



K7LED RELAY

'SEATTLE, WASHINGTON'

VOLUME 9

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NUMBER 9

AN ARRL AFFILIATED CLUB

CLUB OFFICERS

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Vice President	Hal Goodell	N7NW	927-7603
Secretary	Deborah De Jong	N7AVO	883-3012
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Activity Mgr.	George Boross	N7BT	852-9412
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Trustee No. 5	Dick Radford	WA7NIW	883-0662
Radio Officer	Ken Rau	K7YR	392-7954

K7LED RELAY EDITOR

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The Mike & Key net meets each Sunday morning at 10 a.m. on 3,930 Khz with Novice and CW check-in on 3,730 Khz and VHF on 146.58 Mhz and K7LED/R 52.37—53.37.

Club meets the third Saturday of each month at 10 a.m. at "The Good Neighbor Center" located at 305 S. 43rd St. in Renton, which is across the street from Valley General Hospital.

MEMBERSHIP: 87

ACTIVITIES

January 17	Business Meeting 10:00 a.m. Program — TTL and CMOS Integrated Circuits by Mike Jones
February 21	NOTE! — Business meeting 9:30 a.m.
March 21	Business Meeting 10:00 a.m. Election of Officers
April 4	Annual Awards Banquet

ACTIVITIES MANAGER'S REPORT

The following statements appeared recently in The Seattle Times- "Fingernail-size pieces of silicon are controlling heat and lights in tall buildings, running elevators, running maintenance checks on automobiles while cars are running, setting newspaper type - and typewriters are being replaced by word processors".

And from the 1981 edition of the Radio Amateur's Handbook the following appears: "In recent years Amateur Radio Equipment has made increasing use of digital electronics, and this trend can be expected to continue. Today's repeater control systems, keyers, morse code/RTTY readers, frequency counters, frequency synthesizers depend heavily on digital techniques".

These facts tell us that integrated circuits, which already play an important part in our daily lives, will become even more important in the future. To help all of us better understand what these "black boxes" can do, Mike Jones of Almac /Stroum Electronics will present the second part of our series on Computers. His talk will describe the very versatile, widely available, and very fast way of performing logic operations through the (TTL) 7400 series of integrated circuits. He will also tell us about the (CMOS) 4000 series of devices which are extremely versatile, easy to use, and have features not offered by TTL.

Our January meeting speaker, Mike Jones, who is a ham, has a very extensive background in digital electronics. He was instrumental in making Almac/Stroum's presentation "Microprocessors - a natural for Amateur Radio" at one of the seminars at SEANARC-80 last July. His presentation should be of great interest to all of us.

By the time you receive this bulletin the club officers will have held their January Board Meeting. The board met at Coolidge Propeller on Fairview East across from Victoria Station on Wednesday, January 7th at 7:30 p.m. This new time and place was decided on at the last board meeting. Hopefully, it will provide us with a quieter location where we will have more time for our discussion. Members are always welcome to attend board meetings.

With the beginning of a New Year many of us are looking towards the plans for the coming year. The first steps will be the selection of new officers which will be the duty of the nominating committee headed by Hal, N7NW and members consisting of Steve, AD7G; Mike, WB7AYU; Carl, N7AMX; and Dick, K7PBT. This group will meet Wednesday January 14 at 7:30 P.M. at the home of N7AMX & N7AVO in Redmond. If you have any thoughts as to members who would make good club officers, please contact one of the above members.

This is also the time to begin thinking about and planning the Field Day. This year, tentatively, there will be co-chairmen consisting of Jim, W7GPW, and Ralph, WB7VLW. Now, it is time to have the band chairmaen come forward.

The number of members with microcomputers is expanding. Dick, N7BVB now has an Apple II with all the necessary accessories. He informs us that Bellevue's Computerland is planning to offer a course of instruction soon in computer programming oriented toward Amateur Radio. If interested, call Computerland for details.

At each regular meeting we are raffling many prizes. As part of this activity a one year's subscription to "Worldradio", whose present value is \$8.64, is being raffled each month. Steve, AD7G won a subscription last month. Will you be the next one?

I clipped this notice from Puget Power's pamphlet. It is worth while getting one free if you do not have one.

Get a free electric water heater insulation kit from Puget Power. Easy to install, this special insulation blanket reduces unnecessary heat loss. So you save energy and save money on your electric bill. They're free to Puget Power customers. Just ask at your local office.

The 1981 edition of the Radio Amateur Callbook lists 398,829 licensed Radio Amateurs in the United States. In our state there are 11,077 licenses in all classes and K7LED is one of the 74 licensed clubs.

The annual Christmas Santa Talks went very well. It received media coverage and our member Bob, KB7LM, was viewed near the end of the 11 P.M. news on KOMO-TV. Congratulations to Tim, K7QMI for organizing the event and to the members who participated.

The annual awards banquet has been set for April 4th and will be held at the Lake City Elks Club. More details later.

Several members brought their newspapers to the last meeting. The receipts from the collection will go towards the women's prizes at the banquet. So, bundle up those old papers and bring them to the next meeting.

Can't think of any more. 73's.

George

SOUTH PACIFIC DXPEDITION

Jim Smith, KA7APJ, will hide his body under a grove of palm trees for a couple of months. While there he is going to ham (what else). Following is a list of where and when you can find him until his earthly return:

ZLIBVL (New Zealand) January 10 - February 18
A35- February 18 - February 21
5W1 (Western Samoa) February 21- February 25
KA7APJ/AH8 (Samoa) February 26-February 27

During December and early January he was in Australia and Fiji Islands.

He will have one and one half ears on 28.555 CW/SSB 21.390 CW/SSB, 14.313 CW/SSB and all the rest on 50.1 CW+SSB. Low bands when he can time wise, and 2000-2400 UTC on 6 meters. All times and dates are UTC.

So if your log book is empty of stations worked in these call areas, here is your chance, band conditions being what they are.

Good Luck,
Little John, WA7HQG

SANTA FLIES ON AMATEUR RADIO

The Mike and Key Santa Talks program permitted children in various Seattle area hospitals to talk to Santa during the Christmas holidays. With the Ho-Ho's flying the Santas (Gib, W7JIE; Karl, N7AMX; and Lil John,) talked to the kids at Children's Orthopedic, Valley General Hospital and the United Cerebral Palsy Center. Santa's helpers at these locations were John, K7PFR; Debbie, N7AVO; Jan, WA7HWX; Ralph, WB7VLW; Tim, K7QMI; Bob, KB7LM; Tom, WB7OUT; and Jack, N7BVB. Harborview Hospital was also on the schedule; however at the time they did not have patients in the right age group.

Tim, K7QMI, provided coordination between the club and the hospitals as well as working out the schedule for Santa and his helpers. Good Job Tim!

This project resulted in good public relations for amateur radio and the M&K club as two television stations (KIRO and KOMO) had camera crews on the scene.

NEWSPAPER DRIVE

Not very much HO! HO! HO! in \$4.40. That is the sum total of the December newspaper drive. Good thing that I was going that way when I dropped it off or the gas would have done away with the profits. Our effort netted a sum total of 440 pounds, the old pickup didn't even get down on the springs. Course, 440 pounds is better than none. Would like to see a lot of newspaper for the January meeting. All of you XYL's and OM's bring all that paper with you to the next meeting. You might talk to your neighbor or get the kids to scrounge around and see what they can come up with. This is an easy way for the ladies to get some money in the prize fund and if it gets big enough, we can use it for the men's prizes. Got to get better or get out.

Ray, WA7EKH

BUSINESS MEETING

The Auction did well but we need to watch out spending or start looking for more means of income. I received a letter of thanks from the UGN Center for fixing the broken chairs. If you have any comments on the Fox Hunt, talk to Harry, Gene, Bob (TRI) or Ralph, they are the committee for it. After discussion and a motion from Harry, W7JIE, the net will "accept all legal modes of communication" meaning we will try the 75-6M link for the net on Sundays. Bring your newspapers to the meetings, we will be selling them to benefit the Women's prizes for the banquet. New members: Chuck Foltz, KB7OS, and Gordy Cady, WA7AVC. Congratulations to Ken and Linda Rau - a new baby girl!!! The rest of the meeting was a very interesting presentation on OSCAR by Al, WA7TIB.

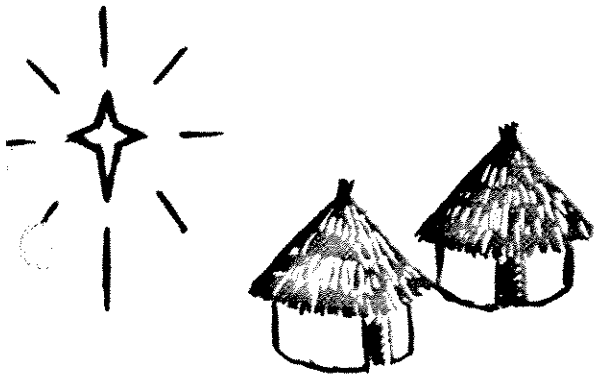
HAPPY BIRTHDAY

DECEMBER

6- Dick Dietsch W7KCX
11- Chris Holt WA7RJW
11- Pat Carson WA7MSD
12- Milly Mowry K7QMG

13- Tom Needham WA7TEP
21- Frank Remington K7GSE
22- Carl Butler W7PRW
25- Jan Hedberg WA7HWX

December 1980



Hello again from Africa! We are into our second and final year here in Basse, The Gambia. The last year has been marked by many more experiences as we learn more about our adopted (who adopted whom?) culture. We had the good fortune to meet some very interesting people during our stay and we are glad we came.

Last spring, our first hot season, was definitely that, with temperatures to 114°F. The rains, due in late May, finally arrived near the end of July, the delay causing large losses to the farmers, the country's poorest. Some lost three successive plantings of "tio", or peanuts. As the drought continued, Bruce's work on the foot operated water pumps became more critical. Meat in the markets became very hard to obtain, due to the cattle being so thin, and some cattle dying with the acute shortage of 'graze' and water. But the rains finally did come, turning every field and tree a bright green, a contrast to the uniform greyish-brown of the dry season. Though the peanut crops have suffered, the "coos", or millet, is doing well and all are hoping for a good harvest.

Mary took a surprise trip to Washington, D.C., because of a possible medical problem, but received a medical clearance within two days. turning the "Med-Evac" into a 3-week stay with a family in the Seattle area. It was a wonderful trip with many family gatherings. She returned to The Gambi on October 24th and by the end of October we were back to our compound near Basse and happily tending our garden and 10 chickens.

Mary starts her second year of nutrition counselling and record keeping at the Basse Health Centre. Her work at the hospital and clinic keeps her busy 3 days a week, leaving time for village visits following up on nutrition counselling with the "at risk " children. She finds she is well received in the villages and considers this to be her favorite work in Africa.

Bruce's work with the well digging project continues to move very slowly due to lack of fuel and spare parts for the trucks and equipment, which in turn is largely due to lack of funds and organization in the United Nations and the Gambian government. This is particularly sad and frustrating as the frequency and severity of droughts increase, leaving many villages with traditional wells without a safe supply of water, as their wells literally dry up.

Though many volunteers head down to the capital city, Banjul, for the holidays, we prefer to stay here at our mud brick "home" and we will be having some of our upper River Division "family" joining us for the Christmas celebration. Since this is a Moslem country, there is not much evidence of the Christmas season.

You will all be in our thoughts and in our hearts during this special time, and we wish you the merriest of Christmasses, and the happiest of New Years, from Africa.

Allama dila wasata (May God give you peace).

Mary & Bruce Trimble



JIFFY TURKEY PAELLA - 6 Servings
From the kitchen of Patti Sutton

- 1 - 1lb. 12 oz can (3½ cups) tomatoes
- 1 cup water
- 1/4 cup cooking oil
- 1/4 cup chopped onion
- 1/4 cup chopped green pepper
- 1 t salt
- 1 t garlic salt
- dash cayenne
- 1 cup long grain rice
- 1 - 9 oz pkg. frozen artichoke hearts, thawed and quartered or 1 can artichoke hearts
- 2 cups diced cooked turkey
- 1/4 cup (or more) sliced stuffed green olives

In large saucepan, combine tomatoes, water, oil, onion, green pepper and seasonings. Stir in rice and artichoke hearts. Cover, bring to boiling. Reduce heat and simmer covered 25 minutes or till rice is tender, stirring occasionally. Stir in turkey and olives. Heat to boiling.

LADIES BULLETIN - - - - - LADIES BULLETIN - - - - - LADIES BULLETIN

BANQUET TIME SHORTLY!!!!!! ANYBODY THAT WOULD LIKE TO MAKE OR PURCHASE A DONATION FOR THE WOMEN'S PRIZES, PLEASE CONTACT PATI SUTTON (CHAIRPERSON) AT 927-8581 OR IF THAT IS LONG DISTANCE, CALL JAN HEDBERG 883-8535. BANQUET TO BE HELD AT LAKE CITY ELKS CLUB THIS YEAR ON APRIL 4, 1981.

Jan

REMEMBER LADIES - SAVE THOSE NEWSPAPERS..... EVERY LITTLE BIT HELPS!!!!!!!!!!!!

SHORT BURSTS.....SHORT BURSTS.....SHORT BURSTS

Overheard Linda Rau ask Ken, K7YR if he was disappointed about having a girl instead of a boy. He replied, "Girls can climb towers too!"

When are you going to share your elephant jokes with the rest of us, Tim, K7QMI?

Hey, Karl, N7AMX: DIZ GO HERE! DIZ GO THERE?

What's this about Helen Strang and Linda Rau buying radios for their spouses for Christmas. Knock it off. You'll give the rest of us a bad name.....

Dennis, KA7IVQ, passed the advanced class test on January 2. That's the way start the New Year. It was just 3 months ago that he became a novice----- that's really moving ahead! Congratulations, Dennis!!

Congrats to Clay, K7CR, for finding his lady and marrying her early this month.

Don't worry Ken, K7YR, the crying will stop in a few years - - at least at the 3 o'clock feeding.

We still need volunteers for Swap N Shop operators!! Come on!!!

MIKE & KEY CLUB MEMBERSHIP ROSTER

01/02/81

CALL	CLASS	NAME	ADDRESS	CITY	ZIPCODE	TELEPHONE	MEMBER SINCE	DUES DUE
WB7AHD	A	JIM AESCHLIMAN	28901 229TH PL. SE.	KENT.	98031	886-1661	07/75	10/81
N7AMX	G	KARL DE JONG	20903 NE 77TH ST	REDMOND	98032	883-3012	06/78	06/81
A7APJ	G	JIM SMITH	5717 NE 56TH	SEATTLE	98105	523-6167	09/78	09/81
WA7AVC	G	GORDON CADY	8216 38TH NE	SEATTLE	98115	527-1387	11/80	11/81
N7AVD	G	DEBORAH DE JONG	20903 NE 77TH ST	REDMOND	98032	883-3012	01/79	01/81
* N7AMW	T	ERNIE DAVIS	3945 SE PINE ST	PORTLAND	97214	232-5440	12/73	12/80
WB7AYU	T	MIKE CROSS	5803 SW HANFORD	SEATTLE	98116	935-2688	08/75	07/81
K7BNN	E	JAY MOWREY	PO BOX 1345	CHEHALIS	98532	262-3666	06/75	07/80
N7BT	E	GEORGE BOROSS	4058 S. 262ND ST.	KENT.	98031	852-9412	03/79	03/81
* W7BUN	A	JERRY SELIGMAN	12306 BOTH AVE E	PUYALLUP	98371	845-7652	03/79	03/81
N7BVB	G	JACK BURRELL	2432 138TH SE	BELLEVUE	98005	746-4176	09/80	09/81
K7CR	E	CLAY FREINWALD	8515 IDLEWOOD DR SW	TACOMA	98498	584-2988	03/74	06/81
KA7CYY	T	TONY ALIX	24433 14TH AVE S	KENT	98031	824-4176	12/79	12/80
W7DSB	E	LYNN SCHUCK	4230 83RD AVE SE	MERCER ISLAND	98040	232-8789	08/77	08/81
N7DU	E	DUKE DUCHESNEAU	151 MONTEREY DR NE	RENTON	98055	255-0583	09/76	10/80
WB7DVX	T	LINDA MESSER	204 SW 43RD	RENTON	98055	-	12/75	01/81
KA7DZJ	T	ROB VANCE	708 PARK AVE	LEWISTON	83501	-	03/80	03/81
WA7EBH	A	CHUCK STROEHER	13619 NE 11TH W-B	BELLEVUE	98005	747-7833	10/70	01/81
WA7EJY	T	ARCHIE BRUSH	22516 30TH AVE S	SEATTLE	98188	878-2833	10/70	01/81
WA7EKH	T	RAY LESLIE	13517 117TH AVE NE	KIRKLAND	98033	821-4188	10/70	01/81
KA7EKU	N	TRISHA THOMPSON	78 PIEDMONT ST	SAN FRANCISCO	94117	665-8876	12/79	12/80
WB7ELG	T	VICKIE MOWREY	PO BOX C	WINLOCK	98596	-	09/76	10/81
WA7ELI	T	LEW RAMBO	11605 NE 150TH PL	BOTHELL	98011	488-9120	01/71	07/81
WB7EMS	G	HAL PARRIS	3405 S 176TH #12B	SEATTLE	98188	244-0641	02/78	02/81
KA7FSP	G	DANIEL BUCHER	11113 BEACON AVE S	SEATTLE	98178	-	06/79	06/81
AD7G	E	STEVE ROLEY	7014 S. 126TH	SEATTLE	98178	772-2399	03/80	03/81
* WA7GHZ	T	RALPH CORNELL	21211 4TH AVE S	SEATTLE	98148	878-8119	09/72	01/81
W7GPW	A	JIM STRANG	23252 SE 54TH PL	ISSAGUAH	98027	392-5554	03/74	01/81
K7QSE	G	FRANK REMINGTON	17228 33RD AVE S.	SEATTLE	98188	244-4257	02/72	01/81
KA7HNC	T	BURR RIDEOUT	18616 92ND NE	BOTHELL	98011	486-6610	10/80	10/81
KA7HNH	N	EDNA RIDEOUT	18616 92ND NE	BOTHELL	98011	486-6610	10/80	10/81
KB7HD	A	DAVID EAKINS	12438 202ND PL	KENT	98031	854-1895	11/79	11/80
WA7HGC	T	JOHN REHNSTROM	9621 9TH NW	SEATTLE	98117	783-2489	01/71	01/81
WA7HUL	A	BILL IVERSON	11840 SE 288TH	KENT	98031	631-1223	10/70	01/81
WA7HWX	T	JAN HEDBERG	20904 NE 77TH ST	REDMOND	98032	883-8535	03/72	01/81
* WA7IYO	A	NICK WINTER	6917 47TH CT W	TACOMA	98466	564-1444	04/79	04/81
KA7IVG	G	DENNIS ECKERT	1283 NW 191ST	SEATTLE	98177	542-6049	09/80	09/81
W7JIE	E	M. L. GIBSON	1215 N 28TH PL	RENTON	98055	226-4222	04/75	04/81
W7JWJ	E	HARRY LEWIS	10352 SANDPOINT WAY NE	SEATTLE	98125	523-9117	02/74	02/81
WA7K8K	G	DON REMBAUGH	20175 45TH NE	SEATTLE	98135	362-9189	08/74	01/81
W7KCX	A	RICHARD DIETSCH	16807 NE 89TH	REDMOND	98032	885-6559	10/76	01/81
X7KOT	A	STEVE TILLET	1642 BROWNS POINT	TACOMA	98422	927-5456	10/70	01/81
WB7LM	E	BOB RULIFSON	14232 SE 23RD	BELLEVUE	98007	746-5192	12/77	12/80
WA7LNG	A	JIM SUTTON	3516 SW 343RD	FEDERAL WAY	98003	927-8581	07/75	07/81
K7MBY	G	JIM HOGGARD	PO BOX 2642	LYNNWOOD	98036	778-5626	02/78	02/81
K7MF	E	RICK SCHAAK	RT 1 BOX 114	VAUCHN	98394	884-2457	01/76	01/81

CALL	CLASS	NAME	ADDRESS	CITY	ZIPCODE	TELEPHONE	MEMBER SINCE	DUES DUE
* K7MHM	T	LEN MILLER	4040 AUBURN WAY S #77	AUBURN	98002	-	02/79	02/81
WA7MSD	G	PAT CARSON	4114 NE 22ND PL	RENTON	98055	-	03/72	06/81
K7ND	E	JIM CHRISTIANSEN	22105 7TH PL W	BOTHELL	98011	-	10/70	07/81
WA7NIW	T	DICK RADFORD	3003 169TH AVE NE	BELLEVUE	98008	883-0662	07/72	01/81
N7NW	E	HAL GOODELL	35916 11TH SW	FEDERAL WAY	98003	927-7603	02/74	01/81
WN7NXC	A	LES JACOBS	143 NE 156TH	SEATTLE	98155	363-4169	11/74	01/81
WB7NXI	G	ALEX TAKACS	BOX 758 XSUN CTRY RV PK	WELLTON	85356	-	06/77	07/81
WA7DEE	A	RON HENDERSON	PO BOX 573	ENUMCLAW	98022	825-1578	01/71	04/81
WB7OS	A	CHARLES FOLTZ	2820 179TH NE	REDMOND	98052	-	11/80	11/81
WB7DUT	T	TOM RAMUS	8722 17TH AVE NW	SEATTLE	98117	784-9243	10/77	10/81
* WA7DXN	A	BOB MCGAHUEY	14840 74TH PL NE	BOTHEL	98011	488-7841	05/80	05/81
K7PBT	G	DICK GEHRING	21620 116TH AVE SE	KENT	98031	852-4289	06/80	06/81
* WB7PFJ	G	JANE PELZEL	7814 79TH AVE SE	MERCER ISLAND	98040	232-8725	09/77	10/80
K7PFR	E	JOHN BECKER	21112 NE 60TH PL	REDMOND	98052	885-1941	10/70	01/81
K7PHZ	A	JIM CARPENTER	2125 ELM SE	AUBURN	98002	833-9017	03/71	03/81
W7PRW	G	CARL BUTLER	16831 40TH S	SEATTLE	98188	242-6297	10/70	01/81
K7PZN	G	STEVE TOTH	410 N 67TH	SEATTLE	98103	789-1554	10/80	10/81
K7PZX	G	KEN JACKSON	18944 33RD AVE S	SEATTLE	98188	246-7354	10/70	09/80
W7GQP	A	MARY LEWIS	10352 SANDPOINT WAY NE	SEATTLE	98125	523-9117	02/74	02/81
WB7GHD	G	MAX CRAIG	3006 S FERDINAND	SEATTLE	98108	723-8076	08/77	08/81
K7QMI	T	TIM SCHNEEBECK	4522 BROOKLYN AVE NE #103	SEATTLE	98105	634-0628	04/77	04/81
KB7R	E	JOE FANNIN	108 130TH PL NE	BELLEVUE	98005	454-6213	02/79	02/81
WA7RJT	A	CHUCK GRAZIER	13210 231ST SE	ISSAQUAH	98027	392-3764	07/72	01/81
WA7RJW	T	CHRIS HOLT	2321 N 172ND	SEATTLE	98133	363-7543	01/74	01/81
AA7S	E	BRUCE TRIMBLE	THE PEACE CORPS	BANJUL, GAMBIA		-	01/79	01/81
WA7TA1	A	GENE JACOBSEN	7334 126TH AVE NE	KIRKLAND	98033	822-3931	07/74	01/81
WA7TIB	A	AL JENSEN	19111 1ST AVE NW	SEATTLE	98177	542-6052	03/75	01/81
WA7TRI	A	BOB DONNELL	4522 BROOKLYN AVE NE #316	SEATTLE	98105	634-2820	02/80	02/81
WA7UEW	T	DICK LUNDSTROM	34022 43RD S	AUBURN	98002	838-9559	01/73	01/81
WA7VEB	G	BOB LOSEY	21943 28TH CT SO SPACE 24	KENT	98188	878-4363	11/75	01/81
W7VIH	G	PAT SHINNERS	6412 17TH AVE NW	SEATTLE	98107	783-6710	04/79	04/81
WB7VLW	A	RALPH FUNKHOUSER	6533 10TH AVE NW	SEATTLE	98117	783-9949	03/80	03/81
WA7WKT	T	ARNIE SKOG	30617 2ND AVE SW	FEDERAL WAY	98003	839-2501	03/74	01/81
WB7WNF	T	RALEIGH ELKINS	13506 CEDAR CT EAST	SUMNER	98390	897-8090	12/79	12/80
K7WTG	G	PETE HEDBERG	20904 NE 77TH ST	REDMOND	98052	883-8535	10/70	01/81
WA7YCM	A	ELMO SMITH	4716 S FINDLEY	SEATTLE	98118	723-4484	08/75	01/81
K7YR	E	KEN RAU	23206 SE 53RD	ISSAQUAH	98027	392-7954	12/72	01/81
W7ZLW	A	VERN NELSON	16812 NE 107TH	REDMOND	98052	885-0473	03/78	03/81
		DIANA BECKER	21112 NE 60TH PL	REDMOND	98052	885-1941	06/74	01/81
		ETHEL BROWN	2200 SW BARTON	SEATTLE	98126	-	10/70	LIFETIME
		DEBBIE HOLT	6008 230TH SW	MT LK TERRACE	98042	774-6224	01/74	01/81

HONORARY MEMBER
ASSOCIATE MEMBER

OPERATION UPGRADE

INSULATORS

W7JWJ

INSULATOR: A substance that offers a very high opposition to an electrical current flow.

A substance that may be a good insulator under one set of conditions of temperature, frequency, and applied voltage may become a conductor under a different set of conditions. Many insulators which give excellent results at commercial or low radio frequencies are absolutely useless at very high frequencies. An example is Bakelite. It is an excellent insulator at low voltages, but at high voltages it breaks down, carbonizes and burns. Increased temperature means increased molecular and atomic agitation which in turn will mean there will be more free electrons created in a fixed interval of time. These free electrons are attracted toward the positive charge and constitute a leakage current. Leakage currents create more free electrons by collision and hence more current. The entire action becomes accumulative after a certain temperature is reached and the insulator breaks down and begins conducting. High frequencies will induce additional agitation, heat and cause break down. Bakelite becomes useless as an insulator at approximately 20 kHz. Pyrex glass is an excellent insulator at high frequencies as are Isolantite, Textolite, Micalox, Alsimag, Steatite & others. Rubber, wood, cotton and silk may be poor insulators at high frequencies. Air that is dry has a break down potential of 28,000 volts per inch. Dry Nitrogen often is used in high frequency, high voltage coaxial transmission lines, as it has a much higher break down voltage. Hard rubber has one of the highest break down voltages at d.c. and low frequencies, but it is almost useless at high radio frequencies. Sharp points between high voltage potentials will decrease break down potentials. Often at needle points-separated by a distance-and to which the points have high potential applied-a corona discharge will take place. For this reason all solder connections should be round and smooth. The ends of antennas, particularly vertical ones, should have a round anti-corona ball.

Coming into more and more use in radio are the ceramic type insulators. One type is called Ultra-Steatite and is a vitrified, dense, non-hygroscopic material that is electrically stable and mechanically strong. Ceramic insulators have advantages of hardness and low moisture absorption which makes them suitable for tropical and damp climates. Some ceramic insulators may be poisonous to the human body. The ceramic encasement of some vacuum tubes is an example. The insulating material of some coaxial cable is Poly-Vinyl-Chloride (PVC) and some skin rash may be noted when handling it.

The surface path of an insulator is often lengthened to improve its break down characteristics. Often they are made into pie-shaped cones or segments such as the high voltage insulators used on high voltage, low current transmission lines. Steatite tube sockets have often been used where the Steatite fills most of the area between tube prongs.

There is no such thing in matter as a perfect insulator or a perfect conductor.

Materials that have polarized molecules in their structure tend to get hot when exposed to a radio frequency field (a microwave oven). They may also exhibit a piezoelectric effect (they may act as a crystal speaker and talk back when both r.f. and audio frequencies are applied). An example is Titanium-Dioxide. Such dielectrics are commonly available on the surplus market and should not be used as the insulating medium at high radio frequencies.

HR REPORT HIGHLIGHTS

LINEAR AMPLIFIER TYPE ACCEPTANCE was reviewed by the Commission Thursday, and the result was a Notice of Proposed Rule Making proposing to permit linear manufacturers to provide complete information on how to put their products on both 28 MHz and the new 24-MHz bands. An order deleting the type acceptance cutoff date was also issued. Complete details on the NPRM and comment due dates should be available in time for the next HR Report.

PHASE III OF FCC'S CALLSIGN assignment system went into effect December 15, and with it all license classes except Novice became eligible to request callsign changes. Any Amateur who now holds a callsign not appropriate for his license class (1x3 for General/Technician, 2x2 for Advanced, 1x2/2x1 for Extra) may request a change to a callsign of the proper format, though without any choice as to the specific callsign he will receive.

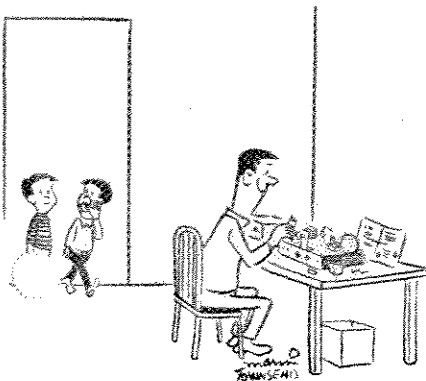
FCC's New Form 610 (August, 1980 edition) is required by Phase III, so all previous editions are now obsolete and may not be used, despite the item in the last HR Report. As before, licensees still have the option of retaining their old callsigns when upgrading or changing call areas. A new callsign will not be assigned unless it's specifically requested by the licensee's having checked item 2F on the new Form 610.

Though Both The 4th and 6th call areas are running low on 2x1 callsigns for Extras, the Commission does not expect to be ready to go back to assigning 1x2s until 1983 at the earliest.

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ADDRESS CORRECTION REQUESTED

FIRST CLASS



"Don't let on you know—but actually it's just a simple project requiring the plugging of a few units into a prewired PC board."