

# K7LED RELAY



The K7LED RELAY is the Official Publication of the MIKE and KEY AMATEUR RADIO CLUB, P.O. Box 2121, Kirkland, Wa. 98083-2121. The Club meets the third Saturday of each month at 9:30am in "The Good Neighbor Center", 305 S 43rd St. Renton, Wa. All "Hams" invited. The MIKE and KEY net meets each Sunday morning at 10:00am on 3930 kHz. VHF check-ins on the K7LED Repeaters.

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AN ARRL AFFILIATED CLUB LOCATED NEAR SEATTLE, WASHINGTON.

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NUMBER 1

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REPEATER FREQUENCY  
52.37 - 53.37  
146.22 - 146.82  
224.12

## BOARD MEETING

10 Feb 87 1930 hrs  
QTH WA7LNQ

## CLUB MEETS:

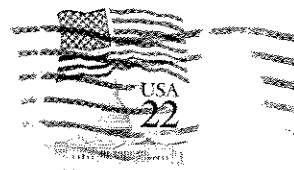
10 JANUARY 1987

UGN CENTER  
RENTON 10:00

## ACTIVITY EVENING

?????????  
????????????

PETE HEDBERG K7WTG  
20904 NE 77TH ST  
REDMOND  
WA 98053



First Class

COFFEE AND DONUTS WILL BE READY AT 9:30

## A LETTER FROM MURPHY

Dear Mike and Key Club Members,

I had the great pleasure of visiting one of your members and his wife lately. I think she is called an "XYL"? Not being an amateur radio operator I'm not sure of the jargon. Besides- for the longest time I thought that you always said "10-4" and "good Buddy"! I found out there is a real difference when I visited another radio operator recently. His radio wasn't much fun though, because it was small with 40 channels and no big power amplifiers except for the "foot warmer", as he called it, under his desk. His system was working so well -. He was "shooting skips" and catching his friend on the "flip flop". So, I helped him get just a little bit more from his equipment and became a household word. His friends now call him on the telephone and his feet are cold too!

Last Friday I was looking for things to fix and see if I would help someone out. He had just left for work and she was working around the house. I saw that the bath tub drain was getting slow so I clogged it up completely to make the trouble easier to spot.

Later in the evening when he laid down for a nap I went to his radio room, with all the big amplifiers and electronics junk - Now this is a ham shack! He had some of his equipment running for later and therefore an ideal time to learn how things really work. Something went a-miss though and there was a click of relays, the receiver went dead, the meters went to some "up" level and smoke came out of some "stuff" on the side of his desk. Once again proving that the smoke theory works! Later I found out it was the receiving converter that smoked.

Knowing what I know, I knew he was going to be unhappy. I left things just as they were so he would know what to do to fix them. Although, I must admit I added my ground loop problem to test his abilities.

When he got up four hours later he was very upset and was yelling words which I can't repeat, but knew they were directed at me because he mentioned me several times. It was real nice to hear my name but I wonder why he was yelling.

The final count was a bad 28 MHz post amp, one 4CX250B, one bias supply, and my ground loop problem. Not bad huh? He fixed them all too! I was so pleased for him. It only took until 3 am.

By this time he was so tired he layed down for a nap, because he knew he had to fix the bath tub plumbing. When he began on the plumbing I was there to help him out with a little extra pressure on the snake. Besides plumbing is one of my most fun things to work on! The water began to drain but under the house instead of down the pipe. Boy, did my ears burn! I guess he had poked a hole in the "P" trap. So, I felt I better leave him alone for the rest of the day. But, I was satisfied I had helped him enough and took a nap myself.

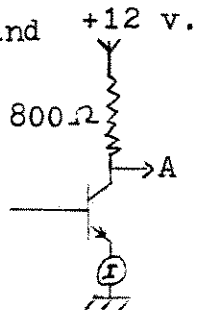
To make sure, I waited until late Sunday night to fix the faucet under the sink in the bathroom. It started to leak and I ran because I knew that in the morning I was going to be in trouble again.

If you ever need help or just a good friend, I'll be glad to help. I don't do anything right, but I keep you busy!

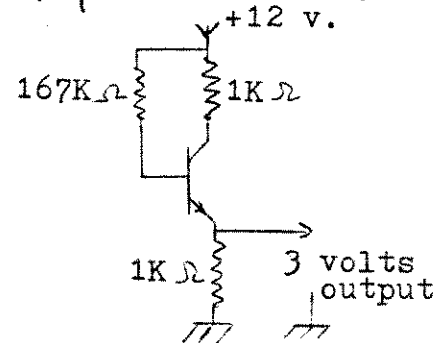
Sincerely Yours.  
Murphy

The following quiz on basic transistor theory is designed to be taken on an open book basis. Page numbers in parentheses after each question refer to relevant pages in the 1983 edition of the Radio Amateur's Handbook.

1. In n-type Silicon- (p. 4-3)
  - a) impurities are acceptor type
  - b) holes arise due to free electrons
  - c) we have a negative temperature coefficient of resistance
  - d) free electrons are available to conduct current
2. Barrier potential for a Silicon p-n junction diode is about- (p. 4-5)
  - a) 0.3 volt
  - b) 0.7 volt
  - c) 1.0 volt
  - d) zero
3. In a forward biased NPN transistor- (p. 4-19 to p. 4-23)
  - a) base current is greater than emitter current
  - b) emitter current is greater than collector current
  - c) the emitter must be positive with respect to the base
  - d) the base must be positive with respect to the collector
4. In the circuit shown, when the output potential between A and ground is 8 volts, the reading on I will be nearest to - (p. 4-19 to p. 4-23)
  - a) 5 ma
  - b) 10 ma
  - c) 15 ma plus base current value
  - d) zero



5. For the Silicon transistor in the circuit shown,  $\beta$  is nearest to- (p. 4-19 to p. 4-23)
  - a) 50
  - b) 55
  - c) 60
  - d) 65



ANSWERS: 1-d/2-b/3-b/4-a/5-c

Solution for #4:  $\frac{12 \text{ v.} - 8 \text{ v}}{800} = 5 \text{ ma}$

Solution for #5:  $3\text{v}/1\text{K} = 3 \text{ ma}$  emitter current  
 3.65 v. is approx. base-ground potential  
 $(12 \text{ v.} - 3.65 \text{ v.})/167\text{K} = .05 \text{ ma}$  base current  
 collector current = 3 ma - .05 ma = 2.95 ma  
 $\beta = 2.95/.05 = 59$

There was a typographical error in November's question 5. It should read:

- The equation for the truth table in question "3" is-
- |                        |                           |
|------------------------|---------------------------|
| a) $AB = y$            | c) $A + B = y$            |
| b) $\overline{AB} = y$ | d) $A + \overline{B} = y$ |

"b" is the correct answer

**Want new hams in Amateur Radio??  
You You You can HELP!!!!**

**FROM ARRL LETTER**

As you know the M&K ARC is sponsoring a Novice class at Highline Community College beginning Jan. 8 thru Mar. 12, 1987. Call Vic (WB7TBR) on 824-2098 or Hal (N7NW) on 927-7603 for information.

I have contacted the Boy Scouts of America (BSA), I talked to 7 of the 8 paid executives of the various greater Seattle area scout districts and they are all very anxious to pass out our flyer. They have what they call a "round table" in each district once a month. Each scout master is expected to attend these round tables in his own district. I got our flyers to 3 of the districts on Dec. 11th, so the flyers went out to scout masters in those 3 districts that evening. Most scout masters are always looking for something for their troops to do, so I'm sure our flyers will be presented to the boys at their next regular meeting. The executives of the remaining 5 districts have the flyers but I missed their December round table. Flyers will go out to those 5 districts in January (probably too late for our January class). Our lines are out, my friends, so now we wait to see how many new applicants come to us!!!

**Scouting scratches our back---now we scratch theirs!!!**

In scouting there is a "Radio" merit badge. Here is where WE shine. When a boy wants that merit badge, he needs a "counsellor" as near to him as possible. Here is another fantastic opportunity for us to get new young Hams.

I have a copy of the "Radio" merit badge booklet and applications to become a counsellor. The requirements are very basic, there isn't an Amateur out there that couldn't be a counsellor!!! Very little time would be required and the boy would normally come to you!!!

**IF WE ARE REALLY SERIOUS ABOUT  
GETTING YOUNG HAMs, HERE IS  
ANOTHER OPPORTUNITY.**

I expect my application forms to disappear rapidly (HI-HI) so see or call me.  
de WB7TBR.

In response to questions from individuals about repeater coordination, the FCC's, Ray Kowalski, Chief of the Special Services Division of the Private Radio Bureau, said "The FCC intends to rely upon state and regional councils to recognize legitimate local coordinators. The FCC will support their determinations...Revocation of regional and state council recognition of another local coordinator is prima facie evidence that the coordinator no longer has the support of a majority of those eligible to establish repeaters in the area it claims to coordinate. Stations which operate with illegitimate repeater coordination do so at their peril." The FCC further stated that "two active coordinators in the same large metropolitan area which do not take each other's coordinations into account may soon cause repeaters in the area to experience interference. AND IT IS THE LICENSEES OF THESE REPEATERS--NOT THE COORDINATOR--WHO RISK SANCTIONS IF INTERFERENCE OCCURS."

Michael T.N. Fitch has been named Chief of the Private Radio Bureau (PRB), replacing Robert Foosaner, who resigned to take a position in a communications law firm.

West Texas gets to be an ARRL Section.

Florida Skip Inc. is again in business of publishing an Amateur publication.

The UHF/VHF Century Club has been expanded to include 24 and 47 GHz, effective January 1, 1987.

The city of Rancho Palos Verdes, CA. will probably become the home of a memorial museum for Amateur Radio pioneer Don Wallace, W6AM.

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+ + + FOR SALE + + + FOR SALE + + +

Hy Gain 6 element 6 meter beam. \$25.00  
Call Floyd Dunn - 631-5658  
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+ + + + + HAM CLASSES + + + + +

TACOMA-- Tacoma Radio Club at the Club House, for Novice. Beginning Jan 6, 1987. Time: 7:00--9:00pm.

Continuing Theory course for all levels, every Saturday 9:00am - 10:45am at the Tacoma Radio Club Club House. For info Call Jerry, W7BUN at 845-7652

FEDERAL WAY-- Mike & Key ARC at Highline Community College, for Novice. Beginning Jan 8, 1987. Every Thursday until Mar 12. Time: 7:00-9:00pm For info call Hal, N7NW 927-7603 or Vic, WB7TBR 824-2098

NORTH SEATTLE COMMUNITY COLLEGE-- For Technician and General. Beginning Jan 6, 1987. Every Tuesday and Thursday for 6 weeks. Time 7-9pm. For info call Mary, W7QGP, 5423-9117

ISSAQUAH-- No known class-- For info call Tom, K7KAI, 746-0730

PUGET SOUND POWER & LIGHT-- No known class-- For info call Bob, WA7NAN, 746-6217.

WEST SEATTLE-- No known class-- For info call Paul, N7DIP, 244-3001

Ellensburg-- For Novice, Technician & General. At the College, Hogue Tech Bldg beginning Jan 13, 1987. Time: 7-9pm. For info call Jerry K7YGX 509-963-3543 or 509-925-5467.

BURIEN-- Boy Scouts Explorer Post. For Novice. Held at Sunset Activities Center. Beginning Jan 6, 1987. Every first and third Mondays. For info call Mack, KA7DOQ, 678-4079.

de WB7TBR

=====OPERATION "SEA-TAC"=====

During the Christmas Holidays, a Amateur Radio Station was activated at the SEATAC Airport. Anyone that wanted to could send a message of sorts to friends or relatives at no expense. (see article this issue).

Various Hams of the area operated the station for a designated period. Approximately 230 messages were sent to various parts of the US and a few to other parts of the World. Equipment for the station was furnished by ICOM, AEA and The TANDY Corp.

Here is a list of the Hams that operated the station:

Ed & Elenor, N7BNG; Tim & Marie, K7KAI; Carl, W7PRW; Ken, N7DIG; Mike, KB7HO; Dick, W7TWU; Earle, W7NLF; Mary, W7QGP; Terry, AD7P; Chuck, W7SRZ; Carolyn, KA7TGL; Glenn, KA7YPQ; Paul, N7DOH; Bill, KH7BHJ; Steve, N7IBF; Mack, WA7DOQ; Vic & Tillye, WB7TBR; Bill, KD0JU; Moe, WB0RTF; Paul, N7DIP  
73 - Vic - WB7TBR

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Official Observer Coordinator  
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Yakima, Wa. 98902

Bulletin Manager  
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3410 South 356th St  
Auburn, Wa. 98001

State Government Liaison  
FRANK PRICE, KD7AC  
3336 Long Lake Drive  
Olympia, Wa. 98503

The Club Roster will be published in February. There are about 20 members that will pay their dues in January and that will be reflected on the roster. The Roster is brought up to date every six months.

# Hamdom's Traditions

A Bedtime Story for Young Squirts

By Rufus P. Turner, W1AY-W3CVT-W9FZN\*

**A** WEIRD weebe gone implement hangs above Warner's desk at Hartford. You'd never guess what it is if you didn't already have an inkling. It appears to be equal any day to beating the brains out of King Kong. You'd swear it at first sight to be the stock of some antediluvian blunderbuss. A half-dozen scores of Manhattan rock-bed might be plowed up with it without injury to its gross lines.

If you inquired as to its name, use, and evolution, your informant would cast a stealthy glance about the chamber, even as Rasputin might on the verge of imparting a sinister secret; and being assured of privacy, would hiss in hushed monotone, "Tis the one and only Wouff-Hong, sacred symbol of law and order in amateur radio." And you might reasonably expect to hear the crashing sound of a Chinese death gong at the next minute. Lo, the poor Indian had a word for your next question—"wo," which means whence comest and whither goest!

The Wouff-Hong came from the hands of The Old Man, the supreme sage of amateur radio. But, take it or leave it, in the beginning the bewhiskered one himself wondered what a Wouff-Hong was!

It chanced that a vehement article, denouncing interference on ham wavelengths and dripping with wrath, slipped into the January, 1917, issue of QST. Many a youthful ham—"young squirt," as the bellicose writer called them—shivered as he read "Rotten QRM" by The Old Man. Too, there has been much shuddering and chattering of teeth in the years that have followed; The Old Man's articles have appeared on these pages again and again, but in sixteen years of watching over ham radio and incensed writing he has not disclosed his identity.

In his first article, the Wise One called attention to word-butcher abbreviations concocted by code men which were just slipping into use.

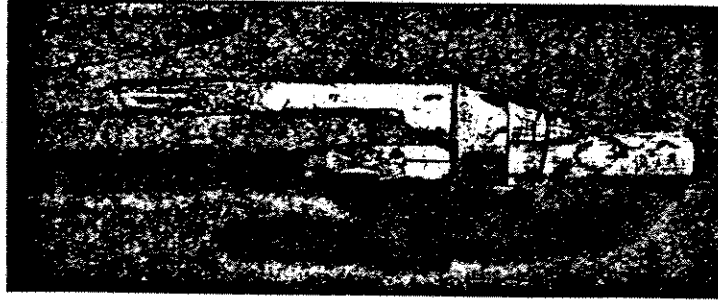
\* 1243 Kenyon St. N. Y., Washington, D. C.

The Old Man had lost out on sleep because of this and interference. The words "Wouff-Hong" and "Retty-smitch" had come through his 'phones with a mess of other semi-intelligible yield—this was food for his grouch. He—The Old Man did—asked what in the name of common sense a Wouff-Hong was!—insinuated that it sounded like something with which monkeys are beaten in the southern states.

The effect of his interrogation was magic. There was much speculation as to the meaning of the word throughout the Land, yea, in all nine districts. One letter writer, signing himself "A Loyal League Member," declared in the August, 1917, QST, that he knew what a Wouff-Hong was and had chained the animal to his receiver to gobble up static and broad signals. His recommendation was enthusiastic. Immediately, Tuska, QST's editor, was besieged with orders for Wouff-Hongs that could not be filled.

Came the Great War, and all hams who could not disport flat feet or floating kidneys forgot all about Wouff-Hongs and the like and joined up with the armed signal forces. Your Uncle Samuel down at Washington closed down all ham stations, and QST suspended publication.

When hostilities ceased and the League Directors met to lay plans for reconstruction, Warner, unmounted Army lieutenant, came over from Illinois to fill the editorial chair left vacant by Tuska. At the meeting a package addressed to the editor was presented. Out of the wrapping bounced the gruesome instrument of torture that to this day has hung in the sanctum of the Secretary-Editor's office occupied to this day by the same Warner. The terrible thing was sent in by The Old Man, who described it in a letter as "an absolutely authoritative and well-preserved specimen of Wouff-Hong." The Board charged that it be kept forever in the editor's office within easy



Continued on another page

# AMATEUR RADIO MARCHES ON!

|  |  |   |  |  |  |   |  |  |  |   |  |  |  |  |   |  |  |  |  |
|--|--|---|--|--|--|---|--|--|--|---|--|--|--|--|---|--|--|--|--|
| <p>1914</p> <p>THE NATION GETS DOWN TO WORK<br/>THIS GUY'S THE GUY<br/>THE GUY'S THE GUY</p> | <p>1915</p> <p>THE NATION GETS DOWN TO WORK<br/>THIS GUY'S THE GUY<br/>THE GUY'S THE GUY</p> | <p>1916</p> <p>BIGGER AND BETTER IN THE CHEAPEST<br/>A GOOD WATER REGULATOR'S VALUE<br/>GREATER IN POSSIBLE</p> | <p>1917</p> <p>THE NATION GETS DOWN TO WORK<br/>THIS GUY'S THE GUY<br/>THE GUY'S THE GUY</p> | <p>1918</p> <p>THE NATION GETS DOWN TO WORK<br/>THIS GUY'S THE GUY<br/>THE GUY'S THE GUY</p> | <p>1919</p> <p>THE NATION GETS DOWN TO WORK<br/>THIS GUY'S THE GUY<br/>THE GUY'S THE GUY</p> | <p>1920</p> <p>RESEARCH SPEAKS<br/>DON'T MISS ME<br/>GIGGLE</p> | <p>1921</p> <p>THE NATION GETS DOWN TO WORK<br/>THIS GUY'S THE GUY<br/>THE GUY'S THE GUY</p> | <p>1922</p> <p>THE NATION GETS DOWN TO WORK<br/>THIS GUY'S THE GUY<br/>THE GUY'S THE GUY</p> | <p>1923</p> <p>INTERNATIONAL SHORT-WAVE DX<br/>THEY'LL BE<br/>WANTING ME</p> | <p>1924</p> <p>THE WAVELENGTHS BELOW 200 METERS<br/>START TO PERK.<br/>BY TALKING<br/>THE TUNE SHORT<br/>EVEN GET DOWN<br/>TO 50 METERS</p> | <p>1925</p> <p>CRYSTAL CONTROLLED TRANSMITTERS<br/>THEY'RE IN<br/>THEY'RE IN</p> | <p>1926</p> <p>CRYSTAL CONTROLLED TRANSMITTERS<br/>THEY'RE IN<br/>THEY'RE IN</p> | <p>1927</p> <p>WHAT'S THE SECRET?<br/>SUBS. GET<br/>SCREEN GRID TUBES<br/>IN HIS NOW</p> | <p>1928</p> <p>HIGH C<br/>THEY'LL<br/>GROWTH<br/>MAY BE<br/>STATUS</p> | <p>1929</p> <p>FLA-POWER INTERNATIONAL DX<br/>DON'T TELL MY LAD, THIS IS<br/>A 100% MODULATED PHONE</p> | <p>1930</p> <p>A-C TUBES AND RECEIVERS<br/>AND CHEER UP<br/>ANOTHER<br/>GUY'S FOR US</p> | <p>1931</p> <p>PRACTICAL<br/>COMMUNICATION<br/>WAKE UP<br/>THE BIGGEST<br/>TALKERS</p> | <p>1932</p> <p>SINGLE-SIGNAL RECEIVERS<br/>SHELL CO.<br/>DOWN TO 100 METERS<br/>ON AN 80 METER<br/>CRYSTAL</p> | <p>1934</p> <p>STILL THE<br/>MAY BE<br/>SUB-<br/>CRISTAL<br/>COMMUNICATION</p> |
|--|--|---|--|--|--|---|--|--|--|---|--|--|--|--|---|--|--|--|--|

# A SKETCH OF TECHNICAL PROGRESS

**WE** HAVE had a grand time running through all the old QST's in the attempt to glean material for a review of the progress of ham equipment down through the last twenty years. The original idea was to make notes on all important technical contributions—a half-day task—then to dash off a list of technical highlights. Dead simple. . . . We finished up by spending several days and a week of evenings in an orgy of reading, consuming almost everything from the first cover of the first issue on, and making enough notes to form the basis of a couple of fat volumes.

But now that the reading is finished, it seems quite futile to attempt to write the story of the development of ham radio technique without having an entire book to write it in. The only remaining hope is that under these circumstances it should still be possible to touch off a few highlights of the past—things that can be looked back at now with a great deal of pleasure and possibly some profit.

## The Ultimate?

Quite the most significant thing about ham radio of 1914 was the very grand and glorious feeling of technical security that seems to have existed. Young amateurs installed spark coils and fixed gaps. More ambitious fellows put in a half-kilowatt transformer and rotary gap. When they did that and when they topped it off with the highest, widest and handsomest antenna and the most elaborate possible ground system, they had the very last word in a transmitter. Nothing more could be done outside an increase of power. We still have the same ideas to-day, of course. We still are prone to think our Tri-tet crystal transmitters and S.S. receivers the ultimate. But the history of the game has taught us to maintain a healthy degree of doubt in our minds at all times.

Judging from the literature of the day, the ham of 1914 was cock-sure of his equipment. The ultimate had arrived. It is not surprising, therefore, that the technique had fallen into a condition of complete stagnation.

The early QST made no conscious attempt to inspire technical progress. It set out to be simply a journal devoted to the business of reporting amateur activity and maintaining well-organized relaying. Even so, its influence on technique was immediate. The publication of station descriptions and performance details made apparent the wide differences in results obtained by different workers with similar equipment. Within a year the rusty gears of technical progress had been oiled into working condition. QST's first real job in the technical field was to provide information on how to build and oper-

ate vacuum tube receivers. Prior to December, 1916, the magazine had strenuously avoided running anything in the way of "How to Make It" articles. At that time, however, in response to obvious demand, a "Complete Description with Instructions for Building a Short-Wave Regenerative Receiver" started the ball rolling. At this stage of the game, the commercially manufactured equipment appears to have been far ahead of anything that the amateur could build himself.

Technical cob-webs in the amateur field had just about been cleared away when the war ban fell.

During the war years, as everyone knows, professional radio made tremendous strides. The world's radio engineering talent, one might say, waged a war of its own against the problems of radio transmission and reception. Very naturally, the post-war amateur had a big job of rebuilding on his hands.

## Spark vs C. W.

From our present point of view, it would seem that the radio amateur of those days was a bit slow on the up-take. Admittedly, there was precious little equipment available other than the transformers, condensers and gaps which had been stowed away for the war period. Even so, it was many years before amateurs generally would admit, despite QST's advocacy of the new technique, that tube transmission had any real advantage over spark.

QST for July, 1920, carried an editorial on the c.w. vs. spark business that will bear quoting in part: "We are very strongly in favor of c.w. transmission, and we are going to do all we can to help it along. . . . It is wonderfully efficient because the decrement is so extremely low and the energy all on practically one frequency. . . . It has its disadvantages, too, but they are temporary in character. It is awfully hard to get hold of tubes. . . . it is not cheap. . . . The bulk of the expense, outside of tubes, is in the motor-generator, and we believe it will be only a short time until some enterprising amateur discovers a cheap way of getting around this. . . . We are on the eve of a great transition in amateur methods. We plead for the Undamped, the serious consideration that its many advantages merit."

But interest in spark was not to be dampened that easily. January, 1921, QST carried the announcement of an "Ideal Relay Spark Transmitter" contest, justified in this fashion: "We want more practical articles for the amateur who" (Continued on page 108)

wants to build a real spark transmitter and doesn't know how. C.w. is a fine thing and will not be neglected in QST, as we sincerely believe the ultimate relay station will be operated with c.w. But at the present, 99% of our relay work is being handled by spark and it behooves us to give the spark station more consideration."

Here we run into a period full of significant events. In QST for February, 1921, P. J. Furlong, IFF, described a method of using electrolytic rectifiers in a high-voltage supply system that eliminated the need for a motor-generator. In March, the UV-202 five-watt was announced. In June, the Reinartz c.w. tuner was described, and in July, Heising's article on plate modulation (the first authoritative dope on the subject) was presented. These four developments, as we see it now, had a tremendous influence in establishing the tube transmitter as eminently practical and valuable equipment for the amateur.

## HAVE WE CHANGED?

But QST still had a fight on its hands. The publication of information on c.w. seems to have established QST as having a rabid anti-spark attitude. An editorial in the September 1921 issue is good for a laugh now though it was not at that time! "Certain of our friends," it runs, "have pointed out to us that we are in danger of starting an unprofitable controversy between the Spark and the C.W. These friends, endeavoring to view the matter unprejudicedly, cannot agree that we have been quite fair to the Spark. . . . We recognize the merit of the sparks and do not want to be considered ever as throwing mud at them. We want the C.W. to win, if it can, on merit. Good-natured rivalry is a healthy sign, we think; but we hope that absolute fairness, real sportsmanship, and cooperation will characterize the work of A.R.R.L. members. We are in trying days, with legislation pending and with the financial situation affecting our manufacturers and we don't want a row that will divide us into two camps, who will conduct jamming contests or engage in verbal battles."

The spark men had to take a jolt when c.w. transmitters turned in the superior performance during the Transatlantic Tests of December, 1921. But it was to be more than a year later when spark at last ceased its death struggles. During the second Transatlantic Tests, in December, 1922, spark was a total failure.

From its slow post-war start, amateur radio, from the technical angle, had been gaining momentum slowly but quite definitely. Now, with the spark debris cleared away, the road was open.

An editorial in March, 1923, QST, contains an early hint of the tremendous revolution in short-wave work which was about to break. Under the title, "A New Field," it said: "Have you ever noticed what a narrow escape 200 meters has from being the lowest amateur wavelength instead

of the highest? If you want to find blank silence, listen anywhere below 180 meters.

"Notice we said 'almost.' It isn't quite blank and it's liable to grow rapidly less so as a result of some very interesting experiments now in progress among a group of amateur stations. . . . Do you know that 100-meter transmission between Illinois and Connecticut is proving FB? It is! . . . We'll have data in QST soon."

The opening of 1924 saw the first transatlantic two-way working; and before the end of the year, all the territory down to 5 meters had received attention. This was the beginning of the DX era—the period during which the extraordinary capabilities of the short waves for long distance communication were revealed to the world. A steady stream of technical developments provided the background for the years 1924 and 1925, but they were characterized chiefly by the tremendous operating activity and the mastery of all terrestrial distances.

By this time, the amateur game was in top gear and travelling at a terrific pace. Starting years and years behind the professional world after the war, it had gradually gained enough momentum to carry it far ahead. For the first time in radio history the amateur led the game. The commercial world of radio manufacturers, gleeful over the potentialities of broadcasting, had forgotten him. As a result, the best ham equipment of those and many succeeding years was ham-built.

The story of the years since 1925 is one of continuous and really quite extraordinary technical development. World-wide amateur communication having become mere routine, the attention of experimentally inclined amateurs naturally turned to the development of new and refined technique and equipment. The pressing need for restriction of the territory occupied by transmitted signals and for the improvement of receiver selectivity resulted in a rising tide of development work which has climbed to tremendous proportions and carried the amateur with it to an even higher plane in the technical world. It would be quite absurd to attempt to survey these years of development in detail. It is perhaps permissible, though, to find some pleasure in the knowledge that A.R.R.L. and QST's contributors, through their technical activities, have lifted the radio amateur from the status of a slow-moving imitator of the professional worker to that of technician in his own right evolving superior equipment to suit his own needs.

To-day, the commercial manufacturer has found time to return his attention to the amateur field. As a result, superlative amateur equipment can be purchased more readily than it can be built at home. But the amateur maintains his lead. To-day's commercial manufacturer of amateur equipment is pleased to lean heavily on the developments presented by A.R.R.L. for his technical inspiration—a condition just as logical

Continued on another page

| SUN                                     | MON   | TUE                            | WED                                     | THR  | FRI                                     | SAT   |
|---|---|--------------------------------|---|--|---|---|
| 1<br>CLUB NET<br>3930 KHZ<br>1000       | 2<br>CLUB NET<br>224.12 MHZ<br>1930                           | 3                              | 4<br>WEST<br>COAST<br>QUALIFYING<br>RUN | 5  | 6                                       | 7<br>RAY &<br>ELLEN'S<br>45TH<br>WEDDING<br>ANNIVERSARY |
| 8<br>CLUB NET<br>3930 KHZ<br>1000       | 9<br>CLUB NET<br>224.12 MHZ<br>1930                           | 10<br>BOARD<br>MEETING<br>1930 | 11                                      | 12<br>WIAW<br>QUALIFYING<br>RUN<br>10-40<br>WPM<br>LINCOLN'S<br>BIRTHDAY | 13                                      | 14<br>VALENTINE<br>DAY                                  |
| 15<br>CLUB NET<br>3930 KHZ<br>1000      | 16<br>CLUB NET<br>224.12 MHZ<br>1930<br>WASHINGT.<br>BIRTHDAY | 17<br>RAY'S<br>BIRTHDAY        | 18                                      | 19   | 20<br>INTER'NTL<br>DX<br>CONTEST,<br>CW | 21<br>CLUB<br>MEETING<br>10:00                          |
| 22<br>CLUB NET<br>3930 KHZ<br>1000      | 23<br>CLUB NET<br>224.12 MHZ<br>1930                          | 24                             | 25                                      | 26   | 27                                      | 28  |
| GET READY TO VOTE<br>ELECTIONS IN MARCH |   |                                |   |  |   |   |
| FLEAMARKET IS COMING                    |   |                                |   |  |   |   |

| JANUARY |    |    |    |    |    |    | MARCH |    |    |    |    |    |    |
|---------|----|----|----|----|----|----|-------|----|----|----|----|----|----|
| S       | M  | T  | W  | T  | F  | S  | S     | M  | T  | W  | T  | F  | S  |
|         |    |    |    | 1  | 2  | 3  | 1     | 2  | 3  | 4  | 5  | 6  | 7  |
| 4       | 5  | 6  | 7  | 8  | 9  | 10 | 8     | 9  | 10 | 11 | 12 | 13 | 14 |
| 11      | 12 | 13 | 14 | 15 | 16 | 17 | 15    | 16 | 17 | 18 | 19 | 20 | 21 |
| 18      | 19 | 20 | 21 | 22 | 23 | 24 | 22    | 23 | 24 | 25 | 26 | 27 | 28 |
| 25      | 26 | 27 | 28 | 29 | 30 | 31 | 29    | 30 | 31 |    |    |    |    |



We need to go over \$150.00 for the banquet this year. We are very near that now and there is only this month and February, so lets do it!!!!

I'll be there again this next Club meeting so bring in all the newspapers you can.

Cardboard and brown paper sacks will sell also, bring the sacks and boxes.

NO GARBAGE ++ NO GARBAGE  
I'M NOT YOUR "GARBAGE MAN".!!!!  
TAKE YOUR GARBAGE TO THE DUMP

I'LL TAKE ALUMINUM CANS THO

|    |      |       |       |      |       |          |       |
|----|------|-------|-------|------|-------|----------|-------|
|    | M    | A     | M     | J    | J     | A        | S     |
| \$ | 9.90 | 9.50  | 10.00 | 7.62 | 10.00 | 10.20    | 36.23 |
|    | O    | N     | D     | J    | F     |          |       |
| \$ | 6.90 | 17.58 | 14.88 |      |       | TOTAL    |       |
|    |      |       |       |      |       | \$132.81 |       |

WE NEED MORE PAPERS \*\*\* WE NEED MORE PAPERS  
\*\*\*\*\*

Now comes that time of year that is easy on your Activity Manager's brain. Coming within the next few months are some of our most important and fun activities.

In the month of February, the Hamfest season gets kicked off down in Salem. While it's fun to go and browse, don't forget we also go to provide publicity for our own flea market.

Which brings us to March, the 14th of March to be exact. If you haven't signed up for a spot to help out at the M&K Flea Market, you are only depriving yourself. We do a lot of fun things with the proceeds from this event, and have a lot of fun in the process. Don't forget the Dinner after either.

April is Awards Banquet month. A lavish sit-down dinner, some awards, and a chance at that door prize that has always eluded you.

At the end of May comes the convention at SEA-SIDE. Reservation forms are available already, and hotel space goes quick.

Finally, just as summer begins, Field Day is here, June 27-28. Now, some of you have a habit of mixing your weekends all up in June. There are only four weekends in June this year, whether partial, whole, or homogenized. So reserve your spot at Ft. Flagler and we'll see you on the 4th weekend of June.

Enough for now, I'll elaborate later as each event comes up. Hope you'll plan to attend some, it'll be fun.

Mike, WA7UJJ



# Amateur ham leaves travellers beaming freely

At the airport and want to tell relatives 20 states away that your plane is delayed? Want to send seasons greetings to a long lost friend overseas?

Stop by the booth near the Alaska Airlines ticket counter at Seattle-Tacoma International Airport and you can send that message for free over the radio waves.

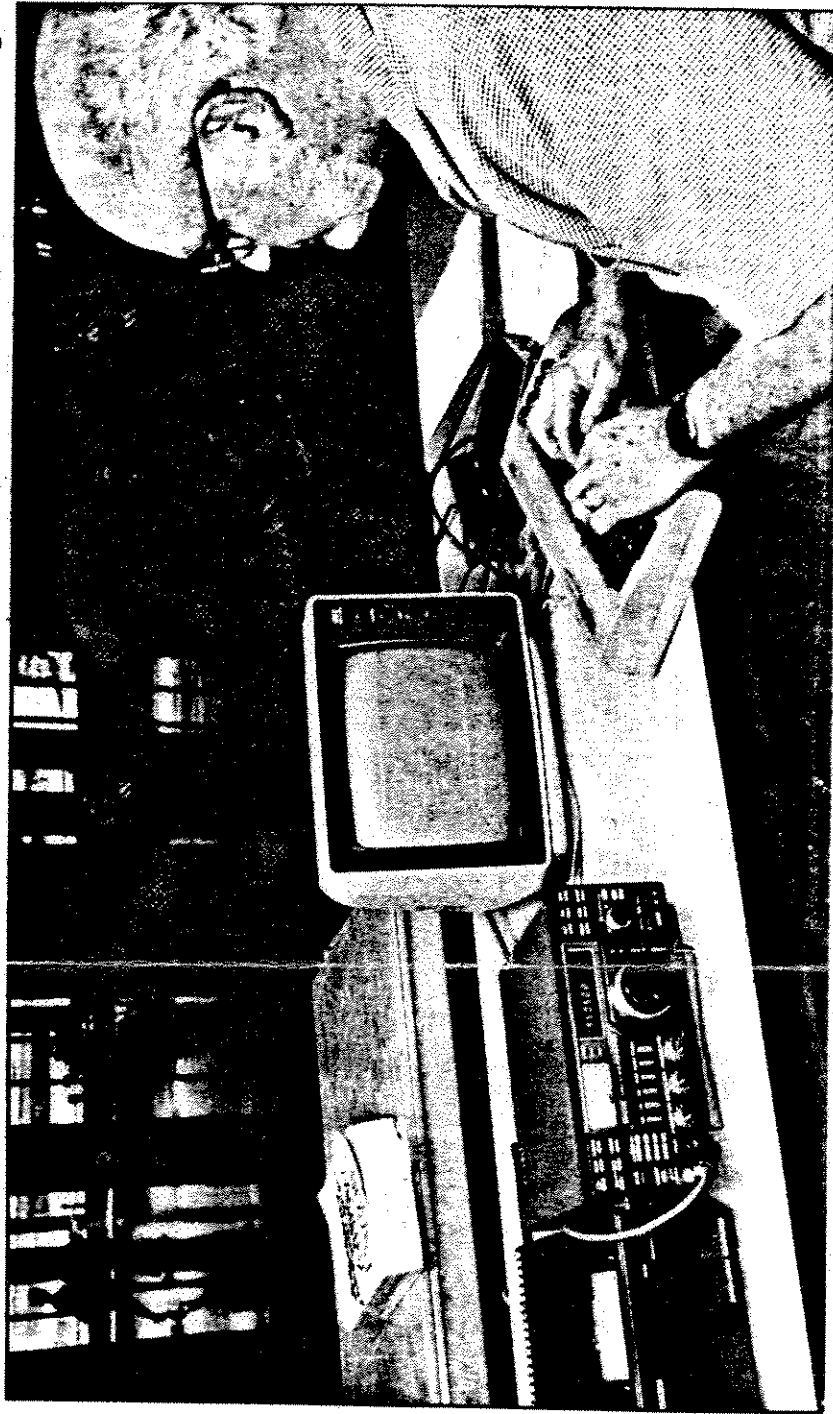
Amateur ham radio operators from the SeaTac Repeater Association and the Mike and Key Amateur Radio Club of Seattle are sponsoring the unusual holiday service as a courtesy to airline travelers through Dec. 30. Hours are 8 a.m. to 8 p.m.

Victor ZumBrunnen, club member from Des Moines, said the service started up last Friday and as of Wednesday morning about 200 messages were sent to points all over the globe.

It usually takes about 15-20 minutes for a message to go out from the Sea-Tac booth and reach the recipient, but it can take up to three days for a message to reach someone in a remote location, depending on the availability of a local ham operator and atmospheric conditions, ZumBrunnen said. Here's how the service works: People are asked to write out their message at the booth. The text is typed into a computer, which digitally encodes the information and beams it to a ham operator either in Puyallup or North Seattle.

There, the message is converted back to alpha-numeric text and radioed to a ham operator nearest the recipient's address. The operator then telephones the recipient with the message.

"We can send a whole message in a tenth of a second," said ZumBrunnen.



Victor ZumBrunnen of Des Moines sends a message via his ham radio computer link from Sea-Tac Airport  
Staff photo by DUANE HAMAMURA