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A Magazine OF, BY and FOR Commercial Radio Operators and Technicians

Vol. 1

MARCH-APRIL, 1932

No. 11

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COYNE ADVERTISING INVESTIGATED

In June of last year, that great institution of learning, the **Coyne Electrical School of Chicago**—"Learn Radio in Ten Weeks; No Books; No Lessons; All Practical Work"—was investigated by the Chicago Better Business Bureau and made to remove misleading and untruthful statements from its advertising. In the same month, on the occasion of its thirty-second birthday, Coyne had the audacity to publish a booklet containing photostatic copies of letters, commending its usefulness, from President Hoover, Secretary of Labor Doak, Governor Emmerson of Illinois, Senator Capper, Mayor Cermak of Chicago, and many other notables. Apparently knowing all the while that they were under suspicion of making statements of doubtful veracity in advertising, Coyne officials deliberately used the names of these great men to further their own interests. From the letters of President Hoover and the other men congratulating Coyne on its "long and useful life," it is apparent that they wrote in good faith, with no knowl-

edge of actual conditions, no doubt their statements were based on "facts" furnished them by the school. We believe that this action on the part of Coyne officials indicates a decided lack of ordinary business morals or ethics. Further, such men are not fit to educate, or try to educate in ten weeks, youthful or impressionable persons.

Upon being investigated by the Better Business Bureau, H. C. Lewis, President of Coyne, denied knowing anything about Coyne advertising. He claimed that he was **too busy to read it**. He passed the buck to his advertising manager, who then parted company with Mr. Lewis and took a job as advertising man with the Radio Division of the National Electrical School of Los Angeles. This man is now living up to his former reputation; he was recently characterized as one of the "worst offenders" by the secretary of a Better Business Bureau with whom we have been corresponding in regard to misleading radio school advertising.—M.R.R.

U. S. Radio Operators' Organizations To Merge

In order to permit closer co-operation between radio operators located in various sections of the country and to establish a strong and unified national professional association for all classes of licensed commercial operators, officials of the Commercial Radiomen's Protective Association and the American Radio Telegraphists' Association are taking steps to merge the two organizations.

Present plans call for the consolidation of the C.R.P.A., having 200 members, and the A.R.T.A., with a membership of 300, into an entirely new association, having a new constitution and name. Members of both associations will retain their present standing in the new organization. It is planned to form separate chapters for airways, broadcast and marine operators. As soon as officers are elected, an intensive membership drive will be started.

It is expected that James J. Delaney, old-time operator, founder and present secretary of the A.R.T.A., will represent the new Association in the East. Mr. Delaney's present office is in the Hotel Monterey, New York City. The Western Division will

be represented by M. R. Rathborne, present secretary of the C.R.P.A., with offices in the Pashgian Building, 261 East Colorado Street, Pasadena, California. Paul R. Shailer, 3525 Fruitvale Ave., Oakland, California, will represent the new association in the San Francisco Bay District. Dr. Lee de Forest will be asked to head the Association.

Operators interested in forming local chapters in Boston, Philadelphia, New Orleans, Seattle, and other large cities are requested to communicate with the secretary of the Division in which they reside.

L. D. McGEADY APPOINTED

CQ REPRESENTED IN N. Y. C.

L. D. McGeady, for many years Eastern Representative for Radio, has accepted the position as Publisher's Representative for CQ in New York City. Mr. McGeady, who maintains offices in the Chanin Building, has been identified with the radio publishing business for many years and is one of the best known and most aggressive advertising men in the metropolis.

A Good Radio Job!

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There are many good-paying, pleasant jobs in radio—even in these times. Commercial transmitting and receiving operators, broadcast engineers, radio operators and electricians in Airways Division (Dept. of Commerce), Commercial Airways—all these positions are very desirable from many standpoints.

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This knowledge is easy to obtain if you will study. Our course—prepared specifically for **experienced radio men**—will train you to qualify for more important radio work. (Our institute is endorsed by CQ Magazine). Send the coupon for full particulars—now—while you think of it.

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"I SAW YOUR AD. IN CQ." Tell this to our advertisers—it helps all of us.

NEPTUNE LAUGHS

By LEW TODD

A Tragedy in One Act

The curtain rises as the SS. "Kinkapoo" is passin' the Frisco lightship, outward bound and rollin' and pitchin' like a ginned up bosun's mate. We've got a nor'west headwind an' the seas are breakin' by the ton over the boat deck, givin' the wireless shack the fantastical appearance of a sea-goin' outhouse doin' a slow tango. I, Slim Phitts, the boy from Wildcat Corners, am sittin' inside the shack holdin' on for dear life. I'm surrounded by a array of awe-inspiring apparatus which, to the experienced eye, looks as if it belonged in the Smithsonian Institute. I'm experiencin' the greatest difficulty in maintainin' my equilibrium an' dignity. My head feels like it has been screwed on my body an' is now slowly unscrewin' itself. Or is it the radio shack that is describin' those disgustin' circles? As for my stomach. . . Well, that organ seems to have deserted my body entirely an' is doin' a hornpipe out in space, whilst I yearn for the peace an' quiet of a comfortable grave up on the moon, where the seas dried up ages ago. An' there I sits, or tries to sit, while the seas pound the ship, threatenin' to tear the rivets out of her; an' the deck drops away like it was goin' to leave me in mid-air, then heaves up under me like it was gonna boost me thru the deckhead.

Amidst all these purely physical perplexities, which sorely vex my sodden spirit, there is the subject of Radio—suddenly revealed as a metaphysical monster, which rears its sinister shadow out of the night an' seeks me out with a long mockin' finger. The Ham School of yesterday, with all its nice little assurances an' comfortable thises an' thats, seems like a pleasant dream that has cracked its delicate shins on the sharp edge of reality. Whilst endeavorin' to keep my innards where nature intended 'em to stay, I have been industriously explorin' the ether for some signals resemblin' the code I has so recently mastered. I never ceased to marvel up to the Ham School, how, by the simple means of a banjo string, a rock, an' a few sparks titilatin' the ozone, a feller could say "Howdy," thru the air to some other Marconi thousands of miles away. I'm still wonderin', for if the cat's whisker ain't receivin' me, I has tuned in on some other planet. This potpourri of missalaneous noises which I heard don't sound at all like Mac's tape. What I hears sounds like a convention of crazy weavers, all tearin' at once the various rags they manufacture,



The Skipper "Assists" Slim to Clear His First Message.

from silks to canvas, while a regiment of heavy artillery is bombardin' them. That bombardment must be static an' the rag tearing' is surely code. Durin' a lull, I am able to read a familiar "R" an' a isolated "K." Great Snakes! I feels like ol' Cristoforo Columbo when he discovered the New World.

The boys lay down a barrage again an' I shuts my eyes with a groan, feelin' like a sick coalheaver at a banquet of Lords, who has learned a piece an' has gone suddenly deaf, dumb an' blind an' hopes he won't be called on to recite.

The door is flung open, lettin' in a gust of wind an brine, as Stubbins, Third Mate, ducks into the shack, swathed in oilskins an' drippin' pools of water. His grinnin' face is red an' wet from the storm. He has the appearance of disgustin' health an'

"I SAW YOUR AD. IN CQ." Tell this to our advertisers—it helps all of us.

a nauseatin' air of bein' right at home in this rollin' torture chamber. With considerable bluster, he shakes himself an' greets me heartily.

"Hullo Sparks! How're the dits an' dahs? An ain't this a nice little blow?"

"Ain't it," says I, repressin' a shudder, whilst endeavorin' to muster a seagoin' look an' a weak yawn, which is calculated to impress Stub with contempt for this zephyr, he calls a blow. That characature of a yawn cost me my supper an' the last scrap of Philts dignity. I'm doubled up like the india-rubber man at a carnival givin' a faithful portrayal of a granny knot committin' Hari Kari. This little drama might be called, **The Feast of the Fishes**; only the disappointed denizens of the deep are gnashin' their teeth in the ragin' ocean, whilst the deck is fast accumulatin' the evidence of my terrible shame.

"Have a chew o' snooze," says Stub, takin' a fingerful of the nauseatin' stuff himself an' offerin' me the can.

"Wup! . . . an' Glup. . . GGGorkk!" I answers, goin' into another spasm an' givin' a admirable interpretation of the granny knot untyin' itself. This is more agonizin' than the first exhibition, which has exhausted my food supply. I'm willin', but the old biscuit locker flatly refuses, feelin' very much like a vacuum tube with the elements engaged in a wrestlin' match.

"Why you're seasick!" ejaculates Stub, surprised like, as tho he can't believe it possible. "Can I get anything for ya Sparks? . . . A nice pork sandwich perhaps . . . Or . . ."

"You might get me a bucket!" I gasps weakly, "or a island perhaps . . . or perhaps you can just go to hell, you big misbegotten, horsefaced baboon!"

This tickles Stub near to death. He explodes with laughter an' howls with glee, as he pounds me affectionately on the shoulder.

"Atta boy Sparks! . . . Attsa old spirit! . . . Never say die. . . You an' me are gonna be great pals. I couldn't get out of my bunk for a week, first trip. . . You'll be takin' 'em like a sailor in a few days . . . Gotta go on watch now . . . See ya later."

"Hope you swaller a wave!" I shouts above the roar of wind an' sea, as he balances himself in the open doorway, pullin' the sou'wester down over his ears.

"Not a chance. But I'd keep it down, if I did, you farmer!" he jeers, slammin' the door.

I'm feelin' better since nature is apparently satisfied with disgracin' me for the moment, so I starts probin' around in the ether with renewed hope. Eureka! I actually catches the text an' signature of a message, KFS is painfully an' sarcastically "Mailin'" to a steam schooner lid.

I sits gloatin' over it for a full half hour an' am plannin' to autograph the same an' send it home to the folks, when my meditations are rudely interrupted by another gust of spray, thru the violently flung open door an' Amos T. Quidley, the Master, stalks in, booted an' beslickered up to his bushy eyebrows.

Old Quid looks at the deck an' then at me. "Hmypf," he snorts a disgusted like an' in his witherin' glance, I can read all the saintly scorn of a Babtist minister, who has caught one of his deacons down on the creek, with a toad in one hand an' a straw in the other. Me . . . I feel like I could do actrobatics under a postage stamp. Besides, I'm gettin' sick again.

"Why haven't you brought the weather bulletin up to the bridge?" he clips out from between his tightly pursed lips, as tho he hates to waste the words on me.

"The w-weather bulletin?" I falters, lookin' helplessly around the shack for somethin' that might answer to the name.

"Yes, the weather bulletin! Has the sea addled your brains and affected your hearing as well?"

He stands there with his bony hands folded accrost his arms, like one of them devilish old spic inquisitors, waiting for some poor cringin' soul to condemn himself to the rack.

"Oh, the weather bulletins! Well . . . I . . . Ah . . . I mean . . ."

"Sir! If you please!" he fumes, the veins of his face swellin' out with a appolect burst of fury.

"Apparently you have come aboard this ship with a misunderstanding, as to your position and duties here. You are not taking a pleasure trip. Nor is this ship a floating asylum for inefficient land-lubbering nitwits. You have failed to get the weather report, eh? That means, that since we left the dock, you haven't existed as far as wireless is concerned. What's the matter? Can't you receive? Or were you perhaps, waiting for me to come down here and ask you if it would be too much bother to honor us with a display of your talents? Eh? Well, now understand me! Get on the job. You will do your work, if I have to teach you radio myself and by Thunderous Thor, you won't relish the teaching! And here's a message for you to start with. Get busy."

Oh, Lord! I'm suddenly stricken with muscular paralysis an' mental pandemonium, agitated by a acute attack of giddiness, an' crushed by that low feelin' of depravity, common to egg suckin' dogs.

"Well, send it!" yells Old Quid.

"Y-yes Sir," I stutters weakly, "but I ain't feelin' well Captain."

"Nobody gets sick aboard my ship!" he assures me scathingly.

That transmitter would make a great

museum piece. It's the same mechanical wonder, that sprang miraculously from the inspired brains of Messrs. Kilbourne an' Clarke. Them two wizards must have been experimentin' with a cement mixer an' gettin' their wires crossed, invented a spark mill. There's a motor generator under the table, big enough to operate a ice plant; an' the hand starter was surely designed for a stret car.

I'm so danged nervous, it takes me five minutes to find a sensitive spot on the crystal of my receiver. Then with a shakin' hand, I fumbles with the handle of the startin' box an' feelin' like a horsethief cuttin' the string on his own scaffold, I shoves it over.

The M/G comes to life like a angry rattler, gainin' speed an' vibratin' 'til I'm wonderin' if it's gonna shake itself an' the operatin' table to pieces. I throws the antenna switch an' with the mincin' daintiness of a old maid, I makes a timid "Dit," on the hand key. Then musterin' all the Phitts' courage I has left, I proceeds to call KFS, in the most approved style of the Ham School. Did you ever see one of them eccentric dances, where a loose-jointed Hebrew clothes peddler seemingly cork-screws himself into ninety-nine different positions at once? Well, that comes about as near describin' my antics as anything I know of. I'm a mad flurry of hands an' criss-crossin' arms, endeavorin' to shut off the M/G, twist the antenna switch clear off its shaft, grab a handful of pencils an' reams of paper an' tune the receiver, whilst castin' a inquirin' side glance at Old Quid. When the M/G finally decides to stop its fuss, I has a quiverin' pencil poised over a pad, with my head cocked sideways, like a dog at a gopher hole, waitin' for somethin' to happen.

Nothin' happens. The M/G vibrations has jarred the cat's whisker off'n its sensitive spot an' the phones are dead. I tries again, with the same disconcertin' result. Now I'm in a cold sweat an' no longer seasick. Finally, after callin' three or four times, I'm adjustin' the feline's whisker for another attempt, when I hears KFS, slowly spellin' out my call.

"Send it . . . Send it . . . Send it!" he squawks. "Send it you Ham . . . Send it! K K and K BRRR-TI-SCRAAWTCH!"

So I changes to 700 meters an' sends it double, surprisin' myself with my sendin' ability. I then goes into another Yid dance an' manages to tune in on the tail end of KFS' comeback, which rolls completely over my head. Maybe he didn't get it, thinks I an' sends the whole thing double again. Then ensos a comic opera game of hide an' seek, between a exasperated KFS, who is tearin' his hair an' gnawin' the panels off his receiver an' a much belabored an' perspirin' Slim, who is politely

sendin' question marks, complainin' of QRM an' utilizin' several other lid subterfuges, with indifferent success. . . . Our little Rhapsody in dischords an' blue notes is accompanied by a hilarious obligato, of HI HI's, heard from Panama to Alaska. My agony is providin' a rare hour of entertainment for the boys. KFS is surpassin' himself in choice epithets, pertainin' to all lids in general an' me in particular. The gist of that classical bawloout, when pieced together, goes like this:

"Shut up you crazy lid! . . . Get off the air and stay off! . . . I got your Hammy number one, the first time. . . . Have you got a ticket! . . . Or did you sneak on board with a cigar coupon? . . . Why did you ever leave the farm? . . . Your fist and technique convinces me that you could do wonders with a shovel in a livery stable. . . . If you ever call me again before you learn to operate, I'm going to hire a tug, come out there an' give myself the pleasure of ridding the air of a pest. . . . There should be a law against you seagoing rubes. . . . I think I'll quit my job and apply for a position as yell leader in a private school for congenital idiots. . . . Etc., Etc., and Etc. . . . Diddle De Dah De Dah!"

"A man after my own heart," says Amos T. Quidley nastily, after perusin' my scattered copy, as he stalks out of the shack in huge disgust.

The HI HI's are still rollin' up an' down the coast, as America's future seagoin' wonder slinks ignominiously off to bed.

(Curtain—With Sad Music)

CANADIAN COAST STATIONS

The service is almost a government monopoly, under the direction of the Department of Marine. Its primary aim is to assist shipping and the service rendered in this respect is of the highest order. The direction finding stations furnish bearings on request free of charge. They also handle commercial traffic at rates specified in the official list of stations. On the British Columbia coast there are nine well equipped stations for working ships at sea and there are no extra charges for retransmission on through traffic to places ashore. Thus a vessel may transmit its messages to any one of these nine stations at the same through rates, i.e., one coast station charge, plus the regular telegraphic charge.

Operators at these stations, members of the Electrical Communication Workers of Canada, are anxious to prove that a state owned and operated enterprise need not take second place to privately owned and operated enterprises. The co-operation of our brother operators in other countries will be greatly appreciated.—Communication Worker (Canada).

ANNOUNCING

a Personal Course of Instruction in

TELEVISION ENGINEERING

By ARTHUR H. HALLORAN, Television Consultant

for radio men who want to
be ready when

CATHODE RAY RECEIVERS

are commercialized. 1932's big promise

THE course consists of 30 lessons which explain mechanical and electrical scanning, synchronization, generation, transmission and reception of television signals. Each lesson is accompanied by problems to be answered by the student and corrected and graded by the instructor before the next lesson is mailed.

A working knowledge of the fundamental principles of radio and trigonometry is prerequisite to the course. Only a limited number of enrollments can be accepted, preference being given to those who give evidence of a serious interest in the subject. This course is

conducted in co-operation with engineers who have developed the cathode ray tube for television purposes. Its purpose is to prepare men for employment in this new industry wherein yesterday's science is today being engineered for tomorrow's sales.

The cost is moderate. A down payment of \$5.00 brings you the first lesson and four more thereafter as the problems are answered. Similar \$5.00 payments bring each succeeding set of 5 lessons, a total of \$30.00 for 30 lessons. Mail the attached enrollment blank with your initial \$5.00 payment. It marks a turning point in your career.

ENROLLMENT BLANK

ARTHUR H. HALLORAN,
430 Pacific Bldg., San Francisco, Calif.

Enclosed is \$5.00 for which enroll me as a student in your course on Television Engineering. I understand simple radio principles and trigonometry and expect to complete the course.

NAME.....STREET AND NO.....

CITY..... STATE

A Radio Operator's Responsibility

By PAUL R. FENNER

Assistant Radio Inspector, Sixth District

One of the most important responsibilities of a sea-going radio operator is that which calls upon him to see that the radio equipment on board a ship passes government inspection. Strangely, very few operators seem to understand just exactly what is required of them in the matter of clearing the ship in compliance with the United States Radio Laws. This article is therefore intended as a brief guide to ship operators, particularly those on vessels of the first and second classes.

There are three acts which at present apply to operators and radio equipment on shipboard. They are "An Act To require apparatus and operators for radio communication on certain ocean steamers" approved June 24, 1910, "An Act To Amend" the aforementioned act, approved July 23, 1912, and the Radio Act of 1927. Every operator should have a copy of these three acts for reference and study. Ten cents mailed to the Superintendent of Documents, Government Printing Office, Washington, D. C., will bring the booklet entitled, "Radio Laws of the United States," and which contains these three acts in full.

The Radio Act of 1927 requires every radio station to have a valid license, "any vessel of the United States" specifically mentioned. Therefore if an operator sees that the ship station license is about to expire (or that it has expired) as his vessel is about to leave port, he should take steps to assure renewal by immediately advising the company controlling the station. It would be preferable to do this sixty days previous to the expiration date in order that applications may be filed in accordance with Federal Radio Commission Regulations.

If the ship station license is expired, the radio transmitter must not be used unless a copy of a telegram or letter of authorization is posted in the radio room. The requirement of a license being a provision of the Radio Act of 1927 makes a violator of it subject to a maximum penalty of \$5,000 and five years' imprisonment.

Paragraph 221, Federal Radio Commission Rules (effective February 1, 1932), requires posting of radio operators' licenses in a conspicuous place in the radio station. Violators of this rule face a possible fine of \$500 and in addition, possible suspension of license for a period not to exceed two years.

The Act of June 24, 1910, with its amending Act of July 23, 1912, requires

ships carrying or licensed to carry fifty or more persons, including passengers or crew or both, to have efficient apparatus, in good working order capable of sending and receiving radio communications over a distance of 100 miles, day or night. Also, an auxiliary power supply, independent of the ship's main electric power plant, must be provided which will enable the sending set for at least four hours to send messages over a distance of at least 100 miles, day or night, and efficient communication between the operator in the radio room and the bridge shall be maintained at all times.

The chief operator on every vessel coming within the above classification should test his receiver, main transmitter and emergency transmitter daily. Tests should be made on the distress frequency, 500 kilocycles (600 meters). Tube transmitters should be tested on I.C.W., as C.W. would be of little use during an emergency when quick response is imperative.

In most cases, the emergency power supply is in the form of a storage battery of either lead-acid or Edison-alkaline cell type. Two voltage tests should be made on this battery, first, an open circuit or no load test and, second, a load test, with the transmitter operating on at least half power. On open circuit, 90 cells of Edison type or 60 cells of lead type usually read from 120 to 124 volts. Of course, if the battery has just been taken off charge the voltage will read much higher. With load, the Edisons will drop from five to ten volts, while the lead battery will only drop from two to six volts. In certain cases where the battery is placed a long distance from the radio set, there will be greater voltage drop, but this drop will not show on a no-load reading. Operators must arrange to have emergency batteries fully charged immediately previous to sailing time. If this is not taken care of inspectors may find it necessary to hold departure of the vessel.

If the emergency source of power is from a gasoline engine generator unit, this apparatus should always be kept in such shape as will permit it to be started readily when cold. The regulations prescribe that the emergency power and transmitter must be ready for use within two minutes after unexpected notice to the operator.

The gasoline supply for the gas engine should be sufficient for four hours' running under load conditions. Oil level in

(Continued on page 10)

the crankcase as well as water in the cooling system should be checked and maintained. The starting storage battery must be fully charged and in good condition.

On many ships the emergency power supply is in charge of the Chief Engineer or his assistant, the Chief Electrician. Radio Operators, however, must act in behalf of the captain in radio matters and therefore it is up to them to advise him if they detect any discrepancies in the emergency supply as also in other parts of the radio system aboard ship.

The radio receiver on every ship should be kept up to maximum efficiency. There is no excuse for operators continuing to operate receivers with loose connections, shorting condensers or, in fact, anything in the nature of a trouble which makes reception of signals difficult. Operators must get after such deficiencies as soon as they occur and correct them. Remember that the law reads "efficient" apparatus.

Communication between the radio room and the bridge is of utmost importance in an emergency, besides being a great convenience during ordinary times. The two general types of communication are electric telephone and speaking tube. Where the radio room adjoins the bridge or chart room, direct communication by means of a door or window is permissible.

The electric telephone is often subject to trouble due to faulty wiring or local defects in the telephone instrument itself. Service on this type of communication is usually taken care of by marine electricians. Radio operators cannot expect others aboard the ship to take care of testing the bridge to radio room phone. It is a responsibility of their own. If this system is not functioning properly, the chief officer of the vessel should be notified at once, and he should also be reminded at the same time that failure of this apparatus is likely to delay departure of the ship.

The speaking tube or voice pipe is the most trouble-free type and lowest in maintenance cost. However, water occasionally collects or leaks in and makes communication difficult.

In either the electric telephone or voice pipe system, in order to be considered as efficient, speech must be clear and understandable in both directions, and either station must be capable of attracting attention at the opposite station by means of a bell or whistle. If, for example, the bell in the radio room cannot be operated from the bridge, although the bridge bell operates and speech is clearly transmitted, the system will not pass inspection.

Radio stations are at any and all times subject to inspection by government representatives. Regulations have therefore been made requiring that when vessels are

in port, the key to the radio room must at all times be on board in charge of the proper officer. Certain radio operators do not seem to have cognizance of this rule.

In conclusion, it is urged that operators take seriously the responsibility herein stated to the end that ship inspections will be nearer 100 per cent in passing satisfactorily, thus increasing the value of their profession to the shipping industry and bettering their own interests.

"BREMEN" HANDLES 50,000 WORDS IN ONE TRIP

(The following information relative to the radio equipment aboard the steamship "Bremen" is taken from recent issues of "Die Funkwelle," organ of the German radio operators' association. Translated by the kindness of Mr. Earl Hope, member of the Electrical Communication Workers of Canada.—Ed.)

Transmitting equipment consists of one 3 kw. set for long waves; one $\frac{1}{4}$ kw. set for low waves; two $\frac{3}{4}$ kw. short wave transmitters and one auxiliary ICW transmitter. The receiving installation comprises nine receivers.

All the transmitters are fitted with special sending machines, capable of speeds up to 150 words per minute. Almost constant communication is maintained with Norddeich on the German coast and Chatham on the North American coast. It is possible to transmit both on long and short wave at the same time, making simultaneous communication with Germany and America a practical accomplishment. Weather reports and press can be received without interruption from the transmitters.

The staff comprises nine operators; three to a watch. Before arriving at New York, the work is increased so much that four or five operators must be on duty at the same time, so as to clear traffic.

On a representative voyage the vessel handled 1725 messages, containing 50,000 words, exclusive of press and weather reports. Two hundred and seventy messages were transmitted to New York during the last five hours of the trip.

Another news item culled from a recent issue of "Die Funkwelle," by Mr. Hope, concerns the Arctic flight undertaken last summer by the airship "Graf Zeppelin." It says:

"The main task of this air expedition was to study the weather conditions in the Arctic and also to learn whether it was possible to post observers in the Arctic regions and remove them by means of airships. It is hoped in this way to establish weather stations in the north polar regions, as in weather forecasting it is particularly necessary to know of atmospheric disturbances in the neighbourhood of the poles. The "Graf Zeppelin" flew over large areas of hitherto unexplored territory and existing maps have been considerably enriched in consequence."

Pioneer Radio Operators

By Dr. Lee de Forest

Journal James tarried in New York just long enough to sell his idea to the London and the New York Times, and leaving strict orders that this equipment must be en route for Yokohama within two weeks, took a fast train for Seattle.

Then was another wireless impossibility accomplished. There was no proper equipment available except those two sets in Hollyhead and Howth. We cabled our British representative, who fortunately was very much of an American, to instantly locate Cornish, our "limey" operator, get him to pack up and express to Liverpool both wireless sets, then rusting in their shacks on those far separated bleak cliffs.

I believe no Englishman ever before hustled as Cornish hustled. He had thoroughly learned how from Horton, and a trip to America and Asia was to be his reward if he could catch that boat. He properly packed and brought two tons of machinery on board as personal luggage. That just saved our bacon. The entire equipment was unloaded, overhauled, repaired, repacked, and jammed into a chartered express car direct for Seattle within thirty-six hours after the ship docked. But the excitement and triumph was too much for Cornish, "Butinsky," as Mac Horton had nicknamed him. Prohibition might have saved him for the Japanese Expedition, but this was fifteen years before Volstead!

Hence a frantic call for volunteers. Pop Athearn was already slated to go west with Cornish. Harry Brown, of the recent Yacht Race reporting, answered the call. So these two fine American wireless operators accompanied the express care to Seattle, just caught the "Empress of China," saved the day for ourselves and Lionel James, and again made wireless history, which caused the entire world to wake up and take heed regarding the utility of this startling new American enterprise.

Never before had wireless been used for press reporting. Here was an ideal opportunity—war maneuvers around the China Sea, where existed no means of communication whatsoever, save by boat and courier; a situation which James' active mind had instantly visualized when we pointed out its possibilities. He had chartered a swift tug for his press scout work, the Haimun by name, destined to make history in war news. He and his boat were ready when my two men arrived in Shanghai. The equipment was transferred to the Hai-

mun's deck, and she speeded off for Wei-Hai Wei. Working like demons, Pop Athearn and Harry Brown installed our set indoors on the Haimun, the motor and generator purchased in New York were belt-driven, for there had been no time to assemble a single motor-generator machine. But the sturdy English Fairbanks-Morse engine from far-off Hollyhead was there ready for shore duty.

On a bleak hillside 300 feet above Wei-Hai Wei, not far from the cable terminus, Brown and Fraser, James' aide, were landed with their full equipment, a mass of big bamboo, cordage, and about a hundred coolies, none speaking better than pidgin-English. It was "root-hog-or-die," for Capt. James couldn't delay a day in getting on his cruising press job, wireless or no wireless. Athearn stayed on board to be ready to flash in the first news, wherever that boat tug might be, whenever the shore antenna was up. So again an American wireless operator, Harry Brown, performed the impossible; taught those Chinks to build, raise, and guy a 160-foot mast of spliced bamboo, erect shacks for engine station and sleeping quarters, plant copper plates away down to the sea, and actually went into commission and raised the Haimun in less than three weeks after he was abandoned on that desert point.

And then Lionel James promptly began to electrify the press of the world. His American wireless enabled the London Times, and its New York and Philadelphia correspondent papers, to scoop the other newspapers not by hours, but frequently by days.

His luck had him close by Admiral Togo's fleet when the Russia "Petropavlovsk" was sunk. After the Russian fleet had returned to Port Arthur, Togo steamed up, hoisted his battle flags, and gave his historic warning to the garrison there. When the "Korietyz" fired the first shot, James handed to Athearn the famous message that the first shot had been fired. Brown, ever alert, waiting day and night alone, caught the word and shot it into the London Times office hours before the shot was fired (on account of the time differential). Not long before the Japanese bottled up Port Arthur's harbor, this little dispatch boat, Haimun, was overtaken by the Russian cruiser, Bayan, far out at sea. Capt. James, knowing the temper of the Russians towards the Lon-

(Continued on page 19)

Series and Parallel Circuits

By E. H. RIETZKE

President, Capitol Radio Engineering Institute; Member, Institute of Radio Engineers

Part 2

THE PARALLEL CIRCUIT

The writer once heard a research engineer, now the chief engineer of a large radio manufacturing company, remark during a lecture, "If you don't know parallel circuits you don't know radio." When it is considered how many places the parallel circuit, consisting of inductance in one branch and capacity in the other, is used in practically any radio frequency circuit, the truth of this statement will be appreciated. True, the parallel characteristics of a circuit may not be at once apparent. The capacity may be distributed between the turns of a coil. Physically, the simple coil may be nothing but a few turns of wire on a form; electrically at high radio frequencies, these few turns of wire may form a fairly complex parallel circuit with high circulating currents, standing waves, and other circuit phenomena.

In order to design a parallel circuit for a given purpose, it is necessary to thoroughly understand the relations between the various voltages and currents, the effects of certain relations between L, C, and R, and the effects of frequency variations on these various relations. In order to show the fundamental difference between the series circuit and the parallel circuit, we shall first consider the simple parallel circuit consisting of resistances only.

There are two general methods of handling resistances in parallel. When it is remembered that Ohm's Law applies to alternating currents when the circuit contains ONLY RESISTANCE, it will be evident that when handling purely resistance circuits, either series or parallel, the same rules apply to both D.C. and A.C.

The first method of handling the parallel resistance circuit to find the total resistance is by means of adding the conductances, G, and finding the reciprocal of the total conductance. This works out as follows: $G = G_1 + G_2$; $R = 1/G$; therefore, $R = \frac{1}{G_1 + G_2}$. But $G_1 = 1/R_1$ and $G_2 = 1/R_2$,

$$\text{therefore } R = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2}} \quad \text{This method may}$$

also be applied to alternating current work in the solution of purely resistance parallel circuits.

The other general method that applies to resistance circuits is what we may call the

current method. If we take two resistances in parallel and measure the current through each, or calculate it from the applied voltage, divided by the individual value of resistance, the total current will equal the sum of these currents. $I_1 = E/R_1$; $I_2 = E/R_2$; $I = I_1 + I_2$. Then the total resistance equals the applied voltage, divided by the total current, or $R = E/I$.

Either of these two methods of solving for the total resistance of a parallel circuit may be conveniently used in either A.C. or D.C. work when we have only resistance to consider.

When, however, the branches of the parallel circuit also contain inductance and capacity other factors enter into the calculation.

If the first or conductance method is used, we must work with the reciprocals of the reactances, resistances and impedances. The reciprocal of resistance is the conductance; of reactance, the susceptance; of impedance, the admittance. This means that we will have to study and handle three new terms besides our commonly used X, R, Z, E, and I. This will of course make the solution of these problems more difficult than if the new values could be eliminated.

The second method given above eliminates the necessity of working with these new terms. Instead of using the reciprocals of R, X and Z, we find the current flowing in the different branches of the parallel circuit and add these currents VECTORALLY. The VECTOR sum of these currents divided into the applied voltage equals the total impedance of the parallel circuit.

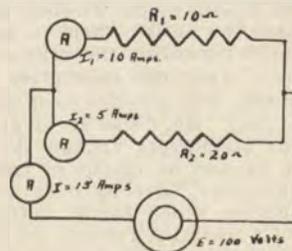


Diagram 1

It will be remembered that in the resistance circuit, the total resistance of the parallel circuit is always less than the re-

sistance of the lowest resistance branch. In impedance circuits in parallel, that is, circuits containing L and C as well as R, this is not necessarily the case. In fact in this type of circuit, it is possible to obtain a total impedance MANY TIMES GREATER THAN THAT OF THE HIGHEST INDIVIDUAL BRANCH. Take the conditions as shown in Diagram 1. Since both the branches are resistances, the currents through both are in phase with the same applied voltage, thereby adding algebraically as $I = I_1 + I_2 = 15$ amperes. The total impedance of this circuit is equal to the resistance which is equal to the applied voltage divided by the total current. $R = E/I = 100/15 = 6.66$ ohms.

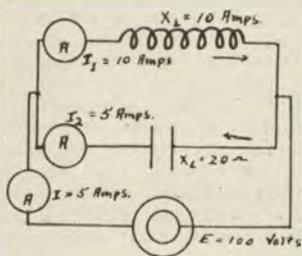


Diagram 2

We will now consider an entirely different condition, as illustrated in Diagram 2. We now have a parallel circuit, one branch of which contains only inductive reactance through which the current lags the applied voltage by 90° and the other branch of which consists of a capacity reactance through which the current leads the same applied voltage by 90° . Since $X_L = 10$ ohms the current through this branch is 10 amperes, lagging E by 90° . This condition is shown on a vector, Diagram 3. Since these

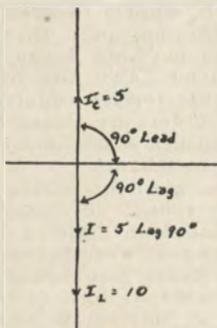


Diagram 3

phase with the same voltage, in opposite directions, they must be 180° out of phase with each other, or exactly opposite, (Assuming a condition of absolutely no

resistance in the circuit.) Since the current from the generator is trying to flow in one direction through one branch and in the opposite direction through the other generator in the external circuit must be the difference between the two individual currents, i.e., $I = I_L - I_C = 10 - 5 = 5$ amperes. This current lags the applied voltage by 90 degrees, the entire circuit therefore acting as an inductance. Since the impedance of a parallel circuit, or any other circuit, is equal to the applied voltage divided by the total current through the circuit, then $Z = E/I = 100/5 = 20$ ohms. In this case, the total impedance exactly equals the reactance of the highest reactive branch and is NOT less than the smaller.

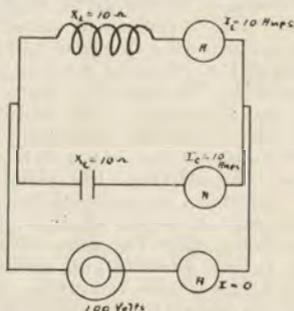


Diagram 4

We will now consider the condition existing in a parallel circuit consisting of a perfect capacity in one branch and a perfect inductance in the other, assuming temporarily an impossible condition of no resistance losses, worked at the frequency at which $X_L = X_C$. Assume that L and C are of such a value that at this frequency both X_L and X_C equal 10 ohms. We now get a condition as shown in Diagram 4. The applied voltage equals 100 volts. Remembering that the current through any one branch of a parallel circuit depends only upon the applied voltage and the impedance of that particular branch it will be seen that in the inductive branch $I = EX/L$, or $100/10 = 10$ amperes. In the capacity branch, the current equals E/X_C , $100/10 = 10$ amperes. Since the inductive branch contains, (theoretically), no resistance, the current through this branch lags the applied voltage by 90° . For the same reason, the current through the capacity branch leads this same applied voltage by 90° . This condition is shown in Diagram 5. Since both currents are exactly equal and exactly opposite, their vector sum is exactly equal to zero. If this condition of no resistance could be obtained, we could build this circuit up so that this condition of ten amperes in each branch of the circuit and zero current in the external circuit could

(Continued on page 16)

Great Interest Shown in Amateur Radio

By EMMETT HUGHES

Manager, Radio Manufacturers' Supply Co.

Intensified interest by American amateurs in radio transmitting is disclosed in the annual report of W. D. Terrell, Director of the Commerce Department's radio division. During the last fiscal year, the report shows, the number of licensed amateur radio stations rose to 22,739, an increase of nearly 4,000 as compared with the preceding year. It is apparent from this figure, it is pointed out, that amateurs are by far the largest users of transmitting radio stations in the United States. Accompanying the increase in amateur stations was a noticeable increase in the number of inquiries received in the division from amateurs. The growing use of radio-telephone by amateurs, it is believed, accounts for this unusual interest.

Notwithstanding the expansion in amateur radio transmitting, the report states that few violations of assigned frequencies were detected. It seems evident, Director Terrell declares, that the amateurs realize that their future success and public goodwill depend upon the operation of their stations in an orderly manner, having due regard for other users, including the broadcast listeners.

While no major emergency occurred in the United States to enable the amateurs to participate in the storm relief work for which they have been noted in recent years, greater co-operation was afforded to more than a dozen expeditions sailing from this country, and increased activity is reported in connection with the Naval Radio Reserve and the Army Amateur Radio System.

The Winter, 1931, issue of the **Radio Amateur Call Book** lists over 22,000 calls for the United States and in excess of 16,000 for foreign countries. The December, 1928, edition of the **Call Book** contained only 2,700 calls for the entire world.

The increase in amateur activity is due, to a large extent, to publicity given amateur radio by prominent radio stores and manufacturers. These concerns have helped hundreds of radio enthusiasts to become amateurs, and, in addition, have assisted in financing activities of organized amateurs by advertising in **QST** and other amateur magazines.

Officials of amateur organizations state that Southern California has a larger number of amateur stations than any other section of similar size in the country. In the Los Angeles Section, extending from Santa Barbara to San Diego, there are more than 600 A.R.R.L. members and a large number of other hams not members of the League. Practically all the increase

in interest in amateur radio in Southern California is directly due to the efforts of a concern that has, in the past three years, become to be known as the "Amateur Radio Headquarters of the West."

In 1928, officials of the Radio Manufacturers' Supply Company of Los Angeles decided to aid the small number of hams in Los Angeles and vicinity. The first step was to stock all the important amateur radio magazines and books in order that hams might obtain the latest "dope" without having to send out of the city. Next, a stock of power transformers, transmitting tubes, high voltage condensers, inductances and other special items was built up. Special window displays of amateur equipment, employment of amateurs as salesmen and a general advertising campaign soon began to bring results. This was the start of an increased interest in ham radio in Southern California and the beginning of a radio business that now extends all over the world.

The Radio Manufacturers' Supply Company has further co-operated with amateurs by supplying, without cost, large and attractive station log books to hams requesting them on QSL cards. This concern also publishes a complete and up-to-date catalogue listing the many thousands of parts used by amateurs and experimenters. This service has enabled amateurs and commercial operators living in small towns or villages to obtain the equipment they desire by mail. Only the highest grade of standard apparatus is handled. Fair dealing, prompt service and intelligent filling of customers' orders has enabled the Radio Manufacturers' Supply to build up a business extending not only throughout the United States but into Japan, China, the Phillipine Islands, Australia, New Zealand, and many other foreign countries. In addition, many orders are obtained from New York City, former stronghold of the Cortlandt Street merchants.

Perhaps the most interesting part of the story of the growth of "Amateur Headquarters" is that, in building up its business, no customers were taken from other stores. The Radio Manufacturers' Supply Company created its own customers. By encouraging an interest in amateur radio and assisting amateurs in many ways; such as advertising in their publication, donating prizes for distribution at ham banquets and meetings and helping amateurs with their technical problems, this firm has taken its place as one of the country's leading radio supply houses.

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SERIES AND PARALLEL CIRCUITS

(Continued from page 13)

exist. In this case, the impedance of this parallel circuit worked at the frequency where $X_L = X_C$, (resonant frequency), would equal the applied voltage divided by zero, or infinity.

In our study of inductance and capacity, we find that it is impossible to construct a circuit having zero resistance. This means that the 90° Lead and 90° Lag are never quite realized. In either branch of the circuit, the resistance causes the lead or lag to be at some angle less than 90° , the Tangent of which is equal to X/R . If R is made as small as possible, the ratio of X to R may be very large and the angle may be made correspondingly large. With a very low loss circuit, the conditions existing are somewhat as shown in (a), Diagram 5. This assumes the losses in the L

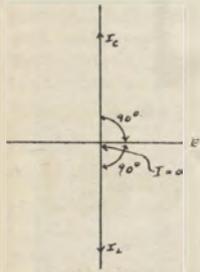


Diagram 5

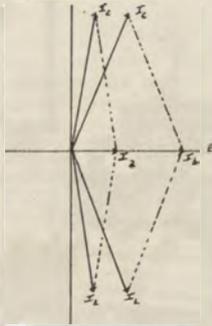


Diagram 6

and C branches are equal. It will be seen that now, while the current in the external circuit is small compared to the current in each branch, it is NOT zero and the impedance therefore is not infinite. The introduction of a certain amount of resistance into the parallel circuit worked at resonance, therefore DECREASES the impedance of the parallel circuit.

If still more losses are introduced into each branch of this parallel circuit, we get a condition as shown in (b), Diagram 6. The current angles of lead and lag are still less, the total current, I , being larger. If the current is larger, the impedance, E/I , becomes smaller. At the resonant frequency, it will be seen that the resulting current is IN PHASE WITH THE VOLTAGE, the circuit therefore acting as a high resistance and the lower the losses in the circuit, the HIGHER THE VALUE OF THIS EFFECTIVE RESISTANCE BECOMES. It will be noted that this effect is just the opposite to that of the series circuit worked at resonance.

Australian Radiomen Effectively Organized

By O. A. BEAL

General Secretary, Radio Telegraphists' Institute of Australia

In some countries, the wage earners are so hounded by nursery stories pumped into them by capitalistic politicians, press and pulpit that they possess no voice in the national legislature. In such a country, mere industrial unionism no matter how enthusiastically supported by its units, can prove but a poor substitute for the voice which should have been properly expressed at the ballot box. An organization, particularly a sectional organization in an industry, requires to be extraordinarily strong to succeed in enforcing its rights by means of direct action—the strike. In most cases all it succeeds in doing is to demoralize its units, dissipate its strength and cause its leaders to become the victims of the power the electors have given the exploiting capitalists. In Australia, however, as a result of an awakening among the workers to the wiles, stool pigeons, and red herrings used by the worshippers of mammon, the representatives of the people returned to parliament have contained men pledged to the rights of the people. This has enabled some useful industrial laws to reach the statute book. Among these is the industrial arbitration legislation. This law provides for the compulsory adjustment of wages and conditions of employment. The law is materially the same as that passed in the State of Kansas in 1919. The presiding Judge of the Court of Industrial Arbitration laid down that the term "living wage" was a wage sufficient only to meet the cost of living and he refused to use it. He further stated: that "Employees, in all fairness, are entitled to a wage which will enable them to procure for themselves and their families all the necessities and a reasonable share of the comforts of life. They are entitled to a wage which will enable them by industry and economy not only to supply themselves with opportunities for intellectual advancement and reasonable recreation but also to enable the parents working together to furnish to the children ample opportunities for intellectual and moral advancement, for education, and for an equal opportunity in the race of life. A fair wage will allow a frugal man to provide reasonably for sickness and old age."

This foundation of rights seems equal to the best declaration that has been made in Australia. Mr. Gompers, late President of the Federation of Labor, was decidedly skeptical. He distrusted the judiciary, probably not without reason, considering that in any capitalistically ruled country

the Bench is certain to be packed as a first precaution to insuring decisions favorable to such interests.

As this article is intended to portray the history of the Wireless Operator and Radio Telegraphist in Australia, the foregoing is merely intended to convey the vast difference between the opportunities for successful collective effort in the two countries. It is not suggested, however, that we in Australia have attained to a real solution of the means by which industrial justice may be secured for the wage earner but **the right to organize** has been secured, the right to be heard has been obtained and the right to enforce such conditions as are obtainable from the Industrial Court is in our possession.

When (1916) it was decided to organize the wireless workers in Australia, all other workers were already organized and working under agreements. There was, therefore, no opposition from employers, and prominent movers in the effort were not "sacked." Within six months, the institute was a going concern and the first agreement, that of the Marine Operators, was under seal. The employers readily met us in conference and the members of the Institute accepted the terms offered by the employers. The Coastal Radio Stations were under the control of the government and it was not until 1919 that a dispute arose between the Institute and the government. This dispute was determined by Mr. Atlee Hunt, President of the Public Service Arbitration Court. He decided that the Radio Telegraphist was entitled to a higher status than the ordinary land line Telegraphist, and to higher rates of pay. By this award, the contentions of the Institute were upheld. In the year 1922, owing mainly to a strike of British seamen, which was ill-advisedly taken up by the officials of the Australian Seamen's Union, and which occurred on the eve of an election, the vote went against the people and a capitalistic government came into power. One of its first acts was to tamper with the Arbitration Court—new Judges were appointed. The atmosphere of the Court changed, there was a marked tendency to get back for the employers terms that had been won and held by the wage earners for many years. This government, however, not content with the speed with which the new Judges were despoiling the workers, made a deliberate attempt to repeal the Arbitration Act. It lost its majority and was beaten on the floor of the House by one vote. The elections followed, and returned a Labor government to the House of Representatives, but the Senate was still held by the capitalists.

Legislation aimed at restoring a Court

where reasonable rights could be secured was held up by the Senate. Both Federal Houses of Parliament are now before the electors, and should a Labor government be returned the necessary reforms are within sight. In the alternative should the capitalists get back, it is their intention to repeal the industrial laws or make them useless as a means of protecting the rights of the workers.

Your brother workers in Australia have their difficulties and such difficulties spring from the same source as those which beset you. We therefore send you fraternal greetings; we hope you will be successful. We will pledge ourselves to co-operate with you in the desire to secure for the man who toils some reasonable share of those good things in life now appropriated by the worshippers of mammon.

Following is a schedule of wages paid to Australian radio operators at the present

(Continued on page 23)

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listing from 2000 to 60,000 KC, thousands of commercial land and ship stations that are to be heard near the various amateur bands. Each AMATEUR band is indicated in large type, for quickly locating stations heard at your station. No other list published can even compare with this section for accuracy and completeness.

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BREAKS

by
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Now that CQ is back on the air, we wish to thank the many operators and advertisers who responded so splendidly to our SOS. As stated in the first issue, CQ has a definite purpose — "To obtain improved conditions for all licensed commercial radio operators and to raise the standards of the radio operating profession." If it were not for the fact that our magazine is published for the benefit of commercial radiomen (on a non-profit basis) we would not try so hard to keep it going. We are striving to help commercial operators through publicity, legislation and organization and are determined to "carry on" as long as humanly possible. To stay on the air, CQ must grow; old subscribers must renew their subscriptions and help us to obtain new readers. Fellows, let's work together, as the amateurs have done, and build up a publication that can truly be called "The Commercial Radio Operators' Magazine." You may rest assured that if you help CQ, CQ will help you. The larger and stronger our magazine and Association become, the more power we will have to use in your behalf. Renew your subscription NOW, before you forget. Obtain at least one new subscriber. Don't put it off. Do it NOW. Use the form below.

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Operators who believe certain radio schools are making false or misleading statements in advertising should call this matter to the attention of H. L. Anderson, Chief Examiner for the Federal Trade Commission, Washington, D. C. When writing to Mr. Anderson, enclose a copy of the advertisement in question, together with reasons why statements made therein are untrue or misleading. In addition, it will be helpful to write to secretaries of Better Business Bureaus in cities where offending schools are located and to the editors of magazines publishing lurid radio school advertising. For schools located in Washington, D. C., address correspondence to Louis Rothschild, Secretary, Better Business Bureau, 337 Evening Star Building. Chicago schools deviating from the path of rectitude should be called to the attention of F. H. Lanser, Better Business Bureau, 111 West Washington St., Chicago.

Unemployed Operators—Join the C.R. P.A. NOW and Help Prevent Future Unemployment. Only \$1. Required To Obtain a Membership Card. Write for Details.

PIONEER RADIO OPERATORS

(Continued from page 11)

don Times, appreciated full well what might result to him and his party—but he had with him a weapon more powerful than guns or armament. Invisible, following wherever his boat sailed, was an ethereal call, an intangible news-channel, linking them with the very heart of London, on the other side of the world and keeping him in touch with the might of Great Britain's power. So, as the Bayan drew nigh, he aerographed to Wei-Hai-Wei, "I am about to be boarded by the Bayan. If you don't hear from me within three hours, notify the Times and British Consul." It was a moment of dramatic interest and suspense. Perhaps the peace of Europe hung on the outcome of the Bayan's visit. Which would it be? Would the world and England know his fate? Prompt and faithful as on a wire came back the reply from Athearn at Wei-Hai-Wei, eighty-five miles across the sea. "O.K." Will notify as requested." The Bayan's officers approached and boarded the boat. They read the message and its reply. They knew they were at that instant watched by the eye of London, and they departed leaving the plucky correspondent and his amazing wireless boat unharmed.

(Continued Next Month)

WANTED

Personal items, assignment reports, QRA's and addresses of employers who hire commercial radio operators or technicians.

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"Svartefan don't bye te yoomped oop yiminee ve stahn bye dot Seekyoo. Don't let dot depreshun go to hell," says Olaf, an' the lad from Wildeat Corners has his tail up too, an' you may lay to that.

73—SLIM PHITTS.

Help Keep CQ on the Air

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New Aeronautical License Issued

In the January issue of the **Radio Service Bulletin** the Radio Division announced the establishment of a new class of license known as **radiotelephone operator, aeronautical class.**

No code test is required and no credit will be given for previous experience. A percentage of 75 will constitute a passing mark.

The examination for the license covers radiotelephone apparatus used at ground stations and on board planes. In addition to radio subjects, applicants are examined in meteorology, laws governing the operation of aeronautical stations, airplane dispatching, air traffic laws, teletype operating and procedure and aids to aerial navigation.

Holders of commercial operators' licenses may qualify to operate aeronautical stations by passing the new examination and having their licenses endorsed for airways work. The new license is valid only for the operation of aeronautical stations using radiotelephone exclusively.

The questions for this examination are already in the hands of radio schools. Two diagrams are required, one of a typical ground installation and the other of a radiotelephone installation suitable for use on an airplane.—M.R.R.

The Ann Arbor and Pere Marquette RR Companies operate two fleets of carferries on Lake Michigan. There are five ferries on the Ann Arbor fleet and six owned by PM. Ann Arbor vessels now in operation are: SS. Ann Arbor No. 5, No. 6, No. 7, and SS. Wabash. The PM. ships in service are: SS. Pere Marquette No. 17, No. 21, No. 22, No. 31, and No. 32. These boats run all year. During the ice period it is sometimes necessary to place an extra boat in service to maintain regular schedules.

Positions on the carferries are hard to obtain as both concerns have several relief and extra men on the dock waiting for relief work. Each operator is given two days off with pay each month.

Have YOU One of These?

Semi-Annual	No.....
Commercial Radiomen's Protective Association	
MEMBERSHIP CARD	
ACTIVE MEMBER	
Issued to.....	
Date Joined.....	
Expires.....	Payment \$.....
Member's Signature	Executive Secretary

NEW KUP SCHEDULES

RADIO STATION KUP San Francisco Examiner Radio

The following Schedules effective on and after February 1st, 1932:

SKED	Service	TIME (GMT—PST)	Frequency
A—1*	Press	0900 1:00 A.M.	6440 and 8350
B—1*	Stocks	1200 4:00 A.M.	6440 and 8350
C—2*	Press	1500 7:00 A.M.	6440 and 8350
D—1**	Weather	1648 8:48 A.M.	6440 and 8350
E—3*	Press	2100 1:00 P.M.	11340 and 16700
F—2***	Financial Survey	0030 4:30 P.M.	11340 and 16700
G—4*	Press	0300 7:00 P.M.	6440 and 8350
H—2**	Weather	0400 8:00 P.M.	6440 and 8350
S—S	Special schedule announced on 0300 GMT 7:00 P.M. Press		

Note: *Daily except Sundays and holidays.

**Daily including Sundays and holidays.

***Daily except Saturdays, Sundays and holidays.

The staff at KUP stands continuous watch for calls on 36 meters between the hours of 4:00 P.M. and 8:00 A.M. PST. On 18 and 26 meters 8:00 A.M. to 4:00 P.M. Also stands watch on 600 meters, 500 kc. distress. Request for Press, Stocks, Weather or any other available information, use the designated bands for calling KUP.

Sig.: R. G. MARTIN, Manager KUP

CORRESPONDENCE SECTION

Signed communications only will be accepted for publication in this section, names of correspondents will be withheld on request. The publishers of CQ assume no responsibility for statements made herein by correspondents.

☆ ☆ ☆

Editor CQ:

I read with interest the letter of R. E. Lee in the October issue, and I subscribe heartily to the sentiments he expresses. Radio operators are wholly unorganized and at the mercy of the employers as is attested by the long hours worked and inadequate pay for work done and responsibility involved. It seems to me that on a large passenger ship where traffic is usually heavy, a chief operator rates as much pay as the third mate, and junior operators in proportion.

One of the worst obstacles the profession has to contend with is undoubtedly the amazing number of radio schools, many of which advertise in a manner that is downright fraudulent. This matter would be taken care of to some extent by a stricter and more specialized classification of licenses, as Mr. Lee suggested in his letter.

Before the radio profession will be raised to the level it deserves we must have leadership and organization and quite likely, ultimately, legislation. The several unionizing movements now under way in different parts of the country will succeed only in confusing the issue. It is up to these various "leaders" to come together and weld into co-ordinated effort their individual attempts.

Finally, the Department of Commerce should classify the radio services as heretofore suggested using legislation to accomplish results if necessary. This is where our leadership would be required to bring the matter to the attention of the proper authorities.

You have had arguments, I believe, with Mr. Smith of the National Radio Institute, regarding matters of fact in his advertising and I understood he was making a sincere effort to mention, in his advertising, wages and conditions in conformity with the facts. Cast your eye over the appended piece of flamboyant sucker bait. The gentleman has evidently not mended his ways and quite likely will not do so as long as he can get the mazuma. It may interest you to know that I am a member of the Order of Railroad Telegraphers, and I undertook to register a complaint with **The Railroad Telegrapher** against the appearance in its pages of advertising which is obviously

detrimental to the unionizing efforts of another group of workers.

Sincerely yours, GLEN KRIEDER.

THE VALUE OF ORGANIZATION

By Gerald Mathison

No doubt, unorganized workers in large industries have wished fervently for the benefits of organization; not only those who have been laid off and added to the ranks of the unemployed, but those who have been retained on the payrolls on so-called steady jobs—but at reduced wages.

The easiest thing in the world for an employer of unorganized labor to accomplish is the reduction of wages: a few words to his stenographer, posting the notice and lo and behold! the deed is done.

The wage-cutting campaign has broken out with a vengeance in nearly all large unorganized concerns; wages have been decreased 40 per cent while the necessities of life have only decreased 15 per cent. The cost of living has seldom, if ever, had any necessary relation to wages.

Without organization, all labor would still be the victim of the long day and the insufficient and kindred injustices. Labor's only safeguard to former inhuman standards is organization.

During these days when operators are walking the streets from office to office looking for, but being denied, work for a just and living wage, it is wondered whether the words of the immortal Lincoln were not prophetic—

"Labor is prior to and independent of capital. Capital is only the fruit of labor and could never have existed if labor had not first existed. Labor is the superior of capital and deserves much the higher consideration."

"An industry which does not pay its employees enough to live on is not worth retaining," Larue Brown, first chairman of the Minimum Wage Commission, told the Special Recess Commission on minimum wages at Boston.

Let us all fight for the C.R.P.A. and secure for ourselves the liberty to devote energy to a job with a just and living wage, and liberty to live without starving for want of work, the liberty to think and express our thoughts and to act or vote or protest according to what we think.

Show your goodwill by placing a "Goodwill Ad." in CQ..

Renew your subscription to CQ.

PERSONAL MENTION

Bill Comyns, popular instructor at the Frank Wiggins Trade School, and old-time marine and BC op, extends a cordial invitation to operators to visit his static room on the Fourth Floor of the Trade School, Venice Blvd. and Olive St., Los Angeles.

"Red" Evans, former Matson op, has deserted the movies and is back on KOZC with Roy Pyle. The "City of L.A." carries only two ops now.

Art Huotari, ex U.S. Lines op, is doing a Magellan on the "Prexy Polk." Art was a movie actor for a while but they cut his best scenes to give the stars a break.

E. C. Lewis, President of Coyne, writes asking what we do not like about his advertising. You tell him, Boys.

Athan Cosmas writes a breezy letter from Hu. He is on the "Steel Scientist" chasing Art Huotari around the world.

The So. Pacific S.S. Lines ships carry the following operators: "S.S. "Dixie," Bill Nodar; "Creole," Jim Davenport; "El Oriente," W. R. Hayes; "El Dia," Ben Tempest; "El Estero," Al Champagne (he should be with the French Lines); "El Iseloo," John Hemmick; "El Occidente," James Hodges; "El Oceano," Rigo Cyriacks; "El Coston," E. W. Hawkins, ex-WMCM. The S.P. radio service is under the supervision of Dick Dexter, Port Electrician.

When last heard of, A. V. B. Kennedy, ex-KDOW, was with the New England S.S. C. on the "Chester W. Chapin."

* * *

NOTES FROM THE V.W.O.A. BULLETIN

D. W. Wagle is still at Agana, Guam. W. H. Martin is now with the W. E. Phillips Co., San Diego, Cal. C. S. Thevenet is at WOR. Lorrie B. Grissom operates the heap on the "Charles G. Black." Gilson Willets may be found at 890 Geary St., S.F. Alfred H. Rowe is on the "Maurice Tracy." Lester F. Miles is Ch. Eng. at WHP, Harrisburg, Pa. Harry R. Cheetham has nearly finished installing a police radio system at Somerville, Mass. Miles A. Newton keeps the Yacht "Olive K" on the air. McIlvain Ross does the same for the "Yankee Arrow."

"Spud" Henderson writes a long letter promising another yarn. He is spending the winter trapping at Conkling Park, Idaho, and recently won two out of three falls with a lynx. Congrats are in order, "Spud" is the proud papa of a brand new YL, who QRM's his morning watches.

C. H. Hopper, Editor of G. L. Notes, would like to contact Ellwood Fisher "FI," ex-WPBC.

Doug Robertson, formerly with the Ann Arbor Fleet, is now at Annapolis. An inquiry has been received for the QRA of Art Melloe. J. Dyer, ex-WTT and WWA of the China Fleet, is now on the Gen. Pet. Tanker "Lio." Leo Shepard, KNX, recently experienced the sensation of becoming a proud papa. How about a cigar Leo? Bill Chadwick, ex-Mackay op, is now relief op for WAE in the Midwest. Jimmy Brown, ex-KFS, KFOX, etc., is now at KFAC. Steve Kovacs is on the "Beach Maru" in NYC, along with one or two others. J. O. Watkins, who knew Doc de Forest in the "early" days, is now at KFS. Ken Taylor is at KMPC. Joe Meloan landed a job at the new Bakersfield (Cal.) station, KERN. Charlie Lindh is still the big shot for RMCA in SFO. The V.W.O.A. Yearbook is well worth the price asked. Mike O'Bradavick, real old-timer, is at KOL, Seattle. The ops at KFL had their wages cut. What has happened to Ferra Merryman, who started the R.O.P.A. with Howard Pyle on the Lakes in 1927? Several correspondents want to know who the SKIPPER (of CQ) is?

REMEMBER—

that the concerns advertising in CQ have made our mazaine possible. CQ cannot exist without the support of its advertisers. We earnestly request our readers to cooperate with us by patronizing the firms advertising in this magazine. Buy from CQ advertisers—it helps all of us..

Join the C. R. P.A. and help us help you.

Operators who sent for the "Commercial Marine Radio Operators' Handbook," advertised by Howard S. Pyle in the November issue of CQ, are requested to communicate with the Editor.

AUSTRALIAN RADIOMEN EFFECTIVELY ORGANIZED

(Continued from page 17)

time, under the provisions of their agreement with shipowners and the government:

Passenger Vessels	Operators	
	Sole or in Charge	Assts.
Gross Tonnage	f. s. d.	f. s. d.
Under 2,000	15. 1. 6	11. 9. 6
2,000 and under 6,000	17. 2. 0	12. 7. 6
6,000 and under 12,000	18.18. 0	13. 5. 6
12,000 and over	20.14. 0	14. 3. 6
Vessels other than passenger		
Gross Tonnage		
Under 2,000	13. 5. 6	11. 9. 6
2,000 and under 6,000	15. 1. 6	11. 9. 6
6,000 and over	16.17. 6	11. 9. 6
Sub-Inspector	21.16. 6	
Junior Operators, not sole or in charge		f. s. d.
18 to 19 years of age		6.19. 6
19 to 20 years of age		8.15. 6
20 to 21 years of age		10.11. 6

Who Is This ??? ?



This, friends, is **Josephus Elderberry Smythe**, founder of **GOYNE**, to whom thousands of ambitious young men have contributed in making **GOYNE THE ONE BIG PAY RADIO JOB IN EXISTENCE**.

You are wanted for a BIG PAY RADIO JOB

Where?? — Thousands of my students are asking the same question.

Stop! Look! Listen!

There are millions, LITERALLY M-M-MIL-LIONS, of **BIG PAY** Radio Jobs open for ambitious young men. Broadcasting Stations pay **FABULOUS SALARIES** (Rudy Valee receives \$4,000 per week). Other opportunities are to be found in **Aviation** (look at Lindbergh), **Talking Pictures** (wouldn't you like to be a second Douglas Fairbanks and earn \$8,000 per week?), **Television**—but why say more? By this time you must be convinced that I am right.

If you can scrape up the price of my course, get in touch with me at once. Let **ME** show you the way, the **GOYNE WAY**, the **ONLY** way, to **SUCCESS** and **RICH REWARDS IN RADIO**. **Don't delay another day!! Do it NOW!!!. ()' %"*:::!!!** Send for my latest novel, "**Reaping Rich Rewards in Radio**." If you are earning less than \$200 a week, you should investigate my offer. Don't try to struggle along on a measly \$150 or \$175 per week—learn Radio the **GOYNE** way and equip yourself for a real job!!!!

I, myself, in person, will personally pay the fare (subway or elevated) of any student (living in commuting distance) who enrolls in **GOYNE, TODAY**. (It is so easy to enroll in **GOYNE**, merely make out an application and forward it, together with the first small payment (\$250.00). The balance of the course can be paid for on my liberal payment plan.) This offer positively will absolutely not be repeated!!!!

OUR THEME SONG—

"Bring your coin and come to GOYNE."



Methusaleh Brown

"I OWE ALL MY SUCCESS TO DEAR OLD **GOYNE**," writes Mr. Brown, a graduate of the Class of 1878, who recently obtained a **BIG PAY** position with the Postal Telegraph Company.

The I. F. R. Bulletin No. 14

The International Conference, Madrid, 1932

In the I.F.R. Bulletin, No. 13, we were able to inform the membership of all affiliated associations that the I.F.R. has been successful in obtaining an official invitation to send a delegate to the next international Telegraph—and Radiotelegraph Conference to be held at Madrid, Spain, in September, 1932. The Federation has thus made the first step; it is now up to the membership to make the second one, viz, providing us with the material necessary to defend our case before the conference.

We have already some time ago sent out a circular stating the procedure adopted to cover one of the points on the agenda; the shipowners' request for a reduction in the qualifications of operators holding 2nd class certificates. It is strongly urged upon all the members to take good notice of this circular and to assist us in preparing our claims.

Correspondence which passed between the Reichspostminister, Postmaster General, of Germany, and various German nautical associations has recently come to our notice, and the contents are such as to make our above-mentioned circular even more important. We shall very briefly state the facts:

The German Postmaster General has issued regulations whereby Mate Operators holding 2nd class certificates are not allowed to go in charge of ship stations in the 2nd class if they at the same time are signed on as Mates.—In reply to a protest lodged by the Masters and Mates Association, the Postmaster General states, that this measure has become necessary owing to the number of complaints, regarding breaches of the regulations and insufficient ability, received from foreign administrations concerning operators holding 2nd class certificates on German ships. In order to insure the proper handling of the commercial service on ships of the 2nd class, it has been necessary to request that such stations must be in charge of a professional operator.

Now another German nautical association has handed in a very long statement to the Postmaster General, in which it is claimed that the number of reports regarding German ship stations is very small—only about 150 in one year! It is further stated that no difficulties are experienced when communicating with foreign stations. It is only the German ship and coast stations that are reporting German ships! The nautical association finds that this fact is important and that it tends to show that mate operators do not receive a "square deal" from the professional operators in German stations. Therefore they request that the Postmaster General shall revoke his decision concerning 2nd class ships and only issue new regulations after having consulted the nautical association.

There the matter rests at the moment of writing these notes.

The statements brought out by the nautical association of Germany are typical of the complaints made by other mates' associations in countries where mate operators are employed. They are always being hampered in their work by the professional radiotelegraphists, who refuse to assist them, who report them for trivialities, who are working at high speed only to annoy them because they cannot follow the correspondence, and who are in short, doing their utmost to make life as cumbersome as possible for them!

Every professional radiotelegraphist and the mate operators themselves know that

these statements are untrue, but in view of the persistency with which they are brought forward it would perhaps be time to do something to prove the incorrectness of them, and this can best be done by adhering to the I.F.R. circular. If this is done conscientiously the near future will no doubt open the eyes of certain administrations to the actual position in the wireless service at sea, and it will also to abundance be proved that we have not in the past been committing any of the acts that nautical associations are so ready to charge us with.

If we desire to obtain any improvements at the next radio conference, or even if we desire to maintain the position, we **must** have the necessary means to prove that wireless working at sea is not what it should and could be, and this material can only be supplied by our seagoing members.

It is our hope that this appeal shall not have been made in vain, and we look forward to receive, from all parts of the world, testimonials of the interest which members have in their profession and in the future of the wireless service at sea.—J. MADSEN.

AGREEMENTS

England—

On the 1st of January, the A.W.C.T. (Association of Cable and Wireless Telegraphists) from the Employers' Federation, regarding a general reduction in the service conditions: salaries to be reduced by 10 per cent, shore allowance by 20 per cent, annual leave and payments for prolonged service abroad to be suspended; all as from the 1st of February, 1932.

The Navigating and Engineering Officers have already accepted the above reductions, whilst the Sailors and Firemen and the Cooks and Stewards are still negotiating.

The A.W.C.T. have requested that their case shall be dealt with in a central conference as stipulated in their agreement with the employers.

Denmark—

The agreement between the Danish Shipowners and the Danish Radiotelegraphists' Association contains a stipulation that it can be denounced by either party giving three months' notice to expire on the 1st of April each year. Consequently, notice shall be given before the 1st of January. This year no notice has been given, and the agreement is therefore prolonged until the 1st of April, 1933.

Sweden—

The agreement between the Swedish Shipowners and the Swedish Radiotelegraphists' Association has been prolonged without modifications until the 1st of February, 1933.

Holland—

Negotiations are proceeding concerning a reduction in the salaries of 10 per cent.

Germany—

The salaries, which in October, 1931, were reduced by approximately 13 per cent have again been reduced according to a "Notverordnung" issued by the government. The salaries are now on the same level as in January, 1927.

Belgium—

A new agreement has been concluded between the S.A.I.T. and the Belgian Association, containing regulations for the year 1932. During this period, no annual increments will be accorded, operators will be required to take one month's leave without pay and certain premiums will be suspended.

**Through the Courtesy of a Number of Leading Radio Stores,
CQ Has Been Placed on Sale in the Following Cities:**

- SEATTLE - - - - **Wedel & Co.,**
520 Second Ave.
- PORTLAND, Ore. - - **Wedel & Co.,**
443 Washington St.
- SAN FRANCISCO - **Warner Bros. Radio Co.,**
428 Market St.
- LOS ANGELES - - **Radio Manufacturers' Supply Co.,***
1000 So. Broadway
- SAN PEDRO, Cal. - **H. I. Corning & Co.,**
305 Avalon Blvd. (Wilmington)
- BOSTON, Mass. - - **Ben's Tremont Electric Supply Co.,**
228 Tremont St.
Ben's Radio Shop,
70 Stuart St.
- NEW YORK CITY - **Blan, The Radio Man***
89 Cortlandt St.
- PHILADELPHIA - - **M. & H. Sporting Goods Co.,**
512 Market St.
- NEW ORLEANS - - **Gulf Radio School,**
844 Howard Ave.
Burrows News Agency

Purchase your radio equipment from these concerns and mention CQ
—it helps all of us.

*CQ Circuit Diagrams on sale in stores marked with asterisk.

AT LAST! A COMPLETE SET OF FIVE DIAGRAMS

Acceptable for Commercial First and Commercial Second Class
License Examinations—

**IF YOU ARE STUDYING FOR A COMMERCIAL LICENSE EXAMINATION
YOU CANNOT AFFORD TO BE WITHOUT THESE DIAGRAMS.**

The complete set costs only—

75c

Order Yours Today From

CQ, 1725 Bedford Road, San Marino, California

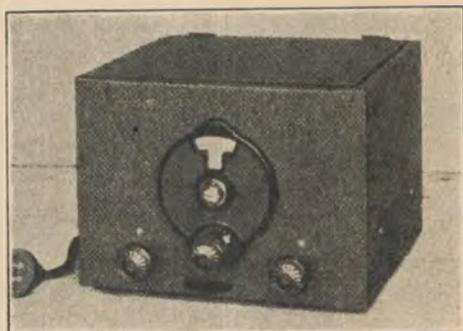
Commercial Operators

The **NATIONAL SW-3** is the Short Wave Receiver YOU have been looking for . . .



Check these SW-3 Features, then try to duplicate them in any other Short Wave set.

-Covers all Wave Bands, 9 to 850 Meters
-Single Dial Control
-270 Degree Tuning Range
-Unusual Sensitivity
-Coils Wound on R-39
-Screen Grid, Variable Mu R.F. Amplifier
-Screen Grid, Var. Mu Detector
-Easy to use on A.C. or D.C.
-Compact and Easy to Carry
-Low Current Drain
-Complete Shielding
-Minimum Background Noise
-Lowest Noise Level
-Especially Suited for Shipboard and Airways Work
-Band Spread for Amateur Work (optional)
-Calibrated Volume Control
-Moderately Priced



SINGLE-CONTROL TUNING OF TWO TUNED CIRCUITS

Band spreading, calibrated volume control, complete shielding and adaptability to either a.c. or battery operation are the salient features of this receiver. The "set and forget" antenna trimmer control is at the left and the regeneration control at the right, with the operating edge of the calibrated volume control disc immediately below the main tuning dial.

WHYR-39 MAKES BETTER COIL-FORMS

Ground mica, not wood filler, is used in making R-39, and a minimum of pure uncolored Bakelite. This makes the material practically moisture-free and dielectric losses are extremely low. Coils wound on R-39 have lower losses and greater efficiency than coils wound on any other material. R-39 coils are not affected by moisture, they are especially suited for use on shipboard and in the tropics.

OUTSTANDING SHORT WAVE RECEIVER

The SW-3 is the outstanding receiver for serious everyday short-wave phone or broadcast reception, for short-wave communications, for code or experimental use. It is standard equipment on leading air-line, on ships and and yachts, on exploring expeditions to every corner of the world. Hundreds of enthusiastic users cheer for it.

THE NATIONAL CO., Inc.

"Specialists in Short-Wave Equipment"

Bill Cooke, Western Manager

3440 South Hill St., Los Angeles



Are YOU A FIRST CLASS RADIO OPERATOR?

Can YOU make a PERFECT copy of WNU press with a pencil or mill?

Can YOU cut a mimeograph stencil directly from WNU, WHD or KUP press without having to recopy?

Can YOU copy press 3 to 5 words behind without breaking? Can YOU count checks in your head and give the station you are working your "OK" the instant he has finished transmitting? Can YOU send PERFECT code groups at a speed of 30 wpm with a bug or hand key?

If YOU are really a FIRST-CLASS radio operator you should be able to answer "YES" to ALL these questions. If you cannot answer them in the affirmative you should investigate—

The Candler System Course in High-Speed Telegraphing

GUARANTEED TO INCREASE YOUR SPEED IN SENDING AND RECEIVING

The Candler System is a Post Course of intensive training for the development of SPEED and ACCURACY in code work through Scientific Methods. It trains the Brain, Muscles and Nerves to CO-ORDINATE—helps to give you confidence and relieve nervous strain. Our methods are based on fundamental scientific principles of proven worth.

If YOU want to become a REAL operator it will pay you to write to us, outlining your difficulties and ambitions. We will answer any questions without cost or obligating you in any way, and give you the benefit of our experience helping over 45,000 Radio and Morse operators during the past 20 years. Write TODAY.

THE CANDLER SYSTEM CO.

Dept. CQ-3—6343 Kedzie Ave., Chicago, Illinois

RADIO SCHOOL OF LOS ANGELES

(Formerly Y.M.C.A. Radio School)

Established 1909

MANY OLD - TIMERS COME HERE TO BRUSH - UP FOR THE GOVERNMENT LICENSE EXAMINATION.

REGULAR RATES

Day School	\$25.00 per Month
Night School	\$15.00 per Month

RATES TO EXPERIENCED OPERATORS STUDYING FOR LICENSE RENEWALS

Day School	\$20.00 per Month
Night School	\$12.00 per Month

When in Los Angeles be sure to pay us a visit. You are always welcome. Arrange to meet your friends in our Static Room.

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