meant to handle.

The SSB conversion is described in *Surplus Radio Conversion Manual,* Volume III. Also, any number of articles and several books are available, describing ways of using this and other surplus gear for Amateur Radio. If you are seriously interested in using surplus, you will find such books a worthwhile investment.

Of the various pieces of equipment that make up the ARC-5 equipment, the following are more generally useful to amateurs:

BC-453 (the "Q-5er"), a receiver that covers 190-550 kHz with 85 kHz IF that is very sharp; often used to increase selectivity of other receivers, as will be discussed later in this article.

BC-454, a receiver covering 3-6 MHz which can be modified to cover 3.4-7.4 MHz, and so include both 80 and 40-meter amateur bands, as described in *Surplus Radio Conversion Manual,* Volume III, page 11, published by Cowan, and in January 1960 QST.

BC-455, a receiver covering 6-9.1 MHz.

BC-456 and MD-7/ARC-5, modulators for the transmitters of this series. The first is single-ended, the second push-pull. As already noted, voice operation is AM. But the modulators are an inexpensive source of valuable parts, even if you aren't interested in operating "ancient modulation."

BC-458 (T-21/ARC-5), transmitter, 5.3-7.0 MHz, that some have converted into a 75 or 20-meter SSB transmitter.

BC-459 (T-22/ARC-5), transmitter, 7.0-9.1 MHz, covers 40-meter amateur band.

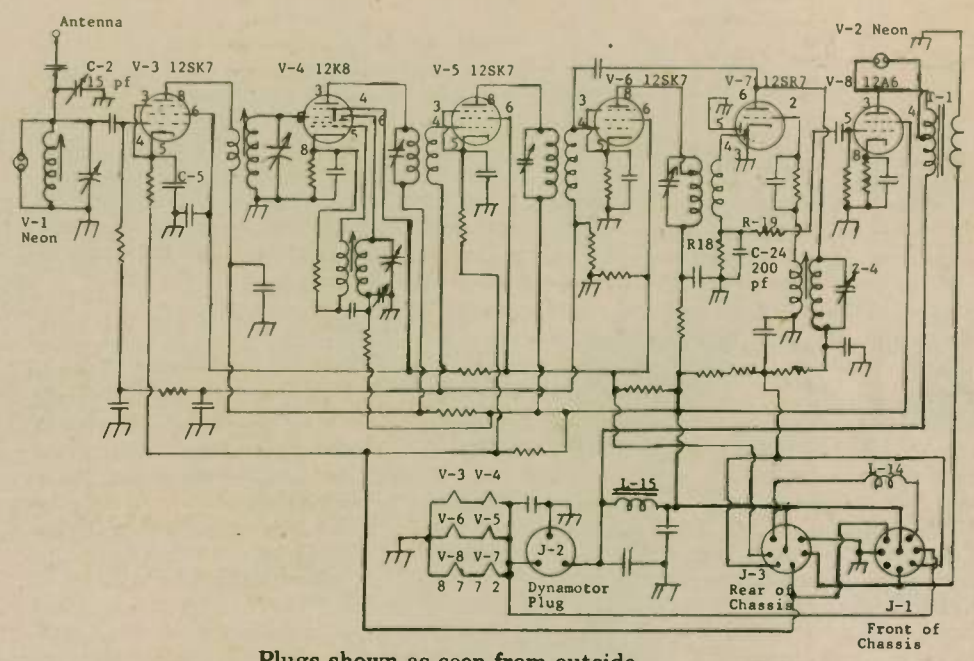
BC-696 (T-19/ARC-5), transmitter, 3.0-4.0 MHz, covers 80-meter amateur band.

BC-950 (T-23/ARC-5), transmitter, 100-150 MHz.

R-28/ARC-5, receiver, 100-150 MHz.

T-18/ARC-5, transmitter, 2.1-3.0 MHz. Can be retuned to cover amateur 160-meter band.

These units were quite popular among amateurs of a generation ago, but it has been so long since anything much has appeared on adapting them to amateur use that today's beginning amateurs may not even know of their existence. This article (and one or two to follow) will say something about using them, but will not make any pretense of saying all that can and should be said about them. There isn't space for that. For fuller treatment, see the surplus conversion manuals, or even better, find an old-timer who has had experience working with the gear. He may have some unsuspected goodies stashed away in his own treasure trove, such as old manuals and articles, and may know some wrinkles that have never appeared in the books.



Plugs shown as seen from outside

Figure 1

These units were part of an integrated station, were designed to be mounted in racks which also made the necessary electrical connections, and were operated from the aircraft's 28-volt DC electric system. The plate voltage was generated by dynamotors. For amateur use, the racks are usually not used, and most amateurs either run cables from inside the chassis or remove the original connectors and replace them with types that are readily available at radio stores. And of course, we usually build AC power supplies.

It does take some work to convert these units. It's not like going to the store, writing a check for $995, and bringing home something you just plug in and go on the air. But this type of station won't cost you $995. $95 might be closer. You'll learn a lot about electronics in the process, too.

The receivers

All except the VHF receivers are similar in construction and use the circuit shown — somewhat simplified — in *Figure 1.* To avoid cluttering the diagram with too many details, most of the components and their values are not given. Those that are numbered, however, are given the part numbers used on the manufacturer's schematic diagram. There were several slightly different versions of this equipment; the Army and the Navy each had its own, but the basic design is the same in all. The main problem you will find is that the connector plugs are different in the different series, but that is a problem which bothers us little, as most of us don't use the original connectors anyway.

Before doing anything else, it is best to get the receiver working. That means you will need a power supply. A convenient way to build it is to use the base plate for a dynamotor intended for these receivers (DY-8 or DY-2A/AAR-2) with the plug. Build a power supply such as the ones

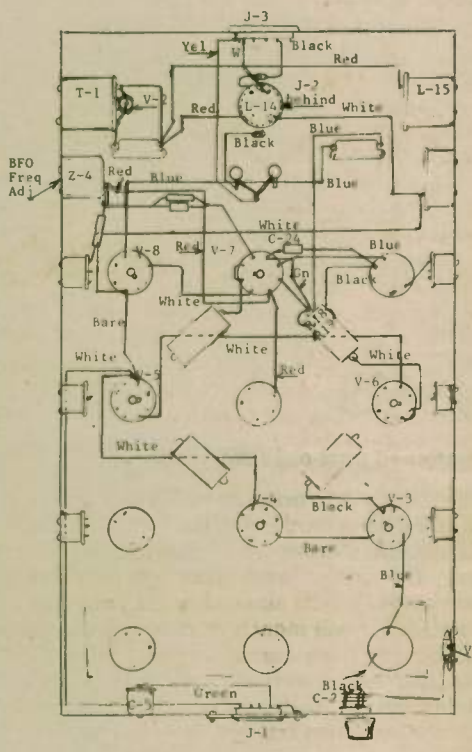


Figure 2

shown in *Figure 3,* bringing the power directly to the supply without going through the receiver chassis. Connect the outputs to the proper pins on the dynamotor plug, and insert the plug into the three-prong socket on the shelf at the rear of the receiver where the dynamotor normally goes.

If you use a 24-volt transformer for the heater supply, as in *Figure 3B,* you need not change any wiring. If, however, you have only 12 volts, you will have to wire all the tubes in parallel. The sketch of *Figure 2* should help identify the wires to be changed. Most of the heater circuit leads are white.

In the original application, a flexible shaft was often used to tune the receiver, being slipped over the splines of the shaft to the right of the tuning dial. If the unit you have has no knob, you can use an ordinary radio knob designed for a knurled shaft.

It is also necessary to provide for the RF gain control, the output circuit and a switch for the BFO — all of which were located elsewhere in the system. *Figure 4* shows how a control panel can be wired to replace the connector and its mounting panel on the lower front face of the receiver. Remove the panel and disconnect the wires from the plug. The three wires shown dotted in *Figure 4* may be

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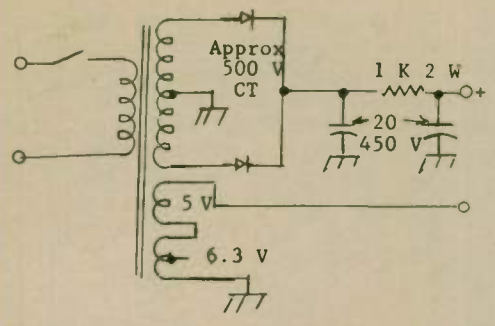
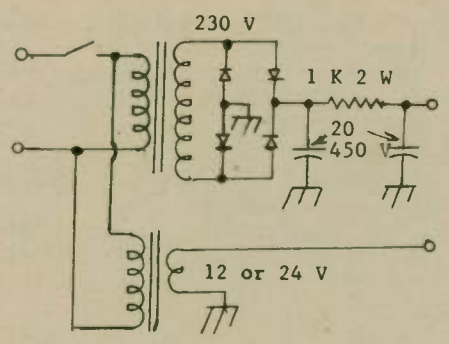
World Radio History



A. Using radio power transmitter



B. Using 115-230V transformer

Figure 3

removed entirely from the receiver, as they will be of no future use. The others are connected to the gain control, the BFO switch and the headphone jack. Capacitor C-5 is kept right where it is and is used for its original purpose as cathode bypass for the RF stages. High-impedance phones are needed with this receiver. Low-impedance phones or a speaker can be used, however, if you put a matching transformer (about 2000 ohms to 4 or 8 ohms) in the output circuit.

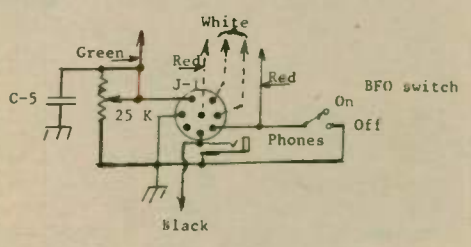


Figure 4

The gain control, phone jack and BFO switch can be mounted on a small piece of sheet metal which is then fastened where the plug was removed. Note that the BFO switch is closed to turn the BFO *off* (it shorts the power supply).

A random length of wire can be connected to the antenna terminal to test the receiver.

Improved selectivity

The HF receivers of this series use a 2830 kHz IF, and so tune rather broadly. For amateur operation it will probably be too broad. But by using the BC-453 (190-550 kHz) as an additional IF strip, you will have a receiver that is really sharp. To use the BC-453 with one of the other receivers, tune the BFO in the other receiver to a lower frequency, say 2530 kHz, and feed the output to the antenna terminal of the BC-453.

To lower the BFO frequency, connect a 100 picofarad capacitor between pin 6 of the 12SR7 socket and ground (pins 1 and 8 or the ground lug on either adjacent terminal board). Adjust the BFO frequency by tuning the capacitor in Z-4 through the hole in the right side of the chassis near the rear.

The 2530 kHz oscillator output will beat with the 2830 kHz signal in the IF to give a 300 kHz output. This output can be picked up at the junction of R-18 and R-19. A 1400 microhenry coil connected between this point and ground will resonate with C-24, 200 picofarads, at 300 kHz, or you can use a smaller coil with additional capacitance in parallel. *Figure 5* shows the circuit. Bring the output to the front panel and install a coaxial connector (an "RCA" phono plug will do nicely). Use a short piece of coax to connect to the BC-453 antenna post.

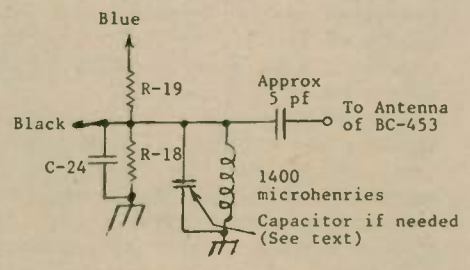


Figure 5

The 12A6 tube will not be needed, so you can remove it from the socket if you have rewired the heaters in parallel. You will have to leave it plugged in, however, if you are using 24 volts for the heaters.

Other modifications

There is no room to discuss the many other modifications these receivers have been given by amateurs. Here are a few, briefly:

We have already mentioned that the BC-454 can be modified to tune 3.4-7.4 kHz and thus cover both 80 and 40 meters. It is also possible to buy extra coils for these receivers and modify them to cover other frequencies, as high as 50 MHz. The *Surplus Conversion Manual*, Volume III gives details on this, describes a noise limiter, and tells how to add automatic volume control (most of the circuit is already there, you have only to reconnect the unused diode plate of the 12SR7 (pin 5) to act as the AVC rectifier).

The Command sets have been around since 1938, and have been used by amateurs since the end of World War II. Relatively few are used these days, but they still remain about the lowest-cost route to get on the air.

Next we will say something about converting the transmitters for amateur use.

USQS

(continued from page 26)

each month in **Worldradio** is ONLY those cards we have received in the last 30 days. **Worldradio** started their generous service last October, and has published thousands of calls since then! If your call is not listed one month, it does not mean you do not have cards on file; just that you had not received any during the 30-day period between our deadline for submitting these articles, or your call had already been published within two previous articles. We try to not republish recently published calls, to keep our update list reasonable!

We would be interested in any suggestions you may have to make USQS of even more service to the amateur community. Many thanks to all who use USQS. **Laryl N7BMY, P.O. Box 814, Mulino, OR 97042.**

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KA1CBO	W1LQA	KA2DKG	WA2KSM
N1CC	K1LWI	K2DXK	KA2LBX
WA1CCR	W1NG	KA2EAY	WA2LWT
WB1CQJ	W1NZD	W2EBM	WB2ODH
VO1CV	K1OXG	W2FC	AI2Q
WB1CZF	KA1R	WB2FHR	KI2R
AC1D	W1SR	K2FL	W2SGK
KA1DDB	W1TN	WB2FZO	KB2SQ
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K1EFF	KB1X	W2HTT	KF2U
W1ETW	WA1YYX	WB2HWZ	KJ2U
WB2UGR	N4BTX	WD4RGP	KA5KZW
WB2ULV	WB4BYO	WH4RO	WA5LDT
KC2X	K4BZD	KA4RSA	W5ODD
KG2Y	N4CBR	KM4S	WA5OFJ
	KA4CZK	KX4S	KM5R
KA3AXP	K4DOR	WB4SZZ	K5RQ
KA3BMY	N4DQB	KW4T	KM5S
N3BQU	KA4DQK	WB4TAL	WB5SSD
K3CHG	KA4DQO	W4TSV	K5TM
KA3CJS	N4DSH	NC4U	VE5UF
WA3CKY	N4DU	ND4U	K5UR
KA3CZC	WA4DXW	N4UB	WA5YGG
KA3CZE	WB4EBX	WA4UPV	
N3DC	WA4ECY	KP4USN	N6BFQ
WB3DNF	N4EEG	K4VX	WB6BLK
KA3DXR	KA4EIN	N4WQ	VE6BMO
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W3GV	WB4GOG	KN5A	KD6IR
WB3IET	WB4HIQ	KA5ASD	KJ6J
WA3IJZ	WA4HUH	N5BA	AG6K
WA3KRL	KB4IS	N5BGL	WA6KZS
K3LHD	WA4IYH	W5BSG	K6LL
VE3LSB	NA4K	WD5COU	KN6M
VE3LVK	K4KUZ	KM5D	N6MA
W3NKM	WD4LRV	KA5ESD	K6MQ
K3ONW	W4LVI	KA5EVR	W6MSF
W3QKW	AA4MI	K5FP	N6MU
WA3UIY	WD4MMS	KA5GWQ	W6NNV
K3WWH	WD4MRT	AF5H	WB6NUU
	WB4MWU	KA5HVO	KA6OMV
N4AA	KP4O	KK5I	KA6OOW
WB4ABW	WB4OBE	WD5JBA	N6QK
W4ACX	W4OWT	N5JJ	K6SVL
KA4AIT	KA4P	W5JW	W6SZN
WB4BJS	KA4PCL	K5JZN	WB6TKK
N4BKX	WD4RDT	W5KOD	N6TR
W6TUC	KE7V	WB9ICH	KA0IWU
W6UA	WB7VBM	KA9IKP	KA0JOC
KB6UX	N7VV	K9JCI	KA0JTR
AJ6V	WA7WYX	K9JIG	KA0JTT
KT6V	W7ZR	KB9JJ	W0JZY
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KK6X	KA8AEE	W9LNV	KA0KHA
K6XV	KD8B	KB9LT	KB0M
KB6ZL	N8BBR	AF9M	W0MDB
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K7GOX	W8UPH		
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W7JVU	WD9BFH	WD0EWD	
AG7M	N9BIF	WD0FAZ	
AK7Q	N9BMS	WD0FLD	
KL7RA	N9BUC	KB0FP	
K7RI	W9DC	KA0FPJ	
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W7TS	WB9EJE	K0HT	
W7TYN	W9FAM	WA0HQB	
KL7U	WB9HRO	WB0ISW	

SSTV

(continued from page 46)

will permit the Apple to receive and transmit SSTV. Future advancements will include digital image storage, enhancement, hard copy output for printer, flexible display formats and a picture editor. Ken promises more details soon, so stand by for this heavily-requested data for a popular computer.

If you have one of the new Radio Shack color computers, be aware that Clay Abrams, K6AEP, has devised an SSTV interface for that unit. Again, more details are upcoming.

Finally, this column is being written only a couple of weeks before the Dayton Convention, and some exciting innovations are "in the air." The Friday night gathering at Ramada Inn downtown is slated to host some innovative ideas, and Saturday's demonstrations should be phenomenal. Color SSTV is paramount, with 3D SSTV beginning to gain recognition. We've definitely moved into the era of color, presently requiring 16 seconds (red and green pictures, with synthesizing for blue), or 24 seconds (red, green and blue pictures) for complete pictures. The next step seems to be shaping up as full color in 8 seconds SSTV. That will be a hard pull and another year's efforts. Meanwhile, I'm visualizing 3D TV moving in the direction of LASER scanning and holography. Television by the late 1980s may, indeed, surpass one's wildest dreams.

ZS6BQT's XYL, Jetty. Photo was shot before Ernie added "y" to name. (Not all SSTVers are fast typists!)

Remember to keep us posted on your video activities. 'Til next month, 73! Dave Ingram, K4TWJ, Eastwood Village #1201 South, Rt. 11, Box 499, Birmingham, AL 35210. □

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World Radio History

PRODUCTS

Computerized theory review

Dave Fisher, KA0BYS

Computer hobbyists and radio amateurs, here is your chance to eliminate those expensive long distance phone calls to your buddy for the progressive amateur and easy way to upgrade to Technician, General, Advanced and Extra. With the recent FCC approval allowing on-the-air ASCII transmissions, it is now possible to send data just about anywhere in the world with the use of Amateur Radio.

MICRO-80 Incorporated has designed an excellent computerized Amateur Radio Theory Review for each operator class. The course consists of a series of key element questions as they would appear on an actual FCC examination. Each question is followed by a group of five multiple choice answers.

The entire program package for each operator class is a little over 95,000 bytes in size. It is split up into 12 "byte size" pieces so it will load into the Level II TRS-80 (16K) computer system.

The first segment is an introduction of Micro-80 Incorporated, telling the purchaser more about the firm — where they are located, who the owners are, and what their goals are.

The second segment is a table of contents and a brief outline telling you what to expect from the questions and answers and generally how to run the program. All the instructions were written on tape, for it was felt that instruction booklets which come with the majority of programs usually get thrown out with the newspaper at clean-up time.

Each course covers 10 general subjects, each of which are reviewed in part:

Part 1 — Rules and regulations
Part 2 — Signals and emissions
Part 3 — Electrical principles
Part 4 — Electrical principles
Part 5 — Circuit components
Part 6 — Practical circuits
Part 7 — Operating procedures
Part 8 — Antennas and feedlines
Part 9 — Radio wave propagation
Part 10 — Amateur Radio practice

Once each program is up and running, there is no need to utilize the Enter key as the INKEY$ function is used throughout the entire course. Personally, I have always felt this particular function belongs in most every program for the convenience of operation.

Since this course was designed to simulate the actual FCC exam, you are cautioned to read the questions and answers very closely! Quite a few of the questions are just plain tricky; the answers are not much better, some are nearly right, but not close enough as the instructions tell you to select the "most" right answer or it will be counted wrong. All very nasty, of course, but it will keep you on your toes when you go in for the real exam.

Once you press the key corresponding to the answer you hope is correct, a randomly chosen phrase will appear to let you know how you did on that particular question. If you run the program over and over again, you can't help but notice the answers are shuffled around each time. This extraordinary feature should keep you from memorizing an answer's location and/or corresponding letter.

I loaded all the Theory programs several times, not only to get the needed information for this review but to also see how well I could do on the tests. The latter I wouldn't talk about. No load difficulties or drop-outs were encountered at all. I would attribute this fact to the excellent brand of tape utilized (MICRO-80 markets its own line of professional cassettes which are wholesale priced and 100 percent error-free).

While each highly recommended course covers all that is needed to successfully pass the FCC examination, one should consult other sources of study such as those offered by 73 Magazine, QST, and Ham Radio Bookstore.

The ability to send and receive Morse code is also required for certain class licenses. Firms such as the Ham Radi Bookstore, 73 Magazine, and the ARR are recommended sources for practic code tapes available on cassette.

Additional information abou MICRO-80 products and services may b obtained by writing: MICRO-80 Inc. DF-2665 North Busby Road, Oak Harbor WA 98277. Tell them you read about thei product in this publication.

Intercoms

Radio Systems Technology, Inc., has announced the release of two new compact, portable, aircraft intercoms. The RST-442B (2 station) and RST-445 (4 station) intercoms have new, easy to adjust, voice-actuated (VOX) circuits, generous outputs (40mW into 150 ohms), are compatible with standard civilian aircraft headsets, and will operate on 9-volt batteries as well as 12 or 24-volt aircraft power according to the firm.

The RST-442B measures 1½"×2"×4", weighs 7 oz., and sells for $111 ready to go. For those pilots who are handy with a soldering iron, the 442B is offered in kit form with all parts and step-by-step assembly instructions for $59.50. With optional radio interface cables ($8.50) and push-to-talk switches, both pilot and co-pilot may use the COM radio. Incoming signals bypass the intercom's squelch circuitry assuring that weaker transmissions will not b missed. An additional low-priority input i available for background music. When pilot, c pilot, or COM radio communications are occu ring, the music is automatically silenced unt all talking ceases. An especially interestin feature of the RST-442B is its ability to b upgraded to an RST-445, 4 station intercom for an additional $22.50.

The RST-445 ($136.50 prewired, $79.50 kit) i similar to the RST-442B but includes a secon chassis mounted on a 6' cable for rear sea headset jacks. This additional chassis is easil disconnected for times when only pilot and c pilot wish to use the intercom.

Free brochures on these and other avionic kits may be obtained from: Radio System Technology, Inc., 10985N Grass Valley Ave Grass Valley, CA 95945. Phon 1-800-824-5978.

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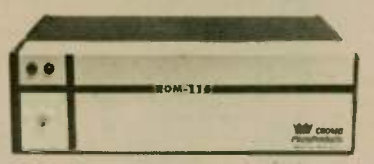

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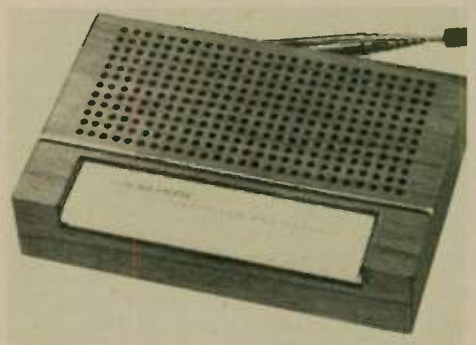
World Radio History

Weather broadcast receiver

Radio Shack, a division of Tandy Corporation, has announced a new three-channel VHF-FM weather broadcast receiver. This latest addition to the company's line of Weatheradio® receivers features crystal control of tuning for instant station selection with a simple three-position switch, eliminating the problem of off-channel tuning and drift.



The new Crystal Controlled Weatheradio (12-152) receives NOAA (National Weather Service) broadcasts on any of the three channels used: 162.550, 162.475 or 162.400 MHz. Because of the precise frequency selection possible with crystal control, stations can be accurately selected with a three-position switch instead of the usual manual tuning knob. Also, the crystal control of frequency means that the problem of drifting off channel has been eliminated.

NOAA/National Weather Service broadcasts offer continuous weather advisories in over 350 cities nationwide. Details are available at Radio Shack stores and participating dealers.

A "front end" RF (radio frequency) amplifier in this new Weatheradio brings in NOAA VHF weather stations "loud and clear" at a range of up to 50 miles, making this receiver effective virtually anywhere in the United States.

This new Crystal Controlled Weatheradio is handsomely styled with a sleek, low profile design and a simulated rosewood finish. It measures just 1-½ × 5-¼ × 3-½ inches (H × W × D). The convenient top-mounted Play-Bar turns the unit on and off; the channel selector and volume control are hidden beneath the unit, since these settings are seldom changed in actual use. A 2-¼ inch (diameter) speaker is top-mounted for excellent clarity.

Signals are captured by an attached antenna, which can be telescoped down and folded behind the unit for easy storage, if desired. Power is provided either from a 9-volt battery (not supplied) or an optional AC adapter (not included, available separately).

The Model 12-152 Crystal Controlled Weatheradio is available now for $24.95 at Radio Shack stores and participating dealers. The companion UL-listed AC adapter, Model 273-1431, is also available for $4.95 at Radio Shack stores and participating dealers.

(Weatheradio® is a registered trademark of Radio Shack.) □

Communications accessories brochure

A new four-page brochure describing communications accessories that are essential to operating excellence is now available from the J. W. Miller Division of Bell Industries in Compton, California.

Antenna tuner models — Model AT 2500 with 2500W PEP power capability and Model CNA-1001 for 500W PEP — cover a frequency range of 3 to 30 MHz including WARC bands.

Direct reading power meters provide Forward and Reflected Power and SWR. Models CN-720B and CN-620B cover 1.8 to 150 MHz, and Model CN-630 covers 140 to 450 MHz.

RF clipping that assures low distortion is provided by Model RF-440 Speech Processor.

Adjacent channel isolation of better than 50dB at 300 MHz and 45dB at 450 MHz is provided by CS-201 two-position and CS-401 four-position coaxial switches.

The broad line of interference eliminators includes high pass, low pass, audio and AC power line filters.

Additional information may be obtained from Joe Johnson, J. W. Miller Division, Bell Industries, P. O. Box 5825, Compton, CA 90224. □

Spider antennas and adapter

The Spider antennas and Spider adapter were developed with the modern solid-state transceiver particularly in mind. Such transceivers do not require any tuning when changing from band to band, but this big convenience is cancelled when you must stop to change resonators on the antenna. With the Spider antenna or adapter, you utilize this no-tuning feature of the transceiver to its fullest extent because you have three or four bands available on the antenna at all times.

The Spider adapter weighs only ¾ lb. and converts any monoband antenna with a ½" mast into a modern 4-band antenna with most of the features of the complete Spider antenna. The adapter consists of a mounting collar to fit the ½" mast, and the 10, 15 and 20-meter Spider resonators. The collar mounts on the mast about four feet up from the base and is held in place by a stainless steel set screw. The adapter gives you the latest convenience and performance at a modest price.

The Spider 4-band antenna is six feet high and weighs only 2 lbs. The 3-band antenna is five feet high and weighs only 1¼ lbs. The mast is made of ½" electro-polished aluminum. The radial 10, 15 and 20-meter resonators project out from the mast 12 to 22 inches, and are only ½" in diameter. They are wound on fiberglass. The vertical 40-meter resonator is 20" high and a slim ¾" in diameter, wound on nearly indestructible polycarbonate.

SWR is approximately 1:1 at the selected frequency, with generous band-widths before the SWR exceeds 1.5:1. The typical band-widths are about 500 kHz on 10 meters, 200 kHz on 15 and 20 meters, and 60 kHz on 40 meters. The antenna and adapter are conservatively rated at 250 watts SSB input to the antenna.

The slim profile of the antenna and the fact that a tuning whip is not needed lets you drive as if you had no antenna at all on the vehicle. This, combined with its light weight, eliminates the need for a spring mount and its troublesome QSB. With most mobile antennas it is very risky to drive at even moderately high speeds due to wind resistance and waving of the antenna from side to side.

While the Spider antenna was originally developed for mobile use, it has proved to be especially well-suited for use in mobile home parks, apartments and condominiums. In most situations where restrictions or lack of space make it impossible to erect a conventional antenna, the Spider will get you on the air quick! Almost any kind of mobile home or recreational vehicle, the metal railings of a balcony, or a few radials will give you a signal of which you will be proud.

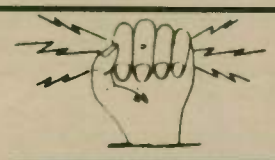
Cost of the Spider 4-band antenna is $110; includes a four-foot aluminum mast and 10, 15, 20 and 40-meter resonators. Weight 2 lbs. Cost of the 3-band antenna is $85; includes four-foot aluminum mast and 10, 15 and 20-meter resonators. Weight 1¼ lbs.

The Spider Adapter is $65, and comes with mounting collar to fit ½" round mast and 10, 15 and 20-meter resonators. Weight ¾ lb. (California residents include applicable sales tax.)

All prices include fast surface transportation and insurance by United Parcel Service to any part of the 48 contiguous United States.

Orders may be sent to: Multi-Band Antennas, 7131 Owensmouth Ave., Ste. 63C, Canoga Park, CA 91303. □

DON'T FORGET . . .
Include first and last names with call signs.



R & L Electronics

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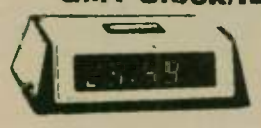

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MFJ-484	memory	118.95
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MFJ-721	filter	50.95
MFJ-752B	filter	76.45
MFJ-941C	tuner	76.45
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Delaware

The Sixth Annual New Delmarva Hamfest will be held Sunday, 16 August, at Gloryland Park, Bear, Delaware (five miles south of Wilmington), from 8:00 a.m. to 4:00 p.m. Admission is $2.25 in advance, $2.75 at the gate. YL and junior ops free. Tail-gating or table space under pavilion is $3.50. Limited tables free, or bring your own. Refreshments available. First prize is an ICOM IC-2A. Many other prizes.

Talk-in on 52 and 13/73.

For map, info or advance tickets, send SASE to Stephen J. Momot, K3HBP, 14 Balsam Rd., Wilmington, DE 19804. Make checks payable to "Delmarva Hamfest". □

Florida

The Greater Jacksonville Hamfest Association is pleased to announce the 9th Annual Jacksonville Hamfest and Northern Florida Section ARRL Convention, 1-2 August at the Orange Park Kennel Club. Located at the intersection of I-295 and U.S. 17 just south of Jacksonville, this facility offers plenty of free parking and over 30,000 square feet of exhibitor and swap table displays. All events will be held indoors and a nice slate of door prizes will be awarded at both hourly and grand prize drawings. The hamfest is sponsored by five Amateur Radio clubs of the Florida Crown area.

A full slate of programs is on tap along with meetings of several statewide and regional organizations. Two-meter talk-in by club station W4IZ will be on 146.16/.76 and 146.07/.67 repeaters.

Advance registrations are available from Robert J. Cutting, W2KGI, 1249 Cape Charles Ave., Atlantic Beach, FL 32233 and are priced at $3.50. Registration at the door is $4. Swap tables are available from Andy Burton Jr., WA4TUB, 5101 Younis Rd., Jacksonville, FL 32218 at $12 per table for both days. No one-day tables. Registrations may be ordered with the tables through WA4TUB.

Headquarters Hotel will be the Best Western First National Inn just across from the hamfest site on U.S. 17, with special hamfest rates available. For these rates, write either WA4TUB or W2KGI at the addresses listed above. □

Illinois

The Hamfesters Radio Club announces its 47th consecutive annual hamfest, to be held Sunday, 9 August 1981 at Santa Fe Park, 91st and Wolf Road, Willow Springs, Illinois.

For more information on this hamfest, contact hamfest chairman Dennis Borkowski, N9BIA, 10624 Terry Drive, Palos Hills, IL 60465; (312) 598-5838. □

Kansas

The Kansas-Nebraska Radio Club will host their 30th annual hamfest on 8-9 August 1981 at the air-conditioned Cloud County Community Junior College in Concordia, Kansas. There will be programs of interest to amateurs and XYLs.

Highlights will include the Awards Banquet at the Senior Citizens Center on Saturday, 8 August, and a Western-style barbecue served at a moderate price.

For further information, contact Don Nulton, Rt. 3, Concordia, KS 66901; 913-243-2384. □

World Radio History

Kansas

The Northwest Kansas 1st Amateur Radio Swapmeet will be held Sunday, 2 August at Community Building, Colby, Kansas. Starts at 9:00 a.m. Auction at 2:00 p.m. Admission $1; tables $1 each (same for dealers).

No speeches, meetings, etc. Just old-fashioned, informal swapping, selling and visiting. Activities for the ladies. TVRO demonstration. Lunch available. Sponsored by Trojan Amateur Radio Club.

Talk-in on 146.22/82 and 52/52.

Contact John Graves, WA0GBN, 1603 Wyoming, Goodland, KS 67735; or John Flanagin, KA0FBQ, Box 196, Gem, KS 67734 for more information.

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Michigan

The 33rd Annual Upper Peninsula Hamfest (Michigan) sponsored by the Delta County Repeater Association is to be held 1-2 August 1981, in Escanaba, Michigan. This event will take place at the Flat Rock Township Hall. Registration will be $2.

Many activities (DX forum, ARPSC workshop, satellite-TV seminar, slow scan, net meetings and swap and shop) will be included in this two-day hamfest. There will also be prizes and a banquet on Saturday evening.

For more information, contact: Aileen Gagnon, WA8DHB, Kipling Loc., Mtd. Rte., Gladstone, MI 49837. □

Montana

The WIMU (WY-ID-MT-UT) hamfest will be held 31 July to 2 August in West Yellowstone, Montana. Lodging and campgrounds are available. Product displays and activities for YLs and harmonics will be among the attractions featured during the weekend.

Talk-in: 146.52, 3.920 or 1.250 MHz.

For further information, contact WIMU "81" c/o Les Belyea, N7AIK, Box 327, Belgrade, MT 59714. □

Ohio

The Union County Amateur Radio Club of Marysville, Ohio proudly presents Hamfest-81. The hamfest will be held this year on 22-23 August at the Union County Fairground in Marysville, Ohio (near Columbus).

The gates will open at 3:00 p.m. Saturday afternoon for a mini-flea market, and continue until Sunday evening. The main events will be scheduled for Sunday. Plenty of shade, a large, flea market area, and room to set up indoors or out will be available. No charge to sell — only your gate pass. Other features will include free movies Saturday night (we furnish free popcorn), and a free round and square dance Saturday night under the stars.

Food will be available all night long, with a great "country breakfast" starting at 3:00 a.m. We have always been known for great door prizes, and this year is even better! Hot showers and electric hook-ups are available for overnighters — free.

For more information, write to Union County Amateur Radio Club, 13613 U.S. 36, Marysville, OH 43040, or phone (513) 644-0468. Admission $2 advance, or $3 at the gate.

Pennsylvania

The Mid-Atlantic Amateur Radio Club of Philadelphia announces its annual J.B.M. Hamfest on Sunday, 9 August 1981 at the Budco 309 Drive-In Theater, Montgomeryville, Pennsylvania, ¼ mile north of the intersection of Route 63 and Route 309, and six miles north of the Fort Washington Interchange of the Pennsylvania Turnpike, from 9:00 a.m. to 4:00 p.m., rain or shine. Door opens at 8:00 a.m. for tailgate set-up.

A new and unique feature this year will be a combined Alternate Energy Fair, a natural extension of the ham's tradition of relentless tinkering. In addition to the usual hamfest activities with major door prizes, refreshments, exhibits and flea market, the Energy Fair will include educational and commercial alternative energy exhibitors, featuring solar heating, building design and retrofit energy saving projects, solar batteries, wind energy systems, wood and coal stoves and energy conservation devices, an energy devices flea market and alternative energy door prizes.

Admission is $2.50; additional $1 for one tailgating drive-in space and 75¢ for each additional space.

Talk-in on the club repeater, WB3JOE, 147.66-.06 or on 146.52 simplex.

For further information, call Don Schuenemann, WB3AYT, (215) 822-9076. □

Texas

VHF '81 — the combination state convention of the Texas VHF FM Society and the 2nd Annual Super Central Texas Swapfest — will be held 14-16 August 1981, at the Hilton Inn, Austin, Texas.

Registration is $5 in advance (deadline is 1 August) or $6 at the door; one ticket is good for technical sessions, seminars, swapfest, etc. All indoors and air-conditioned.

Other activities include hidden transmitter hunt, Saturday night boat ride and Texas barbecue dinner, prizes, ARRL forum, dealers.

Talk-in will be on 146.19/79. Event is sponsored by the Austin Amateur Radio Club and the Austin Repeater Organization and is ARRL-approved.

Additional information from: VHF '81, P.O. Box 13473, Capitol Station, Austin, TX 78711

Washington

The Radio Club of Tacoma will hold its annual Hamfair at Pacific Lutheran University, in Tacoma, Washington on 15-16 August 1981. Featured will be many outstanding technical seminars, games and contests for all members of the family; large flea market and commercial display area; dinner and after-dinner entertainment; valuable door prizes, trailer parking and lodging available.

For details on the largest ARRL-sanctioned hamfest in the Northwest contact: Eva Anderson, WB7QNS, 517 Berkeley Avenue West, Tacoma, WA 98466; 206-564-8347. □

European DX Contest

The Deutscher Amateur Radio Club (DARC) has the honour of inviting amateurs all over the world to participate in the annual European DX Contest.

1) Contest periods:
CW: 8-9 August 1981; 14-15 August 1982
Phone: 12-13 September 1981; 11-12 September 1982
RTTY: 14-15 November 1981; 13-14 November 1982
Times will be from 0000 GMT Saturday to 2400 GMT Sunday.

2) Bands: 3, 5, 7, 14, 21, 28 MHz.

3) Classifications: Single operator - all band; Multi-operator - single transmitter. Multi-operator/single transmitter stations are only allowed to change band one time within a period of 15 minutes. A quick band-change and return for making a new multiplier is allowed.

4) Rest period: Only 36 hours of operation out of the 48 hours are permitted for single operator stations. The 12 hours of non-operation may be taken in one, but not more than three periods at any time during the contest.

5) Exchange: A contest QSO can only be established between a non-European and a European station. Exchange the usual five or six-digit serial number RTS/RS report plus a progressive QSO number starting with 001.

6) Points: Each QSO counts 1 point. A station may be worked once per band. Each confirmed QTC — given or received — counts 1 point (See below).

7) Multipliers: The multiplier for non-European stations is determined by the number of European countries worked on each band. Europeans will use the last ARRL countries list. In addition, each call area in the following countries will be considered a multiplier: JA, PY, VE, VO, VK, W/K (W/K stations have to show their location-area in their call sign when operating outside of the original district; i.e., N6KK/3), ZL, ZS, UA9Ø. (See special regulations for RTTY Fig. 13)
The multiplier on 3.5 MHz may be multiplied by four.
The multiplier on 7 MHz may be multiplied by three.
The multiplier on 14/21/28 MHz may be multiplied by two.

8) Scoring: The final score is the total QSO points plus QTC points multiplied by the sum total multipliers from all bands.

9) QTC Traffic: Additional point credit can be realized by making use of the QTC traffic feature. A QTC is a report of a confirmed QSO that has taken place earlier in the contest and later sent back to a European station. It can only be sent from a non-European station to a European station. The general idea being that after a number of European stations have been worked, a list of these stations can be reported back during a QSO with another station. An additional 1 point credit can be claimed for each station reported. (Note special regulation for RTTY; see 13.)

a) A QTC contains the time, call and QSO number of the station being reported; i.e.: 1300/DA1AA/134. This means that at 1300 GMT you worked DA1AA and received number 134.

b) A QSO can be reported only once and not back to the originating station.

c) **A maximum of 10 QTCs to a station is permitted.** You may work the same station several times to complete this quota. Only the original contact, however, has QSO point value.

d) Keep a uniform list of QTCs sent. QTC 3/7 indicates this is the third series of QTCs sent and that 7 QSOs are reported.

Europeans may keep the list of the received QTCs on a separate sheet if they clearly indicate the station who sent the QTCs.

10. **Contest awards:** Certificates to highest scorer in each classification in each country, reasonable score provided. Continental leaders will be honored. Certificates will also be given to stations with at least half the score of the continental leader.

11. **Disqualification:** Violation of the rules of this contest, unsportsmanlike conduct, or taking credit for excessive duplicate contacts will be deemed sufficient cause for disqualification. The decisions of the Contest Committee are final.

12. **Logs:** It is suggested to use the log sheets of the DARC or equivalent. Send large size SASE to get the wanted number of log and summary sheets (40 QSOs or QTCs per sheet).

13. **Special regulations for RTTY:** In the RTTY section of the European DX Contest, contacts between all continents and also one's own continent are permitted. Multipliers will be counted according to the European and ARRL countries list. Contacts within the same continent count a multiplier of one per band (including 80 and 40 meters). QSO as well as QTC traffic with one's own country (district) is NOT allowed. SWLs apply to the rules accordingly.

14. **Deadline:**
CW: 15 September; Phone: 15 October; RTTY: 15 December.

European country list

C31, CT1, CT2, DL, EA, EA6, EI, F, FC, G, GD, GI, GJ, GM, GM Shetland, GU, GW, HA, HB9, HBØ, HV, I, IS, IT, JW Bear, JW, JX, LA, LX, LZ, M1, OE, OH, OHØ, OJØ, OK, ON, OY, OZ, PA, SM, SP, SV, SV Crete, SV Rhodes, SV Athos, TA1, TF, UA1346, UA2, UA Franz Josef Land, UB5, UC2, UN1, UO5, UP2, UQ2, UR2, Y, YO, YU, ZA, ZB2, 3A, 4U1, 9H1.

Criteria for the awarding of certificates and trophies in the WAEDC

Minimal requirements for a certificate or a trophy are 100 QSOs or 10,000 points. In addition, at least one of the following conditions must be fulfilled:

Certificates

a) Top score in a country resp. district.

b) In countries or districts with high participation, an additional certificate will be given for each full block of 10 participants.

c) Members of the Top Ten or Top Six (multi op.) lists.

d) Continental winners.

e) Stations with at least half the score of their continental winner.

f) Participants with at least 250,000 points.

Trophies

a) Continental winners in the single operator category are awarded a plaque.

b) Continental winners in the multi-operator category will be awarded a plaque if they have at least 100,000 points or at least the score of the winner in the single operator category in their continent.

c) A station may receive a plaque in the same category only once within a three year period.

d) Special plaques will be presented to all members of the Top Ten Six if they have been on this list for at least five times.

e) The WAEDC-Committee reserves the right to honour outstanding achievements in the contest by additional plaques.

Mailing address is: WAEDC Committee, Postbox 1328, D-895 Kaufbeuren, GERMANY.

World Radio History

New Jersey QSO Party

The Englewood Amateur Radio Association, Inc., invites all amateurs the world over to take part in the 22nd Annual New Jersey QSO Party, to be held 15-17 August.

Rules:

1) The time of the contest is from 2000 UTC Saturday, 15 August to 0700 UTC Sunday, 16 August and from 1300 UTC Sunday, 16 August to 0200 UTC Monday, 17 August.

2) Phone and CW are considered the same contest. A station may be contacted once on each band; Phone and CW are considered separate bands. CW contacts may not be made in Phone band segments. New Jersey stations may work other New Jersey stations.

3) General call is "CQ New Jersey" or "CQ NJ". New Jersey stations are requested to identify themselves by signing "DE NJ" on CW and "New Jersey calling" on Phone. Suggested frequencies are: 1810, 3535, 3900, 7035, 7135, 7235, 14035, 14280, 21100, 21355, 28100, 28610, 50-50.5 and 144-146. Suggest Phone activity on the even hours; 15 meters on the odd hours (1500 to 2100 UTC); 160 meters on 0500 UTC.

4) Exchange consists of QSO Number, RST, and QTH (ARRL section or country). New Jersey stations will send county for their QTH.

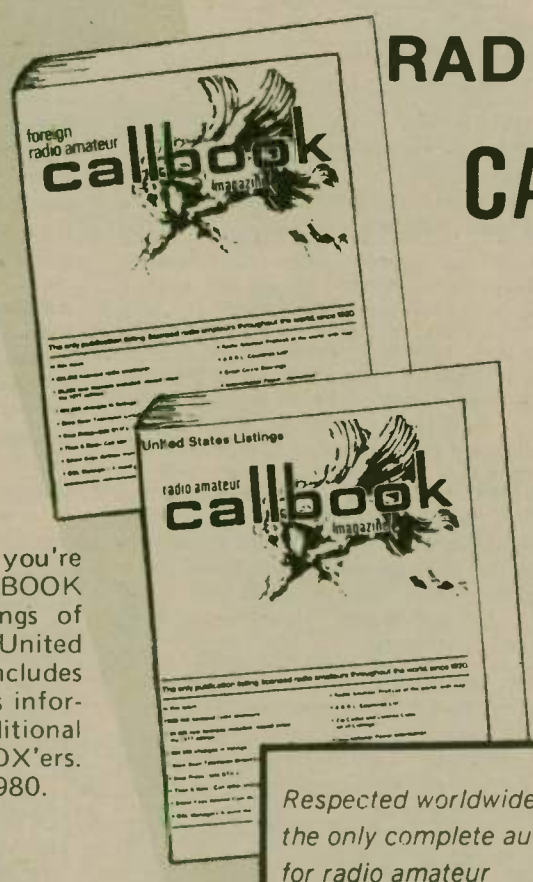
5) Scoring: Out-of-state stations multiply number of complete contacts with New Jersey stations times the number of New Jersey counties worked (maximum of 21). New Jersey stations: W-K-VE-VO QSOs count as 1 point; DX stations count as 3 points. Multiply total number of points times the number of ARRL sections (including NNJ and SNJ — maximum of 74). KP4, KH6, KL7, etc. count as 3 point DX contacts and as section multipliers.

6) Certificates will be awarded to the first place station in each New Jersey county, ARRL section, and country. In addition, a second place certificate will be awarded when four or more logs are received. Novice and Technician certificates will also be awarded.

7) Logs must also show UTC date and time, band, and emission, and be received not later than 12 September 1981. The first contact for each claimed multiplier must be indicated and numbered and a checklist of contacts and multipliers should be included. Multi-operator stations should be noted and calls of participating operators listed. **Logs and comments should be sent to: Englewood Amateur Radio Association, Inc., P.O. Box 528, Englewood, NJ 07631.** A #10 size SASE should be included for results.

8) Stations planning active participation in New Jersey are requested to advise the EARA by 1 August of their intentions so we may plan for full coverage from all counties. Portable and mobile operation is encouraged. □

GET YOUR 1981 RADIO AMATEUR CALLBOOKS



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Occupation Contest

The Radio Association of Erie is sponsoring an Occupation Contest. This is the first contest put on by our club. We felt this type of contest would be interesting to fellow amateurs to see what kind of work or occupation we are involved with. The contest is open to all Amateur Radio operators.

The rules are as follows:

Exchange — RS(T), occupation, state, province, or country.

Scoring — One point for each QSO. Multipliers will be determined by the amount of similar occupations. One multiplier point for every five similar occupations; also, one multiplier point for every three retirees worked. Example: 10 QSOs with farmers equals 2 multipliers.

Frequencies —
CW: 50 kHz from the bottom of the ham bands.
Phone: 50 kHz from the top of the ham bands.

Repeater contacts are not permitted, but simplex is permissible.

Date and time —
Starts: 1800 GMT, Saturday, 29 August 1981.
Ends: 2400 GMT, Sunday, 30 August 1981.

Awards — A plaque will be given to the top scoring station and certificates will be given to the top stations in each state, province and country.

Mailing deadline for logs will be 1 October, and they are to be sent to: Chris Robson, KB3A, 6950 Kreider Rd. Fairview, PA 16415

Please send SASE for a copy of the results. □

Rhode Island QSO Party

The 1981 Rhode Island QSO Party will be held during two periods GMT: Saturday, 15 August 1700 to Sunday, 16 August 0500; and Sunday, 16 August 1300 to Monday, 17 August 0100. The event is sponsored by the East Bay Amateur Wireless Association.

Rhode Island stations will be able to work other Rhode Island stations and the rest of the world. All other stations are limited to working Rhode Island stations for this contest. The same station may be worked twice on each band — once on Phone and once on CW.

Exchange: Send RS(T) and QTH (city or town for Rhode Island stations; state, province, or country for all others).

Scoring: All stations score two points per Phone QSO and three points per CW QSO, except for Novices and Technicians, who score five points per QSO. Rhode Island multiply total QSO points by the number of states, provinces and countries worked. Others multiply total QSO points by the number of different Rhode Island cities and towns worked. NOTE: There are 39 cities and towns in Rhode Island.

Frequencies:
CW: 1810, 3550, 3710, 7050, 7110, 14050, 21050, 21110, 28050, 28110.
Phone: 3900, 7260, 14300, 21360, 28600, 50.110, 144.2, 146.52.

Use of FM simplex is encouraged. (No repeaters)

Logging: Logs must show: date/time (GMT), call, exchange, band and mode. On a separate sheet show name, call, mailing address, club affiliation — if any, total QSO points, multiplier claimed and final score.

Awards: Certificates will be awarded to the top scoring station in each Rhode Island county, state, province, and DX country; the top scoring Novice and Technician station in each Rhode Island county and state; the Amateur Radio club in each state, province and country that submits the highest aggregate score (minimum of three logs per club).

Deadline: Postmarked no later than 15 September 1981. Send log, summary and comments to: East Bay Amateur Wireless Association, P.O. Box 392, Warren, RI 02885. Include SASE for results. □

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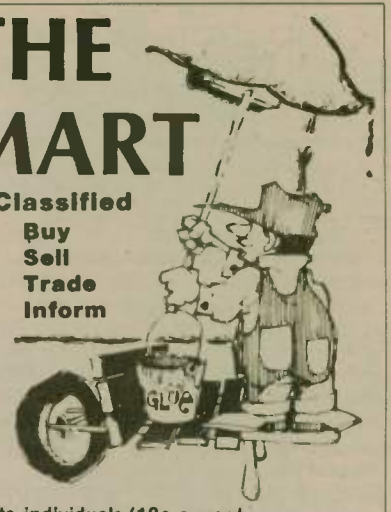

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