

The Radio Officers' News

ISSUED BY
THE RADIO OFFICERS' UNION OF THE
COMMERCIAL TELEGRAPHERS UNION
A. F. of L.

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America's largest ship is an R. O. U. ship

R. O. U. OFFICES

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NOTIFY THE NEAREST R. O. U. OFFICE BEFORE LEAVING YOUR SHIP



ANDREW MacDONALD
General Chairman

The above photo shows your General Chairman as ship Radio Officer before he made his decision to battle for the interests of his fellow Radio Officers.

Believing it to be for the general interests of Maritime Radio Officers, as well as all maritime workers, the Radio Officers' Union decided that Andrew MacDonald should go to Copenhagen where he could give expert advice to the delegates of all participating nations. It has likewise been decided that "Mac" shall go to Seattle in May for a similar purpose.

THE RADIO OFFICERS' UNION

Andrew MacDonald represents A. F. of L.
at Copenhagen, Denmark

Now asked to represent
American Federation of Labor at Seattle
Conference of International Labor Organization

* * * * *

Andrew MacDonald, General Chairman of The Radio Officers' Union who was asked by William Green, President of the American Federation of Labor to travel to Copenhagen, Denmark last fall to represent the interests of all American Labor has been asked by Mr. Green to attend the coming international conference at Seattle in May, 1946.

Mr. Green's request was dated March 18, 1946, and is as follows:

Andrew MacDonald, General Chairman,
Radio Officers' Union,
14 East Lexington Street,
Baltimore, Md.

I request you serve as an adviser to delegate representing American Federation of Labor at Maritime Conference which is being held by International Labor Organization at Seattle, Washington early in May stop This conference is similar to the one which you attended as a consultant and adviser at Copenhagen last year stop Will appreciate favorable reply to this request as quickly as possible.

William Green, President
American Federation of Labor

THE R. O. U. PUTS IT ACROSS IN A BIG WAY

That R. O. U. by its growth in numbers, with consequent power and influence, should be invited to represent the American Federation of Labor at such an important gathering of all the maritime nations of the world, is something which every member of R. O. U. should hail with pride. This invitation is a tribute to The Radio Officers' Union; it is also a tribute of the highest order to Andrew MacDonald, its General Chairman. It is a recognition that we amount to something. It is a recognition that Andrew MacDonald is level-headed, that he has influence, and that he can influence others. This, of course, the members of R. O. U. have long known. But many of us didn't realize that we had made such an impression beyond our particular jurisdiction.

NAZIS, FASCISTS, COMMUNISTS NOT WANTED

NEWS AND VIEWS

By Andrew MacDonald, General Chairman

Charles R. Denny Jr., newly appointed Acting Chairman of the FCC is a young fellow and he knows his business. If there ever was a time when the FCC needed a capable administrator it is now. Your veterans' discharge button is an eagle with talons around an anchor centered in a laurel wreath. It is gold plated and resembles the ruptured duck discharge button but the design of the Merchant Marine button is better, in our opinion. Incidentally, different types of discharge buttons for the different services are beginning to appear. The Air Force boys are showing up with one of their own design and dollars to doughnuts the Navy has something along that line in mind.

The FCC has 800 Frequency Modulation, 700 Standard Wave, and 150 Television station applications before it now. No doubt but that FM will take over in the cities but standard wave broadcasts will prevail in rural areas. Changes in maritime frequencies are scheduled to provide clear channels for distress and a tie-in with the airways communications system; extra working frequencies will be provided in the high frequency bands. The airways people are still trying for a communications hook-up that will be as automatic as possible but they are not having much luck at it.

If there ever was a man that was eternally between the devil and the deep blue sea, it is the ship's Steward. Now the MNPA and the MEBA are boofing because the Steward's quarters are with the officers. This sort of beef springs up because the Steward invariably belongs to the same union as the unlicensed personnel. So what will happen when the Engineers and the ACA membership tie up with the unlicensed personnel in the industrial union set-up recommended by their officials. Some companies are beginning to cut the Purser's pay; one company is offering \$140.00 per month.

The problems of the Radio Officer are much the same in every country. The British Radio Officers' union is plugging for three men to a ship at the present time and during the war their number one beef was accommodations. The words "extra bunk" figures as much in the dialogue of the European Radio Officer as it did in ours. However, their battle for officer status is not getting anywhere and ours is. Incidentally, ACA's claim to the "officer status legislation" is strictly a phoney and just another underhand gag to get the unwary to sign their name to something. Within the next few weeks ACA propaganda will feature the advantages of tying up with the other CIO unions in a national industrial union and the officers bill will be emphasized to show that the ACA leadership has nothing up its sleeve.

The new wage stabilization policy will not affect the Merchant Marine to any great extent for the time being. It permits wage increases that amount to approximately 32 percent above the pre-war base; our base is up approximately 45 percent but our pre-war base was low and there is still room for improvement. Union or no union it should always be remembered that the law of supply and demand still works and has its effect on wage scales. An invitation to ship through the back door is an invitation to a wage cut. It costs the member thirty dollars a year to belong to the ROU; it costs the non-union man several hundred dollars a year because he does not belong and it is going to cost him a great deal more once the companies get back to private operation.

"ADVISORY"

By Andrew MacDonald, General Chairman

When you quit a ship, make sure that the batteries are fully charged. Rundown batteries are the cause of most FCC citations and those little yellow slips can make the Old Man sore. Don't experiment with the equipment. If you are tempted to re-wire the receiver or hook up an atomic power device to the transmitter, think of the poor fellow who will relieve you eventually. Never quit a job without getting your license signed by the OM and once you get 'six months' service take your license up to the FCC for endorsement. Keep your quarters and the radio room neat and orderly; nothing disgusts your relief more than finding messed up and dirty quarters and shack.

Notify the Union when you are quitting your ship. This always was important and it is more important now than ever. When you get off a ship, register on the beach list immediately. The days when you could walk into the Union office and find more jobs than men to man are gone and your place on the beach list will be important from now on. Practice on the "mill" as much as possible. A good high speed code man can always get a job and your code speed is restricted to how fast you can get it down on paper. Stay off 500 kc as much as possible; most of the time you will get your traffic off much faster if you give the coast station a call on your working wave.

KEEP A GOOD LOG

Keep a good log and make it out in duplicate. Leave the duplicate aboard so that you, or your relief, can get a line on stations, weather and traffic schedules, message rates and so forth. Clear your stations with a QRU when entering or leaving port but there is no need to advise every station in a thousand mile area every time you go on or off watch. If you are having trouble getting traffic off, call for a relay and if you hear someone else calling for a QSP and you can help - do so. Forget the high speed stuff. A good 20 WPM man is better than a poor 30 WPM man and the faster you throw it at a station, the faster it will come back to you.

If a passenger or member of the crew (except the Master) wants to send a message, get cash on the line before you send it and send nothing until it has been okayed by the OM. Keep a record of every message sent or received. Get the time-tick, that's your job, but leave the checking of the chronometer to the Second Mate; that's his job. When you make up an overtime sheet forget the abbreviations, and make it clear enough so that even a WSA auditor can understand it. Time off in port is not an extra vacation; keep in touch with your ship. Be on hand for the FCC inspection; the inspectors are handing out citations on that one nowadays.

If you are an old-timer give the new man a break and make a Radio Officer out of him. If you are a new man, listen to the old-timer and learn something. Don't let equipment breakdown faze you. Improper tuning, overheated or burned out tubes, breaks in the antenna circuits, or improper line voltage will be your trouble ninety-nine percent of the time. Number your log sheets. Test the auto alarm daily. Log the ship's position daily and enter time of arrival and departure at all ports. Test the emergency equipment daily. Sign your name in the log every time you go on or off watch. If you have a TIT study for a Second Class License; if you have a Second Class License go up for a First Class, when you get that year in; if you have a First Class Telegraph, study for a First Class Telephone and don't forget - save your money.

"ONE BIG UNION"

By Andrew MacDonald, General Chairman

The gentlemen of the extreme left have a one track mind. Ever since the days of the old Maritime Federation of the Pacific when they used that now defunct organization to gain control and dominate the waterfront, they have been obsessed with the idea of creating the "One Big Union" that would be run by them and used by them to stamp out trade unionism in the maritime industry. At one time, just before Pearl Harbor, the Big Union was to be the NMU, but the membership, and some of the officials, of the ACA and the MEBA balked and the plan was dropped. Now they are at it again but this time the indirect approach is being used. The new organization, in the beginning, will be a sort of Union of Unions in which, according to Harry Bridges of the west coast longshoremen, there will be "full exercise of union autonomy, except in case of strikes".

That, however, is a lot of malarkey, Autonomy will be the first thing to go by the board along with any official of the ACA, MEBA, or MFCW who defends it. The unions that answered the Bridges call to a conference to discuss further the establishing of "one national industrial union of all seamen, licensed personnel and waterfront workers" were the American Communications Association (ACA), Marine Cooks and Stewards (MC&S), Marine, Firemen, Oilers, Watertenders and Wipers (MFCW), Inland Boatmen's Union (IBU), International Longshoremen's and Warehousemen's Union (ILWU), Marine Engineers Beneficial Association (MEBA) and the National Maritime Union (NMU). All of those unions, except the MEBA, are dominated by the left wing faction and all of them, except the MFCW, are affiliated with the CIO.

IT'S THE PARTY'S PROGRAM

Allegedly, the purpose of such an organization is "to more effectively oppose the plans and program of the nationally organized American shipping interests" but actually its program will be the program of the "party" and its plans will be to publicize and push that program to the limit. The Washington conference of the Joint Committee listed as a responsibility of the National Union, the establishing of a national research department and the direction of national political action. The Bridges letter boasts that as an example of how the new union will work, the Joint Maritime Unions Committee "formulated and carried through a common program of such matters as the 24-hour stop-work demonstration to help speed the return home of American troops". Thus, the first thing this Union of Unions did was push the party line aimed at getting our troops out of Europe.

During the months to come, the membership of the ROU and the ACA will be deluged with propaganda regarding the "One Big Union". The ROU membership will get it because we are a key union and always have been a stumbling block in the path of the left wingers. The ACA membership will get it because some ACA leaders are opposed to affiliation with the NMU et al and if they get enough membership support they may block the campaign of their left wing faction. However, as far as the ROU membership is concerned, it is our recommendation that, while tendering due sympathy to the bedevilled ACA member, we mind our own business and let the CIO boys settle it among themselves. We have such matters as the Seaman's Bill of Rights, the bill making Radio Officers officers under the law, new contracts, new wage scales, new manning scales, new branch offices and a host of other things to attend to and have no time to waste on political action for the benefit of European political factions.

JOB OUTLOOK

By Andrew MacDonald, General Chairman

RADIO SERVICING: Skilled men with television and FM experience will do best in this field in the near future. The belief is that the war has built up a considerable backlog of repair work on broadcast receivers but actually the new customs built sets with their improvements will induce the customer to buy a new set rather than have the old one repaired. The radio repair field always has been overcrowded and it is likely to be more so in the next few years. This job is generally the lowest paid in the entire radio field. As a business venture it is a gamble. Competition is keen and it seldom pays except where it is run as a side line in conjunction with some other business.

AIRWAYS COMMUNICATIONS: This field is expanding rapidly and will continue to do so for many years to come. However, its expansion will call for a broadening of skill rather than specializing. Flight communication men should broaden their training to take in radar, television, and navigation. CAA licenses for flight communication men will be required soon and a separation of Marine and Airways radio licenses is also in prospect. On the ground, operation of communications equipment will become increasingly mechanized and the demand will be for skilled maintenance workers.

POINT-TO-POINT: Job opportunity in this field is narrowing rapidly as far as operators are concerned. Beam transmission and the radio printer is writing finis to the high speed code man and as in the airways the jobs will go to skilled equipment operators and maintenance men. Radio phone transmission in this field will be a woman's job.

BROADCAST, FM, TELEVISION: The demand for equipment operators and engineer in this field is picking up and job prospects are extremely good. FM and television stations will spring up in every area all over the nation and between union organization and the demand for men, wages will be good. Practical training in FM and television is not easy to obtain at this time but generally men with a radio communication background and a good theoretical knowledge of high frequency circuits will be able to handle this type of job without difficulty.

MARINE: Twenty years ago this job was supposed to be on its way out but opportunity today is greater than it ever was. However, the radio officer of tomorrow will be a man of much broader and higher skill than the radio officer of today. The modern ship's radio equipment will include high and low frequency telegraph equipment, radio-telephone, radar and sonar equipment, automatic distress equipment, and high and low frequency direction finding apparatus. The number of radio officers aboard ship will increase with the changeover from the old tramp style of vessel to the new high-speed freight and passenger type with its tie-up with the airways services. The marine job with its broad range will serve as a good foundation for jobs ashore in the radio communication and electronics fields. Shorter voyages, improved living and working conditions, and high pay will make the marine Radio Officers job highly desirable in the years to come.

GENERAL: The field of communications, radio, and electronics is a good one for any person to take up provided the ability and desire to study and advance is present. The industry is only at its beginning and development in the future will be broad and rapid. Already regarded officially as a semi-professional occupation the skilled Radio Officer will automatically acquire full professional status within the next few years.

YOU R FIRST ONE* MAN JOB

By Martin Joseph Fuller

When you take your first ship out alone, it won't be your first trip to sea. You will have had at least six months experience behind you. But, regardless of this, you will find that being the one and only Radio Officer on board ship is entirely different from having a companion or companions who speak your own language, and by "your own language" we mean the language of radio. You will find that you are definitely on your own, that there won't be any experienced Chief to whom you can turn for advice, and various incidents will arise which may confuse you and give you that feeling of "being at sea" before the vessel leaves the dock. The object of this article is to offer a few "do's" and "don'ts" to the Radio Officer sailing alone for the first time.

One important thing to remember, is that the Master of the vessel is your boss. He and no one else is authorized to give you orders. The Chief Mate is not your boss, the Chief Engineer, the Purser, the Steward, etc., are not your bosses, and have no business ordering you around. On board, like in most any other business, but particularly on board ship, you will occasionally meet certain individuals who delight in taking advantage of the inexperienced by ordering them around, trying to make them perform duties which are not theirs, giving them the wrong information, going out of their way to be unpleasant, etc. Some of these characters are activated by a distorted sense of humor, and they don't mean any harm, but there are others, however, who are just plain mean and if you don't stop them in their tracks they will walk all over you. You will have to call for a showdown with this type sooner or later, so the sooner you put them in their place the better. You will be surprised how quickly the ego in this type of individual collapses when you call his bluff. Bear in mind that your shipmates are working for a living the same as you, and that the only man who has the right to tell you what to do is the Master of the vessel.

Since the Master of the vessel is your boss, give him the respect due the boss. Be polite at all times. Don't bother him with foolish questions. The less you bother him the more he will like you. The best way for a new man to gain the respect of his shipmates is to keep his mouth shut and his eyes open. Observe what is going on around you and don't ask questions unless they are absolutely necessary. The constant questioner becomes a pest.

When you first join the ship, the Chief Mate will usually have the key to the radio room. If he appears to be very busy at the moment, wait until he is through with whatever he is doing, and then ask him for it. Go into the radio room and inspect your station. Check your supplies and spare parts. If anything is missing make arrangements to have them replaced. See that the voltage of your B batteries is up to standard. If it is low order new ones. Order two new ones anyway. It is always good to have two spare B batteries if you should happen to make a long voyage.

Upon joining the ship, don't just stow your baggage in your room and then do a disappearing act. Stick around a while and let the skipper see you have some interest in the job. If you report on board and then immediately vanish into thin air he will get the idea you don't care much for the job, and he will probably be right. In many cases he orders another man and you are out of luck. If you have just joined the vessel and find that she is to be in port for several days, don't immediately ask the skipper if you can go home for a few days. It is nice to be home, but business comes before pleasure. You will get along much better with the skipper if he sees you are interested in your work. There is always plenty for you

to accomplish around your station before sailing day. Remember that it is up to you to see that your equipment is in good order. Study your instruction books and familiarize yourself with your equipment. Know your station thoroughly. Keep your station clean. Don't be afraid to grab a broom and dust pan if necessary. You have a messboy to clean your living quarters. But he does not have to clean up the shack. That is your job.

When you receive a message addressed to the Master of the ship, deliver it to him personally and no one else. Do not divulge the contents of any message, no matter how unimportant it may seem to you. If the Master wants the information made known to the crew he will tell them. There is nothing that "riles" a skipper more than to have his Radio Officer be a source of information for the entire ship. Your job is confidential. Don't tell anybody anything. The skipper will respect you for it.

If you are ordered by the Master to perform duties which are overtime, don't hesitate to put in for it. If it is legitimate we will see that you get it. On the other hand, don't go around with a magnifying glass trying to find some job that will pay you a \$1.25. In other words, don't make a racket out of it. The object of overtime is to act as a break on the Master. If he knows you will be paid extra for a certain job he won't ask you to do it unless it is necessary.

If you run into a hardboiled skipper don't let it get you down. Do your work the best you can and keep a level head. And don't tell your woes to the rest of the crew. If the old man is one of the abusive, arrogant kind, do not hit him over the head with a baseball bat, no matter how much you are tempted to do so. You might get in trouble. Try to remain calm. Do not worry over the situation. No matter how black things seem, always remember that the voyage will not last forever, and should the Master try to make trouble for you remember that your Union will back you to the limit.

DON'T CHISEL JOBS

Don't chisel jobs by going around to the steamship companies in your effort to get a job before the other fellow. That's not unionism, and IT IS NOT ALLOWED.

Ship out through the Union hall. That's what we rent the hall for. All Companies call the Union for its Radio Officers, and men are shipped out in rotation.

You get your first job through the Union; therefore, go to the Union for your second job.

Don't come to the Union hall and tell us that you are an "Alcoa man," or a "Bull Line man" or a "U. S. Lines man," giving this as an excuse for chiseling jobs. If you have worked for one Company for a year or more, all you need to do is to come to your Union and tell us that you want to go back to the same company. We will see that you get back.

Notify your Union BEFORE leaving your ship in any port. If possible, notify the nearest office of R. O. U., and at the same time request that your name be placed on the waiting list for jobs. Dues are payable in advance. In order to save clerical work, every member should pay at least two quarters' dues. Remember that ROU did not take advantage of the war to raise its dues. They are the same rate now as they were before the war.

HINTS AND KINKS REGARDING MARINE RADIO APPARATUS

By William H. Lewis

All marine radio equipment is sturdily constructed and designed as simply as possible consistent with good design and operation. However, as we all have discovered, the best gear has a habit of going haywire occasionally. Such things usually are not mentioned in the literature that is supplied with apparatus, and most of us have at some time or other spent hours searching for some obscure trouble. Thus we hope that these items may be of assistance not only to the newer members of the profession but also to many of the older ones. And we would appreciate any hints or kinks regarding shipboard equipment that any of you know, that we may pass them on to the rest of the membership, keeping in mind that what may seem a simple or obvious thing to you may be a deep dark puzzle to others.

EMERGENCY EQUIPMENT

If at any time the emergency battery voltage as indicated on the transmitter battery voltmeter reads unduly low under key DOWN conditions, and the batteries show by hydrometer readings to be fully charged, be suspicious of a loose or corroded battery connector. This may be checked by giving each connector a firm shake, while the transmitter is running and the key DOWN, and noting the reading of the battery voltmeter. (The emergency transmitter should be radiating into the DUMMY antenna during all this testing). If the meter reading rises to normal or flickers during the time any connector is being shaken, that connector is loose. The repair of this trouble is obvious.

In one of the older types of emergency transmitters, where 4 type-210 tubes are used in push-pull parallel, sometime one or more of the tubes will appear to be burned out. Usually, however, the trouble lies in the socket, as its spring contact is made either of copper or phosphor bronze. This material loses its spring easily, and also readily becomes oxidized. With the set on, key UP, move the tube in question back and forth in its socket. If the tube lights or flickers during this operation the fault lies in the socket. A piece of 00 or finer sandpaper, NOT EMERY CLOTH, rolled small enough to fit into the hole of the socket and carefully run back and forth several times will remove the oxidization, and a bit of brass polish used on the pins of the tube is called for here. If this does not clear up the trouble, the case of the transmitter should be removed and the spring connectors CAREFULLY adjusted until they make good connection with the tube prongs. This type transmitter will work reasonably well with as many as two tubes out of the circuit, at reduced power of course.

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One advantage which R. O. U. has over ACA and many other unions is this: You may go to any R. O. U. office and get a job without a transfer or a clearance from the last office through which you shipped. In other words, you are free to go and come as you please. All you need in entering any R. O. U. office is your membership card. If you are in goodstanding, you will get a job.

We don't care what your politics are, but if you are a Communist, we don't want you; neither do we want you if you are a Fascist or a Nazi.

Every member may feel free to come to any R. O. U. office and express himself to the Officials about his Union, or concerning any mistreatment he believes he has received from any R. O. U. Representative. Don't go around with a grudge, rather come to us and get it off your chest. We can take it, and no action will be taken against you for what you say to us.

MAIN TRANSMITTERS

By William H. Lewis

In one type of MACKAY transmitter installed on Liberty ships, the band switch which is connected in the oscillator circuit only, becomes easily oxidized, especially when the transmitter is left on one frequency for a long period of time. When this occurs, the frequency is very unsteady, and many times is considerably removed from 500 kcs. When this occurs, with key UP rotate the switch several times, thus "wiping" the contacts. It is advisable to rotate ALL switches several times, daily. In this same type transmitter there is a loading coil that becomes automatically connected in series with the antenna coil as the antenna tuning dial is rotated, for the lower frequencies. At the point on the dial where this coil becomes connected in the circuit the plate voltage is removed from the tubes until this coil is fully connected in the circuit. As this coil works from a cam connected to the shaft of the antenna tuner, it takes about three to five points on the tuning dial before this coil is fully connected into the circuit. This type, or any type, transmitter should never be operated at full power unless there is a load on the set, in other words unless there is an antenna connected.

HIGH FREQUENCY INSTALLATIONS

On Liberty ships that have had high frequency transmitters installed facing the port side of the ship, on the table where the typewriter used to be, there is a danger that as the ship rolls the panel of the transmitter may swing open because the screws holding this panel closed become loosened due to vibration or other causes. The tightness of these screws should be checked daily, for if the operator should be struck by this panel opening, he would undoubtedly be seriously injured.

"BRASS"

It is a good idea for all exposed copper work in the radio room such as overhead tubing of the antenna leads, be polished with brass polish quite often. However, it is advisable that, before tackling this job, these leads be grounded FIRST, as many times these leads are heavily charged with static electricity and the operator might get the surprise of his life when he touches one of them. These leads may be grounded by switching them in turn to the transmitter by means of the antenna switch, as the transmitter is grounded through the antenna coil.

It cannot be said too emphatically or too often, that there is entirely too much QRM due to unnecessary testing, tuning and idle talk, to say nothing of calling BEFORE LISTENING. It is silly to call a coastal station while you know other ships are calling at the same time. This CAN be classed as intentional jamming, and may get you a lovely pink citation or worse. And you can transmit just as far with 8 amps in the antenna as you can with 9 or 10, so tuning the set to the last mill of antenna current will not increase your range noticeably but will only cause someone else to curse you heartily.

73's and good operating.

* * * * *

Membership meetings are held at headquarters, 1440 Broadway, Room 1568, at 7:00 P. M., on the second Tuesday of each month. If your ship is in port, make it a point to attend.

Membership meetings were suspended during the war for obvious reasons. Men were more interested in getting home to see their folks than they were in attending a meeting. Consequently, a quorum was never present. Let's make our meetings a big success as they will be if you attend them.

AERONAUTICAL RADIO, INC.

By Stephen E. Douglass

A concern, whose ultimate goal is to own, operate and maintain all airlines radio equipment and to handle all airlines radio communications, known as Aeronautical Radio, Inc. is fast becoming a part of the vast airways communications system. This organization was founded several years ago and as is the case with most newly founded organizations, considerable time is necessary to develop from the "infant" stage. Aeronautical Radio, Inc. expects eventually to handle airlines communications and radio equipment on a basis similar to that of Radiomarine Corporation of America and Mackay Radio and Telegraph Company in the marine field. Aeronautical plans include the standardization of all airlines radio operating procedure, in place of the varied number of systems now in use. A great factor that has brought about this trend to standardization is the scarcity of operating frequencies. Many new airlines that plan operations and many existing ones looking forward to expansion have experienced extreme difficulty in obtaining frequencies on which to operate their communications systems, therefore the swing to Aeronautical Radio, Inc., which has been approved by the Civil Aeronautics Board and the Federal Communications Commission and which was allocated sufficient operating frequencies at their start.

Considering the progress made thus far, Aeronautical Radio, Inc. has all the earmarks of becoming the leading radio communications system for all United States airlines. It will undoubtedly take some time before these plans are completed, but for the Radio Officers that are interested in airlines radio operating in the coming years, Aeronautical is worth watching.

OTHER "SHORE JOB" POSSIBILITIES

Many Radio Officers who now hold Radiotelephone licenses and many others who are qualified to obtain such licenses are interested in the many "shore jobs" that will be created during the next few years with the advent of television, FM broadcast transmission and other new forms of radiotelephone service.

The Federal Communications Commission recently revealed that 140 applications for the construction of television stations are now before them. It is estimated that 100 of these television stations will be completed and in operation by the end of 1947. All the large cities in this country will be allocated from four to seven stations each and the smaller cities from one to four stations each. With FM broadcasting now well established, many of the larger networks are preparing for an increased number of such stations by the summer of 1946. During the ensuing three year period, it is estimated that an additional 2000 frequency modulated broadcast stations will be built and placed in operation.

In addition to the broadcast and television fields, many bus lines, railroads, taxicabs, and large trucking concerns are making plans for two-way radiotelephone service to and from their respective vehicles. The Union Pacific, Rock Island and Pennsylvania railroads, as well as a few small bus companies have already inaugurated such service. Many other adaptations and uses of radiotelephone will be forthcoming during the next few years.

Purchase a copy of a good radio manual, review and improve your radio theory and get your radiotelephone "ticket". Keep up with the advances being made and be in line for a "shore job".

If you are working ashore, why not take out the INACTIVE membership card. It is only \$3.00 per quarter, instead of the usual \$7.50. This keeps you in good standing in R. O. U.

THE HURRICANE

By Kenneth J. Wright

Severe gales, hurricanes, typhoons and "winds in a hurry", by whatever name they are called, are not new to our membership. You have been blown across the North Atlantic, caught in storms in the Caribbean and off our East Coast and weathered typhoons in the Orient. Most of these disturbances were large and involved a number of ships.

Here is the story of a hurricane, small in diameter, severe in intensity and directly involving, so far as I know, only one ship, the SS NEVADAN upon which the writer was Radio Officer from 1932 until 1942.

The vessel, owned and operated, at that time, by the American Hawaiian Steamship Company, was westbound on the intercoastal run. At 6:35 PM on the night of October 24, 1939, we had Manzanillo Bay light abeam. An enormous black overcast was beginning to envelop the ship from out of the southwest. At 8 PM KFS in San Francisco advised of a disturbance central to the southwest of Manzanillo.

Winds increased to fresh gale intensity. The barometer dropped steadily during the night and Capt. J. H. Masse, Master of the NEVADAN, swung the ship left for sea room. Between four and five AM on the morning of the 25th., the barometer dropped 1.3 inches to 28 inches. Mountainous seas were accompanied by torrential rains and fierce lightning. Above the roar of the wind could faintly be heard claps of thunder which normally would have been deafening.

At 5:30 AM, as the center of the disturbance reached the ship, the barometer dipped to a low of 27.40 inches. This the writer personally witnessed and hopes never to have to see again. The vessel remained in the center of the storm approximately 50 minutes. In this center there was no wind and no rain, but high, heavy seas pounded the ship from all directions. In the dim light of the tropical dawn part of the damage to the vessel became visible. The normal air pressure within the holds as compared with the sudden drop in external pressure burst the tarpaulins on nos. 2, 5, 6 and 7 hatches. Fierce winds had removed most of these torn "tarps" as well as many of the hatch planks. The port window in the radio room had been blown outward and the radio apparatus thoroughly drenched with rain and salt spray.

At 6:20 AM the second half of the hurricane moved over the vessel. Those of us who knew that four of our seven hatches were uncovered had but one thought on our minds: "Will the ship fill with water or will she survive"? Drowning might be an easy death, but I had been married less than a year and my plans didn't include a watery grave just yet. For two long anxious hours we awaited the answer to our question, but at last the winds slackened from an ear-splitting whine to a mere roar, the deluge of rain became a drizzle and the seas began to moderate.

As skies cleared around nine o'clock we were able to survey the full extent of the damage. The mainmast had been ripped out at the steppe in the tween decks, carrying No. 5 and No. 6 booms with it. This entanglement of mast and booms had landed on deck smashing to bits a deck cargo of canned ether. Rest assured that this odor of ether in the air did not in any way make the incident less unpleasant.

Some water had poured into uncovered hatches. A number of automobiles (cargo) were damaged by the severe pounding the ship had undergone. One lifeboat was missing and two others were rendered useless. A large boiler, chained to the forward dock, had gone overboard. The mainmast in falling had jammed the rudder controls

and this had to be cleared before the ship could again be set on course. A deck gear box on the bridge outside the "shack" had broken loose, taking part of the bridge rail with it on its way overboard. Stanchions and railings were bent and broken. What rigging remained was literally in shreds. The main deck had cracked amidships and caulked wooden decks were no longer watertight.

The mainmast in falling had snapped the main antenna. Water was inches deep on the radio room deck and the motor-generator was partially submerged in water.

At 9:25 AM the ship was again under way. We had weathered one of the most severe hurricanes ever recorded, but the radio apparatus was not yet functioning. A lot of bailing had to be done to get the water off the radio room deck. Heat from a cluster lamp had to be applied to the M-G for some time to insure against a short when this unit was placed in operation. The after end of the antenna (we had no emergency in those days) had to be rigged to something, and our Chief Mate, P. F. Butler (now Master of his own vessel) rigged this to No. 4 kingpost. By ten o'clock the radio apparatus was functioning after a fashion and the outside world was advised that the ship was still afloat.

What became of the hurricane? Well, it moved inland over Mexico, destroying Corvetena Rock lighthouse as it neared the coast. Once over land, it decreased in intensity, but a weather station inland reported a wind of 125 miles per hour before the recording apparatus was destroyed.

Many there were who doubted our barometer reading of 27.40 in. To substantiate this reading, the weather bureau office in San Francisco thoroughly checked the instrument for temperature and pressure. Their findings indicated that the minimum reading of 27.40 was .05 too low. The December, 1939, issue of the monthly bulletin by the U. S. Dept. of Commerce, Bureau of Marine Inspection and Navigation, reads as follows: "In accepting 27.45 inches (929.6 millibars) as the correct figure, it remains outstanding as the lowest barometer reading on record in connection with a tropical cyclone occurring in southeastern North Pacific tropical waters".

Capt. Masse, to whom much credit is due for bringing his ship through the hurricane, is now Captain in the U. S. Maritime Service and Master of the USMSTS AMERICAN MARINER, the WSA's training ship for the New York region.

I firmly believe that every man on the NEVADAN thanked God in his own way that he was still alive following this storm for it was the general opinion that the ingenuity of man alone was hopelessly inadequate when pitted against such odds.

* * * * *

All officials and Representatives of R. O. U. are Radio Officers, the same as you. Everyone of them has spent many years at sea. They all know the business thoroughly.

Every man employed in the New York office of R. O. U. is also an Ex-Serviceman. Your General Secretary-treasurer served in the Army in 1918. Harold W. Falbee spent several years in the Navy. William H. Lewis put in several years in the National Guard. Martin J. Fuller spent several years in the Navy. Ralph D. Finc was a bombardier in the Air Force.

If you believe you are fast in the code, arrange a match with Robert H. Wilson, Wilmington, Calif. R. O. U. Representative. He can copy code close to 70 words per minute.

AIRWAYS EXPANSION CREATES NEW OPPORTUNITIES

By Stephen E. Douglass

A great many Radio Officers, now actively engaged in keeping the cargo moving and returning the veterans from the overseas theatres of operation, are looking keenly toward the expanding commercial airlines for a possible berth ashore. A considerable number of the Radio Officers were formerly employed either as flight or ground operators before they entered the Merchant Marine and are anxiously awaiting the earliest opportunity of returning to their chosen field. Many others, who have had no airline operating experience, are anxious to get established in one of America's most promising industries.

Little need be said of the expansion that has taken place since the wars end, for everyone knows that three of the largest airline companies, Pan American World Airways, Inc., American Airlines Overseas, Inc. and the Trans World Airways, now have regularly scheduled flights from East Coast cities to various world capitals. Within a reasonably short period of time these airlines will increase their schedules and extend their services to Mediterranean, Near East, North African and Middle East points. With an ever increasing number of new four-engined transport planes rolling off the production lines and being placed in service, an ever increasing number of flight and ground personnel are needed to keep those new planes in operation.

Not quite as much progress has taken place in the trans-Pacific air service, but there is little doubt that Pan American Airways will expand and that newcomers, like Northwest Airlines, Inc. and Matson Airlines, Inc. will contribute their share to the future flights in the Pacific trade.

TRANS-CONTINENTAL EXPANSION

In addition to the increase of the trans-oceanic services, every domestic airline, large and small, and a few newcomers as well, have well organized plans under way to extend their services to a greater number of cities in these United States. To give an idea of the scope of this program, 31 airlines are now seeking charters to operate in New England, New York, Pennsylvania, Delaware, Maryland and the District of Columbia. Under this proposed program, scores of cities not now covered by air service would have daily flights and there would be vastly augmented schedules to the larger cities. Feeder airlines, whose objective it is to carry the air traveler from his community airport to the nearest trunk line terminal, are planning operations as soon as authority is granted by the Civil Aeronautics Board.

Each of the score of cities that will receive regularly scheduled air service under this new expansion program will require a ground radio station, thereby necessitating new radio operating personnel. In addition, a number of the larger domestic airlines, who, due to the manpower shortages during the war, were forced to hire female radio operators, are now making plans for a complete reconversion to a strictly male status in their ground radio operating sections. However, this process will be gradual. Over a period of time many new employees will be added to the various airline radio operating stations.

* * * * *

The F.O.U. has signed agreements with three airlines companies. ACA has NO agreements. The R. O. U. led the field in being the first union to obtain overtime for Flight Communications Officers. Our members receive \$4.00 per hour for all flight time in excess of 85 hours per month, computed on a quarterly basis. This is with PANAGRA.

REQUIREMENTS AND CODE SPEED

For those that are planning to take a "crack" at airlines operating, either flight or ground, the first requirement is that you hold a Second Class Radiotelegraph License, or higher. Some airlines companies require an applicant to hold both a Second Class Radiotelegraph and Second Class Telephone Licenses, or higher, but as a general rule, the telegraph "ticket" will suffice. For Flight Radio Officers, an applicant must be able to copy code and handle traffic at a minimum of 30 words per minute. For ground radio operators, it is essential that an applicant be able to type accurately at speeds from 50 words per minute up. Tune in WJX or some other of the many press stations now operating and build up that code speed. By copying direct on the "mill" you will increase your typing speed as well.

In the domestic airlines, the point-to-point CW circuits are fast being replaced by teletype and the majority of ground station operating is by phone from plane to ground and vice versa. With the trend definitely in this direction, it appears to be only a matter of time before nearly all ground station radio operating will be handled by radiotelephone.

A standard company physical examination is required of all applicants, primarily calling for general good health and from information received recently, good eyesight.

APPLY DIRECT TO COMPANY

The National Railway Labor Act, the law which governs the airlines, does not permit a closed-shop agreement, therefore it is necessary for those interested in airlines operating to apply directly to the company's Personnel office. It might be added here that it is best to apply in person and obtain an interview. If this is not practicable, a letter briefly outlining your qualifications and ability will be sufficient.

A few of the airlines companies to which you may apply for employment are listed below.

Pan American World Airways, Inc.,
LaGuardia Field, New York.

Transcontinental and Western Airlines, Inc.,
521 Fifth Avenue, New York City.

United Airlines, Inc.,
Mr. Robinson, Personnel Mgr.,
LaGuardia Field, New York.

Eastern Airlines, Inc.,
10 Rockefeller Plaza, New York City.

American Airlines, Inc.,
LaGuardia Field, New York.

NEW AND PROPOSED ROUTES

Air freight is destined to become an important part of some of the well known, organized airlines and the sole business of a few of the new airlines. One company that is now operating and specializes in transportation of freight by air is:

Air Cargo Transport Corporation,
Empire State Building, New York City.

Two of the many other airlines that have applied for charters are:

Trans-Marine, Inc.,
Hyannis, Mass.

Proposes flights from Hyannis, Mass. and other points on Cape Cod to New York City with intermediate stops at the islands of Nantucket and Martha's Vineyard and the city of New Bedford, Mass.

E. W. Wiggins Airways, Inc.,
Norwood Airport, Norwood, Mass.

Proposes flights from Boston to New York, Boston to Albany, New York and intermediate points along these routes.

GETTING YOUR CERTIFICATE OF DISCHARGE?

By Stephen E. Douglass

Many Radio Officers, as well as men in other branches of the Merchant Marine, have applied for their Certificates of Discharge after completion of 32 months of substantially continuous service in the Merchant Marine since May 1, 1940. Information regarding this discharge system has been generally circulated since the origin of the plan in mid-November 1945, and nearly every seaman now understands the necessary details. For those Radio Officers who are eligible for this Certificate, but who are uncertain of the correct procedure in applying for it, full information can be obtained at any office of the Recruit and Manning Organization of the War Shipping Administration.

During the early days after inauguration of this discharge system, a considerable number of men reported that they had received their Certificates in a comparatively short time, averaging three to five weeks. As time goes on, the number of applications will increase and the time required from date of application to the receipt of Certificate may reach six to eight weeks, or possibly longer. The greater portion of this time is required for the Washington, D. C. Merchant Marine Deferment office to check and confirm the statements made in the application, such as, service aboard merchant vessels, periods of disability, service as enrollee or student in a United States Maritime training school and periods while awaiting assignment.

To generally speed up the discharge system and to reduce the time from filing of the application to the receipt of the discharge, it is recommended that applicants heed the following suggestions:

1. Read the instruction sheet carefully before filling out the application.
2. Fill out application form completely, including all information requested.

3. Attach Coast Guard discharges, continuous discharge book or other proof of service indicated in application form. If original copies of these valuable documents are sent, be sure and send them by REGISTERED mail with sufficient postage enclosed so that the return of the documents may be made in the same manner.

4. To avoid the loss of documents submitted, it is urged that photostatic copies be procured and submitted in lieu of the originals.

OUR INACTIVE MEMBERSHIP

By Kenneth J. Wright

Recently a number of members from the Gulf region have left the industry, taken out inactive membership in the Union and either returned to jobs which they left to answer the country's call or secured for themselves new positions in various lines of work. Radio, in its many phases, seems to have attracted the majority of these men now ashore, but others have strayed far from this field.

Members who have found their way into broadcast include: A. W. Hingle, now Chief Engineer at WBT in Charlotte, N. C.; R. B. Hurley and Harold L. Heath at WAIA in Mobile, Ala.; Karl Seibold, Chief Engineer at WJEW, New Orleans; and Tom Scott at WDSU in New Orleans.

Two inactive members are now operating their own service shops; Frank Flaherty in Cape Girardo, Mo., and R. Reams Goodloe in Nashville, Tenn.

Clarence Scott is reported to be pounding brass for Mackay at WSL. Michael J. Brady is with the U. S. Engineers on the Mississippi out of Natchez, Miss.

Henry A. Crayon (former New Orleans R.O.U. Representative) has for several years been with the firm of Freeland and Glischner in New Orleans. This firm, founded by Bill Freeland, its President, is engaged in the manufacture and rebuilding of transmitter vacuum tubes.

Robert S. Brown is back again with the Submarine Signals Corp. in New Orleans while Jessie L. Mitchell is employed by the Audiphone Corp. in Houston, Texas.

Two of our members have now become teachers: Leonard W. "Bill" Passano is operating an airways navigation school in San Diego, Calif. and Melvin O. Johnson is instructor in theory at the local Gulf Radio School.

Entering various businesses for themselves are: Will A. Shaw returned to the practice of law in Houston, Texas, Carl Curet in his own cleaning and dyeing business in New Orleans, Dudley E. McEwen in his own Dixie Auto-Lec Store in Summit, Miss. John C. Hancock farming a few acres of his own in Orange City, Fla., and Edwin D. Aber in between sea voyages manages 118 acres of land in Jacksonville, Texas, devoted to the raising, grafting and experimenting with walnuts, pecans and hickory nuts. Brother Aber is credited by the U. S. Dept. of Agriculture with discovering the Aber Nut, a hickory with a thin shell.

Carl B. Hughey is back with the Railway Express Co. in New Orleans. Archie J. Sandifer has returned to the Post Office in Oak Grove, La. while Henry B. Breeding, Jr. is engaged in the photo-finishing business here in the Crescent City.

All of these members pay the inactive rate of dues when not shipping out. This rate gives them all the rights and privileges of a fully paid member and assures them that they will be able to get their names back on the assignment list when and if they decide to ship out again.

THE SIX MONTHS LAW

By Kenneth J. Wright

As most of you know, the "Six Months Law" is back in effect again. Some clarification of this law, its workings and its possible effect on you should be helpful.

This law was in effect before the war, but was suspended by the FCC for successive six-months periods during the war due to the lack of experienced Radio Officers to meet the demands of an expanding Merchant Marine. On January 1, 1946, further suspension was allowed to lapse and the law again became effective. It provides in substance that a Radio Officer, in order to sail as only Radio Officer on board an American-flag vessel, must previously have had at least six months radio experience aboard a ship of the United States.

These six months may have been obtained in any of the following ways: as Radio Officer (Chief, Second, Third or Only) on a merchant vessel of this country, aboard an Army transport or aboard any ship of the U. S. Navy, Army, Coast Guard or Army Engineers. Time served aboard foreign-flag vessels does not count, nor does time served ashore (in or out of the service), nor time served in the airways.

HAVE YOUR LICENSE ENDORSED

Men having six months or more of qualified experience should visit the nearest office of the FCC and have the following endorsement placed on the face of their licenses: "The Holder of This License Has Obtained at Least Six Months Service as a qualified operator in a land station of the U. S." Such an endorsement will save you, the FCC inspectors and the radio service company inspectors much time in determining the extent of your experience.

Here is how to establish proof of six months experience in order to obtain your endorsement. Such service must be shown on the back of your license and bear in mind that it must be "satisfactory" service. The FCC cannot under its regulations accept your discharges as evidence of time served. Your record MUST be on the reverse side of your LICENSE and it must be signed as "satisfactory" by the "Station Licensee, Master, Manager or Authorized Agent." Preferably your license should be signed by the Master (Captain) when you terminate employment on board his vessel. If this was not done, then take it to the radio service company, the "Station Licensee" for signing. This in most cases is either the Radio-marine Corp. of America or the Mackay Radio & Telegraph Co. Your Chief Radio Officer (if you sailed in a senior capacity) is not authorized to sign your license, neither is your Union Representative.

Here are the fields you have open to you, according to law, if you have had less than six months experience: Second or Third Radio Officer on a passenger ship, an assignment with the Army Transport Service, with the U. S. Engineers or on a tug boat or other small craft voluntarily equipped (not required by law to be fitted with a radiotelegraph installation).

Members having less than the required six months service should write, wire or telephone this office before coming to the Gulf for an assignment.

THE FUTURE OF GULF SHIPPING

By Kenneth J. Wright

A number of members have inquired as to what they may expect in the way of shipping from the Gulf area when the Merchant Marine is again under private operation.

Having taken over this office during the war (June, 1942), it is difficult to obtain a complete picture of conditions as they were before the war, hence it is difficult to accurately predict the post-war future.

At this writing, February, 1946, there are, however, a number of signs pointing to a much brighter post-war future for the Radio Officers' Union than we had in the pre-war past.

It is reasonable to believe that the majority of R.O.U. contract vessels operating out of the Gulf area will be controlled by four steamship companies: the Waterman Steamship Corporation, the Mississippi Shipping Company, the Isthmian Steamship Company and the Alcoa Steamship Company. Other contract lines will maintain periodic calls into Gulf ports, lines such as the P & O S.S. Co., the Seatrain Lines, Commercial Molasses, Socony-Vacuum, Cities Service, Moran Towing and the Clyde Mallory Line, but many of the latter will change personnel at Atlantic Coast ports.

The Mississippi Shipping Company now has building in the Ingalls' yard at Pascagoula, Mississippi, three new passenger liners, which later this year, will enter the New Orleans South America run. In this trade for Mississippi at the present time are four C-2's, a Victory and a few Liberties carrying cargo and a limited number of passengers. The C-2's and possibly the Victory will remain on this run.

Waterman is now operating four C-1's on the Mobile, New Orleans, Puerto Rico run and shortly expects to inaugurate coastwise and offshore runs utilizing modified C-2's built in their own yard at Chickasaw, Alabama.

Isthmian is expected to shortly resume its Far East runs, possibly with C-3's.

Alcoa is now operating three C-1's on the Venezuela run and also has a number of its older vessels in the bauxite trade. The newer ships will continue operation on this run; the older ones probably being replaced in time.

With the end of the war and near starvation in Europe, huge quantities of grain and flour are leaving the West Gulf region for Mediterranean ports and New Orleans is also shipping some grain to southern Europe. Such shipments, plus machinery and household goods (when available for export) should do much to increase shipping from virtually all Gulf ports.

Yes, shipping from the Gulf is good and it will increase as available export materials increase. Shipping will remain good from the Gulf for at least three to five years and possibly longer.

Kenneth J. Wright, our New Orleans Representative, was a member of ACA for many years. He didn't like it, so he joined the R. O. U.

Don't forget, either, that James J. Delaney, founder of ARTA/ACA and its first President, is now a member of R. O. U., and likes it. He knew, as all old-timers know, that ACA is nothing more nor less than a Communist-front organization.

GET YOUR RADAR TRAINING NOW

By Stephen E. Douglass

RADIO TRAINING SCHOOLS BEGIN

During the early days of 1941, the United States Maritime Service started their first Radio Training School to train enrollees in the art of radio operating to become Radio Officers in the vastly enlarged wartime Merchant fleet. Starting with the first class, when a course of one year's duration was being given, until the last class of September 10, 1945, when an intensified course of five months duration was prevalent, several thousand Radio Officers received their training and obtained their Federal Communications Commission licenses qualifying them to enter the Radio Officers' profession. This first school was located on Gallups Island in the Boston harbor. The second radio training school, opening shortly thereafter and located at Hoffman's Island, New York, turned out a like number of Radio Officers during its life span.

RADAR ON ALL SHIPS COMING SOON

Nearly every one in the United States, has heard of the application in its various forms and types of equipment used during the recent war aboard planes and naval craft for the locating of objectives and the spotting of targets, although these objects could not be seen. Although the fundamentals of radar were known for a good many years before the war, the secrets of new designs, new uses and adaptations and new operating procedures were guarded very closely throughout the war.

Shortly after V-E day, the United States Maritime Commission considered, as a post-war possibility, the application of radar equipment aboard every merchant ship as an improvement in its safety-of-life-at-sea program. At least five different types of this new invention underwent rugged tests. The first demonstration installation was made aboard the War Shipping Administration's training ship, the S. S. AMERICAN MARINER. This device, known as the electronic navigator, is somewhat different than the radar units used by the armed forces, but the tests have proven worthy of installing radar equipment aboard every merchant ship to assist in eliminating the hazards of major sea disasters resulting from collisions, in fog or darkness, with icebergs or other vessels. Continued testing led to the installation of this device aboard nearly every U. S. Army transport and Converted Liberty and Victory-type transports. This actual installation and operation aboard a great number of vessels led to still greater improvements and paved the way for radar aboard all ships.

During the current season of the ice patrol in the North Atlantic, a service that was discontinued during the war years, the Coast Guard will inaugurate the use of radar and other electronic devices to plot the course of dangerous masses of ice in the sea lanes to Europe. As a constant vigil can be kept on these block-size chunks of ice, due to radar's sight through fog or the blackest night, extremely accurate of iceberg movements will now be available.

Contact the nearest office of R. O. U. in case of strike. The Radio Officers' Union does not recommend strike-breaking on the part of any of its members. Although we are not in favor of the "ONE BIG UNION," now being sponsored by the C. I. O., nor are we in favor of the contemplated strike, nevertheless all members of the R. O. U. are UNION MEN. LIVE UP TO THOSE PRINCIPLES.

PLANS MADE FOR RADAR SCHOOL

The preliminary tests had been completed and the installation of radar units aboard the troop carrying vessels was well under way at the time of the closing of the Radio Training Schools at Gallups and Hoffman's Islands. The rapid progress and the favorable outcome of these radar experiments aboard merchant vessels led the United States Maritime Commission to draw up plans for a U. S. Maritime Radar Training school to train men already qualified as Radio Officers in the operation and maintenance of radar equipment. Lt.-Comdr. John J. Canavan, former training director at the Gallups Island training school, to whom many of you Gallups Island graduates looked to for guidance and advice during your training, was placed in charge of this training program and made plans for the new school.

INSTRUCTORS TRAINED

Ten men, the majority of whom are former instructors at the radio training schools and who are well-known to hundreds of Radio Officers actively engaged in the profession today, were chosen to train as Radar Instructors at the new school. During the latter part of 1945, these ten men were given their preliminary radar training at Fargo Barracks, a U. S. Navy station just outside Boston. After completion of this preliminary training, these men proceeded to the General Electric Laboratories in Schenectady, New York where they completed the advanced section of their training. Having had considerable experience in teaching radio theory and associated subjects, and having completed this complete course in radar, these men are well qualified to instruct the enrollees at the new Radar school.

The RADAR School

The United States Maritime Service Radar School will be located at Sheepshead Bay, Long Island, New York. Classes, which will be eight weeks in length, will begin March 15, 1946. After that date, classes will start at two week intervals. Each class will consist of a total of 27 men from the following areas:

- 18 men - New York (East Coast area)
- 5 men - San Francisco (West Coast area)
- 4 men - New Orleans (Gulf Coast area)

Applications for enrollment in this new radar school may be obtained and filed at the U. S. Maritime Service office at 45 Broadway, New York City, or offices at San Francisco or New Orleans. Remember, a new class enters the school every two weeks. If you meet the qualifications for this specialized training, get your application for enrollment in TODAY.

ENTRY QUALIFICATIONS

In order to enroll as a student at the new radar school, it is necessary that the applicant possess the following qualifications:

1. An applicant must be a member of the U. S. Maritime Service. If not a member, he must join, thereby obtaining the rank of Ensign, and state that he will serve actively in the Maritime Service for a period of at least one year after graduation.
2. An applicant must possess at least a Second Class Radiotelegraph license, preferably a First Class Radiotelegraph license, with at least two years actual sea experience as Radio Officer since Pearl Harbor.

Salary, subsistence, etc. for enrollees at this new Maritime Service Radar School will be paid in accordance to the individual rank held at the time of entry. There are no age limit requirements.

GET YOUR RADAR TRAINING NOW

With the coming of radar aboard all merchant vessels a certainty in the not-too-distant future, every Radio Officer with the necessary qualifications should enroll in the Maritime Service Radar School, not only to better qualify himself as a Radio Officer, but to further his education and be prepared for the shore jobs that this new invention and its various applications will bring about.

For the many hundreds of men who do not qualify for entry in the Maritime Service Radar School, because of the lack of the required two years experience require a number of text-books dealing with the fundamentals of the principles of radar are available that will prove very valuable for self-study.

The technical books that are now available on this subject are:

Ultra High Frequency Techniques
by Brainard D. Van Nostrand Co.-New York

Ultra High Frequency Radio Engineering
by W. L. Emery Macmillan Company

Radio at Ultra High Frequency
by R. C. A. Institutes Technical Press

Introduction to Micro Waves
by Simon Ramo McGraw-Hill Co.

Television Volume II
by R. C. A. Institutes, Inc.

Applied Electronics
by Mass. Institute of Technology John Wiley & Sons

Principles of Television Engineering
by Fink McGraw-Hill Co.

Transmission Lines, Antennas & Wave Guides
by King, Minno & King McGraw-Hill Co.

Radio Amateurs Handbook-Latest Edition
by American Radio Relay League

Through the long years of the recent war, the principles, adaptations, uses and all phases of radar information were kept highly secretive in order that the enemy might not learn of our latest developments. No technical textbook dealing entirely on the subject of radar has yet been published, but the foregoing list of textbooks include a wealth of information on the subject of radar that has been published for public use.

Tell your friends and acquaintances about the R. O. U. Let's have every member an organizer. Be a booster for R. O. U.

A new technical book dealing entirely with radar, including all the latest information and applications discovered during the recent years of research called:

Principles of Radar

by Mass. Institute of Technology

McGraw-Hill Company

will probably be off the press during the latter part of the year. Keep abreast of the latest developments. Procure your copy of one of these radar textbooks today.

THE FLIGHT COMMUNICATIONS OFFICER

By William Stempel

President, Flight Communications Officers Association

This article is primarily to acquaint the Marine Radio Officer about flight communications. Here is a new field that has expanded tremendously since Pearl Harbor and promises to expand in the future.

Generally, all flight communications work is international. Commercial transatlantic flying is done by American Overseas, a division of American Airlines, Pan American Airways and Trans World Airlines. The first two lines fly out of New York and TWA out of Washington, D. C. Terminus for American Overseas is Stockholm and eventually will be Moscow. Pan American flies to Prague and TWA calls at Karachi, India the end of the line.

In domestic flying, communications consist of voice contacts on company air ground frequencies. Transoceanic communications depend upon cw except for working weather ships and control towers.

At present, four engine Skymasters are being replaced by Constellations which cruise at a higher altitude and an air speed of about 250 mph. This is about 60 mph faster than the Skymaster. Indications are that the "Connie" will be replaced by the C-97 for transatlantic flying in about a year.

Qualifications for a Flight Communication Officer's job generally consist of

- High School education or equivalent.
- Second Class Telegraph license.
- Operation of aircraft radio equipment.
- Operation of aircraft direction finders.
- Familiarization with en route communications.
- Familiarization with radio procedures.
- Pass physical examination required by company.

A new employee must also check out in the company school in DF, some meteorology, blinker lamp, tuning up all equipment, etc.

A Senior Flight Communication Officer's qualifications vary with the company. Plus the preceding qualifications, requirements, are:

- One thousand hours or more flight time with company.
- Two years with company.
- Send and receive 30 wpm.
- Use semi-automatic key.
- Pass written examination on theory, facilities, frequencies, point to point routings, radio aids, etc.

Salaries start at \$250.00 and go to \$450.00 or \$475.00, top. Maximum hours according to CAA are 1000 hours flight time, annually. Due to larger and faster aircraft coming off the production lines, there will probably be a decrease in flight time and an increase in pay scale.

Crew set-ups also vary with the company. Some companies favor the multiple crew. In this case, two crews are aboard for long hauls. One crew works while the other crew sleeps and does the relieving later. In the layover crew set-up, a crew takes the plane on a 4 to 12 hour trip and lays over for a crew rest. A new crew takes the plane after refueling, while the off-crew rests 12 to 24 hours.

Transatlantic crossings have changed considerably from the spectacular days of Lindbergh to the modern sky giants that take off daily for far off places. That ocean crossings are as common as train rides is shown by the fact that American Airlines System has made almost 12,000 transatlantic flights.

A RESONANCE INDICATOR

By Morris Horton, Radio Officer, S.S. Tampico

The RCA ET8023 high frequency transmitter does not have an antenna ammeter and some operators, after calling for an hour or so, have discovered that the transmitter was out of order and not radiating.

These transmitters are tuned at the factory, but sometimes get out of tune at sea.

A resonance indicator that will serve the purpose of an antenna ammeter can be made easily from a small neon or any other low resistance light bulb. The resonance indicator bulb from a discarded lifeboat transmitter will do. Simply tie both wires leading from the bulb to the copper tubing of the antenna lead-out. Tie the wires about two or three inches apart. Then tune buffer and power amplifier stages and antenna tuning for brightest light. Always use low plate voltage when tuning, and on the ET8023 use the tuning key instead of the regular key.

YOUR "SHACK" IS YOUR HOME

By Stephen L. Douglass

Whether at sea or in port, for twenty-four hours each day from the day you join your ship until the day you leave her, the radio "shack" and your quarters aboard are your home. There are very few, if any, Radio Officers who are untidy in their own homes but from reports received and actual installations observed, there are a considerable number of Radio Officers sailing the ships today who give little thought and effort in keeping their "homes at sea" in order.

A few minutes each day, whether it be spent in swinging a dust cloth, wielding a paint brush or in general cleaning, is all that is required to keep the "shack" in spic and span shape, and with plenty of off-watch time available, it is not a too difficult task to "kill" a few idle moments each day for a worthy cause. Some Radio Officers have said, "Well, why should I clean up the 'shack'? I'm getting off this 'rust bucket' at the completion of this voyage. I'll get a cleaner installation on my next assignment." Will you get a better setup on your next ship? That remains to be seen, but in the greater majority of cases you will. However, you might get one

that is in just as bad shape, perhaps worse, than the ship you just left, because the man that left felt exactly as you did.

Remember, whether it be keeping the "shack" clean, "padding" the overtime sheets or "job" soliciting in a company under contract to the ROU, the actions of a mere handful of men are detrimental to everyone concerned. DO YOUR PART. START TODAY. A few suggestions that may be of value are:

1. Give the entire "shack" a general cleaning ONCE EACH DAY.
2. Use a soft cloth with a little lubricating oil, 3-in-1 will do, to polish metal dial surfaces occasionally.
3. Discard all old magazines, newspapers, literature, etc. that is no longer of any value.
4. Keep all necessary publications up to date and in order where they can be easily reached when needed.
5. Be sure a copy of the union agreement with the particular company for which you are sailing is aboard for ready reference. If no agreement is aboard, request one from any ROU office.

There is no need to elaborate on this subject for everyone is familiar with the simple task of keeping your "shack" in homelike order. Every Radio Officer likes to find a neat, clean radio room awaiting him upon boarding his ship. Let's make this true of all "homes at sea". TAKE PRIDE IN YOUR SHACK. KEEP IT CLEAN AND UP TO DATE IN EVERY RESPECT. NOW IS THE TIME. START TODAY.

HOLIDAYS WITH PAY FOR SEAFARERS

By Andrew MacDonald, General Chairman

The title of this article is also the title of a Draft Convention drawn up at the Maritime Preparatory Conference in Copenhagen for submission to the General Conference of the International Labor Organization scheduled to convene in Seattle some time this summer. A Draft Convention is simply a form of international agreement providing that certain conditions of employment be applied to the workers - seafarers in this case - of the countries that approve of and are signatory to the Convention. The Copenhagen Conference, at which the ROU represented the American Federation of Labor, drew up Draft Conventions covering: Social Security; Food and Catering on Board Ship; Wages, Hours and Manning; Accommodations; Promotion and Training; Continuous Employment; and Holidays with Pay for Seafarers.

The reports covering the various conventions are detailed and lengthy and generally they provide for conditions much below present United States standards. However, it may be of interest to the membership to see just what is discussed at one of those international conferences and for that reason we are printing below the major Articles of the Convention on Holidays with Pay for Seafarers. It should be understood that this Convention has not been adopted and it is likely to undergo amending at the Seattle Conference.

Article 1 - This Convention applies to the master, officers, and crew of all sea-going vessels, whether publicly or privately owned, which are engaged in the transport of cargo or passengers for the purpose of trade, and which are registered in a territory for which the Convention is in force.

Article 2 - Every person to whom this Convention applies shall be entitled after one month of continuous service with the same undertaking to an annual holiday with pay the duration of which shall be: (a) in the case of masters and officers, not less than one and a half working days for each month of service; (b) in the case of other members of the crew, not less than one working day for each month of service.

For the purpose of calculating when a holiday is due: (a) service off articles shall be included in the reckoning of continuous service; (b) short interruptions of service not due to the act or fault of the employee and not exceeding a total of six weeks shall not be deemed to break the continuity of the periods of service which precede and follow them; (c) continuity of service shall not be deemed to be interrupted by any change in the management or ownership of the vessel in which the person concerned has served.

The following shall not be included in the annual holiday with pay: (a) Public and customary holidays; (b) interruptions of service due to sickness; (c) any time off allowed in compensation for weekly rest days and public holidays worked at sea.

Article 3 - When an annual holiday is due it shall be given by mutual agreement at the first opportunity as the requirements of the service allow. No person may be required without his consent to take the annual holiday due to him at a port other than a port in the territory of engagement or a port in his home territory. Subject to this requirement, the holiday shall be given at a port permitted by national laws or regulations or collective agreement.

Article 4 - Every person taking a holiday in virtue of Article 2 of this Convention shall receive in respect of the full period of the holiday his usual remuneration. The usual remuneration shall include a suitable subsistence allowance and shall be calculated in a manner which shall be prescribed by national laws or regulations or fixed by collective agreement.

Article 5 - Any agreement to relinquish the right to an annual holiday with pay, or to forgo such a holiday, shall be void.

Article 6 - A person who leaves or is discharged from the service of his employer before he has taken a holiday due to him shall receive in respect of every day of holiday due to him in virtue of this Convention the remuneration provided for in Article 4.

Article 7 - Each Member which ratifies this Convention shall require employers to keep records for the purpose of facilitating its effective enforcement.

This Convention shall come into force six months after the date on which there have been registered ratifications by nine of the following countries: United States of America, Argentina, Australia, Belgium, Brazil, Canada, Chile, China, Denmark, Finland, France, Great Britain, Greece, India, Netherlands, Norway, Poland, Portugal, Sweden, Yugoslavia, including at least five countries each of which has at least one million gross registered tons of shipping.

* * * * *

Notify your Union before leaving your ship in any port. It is important that you notify the nearest office of R. O. U. before you actually leave your vessel. Don't wait until you reach home. It may be too late by that time and a non-union man may get your job.

R A D A R

By Andrew MacDonald, General Chairman

The radar transmitter consists of oscillator and modulator units. The high-frequency electromagnetic energy generated by the oscillator is transmitted in the form of pulses, each pulse being transmitted in a period of less than one millionth part of a second. Since the energy beamed by the radar antenna at a "target" is received back through the same antenna as an echo from the target, the transmitter is turned off while the echo of the transmitted pulse is being received. This turning off and on of the transmitter, occurring approximately one thousand times a second, is the function of the modulator. The rotating radar antenna is highly directional and is designed to concentrate the emitted radio energy into a sharp beam that scans the surrounding area as the antenna rotates.

The radar receiver, of superheterodyne design, converts the electronic echo reflected back from the target into a form that can be presented visually on the indicator. The reflected signal strength is weak and requires considerable amplification in the receiver. An electronic switch is used to disconnect the receiver from the antenna when the transmitter is emitting its energy pulses. The switchover from transmitter to receiver is accomplished in one microsecond.

The radar indicator, or scope, used in navigation is the PPI (plan-position-indicator) and it is the device that presents, visually, the information collected by the transmitter, receiver, and scanning antenna. The "sweep" starting in the center of the scope moves radially to the circumference. When an echo from the emitted energy pulse returns to the receiver, a portion of the sweep will be briefly illuminated on the face of the scope causing a "blip" to appear. Since the rotating antenna is synchronized with the sweep, the bearing of the blip will be in the same direction in which the antenna is directed. The forming of a continuous picture of the surrounding area on the scope is due to the relative slowness of the human eye and the rotating antenna as compared with the high speed of the pulsing energy being transmitted and received.

Determination of range on the radar is by means of a movable range ring geared to a dial and the use of fixed range circles to which the range of an object may be referred. Four or five range circles will be found usually on the seven inch diameter scope. The range from the radar to the radar horizon may be set to suit the needs of the navigator and the areas in which he is operating but generally it is set to the range of the optical horizon. For obtaining good bearing indications the PPI on a ship equipped with a gyrocompass, is stabilized in azimuth so that the top of the PPI is always north. A marker is then flashed when the antenna is pointed toward the bow to indicate true heading and both true and relative bearings can be determined readily.

The reliable range of radar is estimated at about 10 percent beyond the visible horizon. The higher the target, the greater the range and likewise, the higher the antenna the greater the range. Range can be increased by increasing the frequency and power output has a considerable effect on range coverage. A wavelength of approximately 3 cm; an antenna rotation speed of between 6 to 15 times per minute and a pulse repetition rate above 800 per second will give the best results.

The use and maintenance of radar aboard ship requires the services of a skilled radar operator. The thought that the equipment can be operated by anyone or that its operation can be made automatic comes under the heading of wishful thinking on the part of the steamship companies. Radar is not infallible; it is not a substitute for existing navigational methods but a supplement to them. A ship equipped with

inefficient or improperly operated radar is in more danger than a ship not equipped with radar. The location of the antenna tower aboard merchant ships will be above or near the bridge and chartroom. This means that the radio room of the future will be adjacent to the navigating bridge since the radar units will be in the radio room with a PPI repeater in the wheelhouse.

The United States Merchant Marine will not be equipped with radar overnight. Passenger ships and ships operating in close waters where the risk of collision is greatest will be the first to be equipped but eventually all ships will be required by law to carry radar. Licensing of radar operators is probable and unquestionably the operation of the equipment will fall to the skilled and licensed Radio Officer.

COASTAL STATION SCHEDULES

RADIOMARINE CORPORATION OF AMERICA
75 Varick Street, New York City, N.Y.

TRAFFIC DEPARTMENT
Chief Operators Office

RADIOMARINE COASTAL STATIONS - BROADCAST OF TRAFFIC LISTS AND WEATHER REPORTS

CHATHAM, MASS. WCC/WIT Sends Traffic List: 0130, 0200, 2200, on 406, 8430, 11200 kc
" " 1400, 1800, on 406, 8430, 11200, 16880 kc
Weather: 1400, on 406, 8430, 11200, 16880 kc
" 2200, on 406, 8430, 11200 kc

NEW YORK, N. Y. WNY Sends Traffic List: Ten minutes past each even hour on 170 kc
Sends Weather: 1400, 2200, on 170 and 442 kc

TUCKERTON, N.J. WEC Sends Traffic List: First minute of each odd hour on 462 kc
Sends Weather: 1430, 2230, on 462 kc

LAKE WORTH, FLA. WOE Sends Traffic List: 0005 and every two hours on 394 kc

PT. ARTHUR, TEXAS WPA Sends Traffic List: 0018, 0218, 0418, 1418, 1618, 1818, 2018, 2218, on 418 and 8570 kc
Sends Weather: 1748 on 418 kc

SAVANNAH, GA. WSV Sends Traffic List: 35 minutes past EACH EVEN hour between 0235 and 1635, on 408 kc
Sends Weather, Hatteras to Jacksonville, at 1635 on 408 kc

*** **
ALL TIMES ABOVE GREENWICH MEAN TIME (GMT)
*** **

CHATHAM WCC/WIT is open 24 hours daily
NEW YORK WNY " " " " "
TUCKERTON WEC " " " " "
LAKE WORTH WOE " " " " "
SAVANNAH WSV is open 7:30 AM to 7:00 PM daily, EST
PT. ARTHUR WPA is open 7:00 AM to 11:00 PM daily, CST

*** **
ALL STATIONS WILL NORMALLY CALL AND ANSWER CALLS ON THEIR WORKING FREQUENCIES IN BANDS OTHER THAN THE 385-500 kc BAND.
*** **

HACKAY RADIO AND TELEGRAPH COMPANY, INC.

MAINE DIVISION

111 Eighth Avenue
New York 11, N.Y.

February 1, 1946

All Ship Radio Officers

The following is a revised list of the hours of operation of Hackay Radio Marine Coastal Stations as of January 1, 1946.

ATLANTIC COAST

WAG - Thomaston, Maine, open continuously. Intermediate and low frequency (L. F. 170 KC). Traffic list broadcasted at: 0220, 0520, 0820, 1120, 1420, 1720, 2020, and 2320 GMT on 394 KC.

WSL - Amagansett, N. Y., open continuously. High, intermediate and low frequency. Traffic list broadcasted at: 0050, 0350, 0650, 0950, 1250, 1550, 1850 and 2150 GMT on 474, 5555, 8390 and 12585 KC. Lists are sent on all frequencies simultaneously.

WJR - Jupiter, Florida, open continuously. Intermediate frequency only. Traffic list broadcasted at: 0030, 0230, 0430, 0630, 0830, 1030, 1230, 1430, 1630, 1830, 2030 and 2230 GMT on 476 KC.

WSF - New York Harbor, N. Y., open continuously. Intermediate frequency. Sandy Hook weather at 1400 and 2200 GMT on 420 KC (9 A.M. and 5 P.M. EST). Contact WSF on arrival and departure. No special traffic list.

WSF has direct teletype landline connections with WSL. All Steamship Company Business Messages telephoned from WSF to companies in New York area.

PACIFIC COAST

KOK - Clearwater, California (near Los Angeles), open continuously. Intermediate and high frequency. Traffic list broadcasted at: 0050, 0250, 0450, 0650, 0850, 1050, 1250, 1450, 1650, 1850, and 2050 GMT on 418 KC.

KOK sends continuous traffic list on high frequency bands (16790 and 8370KC) in use at time of day or night by automatic transmission. Ships will be advised on what frequency to call the station by this automatic transmission or by "CQ" wheel.

WFS - Palo Alto, California, open continuously. Intermediate and high frequency. Traffic list broadcasted at: 0130, 0330, 0530, 0730, 0930, 1130, 1330, 1530, 1730, 1930, 2130, 2330 on 418, 8380, 12550 and 16780 KC. Lists are sent on all frequencies simultaneously. Weather Forecasts sent at 0400 and 1600 GMT on 418 KC daily.

KEK - Hillsboro, Oregon (near Portland), open continuously. Intermediate and high frequency 0000, 0200, 0400, 0600, 0800, 1000, 1200, 1400, 1600, 1800, 2000, 2200 GMT on 418, 6260, 8670 and 11130 KC.

NOTE - Each Intermediate Frequency Station will call CQ on 500 KC at time listed above and indicate that station will shift to working frequency and transmit call letters of all vessels they have traffic on hand for. Stations having High Frequency will transmit on their working frequency in use at time of day or night.

Individual calls will be made at intervals in between traffic lists indicated above.

All traffic lists sent by coastal stations during the hours a watch is stood aboard your vessel should be copied and entered in your log whenever possible.

Yours very truly,

E. H. Price
Vice President and General Manager
Marine Division

R U L E S
of the
Radio Officers' Union

1. Every member is required to notify the nearest office of the Radio Officers' Union before quitting his ship. If you wish to relinquish your job in a port at which there is no R. O. U. office, send a NIGHT-LETTER telegram to the nearest office of the R. O. U. If in doubt, send your telegram, or telephone, to the New York office of the R. O. U., 1440 Broadway, Suite 1568, New York, N. Y. The phone number is LACKAWANNA 4-5022. NEVER QUIT YOUR JOB BEFORE NOTIFYING YOUR UNION. If possible, remain on board until your relief arrives. Check up on the membership of the man who relieves you. If he is not a member in good standing, notify the R. O. U. immediately. If the company hires a non-union man to take your place, because of the inability of the Union to furnish a relief for you, urge him to join the R. O. U.
2. Members are NOT permitted to solicit jobs with steamship companies with which we hold signed agreements or in which all jobs are given to the R. O. U. If you do not possess a list of R. O. U. contract lines, ask or write for such a list.
3. Members in good standing already employed by a steamship company are privileged to accept transfers or promotions, provided they first notify the R. O. U. and obtain a clearance for such.
4. ALL JOBS ARE GIVEN OUT THROUGH THE UNION OFFICE in rotation as the names of members appear on the unassigned list; provided the member is qualified by license and experience to handle the job in question.
5. It is highly unethical and unalterably opposed to good union principles and practice for any member to attempt to obtain the job held by another member. Members will NOT be cleared for jobs obtained by such practices.
6. When a member informs the R. O. U. that he intends to quit his ship, his name is immediately placed on the unassigned list; however, it is well for every member to check on this by writing us a short letter requesting that his name be placed on the list. When one's name is placed on the list, it continues to rise higher and higher as men are shipped out ahead of him until his name finally reaches the top, or No. 1 position. One can always ship out, however, long before his name reaches the top.

7. Dues have not been increased during the war. They are the same as they were when Radio Officers received a maximum of \$125.00 per month. That is, 7.50 per quarter, payable in advance. Members will save the union much work by paying two or more quarters at one time. The high wages now being made make this comparatively easy.
8. PAY ALL MONEY ORDERS OR CHECKS PAYABLE TO THE RADIO OFFICERS' UNION. Do not make them payable to any individual official of the Union.
9. When your vessel is in port where the R. O. U. maintains an office, make it a practice to visit your union office. The officials often have information which is of vital importance and assistance to you.
10. Members are urged to have their mail sent in care of the R. O. U. office where it is well taken care of and where you will always be certain to receive it when your vessel reaches port.
11. If you are not receiving the Monthly Journal, it may be due to the fact that you have changed your mailing address. NOTIFY YOUR UNION OF ANY CHANGE OF ADDRESS. Such information should be sent to the New York office of the R. O. U.
12. We once boasted of the fact that we answered every letter, but we are finding it increasingly more difficult to do this now. The R. O. U. now has more than 4200 members and we now frequently find it utterly impossible to wade through the huge pile of correspondence which arrives daily. If you receive no reply to your letter, do not condemn the officers too harshly. Your letter will be answered if it is possible to do so.
13. Take an active part in your union. It represents you and your interests. Be proud of your profession. THIS IS A RADIO OFFICERS' UNION.
14. Membership meetings are held on the Second Tuesday of each month at 1440 Broadway. Make it a point to attend if you are in New York on this date.

HOW TO TAKE A STORAGE BATTERY CHARGE

By Fred M. Howe, General Secretary-treasurer

One young fellow called at the office a few days ago and, during the course of the conversation which ensued, revealed that he had ruined a good suit of clothes in caring for the batteries. He brought this matter up as a convincing reason why he should be paid overtime which the company had refused to pay. "How did you do it," I asked, and then proceeded to answer the question myself. "Did you hold the hydrometer up in front of you filled with electrolyte, leaning backward slightly so you could better determine the reading?" I indicated how this is sometimes done. "Yes," he replied "well," I said, "that will do it every time." If the electrolyte drops down on your suit, it is quite likely to change its appearance.....I mean the appearance of the suit, of course."

Another young fellow revealed the embarrassing details of how he had lost the seat of his pants. Upon cross-examination, I learned that he had sat on the batteries. Sitting on the batteries won't injure the batteries, but such action is more than likely to make material alterations in one's trousers.

SOME MEAN FELLOWS

Manufacturers of storage batteries are really mean fellows. Just prior to selling the batteries for "Marine Use Only," these scoundrels fill the batteries almost full of sulphuric acid and water. Just to fool the public, they name the solution, "ELECTROLYTE," and let it go at that. When you go on board a ship and inspect these batteries, you will find a lot of this damnable solution in all of your storage batteries. But believe it or not, it's good for them.....I mean the batteries. This solution is not good to drink; neither is it suitable for washing silk shirts. It is the worst possible liquid with which to clean a uniform, whether it be an Ensign's, Lieutenant's, or Commander's. It has the bad property of making holes in all kinds of wearing apparel. In case you don't believe what I am writing here, well, try it and see for yourself. No charges for the advice.

Most Radio Officers receive from two to four hours overtime weekly for charging and caring for the batteries. This is not too much, particularly if you ruin a good suit every time you "monkey" with them. It is, however, a fair amount for the work involved. Whether we like the "detestable" capitalist who operates the ship should have little or no effect upon one's performance of the work involved in caring for the batteries. After all the batteries are owned (in most cases) by the Government, and it is Government money which is paid you for taking care of them. As we are part owners in the Government, and as we pay our taxes, it is reasonable to assume that every American is anxious to take good care of his own property, see that it is not ruined by carelessness or improper attention. I am sure that all members of R. O. U. agree with this statement of policy. If we are to care for the batteries, and if we are to receive payment for such care, what we want to know is: HOW SHOULD THE WORK BE DONE; in other words, how should storage batteries be cared for so that they will give the best results and not be ruined before their natural life should ordinarily terminate. I shall make it brief with the hope that the newer members of our profession will benefit by the reading hereof.

USE A CHAIR

1. Do not sit on a storage battery. Use a chair.
2. Do not hold the hydrometer up in front of your eyes and allow the electrolyte to run down on your vest. It's not soup and it won't match your vest, anyway. Besides, it will eat a hole in your clothes, and it will eat a hole in you if you permit a sufficient amount of it to spill on you.
3. When testing the specific gravity of a cell, place the rubber end of the hydrometer into the electrolyte, squeeze the rubber bulb until the glass is almost filled. Do not remove the rubber tubing from the solution. Hold the hydrometer vertically while the tube is in the electrolyte and observe the reading. If, because of lack of proper lighting facilities, you are unable to determine the reading, procure a flashlight. But don't place the flashlight in the acid. That's not what it's for. When you have determined the correct reading, squeeze the rubber bulb and let the solution run back into the battery. Never take it out and let it run on your pants. If the battery is fully charged, the reading should be identical, or nearly so, with what the manufacturer has stamped on the name-plate tacked to the battery.
4. Fill the battery with distilled water so that approximately 1/2 inch of water is above the plates. DO NOT USE SHIP'S WATER for this purpose. It's rusty and dirty and sometimes contains elements which would ruin the battery.

Ordinary hydrant water in some cities has been pronounced satisfactory, but be certain that you know what cities have such kind of water. New York City hydrant water is all right. But before pouring this water into the batteries, let the water run a few minutes in order to clear out any rust or dirt that may be in the pipes.

5. If your battery does not respond to charging, DO NOT POUR IN SULPHURIC ACID. The addition of sulphuric acid will surely bring up the specific gravity, but too much acid will ruin the plates and thereby ruin the battery.

6. Before sailing, check your distilled water. Be sure that you have a sufficient supply to last you for the voyage. If you don't know how much distilled water will be required for the voyage, ask the radio service company, or consult your union representative.

7. In order that the bottles containing the distilled water won't get broken, be certain that they are properly secured. If the ship rolls, the bottles are likely to get broken. Liberty ships always roll, and so do the others.

8. Don't charge your batteries too much. Too much charging will ruin the batteries. Take specific gravity readings while charging. When the gravity reads FULL, throw off the switch.

9. Keep your batteries fully and properly charged at all times. See that the plates are always covered with water.

10. Keep the batteries clean. Take a dry rag and wipe all dirt from the top of the batteries. Grease the terminals and keep them greased. Grease prevents corrosion.

11. Don't be afraid to ask others, particularly the Radio Repairmen, how to do things. Nearly all of these men are thoroughly experienced and all have been Radio Officers the same as you. Don't get the foolish idea that by keeping "mum," you are playing wise. You don't fool anybody, except yourself. Ask questions of every inspector; ask questions of other Radio Officers; ask questions of your ICG Representative. He, too, has been a Radio Officer. Even though he looks "dumb," it is barely possible that he knows the code and a couple of other things besides. Don't be like the woman who didn't want her visitors to know that "little Johnny" was foolish. She told Johnny not to say a word when the company came. He obeyed implicitly. When one of the ladies asked Johnny what his name was, he refused to answer. Another lady asked him: "Can't you talk, Johnny?" But Johnny refused to utter a sound. Finally, one of the ladies said: "I think he must be foolish." Johnny suddenly ran from the room, saying, "I am, they found it out."

12. Take as good care of the batteries as you would if you owned them yourself. Take as good care of the batteries as you do with other parts of your radio installation.

13. Keep your battery room clean and tidy as you should the radio operating room. People will judge you by the appearance of your quarters, and the installation in your care.

DUPLEX OPERATION

By Fred M. Howe, General Secretary-treasurer

Way back in the "good old days", the Vice President of one of our leading steamship companies placed his son on board as a Radio Officer. It was a passenger ship, and required the best of men. Now, some would think that the Vice President's son would know almost everything. Sometimes he does, and sometimes he merely thinks he does. This young man of whom I write was a "swell guy", had a good education, and a second class radio-telegraph license. He wasn't a "Wise Guy", just a plain, clean-cut American kid. But he had never had any experience as a Radio Officer, so they made him Third Radio Officer, and he stood the midnight to 4:00 A.M. watch, or rather that part of it after the Second had copied the press. One night he transmitted ten messages, or at least he thought he did; in fact, he was willing to wager anyone that he had sent ten messages. He sent them to WCC at Chatham, Mass. When he was a boat ready to commence operations on such a grand scale, he laid the ten messages in a neat pile on the desk in front of him, started the transmitter, called WCC WCC WCC de WISH WISH WISH to A. Then he listened and he heard WCC winding up his call, followed by -- but he hadn't heard all of WCC's call. All he had heard was the call letters of WCC followed by the go-ahead signal. He concluded it was WISH, and, consequently, commenced sending traffic. WCC, at that time, as well as today, had expert operators and to copy ten messages without a break was a common practice. The Kid sent the ten messages without a break, released the key, and listened. What he heard was simply this: "R R R O. K. GN". "Knowing" that he had sent the ten messages, and that they had been received O. K., the Kid leaned back in his chair and beamed with satisfaction of a day's work well done. He felt so happy to realize that he had covered five thousand miles. After all, he thought, "Who are these two big guys that they call the Chief and the Second. I, too, can send messages".

HE THOUGHT HE SENT IT

In those days, it was a practice to start numbering the messages after midnight WCC time. These messages were the first sent to WCC after midnight by his ship therefore, they were numbered from one to ten. At 4:00 A.M., the Chief came on watch. He, too, had traffic to transmit, so he called WCC. WCC answered back promptly and the Chief began with No. 11. WCC answered back as follows: "R R R, but make it No. 1 instead of No. 11". The Chief answered back that it should be No. 11 and not No. 1. WCC replied that this was the first message received since midnight. The Chief countered by saying: "No, we sent you messages Nos. 1 to No. 10 at 0700 GMT". WCC replied that no traffic had been received from his ship. After spending more than thirty minutes debating the matter, the Chief transmitted the ten messages which the Kid had believed he had sent. They had not been received by the station. How did it happen? Well, here is how it happened:

THE DUPLEX

WCC is one of the few stations in the world which communicates with a dozen ships simultaneously. It employs two or more transmitters, but a dozen radio operators to operate them. WCC was very careful to make the ship's call letters every time he called a ship. This was necessary because of the duplex operation. A dozen ships could transmit traffic simultaneously. Each of the twelve operators would, as occasion demanded, use one of the transmitters to call the ship and O. K. receipt of the message.

When an operator hears this duplex system for the first time, he is frequently confused. He may call WCC, and WCC will answer immediately, telling him to "GA," and with scarcely a pause another operator using the same transmitter at WCC "breaks-in" and calls another ship, and tells him to "GA." A third, a fourth, and a fifth operator may continue to call ships, but the first man is baffled and fails to start transmission because he believes that WCC has "deserted" him. As soon as the operator at WCC is convinced that the first man is confused and is hesitating in commencing transmission, he "breaks-in" and calls him again, telling him to GA. This is all confusing to some Radio Officers, but need not be. All you need to know, however, is that WCC has called your ship. Do not start transmission unless you are positive that he has told you to go ahead. This should not be confusing if your receiver is working well, because WCC will call you by making your call letters every time he works your ship, even though he works you every two minutes. It is a wonderful system, highly efficient, and easy to understand. IT IS TERMED DUPLEX OPERATION.

HOW TO GET YOUR TRAFFIC

One of our members who is employed at WCC writes us as follows:

"Things at the station are going well, but we do have our problems with the operators who are on the air today; however, we got our traffic from them, some way. We realize that they are now at the game and with the sudden change from wartime to peace-time procedure, they don't do too badly. Some of them, however, are real problems.

"Most of the men fail to copy the traffic lists sent out by all coast stations. If the men would listen to our traffic schedules, we could forget about procedure for a while. The important thing for us here is to see that the traffic moves. It must move and there is only one way it must move. It must go to the ships".

"Somebody ought to tell these boys about our Duplex operation on high frequency. Most of the new men fail to understand that we are working a dozen ships simultaneously. Being unfamiliar with this type of operation, traffic is frequently stalled. As soon as our transmitters commence to work another ship, these new men stop sending. This means a delay in that we must wait and call the ship the second time, sometimes several times, before we can induce him to send his message".

CHEER UP - WE WERE JUST AS "DUMB" AS YOU

So, fellows, that's what one of the old-timers thinks about you. He wants to help you in order that you may succeed in your work, and he has asked us to explain this to you. Every coastal station sends what is termed a traffic list. This consists of a list of ships' call letters of those vessels for which the station has traffic. These traffic lists are sent out several times each day which makes it unnecessary for any ship to call the coastal stations and ask QRU? Listen to the traffic lists and you will know whether the particular station has a message for your ship. WCC/WIM sends traffic lists 5 times each day and weather twice each day. WNY sends traffic lists at 10 minutes past the hour on 170 K.C.'s and 442 K.C.'s. WSC sends traffic lists the first minute of each odd hour on 462 K.C.'s. WOE sends traffic lists at 0500 GMT and every two hours thereafter on 394 K.C.'s. WPA sends traffic lists at 0018 GMT and every two hours thereafter on 418 and 8570 K.C.'s. For your information and assistance, we are publishing some of the principal schedules of the more important stations.

Don't quit radio operating because your first trip was a bitter failure. It is well to know that we were just as "dumb" as you when we made our first trips. We had to learn; we did learn, and so will you. Cheer up and get that traffic moving.

R. O. U.'S

INACTIVE MEMBERSHIP

3.00 PER QUARTER

Nearly all members of The Radio Officers' Union who are now working ashore, or who intend to work ashore, wish to retain their R. O. U. membership. They wish to retain their membership for a variety of reasons. Those who do not find suitable employment ashore will quite likely return to the Merchant Marine; some see the advantages in the new C. T. U. insurance benefits which now range from \$200.00 upwards in case of death; others see the benefits which an honestly-run union provides to its members and which they, themselves, derived in the course of their membership in R. O. U., and they sincerely want to help support the R. O. U. for what it has done, what it is doing, and what it will do for its members in the future.

If you are working ashore, or in the airways as a flight or ground Radio Officer, attending school, or engaged in any pursuit whatsoever other than employment as a Radio Officer on a ship, you may retain your R. O. U. membership by taking out the INACTIVE MEMBERSHIP which costs you only \$3.00 per quarter.

There is no red-tape in transferring from the ACTIVE to the INACTIVE status. There are no forms to fill out; there is nothing that you must sign; you relinquish none of your rights, and there are no complications involved. You merely send in your dues in the same way as you have always done, except that you send \$3.00 instead of the usual \$7.50.

In case you wish to ship out at some future date, all you need to do is to pay \$4.50 additional for the particular quarter during which you accept a ship assignment, thus bringing your dues up to \$7.50. Again, there are no complications, no red-tape. You merely walk into any R.O.U. office, pay \$4.50 and take a ship. During your INACTIVE status, you will receive your copy of the monthly Journal free; you vote in all R.O.U. elections; you will receive the funeral benefit----just in case. Inactive dues are \$3.00 per quarter, payable in advance.

FACTS TO KNOW AND REMEMBER

by Ralph D. Finch

LAWS, RULES AND REGULATIONS GOVERNING
COMMERCIAL RADIO OFFICERS

Radio Districts - The United States and its possessions have been divided into so-called radio districts in order to effectively carry out the requirements of the law. An Inspector-in-charge has supervision over each district. The district numbers and addresses are set forth below. Contact the nearest Radio-District Office for information concerning radio operator's license examination, etc.

(continued on next page)

Pay your dues in advance. Dues are \$7.50 per quarter. Your beneficiaries will not receive the insurance benefit-----just in case-----if you are not paid up in your dues.

DISTRICT

HEADQUARTERS

ADDRESS

1	Boston, Mass.	Custom House
2	New York, N. Y.	Subtreasury Building
3	Philadelphia, Pa.	35 S. Ninth Street
4	Baltimore, Md.	Immigration Stn.
5	Norfolk, Va.	Custom House
6	Atlanta, Ga.	528 Postoffice Bldg.
7	Miami, Fla.	1424 Dade County Bldg.
8	New Orleans, La.	Custom House
9	Galveston, Texas	209 Prudential Bldg.
10	Dallas, Texas	404 Federal Bldg.
11	Los Angeles, Calif.	1105 Rives-Strong Bldg.
12	San Francisco, Calif.	Custom House
13	Portland, Oregon	227 New Postoffice Bldg.
14	Seattle, Washington	1012 Exchange Bldg.
15	Denver, Colorado	Post Office Bldg.
16	St. Paul, Minn.	413 Federal Bldg.
17	Kansas City, Mo.	Federal Bldg.
18	Chicago, Ill.	Engineering Bldg.
19	Detroit, Mich.	David Scott Bldg.
20	Buffalo, N. Y.	518 Federal Bldg.

FCC RULES

13.1 Licensed operators required. — Unless otherwise specified by the Commission, the actual operation of any radio station for which a station license is required shall be carried on only by a licensed radio operator of the required class.

13.2 Classes of licenses. — The classes of commercial operator licenses issued by the Commission are:

- a. 1. Radiotelephone second-class operator license.
2. Radiotelephone first-class operator license.
- b. 1. Radiotelegraph second-class license.
2. Radiotelegraph first-class license.

13.4 Term of licenses. — Commercial operator licenses are normally issued for a term of 5 years from the date of issuance.

13.11 Procedure. — The application form in duplicate for operator license, properly completed and signed, shall be submitted in person or by mail to the office at which the applicant desires to be examined, which office will make the final arrangements for conducting the examination. If the application is for renewal of license, it must be submitted during the last year of the license term and if the service requirements are fulfilled the renewal license may be issued by mail. A renewal application shall also be accompanied by the license to be renewed.

13.12 Special provisions, radiotelegraph first-class. — An applicant for the radiotelegraph first-class license must be at least 21 years of age at the time the license is issued and shall have had an aggregate of one year of satisfactory service as a radiotelegraph operator manipulating the key of a manually operated radiotelegraph station on board a ship or in a manually operated coastal telegraph station.

EXAMINATIONS

13.21 Examination elements. — Written examinations will comprise questions from one or more of the following examination elements:

- Element 1. BASIC LAW
- 2. BASIC THEORY AND PRACTICE
- 3. RADIOTELEPHONE
- 4. ADVANCED RADIOTELEPHONE
- 5. RADIOTELEGRAPH
- 6. ADVANCED RADIOTELEGRAPH

13.22 Examination requirements. — Applicants for original licenses will be required to pass examinations as follows:

c. Radiotelegraph second-class operator license:

- 1. Ability to transmit and receive spoken messages in English.
- 2. Transmitting and receiving code test of sixteen (16) code groups per minute.
- 3. Written examination elements: 1, 2, 5, and 6.

d. Radiotelegraph first-class operator license:

- 1. Ability to transmit and receive spoken message in English.
- 2. Transmitting and receiving code test of twenty-five (25) words per minute plain language and twenty (20) code groups per minute.
- 3. Written examination elements: 1, 2, 5, and 6.

13.24 Passing mark. — A passing mark of 75 per cent of a possible 100 per cent will be required on each element of a written examination.

13.25 New class, additional requirements. — The holder of a license who applies for another class of license, will be required to pass ONLY the added examination elements for the new class of license.

13.27 Eligibility for reexamination. — An applicant who fails an examination element will be ineligible for 2 months to take an examination for any class of license requiring that element. Examination elements will be graded in the order listed, and an applicant may, without further application, be issued the class of license for which he qualifies.

13.28 Renewal examinations and exceptions. — A license may be renewed without examination provided the service record on the license shows at least 3 years satisfactory service in the aggregate during the license term and while actually employed as a radio operator under that license; or shows at least 2 years' service in the aggregate, under the same conditions, of which 1 year must have been continuous and immediately prior to the date of application for renewal.

CODE TESTS

13.41 Transmitting speed requirements. — An applicant is required to transmit correctly in the International Morse Code for 1 minute at the rate of speed prescribed in these rules for the class of license desired.

13.42 Transmitting test procedure. — Transmitting tests shall be performed by the use of the conventional Morse key except that a semi-automatic key, if furnished by the applicant, may be used in transmitting code tests of 25 words per minute.

13.43 Receiving speed requirements. — An applicant is required to receive the International Morse Code by ear, and legibly transcribe consecutive words or code groups for a period of 1 minute without error at the rate of speed specified in the rules for the class of license for which application is made.

13.44 Receiving test procedure. — Receiving code tests shall be written in long-hand either in ink or pencil except that in the case of the 25 words per minute code test, a typewriter may be used when furnished by the applicant.

13.45 Computing word or code groups. — Each five characters shall be counted as one word or code group. Punctuation marks or figures count as two characters.

OPERATORS AUTHORITY

13.61 Operator's authority. — The various classes of commercial operator licenses issued by the Commission authorize the holders thereof to operate radio stations, except amateur, as follows:

c. Radiotelegraph second-class operator license. — Any station while using type B, A-1, 2, 3 or A-4 emission except —

1. Any of the various classes of broadcast stations other than a relay broadcast station, or
2. On a passenger vessel required by treaty or statute to maintain a continuous radio watch by operators or on a vessel having continuous hours of service for public correspondence, the holder of this class of license may not act as chief operator.
3. On a vessel required by treaty or statute to be equipped with a radiotelegraph installation, the holder of this class license may not act as chief or sole operator until he has had at least 6 months' service as a qualified radio operator on a vessel of the United States.

d. Radiotelegraph first-class operator license. — Any station while using type B, A-1, 2, 3, or A-4 emission, except —

1. Any of the various classes of broadcast stations other than a relay broadcast station.
2. On a cargo vessel required by treaty or statute to be equipped with a radiotelegraph installation, the holder of this class license may not act as chief or sole operator until he has had at least 6 months' satisfactory service as a qualified radiotelegraph operator on a vessel of the United States.

NOTE: A ship shall be considered a passenger ship if it carries or is licensed or certificated to carry more than 12 passengers. A cargo ship means any ship not a passenger ship.

SERVICE ENDORSEMENT

13.91 Endorsement of service record. — A station licensee, or his duly authorized agent, or the master of a vessel acting as the agent of a licensee, shall endorse the service record appearing on said operator's license, showing the call letters and types of emission of the station operated, the nature and period of employment, and quality of performance of duty.

13.93 Service acceptability. — Credit will be allowed only for satisfactory service obtained under conditions that required the employment of licensed operators, or when obtained at United States Government stations.

EXCERPTS FROM COMMUNICATIONS ACT OF 1934

Section 321. Distress signals and communications; equipment on vessels; regulations.

(a) The transmitting set in a radio station on shipboard may be adjusted in such a manner as to produce a maximum of radiation, irrespective of the amount of interference which may thus be caused when such station is sending radio communications or signals of distress and radio communications relating thereto.

(b) All radio stations, including Government stations and stations on board foreign vessels when within the territorial waters of the United States shall give absolute priority to radio communications or signals relating to ships in distress; shall cease all sending on frequencies which will interfere with hearing a radio communication or signal of distress and, except, when engaged in answering or aiding the ship in distress, shall refrain from sending any radio communications or signals until there is assurance that no interference will be caused with the radio communications or signals relating thereto, and shall assist the vessel in distress, so far as possible by complying with its instructions.

Section 324. Use of minimum power.

In all circumstances, except in case of radio communications or signals relating to vessels in distress, all radio stations, including those owned and operated by the United States, shall use the minimum amount of power necessary to carry out the communication desired.

Section 325. False distress signals, etc.

(a) No person within the jurisdiction of the United States shall knowingly utter or transmit, or cause to be uttered or transmitted, any false or fraudulent signal of distress, or communication relating thereto.

Section 326. Indecent language.

No person within the jurisdiction of the United States shall utter any obscene, indecent, or profane language by means of radio communication.

Section 358. Master's control over operations.

The radio installation, the operators, the regulation of their watches, the transmission and receipt of messages, and the radio service of the ship except as they may be regulated by law or international agreement, or by rules and regulations made in pursuance thereof, shall in the case of a ship of the United States be under the supreme control of the master.

Section 359. Certificates of compliance.

Each vessel of the United States to which the safety convention applies shall comply with the radio and communication provisions of said convention at all times while the vessel is in use, in addition to all other requirements of law, and have on board an appropriate certificate as prescribed by the safety convention.

Section 605. Un-authorized publication or use of communications.

No person receiving or assisting in receiving, or transmitting or assisting in transmitting, any interstate or foreign communications by wire or radio shall divulge or publish the existence, contents, substance, purport, effect, or meaning thereof, except through authorized channels of transmission or reception, to any person other than the addressee, his agent, or attorney, or to the master of a ship under whom he is serving; and no person not being authorized by the sender shall intercept any communication and divulge or publish the existence, etc., to any person

Provided, that this section shall not apply to the receiving, divulging, publishing, or utilizing the contents of any radio communication broadcast, or transmitted by amateurs or others for the use of the general public, or relating to ships in distress.

MISCELLANEOUS

FREQUENTLY USED "Q" SIGNALS

<u>ABBREVIATION</u>	<u>QUESTION</u>	<u>ANSWER</u>
QRA	What is the name of your station?	The name of my station is...
QRD	Where are you going?	I am bound to
QRF	Where do you come from?	I come from.....
QRG	What is my exact wavelength?	Your wavelength is.....
Q RJ	Are you receiving me badly?	I cannot receive you.
QRK	Are you receiving me well?	I receive you well.
QEL	Are you busy?	I am busy.
QRM	Are you being interfered with?	I am being interfered with.
QRN	Are you troubled by atmospherics?	Troubled with atmospherics.
QRO	Must I increase power?	Increase power.
QRP	Must I decrease power?	Decrease power.
QRQ	Must I send faster?	Send faster.
QRS	Must I send more slowly?	Send slower.
QRT	Must I stop sending?	Stop sending.
QRU	Have you anything for me?	I have nothing for you.
QRV	Must I send a series of V's?	Send V's.
QRX	Must I wait?	Standby, or wait until...
QRZ	By whom am I being called?	.....is calling you.

QSA	What is the strength of my sigs?	Your sigs are....
QJ	What are the charges?	The charges are....
QY	Must I suspend traffic?	Suspend traffic.
QL	Can you acknowledge receipt?	I acknowledge receipt.
QO	Can you communicate with...	I can communicate with...
QP	Will you relay?	I will relay.
QW	Will you send on...meters. (Kc's)	I will send on...
QY	Must I send on...meters (Kc's)	Send on....
QTC	How many messages have you to send?	I have messages.
QTA	Must I cancel msg No....?	Cancel msg No....
QTE	What is my true bearing?	Your true bearing is...
QTH	What is your position?	My position is...
QTI	What is your true course?	My course is...
QTI	What is your speed?	My speed is....
QTP	Are you going to enter port?	I am going to enter port.
QTR	What is the exact time?	The exact time is...

AUDIBILITY SCALE

QSA1.....Hardly perceptible; unreadable.

QSA2.....Weak; readable only now and then.

QSA3.....Fairly good; readable with difficulty.

QSA4.....Good readable signals.

QSA5.....Very good signals; perfectly readable.

INTERNATIONAL CALL LETTER ASSIGNMENTS

<u>CALL SIGNAL</u>	<u>COUNTRY</u>	<u>CALL SIGNAL</u>	<u>COUNTRY</u>
	United States	HHA-HHZ	Haiti
CAA-CEZ	Chile	HIA-HIZ	Dominican Republic
CFA-CFZ	Canada	HJA-HKZ	Colombia
CLA-CFZ	Cuba	HFA-HRZ	Hondouras
CNZ-CNZ	Morocco	ISA-HSZ	Siam
CPA-CPZ	Bolivia	I	Italy and colonies
CQA-CQZ		J	Japan
CRA-CRZ	Portuguese colonies	K	United States
CSA-CUZ	Portugal	LAA-LNZ	Norway
CVA-CVZ	Rumania	LOA-LVZ	Argentina
CWA-CXZ	Uruguay	LZA-LZZ	Bulgaria
CZA-CZZ	Monaco	M	Great Britain
D	Germany	N	United States
EAA-EHZ	Spain	OAA-CEZ)	
EIA-EIZ	Irish Free State	OCA-OCZ)	Peru
ELA-ELZ	Liberia	OFA-OGZ)	
ESA-ESZ	Estonia	OHA-OHZ)	Finland
ETA-ETZ	Ethiopia	OKA-OKZ	Czechoslovakia
F	France and colonies	OIA-OTZ	Belgium and colonies
G	Great Britain	OUA-OZZ	Denmark
HAA-HAZ	Hungary	PAA-PIZ	Netherlands
HBA-HBZ	Switzerland	PJA-PJZ	Curacao
HCA-HCZ	Ecuador	PKA-POZ	Dutch East Indies

<u>CALL SIGNAL</u>	<u>COUNTRY</u>	<u>CALL SIGNAL</u>	<u>COUNTRY</u>
PPA-PYZ	Brazil	UWA-UZZ)	
PZA-PZZ	Surinam	VAA-VGZ)	Canada
Q	ABBREVIATIONS	VHA-VIZ	Australia
RAA-RQZ	Russia	VOA-VOZ	Newfoundland
RVA-RVZ	Persia	VPA-VSZ	British colonies
RJA-RXZ	Republic of Panama	VTA-WVZ	British India
RYA-RYZ	Lithuania	W	United States
SAA-SIZ	Sweden	XAA-XFZ	Mexico
SPA-SRZ	Poland	XGA-XUZ	China
STA-STZ)		YAA-YAZ	Afghanistan
SUA-SUZ)	Egypt	YHA-YHZ	New Hebrides
SVA-SZZ	Greece	YIA-YIZ	Iraq
TAA-TCZ	Turkey	YLA-YLZ	Latvia
TFA-TFZ	Iceland	YMA-YMZ	Danzig
TGA-TGZ	Guatemala	YNA-YNZ	Nicaragua
TIA-TIZ	Costa Rica	YSA-YSZ	Rep. El Salvador
TSA-TSZ	Territory of the Saar	YVA-YVZ	Venezuela
UHA-UHZ	Hedjaz	ZAA-ZAZ	Albania
UIA-UKZ	Dutch East Indies	ZEA-ZHZ	British colonies
ULA-ULZ	Luxemburg	ZKA-ZIZ	New Zealand
UNA-UHZ	Yugoslavia	ZPA-ZPZ	Paraguay
UOA-UOZ	Austria	ZSA-ZUZ	Union of South Africa

The call signals assigned to the United States are all three and four letter combinations, beginning with the letters A, K, N, and W. The international call signals assigned to the United States are reserved for Government stations and stations open to public and limited commercial service.

All combinations beginning with the letter M are reserved for Government stations, and in addition, the combinations from MUA to MVZ and MZA to MZZ are reserved for stations of the United States Army.

BOSTON BRIEFS

By Stephen E. Douglass

The recent reports by the Navy Department and the Maritime Commission regarding the "moth ball" plan for storing surplus Naval and Merchant Marine units indicate that, regardless of the fact that all interests are steadily working for a just and lasting peace, precautions are being taken for preparedness in the event of any "future" wars.

It is anticipated that 2000 Liberty ships and other war-built Merchant vessels, too valuable to be scrapped, will be placed in storage to comprise a national defense reserve fleet. The American Merchant Marine Institute believes that the mere existence of this reserve fleet will serve as a powerful deterrent to future aggressors.

The laid-up ships will not become a "ghost" fleet as was the case after World War I. The modern storage plan calls for a new dehumidification process which will ensure dry atmosphere within their interiors and thus prevent corrosion. In addition, several coats of rust preventative paint will be applied to protect the exteriors. Extreme precautions will be taken to prevent depreciation and keep the ships in sea-going trim. Special lay-up locations that have already been designated are at Wilmington, N.C., Houston and Beaumont, Texas. The cost to preserve this 5,000,000,000 reserve fleet is estimated to be between 7,000,000 and 10,000,000 per year.

"CITY OF ATLANTA" FOUND

The former Savannah Line freighter, S.S. CITY OF ATLANTA, which sailed for years between Boston, New York and Savannah, Ga. has been found in the waters off Cape Hatteras. According to the U. S. Hydrographic office, her shattered hull lies in 41 feet of water. The City of Atlanta was one of the first coastwise vessels to fall victim to the Nazi submarine campaign which began in mid-January of 1942. In the early morning hours of January 19, 1942, two days after sailing from Boston, she was torpedoed without warning and sank in a very few minutes with a loss of all but three of her crew.

Theodore F. Haviland, well known old-timer with many years service in the Navy, Coast Guard and Merchant Marine and an early member of the Radio Officers' Union sailing as Chief Radio Officer was one of those lost in this early torpedoing.

GENERAL

The Pan Atlantic Steamship Corporation, which operated between Boston and Gulf ports during pre-war years, has announced the resumption of sailings to and from this port as soon as arrangements can be made for the necessary pier facilities. The matter of berthing space has been referred to the Port of Boston Authority and prompt action is anticipated.

The U. S. Maritime Commission announced recently that applications would soon be invited for the operation of two North Atlantic steamship services. One of these companies would operate out of Boston and New York to Antwerp and Rotterdam, while the other would be from Philadelphia, Baltimore and Norfolk to Antwerp, Rotterdam and Hamburg. With faster and more economical ships now available to private operators, a special subcommittee recommends a weekly passenger and cargo service from New York and Boston to Antwerp and Rotterdam with ships returning direct to Boston. Four combination passenger and cargo ships or four Victory or similar type ships with accommodations for at least 50 passengers and attaining a speed of at least 16-1/2 knots would be required for this run.

In conjunction with the invitation for applications by the Maritime Commission, the New England Export Club has urged that the business and industries of Massachusetts to ask the state Legislature to set aside from four to six million dollars for the organization of a New England Steamship Company. By organizing such a company the port of Boston would have definite arrivals and sailings to Europe, South American and the Far East. New piers can be built in a short period of time but business lost to other ports may never be regained. A new steamship company, based at this port, would do much to rejuvenate local shipping and assist Boston to return to its rightful place on the long list of world ports.

Ship through your union hall. Don't chisel jobs by going to the steamship company and trying to beat the other fellow to it. If this is permitted, it is only one step more to offering your services for less money than the union agreement calls for. We will then be back where we were in 1932 when this very thing was practiced with the results that wages went as low as \$45.00 per month. No man will be cleared for a job who engages in this kind of anti-union activity. The Union will take definite action against any member who violates this rule of our union. There are plenty of jobs for all, and the place to get them is in your union hall.

WEL AMAGANSETT L.I. N.Y. ALWAYS OPEN

Hours of operation according to frequencies:

500 kc (800m) continuously. WEL answers ship' calls on 500 kc, or on his working frequency of 474 kc if so requested by the calling ship, and always shifts to 474 for transmitting traffic to vessels.

143 kc (2100m) continuously. WEL listens 143 kc for calls from ships equipped with low-frequency apparatus, and answers on his working frequency of 120 kc (2500m).

WEL's working frequencies in the HF maritime bands are as follows:

5555kc, 8390kc, 11115kc, 12585kc, 16800kc, 21800kc. Of these frequencies the ones consistently used by WEL for normal traffic conditions are: 8390kc, 12585kc and 16800kc. 5555kc and 11115kc are used at times for special work and/or special conditions. Ship operators have only to listen in on any one of the three normally used frequencies (8390kc, 12585kc and 16800kc) and listen to WEL's "CQ" wheel to determine what frequencies are being covered at the time by WEL operators listening in for ships' calls. If WEL's CQ wheel is transmitting "___ans 8, 12 and 16 mc" it means WEL operators are listening in on the 8, 12 and 16 mc ships bands for calls from vessels. During night hours WEL's CQ wheel will usually be saying "___ 12/8/5 mc which means the WEL men are listening in for ships' calls within the 12, 8 and 5 mc bands. Generally speaking, WEL will have its appropriate working frequency on the air within the band which the CQ wheel requests ships to reply, or call.

ON THE H.F. BANDS SHIPS SHOULD CALL WEL ON THEIR SHIP'S WORKING FREQUENCIES ONLY. DO NOT CALL ON THE CALLING FREQUENCIES. WEL COVERS ALL H.F. WORKING FREQUENCIES IN USE AT PARTICULAR TIME OF DAY. ON INTERMEDIATE FREQUENCIES CALLS SHALL BE MADE ON 500 KC AND SHIFT TO FREQUENCY SELECTED BY COASTAL STATION OR SHIP.

From approximately 0500 GMT until 1100 GMT WEL will cover 8 mc and 5 mc bands only. Later a 4 mc frequency may be substituted for the 5 mc frequency.

The surest method for ship operators to follow during any of the hours of operation is to listen in to WEL's CQ wheel and then call WEL on the frequency best suited to the ship's distance and time of day.

WEL transmits full traffic lists beginning at the following times:

0050, 0350, 0650, 0950, 1250, 1550, 1850, 2150 GMT. Such lists are transmitted on 474 kc, 120 dc, and such HF frequencies as are in operation at the particular time of day. All used frequencies are keyed simultaneously.

WEL consistently works several ships simultaneously. Make certain that WEL is "talking" to you, or you could mistake an acknowledgement or a message meant for some other vessel. Watch for your own call letters.

BE A UNION MAN.....SHIP THROUGH THE UNION HALL.....DON'T CHISEL JOBS.

TROPICAL RADIO TELEGRAPH COMPANY

TRAFFIC LIST BROADCAST SCHEDULE

<u>GMT</u>	<u>WBF</u> (Boston)	<u>WAX</u> (Miami)	<u>WNU</u> (New Orleans)	<u>GMT</u>
0005			448-11235 Kc	0005
0035		482-8490 Kc		0035
0120	436-8670 Kc			0120
0205			448-6300	0205
0235		482-8490		0235
0320	436-8670			0320
0430			448-6300	0430
0435		482-8490		0435
0520	436-8670			0520
0605			448-6300	0605
0635		482-8490		0635
0720	436-8670			0720
0805			448-6300	0805
0835		482-8490		0835
0920	436-8670			0920
1005			448-6300	1005
1035		482-8490		1035
1120	436-8670			1120
1205			448-11235	1205
1235		482-8490		1235
1320	436-11122.5			1320
1405			448-11235	1405
1435		482-11250		1435
1520	436-11122.5			1520
1630			448-11235	1630
1635		482-11250		1635
1720	436-11122.5			1720
1805			448-11235	1805
1835		482-11250		1835
1920	436-11122.5			1920
2005			448-11235	2005
2035		482-11250		2035
2120	436-11122.5			2120
2205			448-11235	2205
2235		482-11250		2235
2320	436-11122.5			2320

All Stations broadcasting traffic lists in intermediate-frequency band will "CQ" on 500 Kc, then shift to the working frequency indicated for transmission of traffic lists.

* * * * *

Make all checks and money orders payable to the Radio Officers' Union. Do not make them payable to any individual official of the Union. Keep your dues paid up to date at all times. We can't run the union without dues.

CONVENIENCES ON C-TYPE VESSELS

By Fred M. Howe, General Secretary-treasurer

Many of you will recall the "knock-em-down, drag-em-out" fight which ROU had with the WSA in 1944 in reference to the second bunk in the Chief Radio Officer's room on Liberty type ships. As a result of that fight, the WSA was forced to remove the second bunk from the Chief's room on all such vessels. ACA didn't have anything to do with this because it took the position that "doubling up was necessary". This was the official position of ACA. The R.O.U. demanded the removal of all Cadets on all Liberty ships. These Cadets.....several thousand of them..... were removed, with the result that the Chief Radio Officer was allowed a room by himself.

Since that time, the R.O.U. has been urging the WSA to do something about the rooms and washroom conveniences on Victory and C-type ships. The following letter is a reply to our most recent communication in reference to washroom conveniences on C-type ships. Here it is:

WAR SHIPPING ADMINISTRATION
Washington, 25, D. C.

February 26, 1946

Mr. Fred M. Howe, General Secretary-treasurer
The Radio Officers' Union of the
Commercial Telegraphers Union,
Suite 1568, 1440 Broadway
New York, 18, New York

Dear Mr. Howe:

This is to acknowledge your letter of February 18, 1946 addressed to Captain M. K. O'Sullivan regarding radio operators quarters on C-type vessels.

The situation regarding washroom facilities for radio operators on the SEA DOLPHIN does not exist on the later C-3 type vessels. The Crews Quarters Committee is reviewing the plans for accommodations on many type vessels and is making every effort to provide adequate washroom facilities for radio operators adjacent or as near to their berthing accommodations and radio room as possible.

It is the desire of the Committee to furnish living accommodations to radio operators similar to deck and engineer officers.

Very truly yours,

J. Godfrey Butler,
Acting Assistant Deputy Administrator,
for Maritime Labor Relations.

Possibly something will eventually be done about these other ships. There is no reason why you should go two decks below when other officers have conveniences close at hand.

DOES R.O.U. REPRESENT ITS MEMBERS

By Fred M. Howe, General Secretary-treasurer

I have before me as I write two very bitter letters from two men, one of whom is no longer a member of R.O.U. They are the only letters I have received in which the R. O. U. is severely criticised and its officials condemned. The wrath of one of these men was so great that it required thirty pages for him to exude the venom of his spleen. To read them and not be affected, one would need to possess a heart of stone and be as cruel as a Nero, or a Caesar. Their wrath is largely devoted to me personally. I am accused of almost everything from mayhem to murder. After reading these letters, I felt much like Public Enemy No. 1. One of the men asked me to resign immediately.

WHAT DO THE MAJORITY THINK

When one receives a letter such as these, he should ask himself a few questions, such as: Is the man justified in his accusations? Does he represent a large portion of the membership? Are his opinions of the ROU and myself the opinions held by the membership? What have I done to cause this man to have such a low estimation of me? Is it overtime? Is he dissatisfied with ROU's agreements? Does he believe that ROU fails to plead and fight for him as other unions do for their members? If an official of ROU received too many of such letters, it would make him think that something is radically wrong. Something would have to be done about it. Something would be done about it.

TWO MEN OUT OF 4200 DON'T LIKE US

Every day that the letter-carrier works, anywhere from ten to thirty letters are brought to my desk. With more than 4200 members, it should be surprising not to find two letters in the course of several years from men who don't like us. As a matter of fact, when one thinks it over carefully, it is surprising to a high degree that more of such condemnatory communications are not received. I have been a member and an official of ROU for seven long years. I was the Secretary-treasurer of ACA/ARTA Local 2, and I made lots of enemies there when I joined the ROU and prior to that event. The Commissars advertised it far and wide that I was a phoney, a shipowners tool, a stooge, a monkey and what have you. There were a few members of ROU who didn't welcome me with open arms when I first became a member of our union. During the past ten years, in ROU and ACA, several thousand men have come to my desk. Some came to join the union; some to obtain information; a few came to pick an argument. Some came to express their likes and dislikes of this or that or those. Some came to have their grievances settled. Some came to DEMAND that I fight this shipowner or that shipowner. Some came to demand that I get them their overtime. Many came to obtain advice and help in their hour of need. Some came to tell me that their sons had been killed when the ship was blown to bits. Some came to find out about the draft. Many a woman came to my desk in mourning with tears melting in the soft blueeyes which once had been the emblem of a loving mother, or perhaps a sweetheart or a wife. Even, strong-hearted men turned their backs to my desk for a brief moment while they wiped away the tears, while I dug my heels into the hard office floor to better steel myself against a watery eye, as they told me about a certain telegram which they had received from Admiral R. R. Woesche of the Coast Guard. Many came with a friendly smile just to talk and talk and tell me about the ship, Captain, and the places they had been, and the experiences which they had encountered.

WE FIND ONE COMMUNIST COLLECT

One young American Kid handed me his membership book and said he was resigning from the RCU. Upon questioning, he confessed that he had become a Communist. Here was honor to a high degree, honor which I had never seen in any Communist. I told him that he couldn't be a real communist because he had told the truth. For fear that I would let fall a tear, I turned my back and gazed out on Times Square for a brief moment. I later wrote him a nice letter. He replied that if he found that I was right, he would come back, apologize and re-join the RCU. Others came to threaten and to bully and to brow-beat, only to go away defeated in a most humiliating scene. Some came to apply for the Funeral Benefit paid by CTL. Others wanted to know how the body could be brought back from a distant land where his or her loved one had died. Others wanted to know about the \$5,000 insurance, unpaid wages, transportation, overtime, etc. One bully came in and accused me of having him removed from his ship. He said I had told the Navy that he was a Communist. Others came to ask about shore jobs, broadcasting, the airways, State Department jobs, the G. I. Bill of Rights, how to renew one's license, the Communications Officer, the Gunnery Officer, the Captain, the Navy, the Army, the Coast Guard, what rights have they and how far can they go. "They put a passenger in my room, what shall I do? The Navy made me sleep in the glory hole on my return from Japan. Can they do it? What can the union do about it? I was paid off in Panama and had to work my way back on deck. Can they do that to me? The Navy removed me from my ship in New Caledonia and marched me to jail as if I were a common criminal. Can the RCU do anything about it? The Captain fired me. He said I was no good. Can he do it? How do I get to South Ferry? Where can I get a hotel? How do I abstract a message? How can I tell when a coast station has traffic for me? My ship is bound for South America, how can I avoid missing a message on such a run? Why doesn't RCU open an office in Norfolk? I wish I had a soft job like you. How did you get to be Secretary-treasurer of a big union like this? Did you know somebody?"

THE MARVEL OF IT ALL

After listening to ten thousand questions like the foregoing and trying our best to be courteous, and sometimes failing in the attempt, it is really curious that we don't get shot. It is curious, indeed, that we don't receive hundreds of letters condemning the RCU and the officials. But, we don't get them. Our files reveal only two letters of a condemnatory nature. This is the marvel of it all. How come? At this time, hundreds of Radio Officers are leaving the sea and never will return. Here is an excellent opportunity for these men to tell us what they really think of us. They are home, hundreds of miles away and under no obligations to the Union. They will never ask us for another job. One would believe that if the RCU is as bad as the two brothers indicate, or if its officials are as bad as they would have us believe, that they would get busy and "burn us up" with some real peppery communications, but they don't. Instead, we have received hundreds of letters which read something on the order of the following:

"It is my intention to discontinue marine operating and go back to work as an electrical worker. If it would not inconvenience you, I would appreciate the necessary information as to how to take out a withdrawal card from the R.O.U. and also to pay up the dues that are delinquent at the same time. Although I may never go to sea again, I wish to leave the union with a clean record and get all the financial obligations squared away. It has been an extreme pleasure to be associated with the R.O.U. and I went to a great deal of trouble in selecting our organization. The ISA has continually been suggesting that I join the ACA, as it was a West Coast outfit and I would not encounter the difficulty I have been experiencing in obtaining a ship."

Another man who wrote us that he was quitting the sea sent along the following as a part of his letter:

"Words cannot express my sincere appreciation for the wonderful work the ROU has done for me. I never expected that a Union could be run so efficiently and with such fraternity. That's just what the ROU is...a fraternity."

A Texas boy writes as follows:

"Another purpose of writing is to say that I have appreciated the fine treatment and help given me by the ROU, for which I thank you and the entire staff."

Another man writes as follows:

"I wish to make a somewhat belated resignation from the Radio Officers' Union. I have looked around for a shore job and finally decided to enroll for an engineering course under the G. I. Bill of Rights. So it is definitely established that I won't go to sea again for a long time. Hence the decision to resign. Sorry, I wasn't in a position to notify you sooner. Please place me on record as being a friend of the Union. Hoping it is reciprocal, I am."

A Connecticut Boy wrote as follows:

"Mr. Howe, it has been a pleasure in knowing you and to be a member of the best telegraph union in the country. I've gotten a great deal out of the union and you have been also cooperative in realizing that I received a medical discharge from the army. This was shown when you assigned me to a ship of my ability. I would appreciate it very much if you could send me an acknowledgment of this letter."

To these boys and men who have left the sea, never to return, a personal letter is always written. It is not a form letter. All members of ROU will recall that we answer every letter and that only for a very short period when this office was extremely short of help and at a time when the union was growing rapidly and when we had many new problems created by the war, did we fail to send a personally-written letter to every man who wrote to the ROU. It is something of which every union cannot boast. Most unions never answer letters of their members.

TO THOSE WHO SAILED THE SHIPS

To the boys who helped us sail the ship during the war, we have a word of praise. Most of you went down to the ships when it was dangerous. You sailed the ships into enemy-infested waters with bravery unsurpassed by a soldier. You sailed the ships to Murmansk when whole convoys were all but destroyed, and you went right back again. You rode your ships into the English Channel where Hitler ruled supreme. You froze to death in the coldest waters. You saw your ship blown to bits in shark-infested waters of the tropics. You shot down enemy planes with your own hands, and when your comrades died, you took the steering wheel and brought the ship safely back to port. You were on every invasion and you saw ships sunk and soldiers killed by the hundreds on the landing beaches. You performed your work efficiently. You did your duty. You served your country in its hour of need. You took a chance with your life. Fifty six of you never came back. More than 250 of you leaped into the briny deep in the dead of night. You rode ships loaded with ten thousand tons of high explosives, and some of you were blown into tiny bits of matter. You served your country well, and for this you have nothing for which to be ashamed. You served your country in the Merchant Marine. You sailed the ships to victory. You fought for your country in the greatest war of history. You may always be proud that

you served it in the Merchant Marine. You, the sailors, and the soldiers redeemed your country and its honor by the sacrifices you made for peace and victory. America was not built by cowards. It will not be preserved by cowards. By heeding your country's call, you lived up to the traditions of your race which made America great. The world is proud of you, proud of our Merchant Marine. May it ever be strong and great.

To the two Brothers referred to earlier, we have this to say: Even if you don't think much of us. We think a lot of you. You too, were brave, and you are honored here with all the rest.

LIFTING THE FOG ON THE RADAR BEAN

By Bernard S. Anolik

It is most probable that in the foreseeable future a large number of the radio operators who go to sea will have a more than casual familiarity with RADAR. During the course of the last few years, I have had a good deal of experience with the installation, maintenance, and operation of Radar. In the light of this experience I believe myself capable of helping to lift the veil of secrecy that has largely obscured this field up to now. The basic set-up of a RADAR unit consists of a transmitter and a receiver right next to each other. The transmitter sends out a short RF pulse which upon hitting any metallic object, will be reflected or reradiated by that object and then picked up by the receiver. Because of the constant speed of radio waves and on account of the fact that the waves which are transmitted are in the UHF spectrum of radio frequencies where there is no reflection of the sky waves from the heaviside layers, the exact distance of the object can be calculated.

Now exactly how does a RADAR unit work? To begin with, there is an audio frequency sine wave generator (oscillator) of high amplitude. This is fed to a following stage which distorts this sine wave into a square wave by driving a tube to saturation and cut-off. The wave is further squared by the flow of grid current across a resistance in series with it when the tube goes to saturation. This square wave is fed simultaneously into two different stages. One goes into a very short time constant RC circuit which distorts the square wave into a positive and negative pip. This positive and negative pip is then fed into a tube biased way beyond cut-off. This tube eliminates all but the top of the positive pip which is reamplified in further stages and used in keying the transmitter.

In the second stage the square wave consists of a saw tooth wave distortion followed by a number of amplifier circuits which further amplify this wave and convert it into an extremely linear saw tooth wave. The linear saw tooth wave is finally fed to the deflection coils of a cathode ray scope tube. This tube is unlike most cathode ray tubes in the fact that it uses electromagnetic deflection instead of electrostatic deflection. Without any saw tooth voltage or sweep in these coils, the electron beam is focussed exactly in the center of the fluorescent screen. However, when the sweep voltage is applied to the coils, the electron beam moves from the center of the tube to the end at the speed of the audio frequency to which the sine wave generator is tuned. The deflection coils are tied to a synchronous motor which revolves in synchronization with the RADAR antenna. The RADAR receiver's output is fed to the intensity grid of the scope tube and any signals received intensity modulates the scope tube. Due to the use of a common AF voltage source, the transmitter is keyed at the very start of the sweep on the scope screen and appears as a bright dot in the center of the screen. This dot appears because the receiver picks up the transmitted

pulse at the time it is sent out. Any reflections thereafter would appear as bright spots on the screen further away from the center of the tube screen depending upon its distance from the transmitter. The range of the RADAR unit will depend upon the power of the transmitted pulse, the sensitivity of the receiver and the frequency of the AF sine wave generator. For instance, if its frequency were 720 cycles per second, this divided into 186, 300 miles per second and we get approximately 204 miles. Since the signal has to go out and come back, the range of this unit would be about 102 miles. If we divide 720 into 1,000,000 we would find that it takes 1,368 microseconds for the electron beam to sweep across the scope screen. The transmitted pulse takes one microsecond and is off for 1,368 microseconds. Since radio waves travel about 300 meters per microsecond, there will be a blind spot within a 150 meter radius of this particular unit. The cathode tube screen fluoresces for about 1/6 of a second after the electron beam passes over any particular spot and since the antenna revolves at a rate of about 10 times per second, all targets on the screen can be seen at the same time. This creates a picture very similar to a bar-relief map.

Federal Communications Commission
Washington, 25, D. C.

March 25, 1946

Mr. Andrew MacDonald,
General Chairman,
Radio Officers' Union,
1440 Broadway,
New York, 18, N. Y.

Dear Sir:

Receipt is acknowledged of the formal petition of the Radio Officers' Union dated March 14, 1946 requesting a suspension of the six months' previous service requirement of Section 353 (b) of the Communications Act of 1934, as amended, for a period of six months beginning April 1, 1946.

You may expect early action on this petition by the Commission.

Very truly yours,

T. J. Slowie,
Secretary

Note: If R. O. U. is successful in inducing the F. C. C. to allow men with less than six months experience to sail on a one-man ship, we confidently expect that ACA will claim that it did the job. Watch their propaganda for this claim.

EAST COAST U. S. A.
COASTAL STATION FREQUENCY ASSIGNMENTS

Prepared by
William F. Mallon

WAG	WAG - 394 - Thomaston, Maine	MRT
WBF	WBF - 436 - Hingham, Mass.	TRT
WIM	WIM - 406 - Chatham, Mass.	RMCA
WSL	WSL - 474 - Amagansett, L. I.	MRT
WSF	WSF - 392 - New York Harbor	MRT
WNY	WNY - 442 - New York Harbor	RMCA
WSC	WSC - 462 - Tuckerton, N. J.	RMCA
WNY	WNY - 438 - Philadelphia, Pa.	Independent (RMCA)
WMH	WMH - 478 - Baltimore, Md.	RMCA
WSV	WSV - 408 - Savannah, Ga.	RMCA
WMR	WMR - 476 - Jupiter, Fla.	MRT
WOE	WOE - 394 - Lake Worth, Fla.	RMCA
WAX	WAX - 482 - Hialeah, Fla.	TRT
WPD	WPD - 438 - Tampa, Fla.	Independent (RMCA)
WNU	WNU - 448 - New Orleans, La.	TRT
WGV	WGV - 478 - Galveston, Texas	RMCA
WPA	WPA - 418 - Port Arthur, Texas	RMCA
WVP	WVP - 425 - New York, N. Y.	USATS (Army)

NORTH ATLANTIC

COASTAL STATION FREQUENCY ASSIGNMENTS
8 MEG BAND

8100	- NWP - Argonia, N. S.
8200	- FFK - S. Nazaire, France
8210	- GKC - Portishead, U. K.
8220	- GKT - Portishead, U. K.
8280	- SHIPS CALLING
8295	- PCH - Scheveningen, Holland
8320	- SHIPS WORKING - AUKO - Navy
8333	- CLS - Havana, Cuba
8340	- GKB - Portishead, U. K.
8345	- FFS - S. Maries De La Mar, France
8390	- WSL - Amagansett, L. I.
8405	- VRT - Bermuda
8410	- VBS - Louisburg, N. S.
	- FQN - S. Pierre & Miquelon -
8415	- CUL - Lisbon - Portugal -
	- VFN - Canada PTP
8417	- QXZ - Lyngby, Denmark
8430	- WCC - Chatham, Mass.
	- WSC - Tuckerton, N. J.
	- WOE - Lake Worth, Fla.
	- PTP - Navy
	- MTD -
	- PTP - Navy
8470	- DAN - Norddeich - Germany
8480	- NBA - Balboa, Cz.

8490 - WAX - Hialeah, Fla.
 8510 - WVP - New York - Army - AUKO - Call - Work
 8525 - SAG - Goteborg, Sweden
 8545 - LGB - Bergen, Norway
 8640 - GIB - Rugby, U. K.
 8670 - WBF - Boston, Mass.
 8680 - GBC - Rugby, U. K.
 8910 - Gay - Rugby, U. K.
 9091 - CTX4- Monsanto, Portugal
 9425 - NSS - Washington, D. C.

NORTH ATLANTIC
 COASTAL STATION FREQUENCY ASSIGNMENTS
 11 MEG BAND

9924.8 - CTH2 - Horta, Portugal
 10620 - GYZ10 - Rugby, U. K.
 10650 - GIH - Rugby, U. K.
 10980 - CTH3 - Horta, Portugal
 11040 - SHIPS - CALLING
 11060 - SHIPS - WORKING
 11080 - NBA - Balboa, CZ
 11115 - WSL - Amagansett, L. I.
 11122.5 - VBF - Hingham, Mass.
 11130 - WOE - Lake Worth, Fla.
 11197.5 - OXZ - Lyngby, Denmark
 11200 - WCC - Chatham, Mass.
 - FQN - S. Herre & Miquelon,
 11235 - WNU - New Orleans, La.
 11250 - WAX - Miami, Fla.
 11273 - GKL - Portishead, U. K.
 11280 - GKN - Portishead, U. K.
 11375 - LGC - Bergen, Norway

NORTH ATLANTIC
 COASTAL STATION FREQUENCY ASSIGNMENTS
 12 MEG BAND

12305 - FFK - S. Nazaire, France
 12358 - GKA - Portishead, U. K.
 12360 - GKD - Portishead, U. K.
 12367 - GKS - Portishead, U. K.
 12420 - SHIPS - CALLING
 12455 - GKU3 - Rugby, U. K.
 12480 - SHIPS - WORKING - Navy - AUKO - CALLING - WORKING
 12537 - CUL - Lisbon, Portugal - (12573)
 12555 - VBS - Louisburg - N. S.
 12585 - WSL - Amagansett, L. I.
 12605 - OXZ - Lyngby, Denmark
 12630 - NSS - Washington, D. C.
 12695 - SAG - Goteborg, Sweden
 12705 - FFS - S. Maries De La Mar, France
 12725 - IGJ - Bergen, Norway
 12765 - SHIPS - ARMY - WVP - XCA - WXCC - WXCW-AUKO-CALL-WORK
 - PCH - Schevenenigen, Holland

12780 - GBC - Rugby, U. K.
13300 - EAC - Madrid, Spain
13555 - GID - Oxford, England

NORTH ATLANTIC
COASTAL STATION FREQUENCY ASSIGNMENTS
16 MEG BAND

16440 - GKP - Portishead, U. K.
16450 - FFK - S. Nazaire, France
16560 - SHIPS - CALLING
16590 - SHIPS WORKING
- PCH - SCHEVENENIGEN, HOLLAND
16640 - SHIPS - NAVY - AUKO - CALL WORK
16665 - CTH5 - Horta, Portugal
16760 - VBS - Louisburg, N. S.
16800 - WSL - Amagansett, L. I.
16835 - LGX - Bergen, Norway
16845 - GKJ - GKS - Portishead, U. K.
16870 - FFS - S. Maries De Lamar, France
16880 - WCC - Chatham, Mass.
- WSC - Tuckerton, N. J.
16925 - CXZ - Lyngby, Denmark
16980 - WBF - Hingham, Mass.
16990 - CUL - Lisbon, Portugal
17000 - NPO - Manila
17020 - WVP-WXCA-WXCC-WXCW-ARMY-SHIPS-AUKO-CALL-WORK
17080 - GBC - Rugby, U. K.
21960 - OXZ - Lyngby, Denmark

0050 - TRAFFIC - WSL - 120-474-8390-12585	MRT Amagansett
0100 - WEATHER - NSS - 122-4390-9425-12630	USN Washington
- TRAFFIC - WCC - 406-8430-11200-(WIM)	RMCA CHATHAM
0120 - TRAFFIC - WBF - 436-8670	TRT Hingham
0130 - HX WX - VCS - 441	N.S.N.F., N.A.
- WEATHER - GBR - 16-4025-8640-12360	G. B. RUGBY
0200 - ICE - NWP - 425 - 8100	USN Argentina
0220 - TRAFFIC - WAG - 394	MRT Rockland
0300 - TRAFFIC - GKS - 149-6380-8220-12367-16845	G. B. Portishead
0320 - TRAFFIC - WBF - 436 - 8670	TRT Hingham
0350 - TRAFFIC - WSL - 120 - 474 - 8390 - 12585	MRT Amagansett
0400 - TIME TX - NSS - 122- 4390-9425-12630	USN Washington
0420 - WEATHER - VCE - 454	N.S.N.F., N.A.
0430 - HYDROS - NSS - 122-4390-9425-12630	USN Washington
- WEATHER - VAU - 417	N.S.N.F., N. A.
0440 - WEATHER - VCS - 441	N.S.N.F., N. A.
0500 - MERFOX - NSS - 122-4390-9425-12630	USN Washington
0520 - TRAFFIC - WBF - 436 - 8670	TRT Hingham
0650 - TRAFFIC - WSL - 120-474-8390-12585	MRT Amagansett
0700 - WEATHER - NSS - 122-4390-9425-12630	ATL FCSTS
- TRAFFIC - GKS - 149-6380-8220-12367-16845	G. B. Portishead
0720 - TRAFFIC - WBF - 436-8670	TRT Hingham
0848 - WEATHER - GCK - 429	SHAN-FAST-IRISH
0900 - MERFOX - NBA - 5005 - 11080	USN Balboa

	TRAFFIC	- WCC	- 406-8430-11200-(WIM)	RMCA Chatham
0920	TRAFFIC	- WBF	- 436-8670	TRT Hingham
0930	WEATHER	- GBR	- 16-4025-8640	ATL FCST GIB.
0950	TRAFFIC	- WSL	- 120-474-8390-12585	MRT Amagansett
1000	TIME TX	- NSS	- 122-4390-9425-12630	USN Washington
	TIME TX	- GBR	- 16-4025-8640	GB Rugby
1100	MERFOX	- NSS	- 122-4390-9425-12630	USN Washington
	TRAFFIC	- GKS	- 149-6380-8220-12367-16845	G.B. Portishead
1120	TRAFFIC	- WBF	- 436 - 8670 - 11122.5	TRT Hingham
1130	WEATHER	- CTV	- 394 - 9091 (CTX4)	Port. Azores FCST
1220	TRAFFIC	- WAG	- 394	MRT Rockland
1250	TRAFFIC	- WSL	- 120-474-8390-12585	MRT Amagansett
COMPILED BY WILLIAM F. MALLON S. S. JOSEPH HOLLISTER KFKX 3/29/46				
1300	WEATHER	- NSS	- 122-4390-9425-12630	USN ATL FCSTS
1320	TRAFFIC	- WBF	- 436-11122.5 - 16980	TRT Hingham
1330	WEATHER	- GBR	- 16-12455 GIB. ATL	FCST E of 40W
1400	ICE	- NWP	- 425 - 8100	USN Argentia
	TRAFFIC	- WCC	- 406-8430-11200-16880-(WIM)	RMCA SH WX Chatham
1420	TRAFFIC	- WAG	- 394	MRT Rockland
1430	WEATHER	- NSS	- 122-4390-9425-12630	USN ATL FCST COAST
1500	TRAFFIC	- GKS	- 149-6380-8220-12367-16845	G.B. Portishead
1520	TRAFFIC	- WBF	- 436-11122/5-16980	TRT Hingham
1530	WEATHER	- WMH	- 478	RMCA -FCST-LCL-WX
1550	TRAFFIC	- WSL	- 120-474-8390-12585-16800	MRT Amagansett
1600	TIME TX	- NSS	- 122-4390-9425-12630	USN Washington
1620	WX HX	- VCE	- 454	N.S.N.F., N.A.
1630	HYDROS	- NSS	- 122-4390-9425-12630	USN Washington
	WX HX	- VAU	- 417	N.S.N.F., N.A.
1640	HX WX	- VCS	- 421	N.S.N.F., N.A.
1700	MERFOX	- NSS	- 122-4390-9425-12630	USN Washington
1720	TRAFFIC	- WAG	- 394	MRT Rockland
	TRAFFIC	- WBF	- 436-11122.5	TRT Hingham
1730	WXHX	- GBR	- 16-8640-12455	GIB. ATL FCST E of 40W
	TRAFFIC	- WCC	- 406-8430-11200-16880	RMCA Chatham
1850	TRAFFIC	- WSL	- 120-474-8390-12585-16900	MRT Amagansett
1900	TRAFFIC	- GKS	- 149-6380-8220-12367-16845	G.B. Portishead
	WEATHER	- NSS	- 122-4390-9425-12630	USN Washington
1920	TRAFFIC	- WBF	- 436-11122.5-16980	TRT Hingham
1930	WEATHER	- CTH	- 388	Azores Zones
2000	WEATHER	- NSS	- 122-4390-9425-12630	USN SUMRY ATL FCS
2020	TRAFFIC	- WAG	- 394	MRT Rockland
2030	WEATHER	- GCC	- 484	G.B.E.CST.U.K. HOOK
2048	WEATHER	- GCK	- 428	G.B.FAST-SHAN-IRISH
	WEATHER	- GNI	- 470	CHANNEL G.B. &
2120	TRAFFIC	- WBF	- 436 - 11122.5-16980	TRT Hingham
2130	WEATHER	- GBR	- 16-4025-8640	G.B. Atl GIB FCST
2150	TRAFFIC	- WSL	- 120-474-8390-12585-16800	MRT Amagansett
2200	TIME TX	- NSS	- 122-4390-9425-12630	USN Washington
	MERFOX	- NBA	- 5005-11080	USN Balboa
	TRAFFIC	- WCC	- 406-8430-11200	RMCA Chatham
2300	MERFOX	- NSS	- 122-4390-9425-12630	USN WASHINGTON
	TRAFFIC	- GKS	- 6380-8220-12637-(149?)	G.B. Portishead
	WEATHER	- CTV	- 394-9091 (CTX4)	Port. Azores
2320	TRAFFIC	- WBF	- 436-11122.5-8670	TRT Hingham
	TRAFFIC	- WAG	- 394	MRT Rockland
1800	TIME TX	- GBR	- 16-8640-12455	G. B. Rugby

THE RADIO OFFICERS' UNION

C. T. U. - A. F. of L.

1440 Broadway

Room 2302

New York, N.Y.

From: Theodore Cote
Radio Officer
S/S CAPE BLANCO
At sea
March 24, 1946

To The Seagoing Members of R.O.U.

Brothers:

I believe most of us will agree that 500 KC is in a state of utter confusion nowadays, and, unfortunately, it isn't getting any better as time goes on.

I guess all of us have heard that old one: "You don't have to be crazy to be a radio man, but it helps." After listening on 500, you wonder if there isn't some truth in it. Any of us who haven't gone insane already will certainly wind up that way if something isn't done to relieve the needless QRM on the ship bands.

Thanks to R. O. U., Radio Officers today are in an excellent position to gain the recognition as responsible ship's officers they have been trying to get for years, but they can obtain this recognition only by realizing that they have a job to do and must perform that job like professionals. The Union has done its part. Now it is up to the individual.

Making the highest pay in their history, more than fifty dollars per week, too many Radio Officers today manage their ship stations in a manner which is anything but businesslike. The Union itself has a fine reputation, but now it is up to each and every member to operate his ship station in the most efficient manner possible, so the the R. O. U. will continue to be foremost in the radio field.

After all, good operating is mostly plain common sense, but 500 KC has just about reached the point now where, if we don't do something about it ourselves, the FCC will step in and do it for us.

The following will illustrate the kind of operating that tends to lower the standing of Radio Officers. These are not isolated cases, but rather the usual class of operating heard today.

First of all is the operator who won't take the trouble to listen before calling on 500 KC. When he wakes up he realizes that an SCB is on the air and that his signals have been interfering with distress traffic. Also, there are about a dozen ships shooting QRT's at him, never realizing that their QRT's may mean the difference between a successful rescue and a marine requiem.

And then there is the indifferent or careless fellow who begins testing or calling without consulting the radio room clock, thereby being responsible for a barrage of AS's and SP's which succeed in jamming the silent period and frustrating its purpose. Just because the silent period is generally ignored in European waters is no good reason why we should ignore it. Remember that that particular silent period may be the last chance a man with weak signals can get through.

You may be on the spot yourself someday. Think it over.

Then there are the boys who call a coast station, say: "QTC QSW 454", and then merrily call on 454 without even the benefit of a "K" from the shore station. Why not wait for instructions from the coast station and let him tell you what frequency to use? Remember, he is in control of the traffic. If you haven't the frequency he wants, then tell him what one you wish to use and do so with as little transmitting as possible.

And before calling a coast station, always make sure that he is not busy with some one else. Constant calling will not get your traffic off any sooner if the station you want is busy with some one else. And keep off 500 KC except when calling. Save those personal discussions and wisecracks for the nearest pub when you get ashore, and give 500 KC a break.

In like manner, we have the boys who, instead of listening to traffic lists, clutter up 500 by calling coast stations and asking QRU? The coastal stations are busy enough without being bothered with such unnecessary transmitting. In this class too, are the boys who just don't listen to any traffic lists, or who listen only to those of their own operating company. This is wrong, because traffic may be sent to your ship through any station. Copy all possible traffic lists, including IERFOX if you are a VSA ship, or you will arrive in Boston sometime and discover that you should be in Galveston. This is most embarrassing. You have to start packing your bags in a hurry, because in a few moments the skipper will be chasing you down the gangway.

Next comes the fiend with a new bug. He tears into WCC with a burst of speed, and when WCC snaps him back on his heels at the same speed he begs for mercy with a QRS. It is surprising the number of these bug fiends who think the numeral "6" is made with a dash and seventeen dots. They seem to love surplus dots. They pump dots into the ether like tracer bullets from a 20 mm. gun. When two of these fiends get together on 500 KC they stage a duel. When they get through shooting dots at each other neither one knows what the other was talking about. Neither does anybody else. Slow down, lads. Sacrifice speed for accuracy. You don't want the coastal stations acting like lunatics just because they have a message to get off. The rhythm of their sending is like the gentle flow of sand or rain. Try imitating the old-timers who do the brass pounding at these stations. It's a lot of fun. And it will be a great satisfaction when you can rattle off a ten-word message without having to repeat it six times.

Learn to use a bug properly. And don't do your practicing while on the air. Learn to adjust it properly. When adjusting a bug, the transmitter plate current should read at least half its key-down value, while sending a string of dots. And don't adjust it on the air! Use the dummy antenna.

And also there's the boy who calls a coast station 1500 miles away at high noon and expects an answer. And do he call! My! My! Hour after hour he spins dots and dashes into meaningless patterns until everybody in his vicinity is drooping at the mouth. Nine times out of ten he has a High Frequency rig sitting at his elbow. Why doesn't he use it? Probably never thought of it. Anyway, it's more fun jamming 500!

If someone relays a message for you, stand by and listen for his QSL. Also, if you request someone to get a message for you from shore, be considerate enough not to close down your station until he gets a chance to send it to you. What do you say, fellas? Let's clean up 500! 75

Ted Cote

THE JAPANESE AND RUSSIAN RADIO CODES

By Harold W. Falbee, New York Dispatcher
(Former Japanese Code Expert for F. C. C.)

Radio Officers who have been sailing the Pacific, have heard what seemed to be strange code signals which were undecipherable due to the fact that the dots and dashes seemed to run together and the operators could make neither head nor tail out of this jumble. This was none other than the Japanese Kata Kana or Russian Code. Old timers who sailed to the Orient were quite familiar with the Japanese Code but only a few of these old timers were able to transcribe the code into the English language.

For the "benefit" of all Radio Officers who are sailing the seas today, I shall try to acquaint you with both the Japanese Kata Kana Code, and the Russian Code

Many years ago, prior to the opening of the Japanese Empire to the trade routes of the world, which was brought about by Commodore Perry, the Nipponese did not have a telegraphic system, and their communications were by letter, runner, horse, or by ship. At this time many dialects of the Hira Kana (a symbolic picture writing) which was derived from the ancient Chinese ideographic symbols were used as the national language throughout the feudal empire. When the Japanese people became more civilized by their contact with the outside world, they decided that a more modern method of communication was necessary, so they decided to copy the United States and set up a telegraphic communication system similar to our own. At the same time that this system was established a new Japanese language was devised which was based on the Romanized version of the Chinese Hira Kana and was called Kata Kana. They used 52 characters or as many sounds as the human voice can utter, including the letter "N". (Alphabet follows.) Please note that the five vowels and Y are used preceded by a consonant making up both bigraphs and digraphs as the case may be. The telegraphic system was set up as follows: i. e. They used the Continental Code with the exception of the letter I in its entire form and they actually used the 26 code indicators of the Continental Code and attached them at random to our 26 letters, making a grand total of 52 letters or code indicators in their code to correspond with the newly inaugurated Kata Kana language, which also had 26 characters or symbols. They also have what is known as Nipongo and Kanji. Kanji is a picture language and one character indicates an entire word, whereas Kana is two combinations of letters that help to make up a word. Nipongo is a three letter combination that helps make up a word such as "Shi" "Tsu."

Please bear in mind that Japanese Radio Officers are quite expert with their own communication system, and they are also familiar with ours, as they already know our 26 code indicators. You must also bear in mind that it takes some seven years of training to make a Japanese Radio Officer.

For the interest of our members, I am herewith submitting both the Japanese alphabet and the Kana code in the Romanized version, so that you may study both in your leisure hours, and, who may say, you may not become quite an expert in copying the code. If you study the alphabet, I suggest that you purchase a Japanese dictionary and learn the language, but I must warn you that the language is quite complicated, and other material will have to be purchased. But, if a Jap can do it, I am quite sure an American can do it much better. The Russian Code is included should anyone be interested. The Russian Code is the Russian alphabet. Learn the code and you know the language. Simple.

Best 73's to you all.

JAPANESE COURSE IN KANA CODE

The following is planned in such a way as to enable anyone possessing a good knowledge of the international Morse Code (Continental) to learn the Kana Code very quickly. There are also included some of the procedure signs that are being used by both the Nipponese Army and Navy. The two most important items to bear in mind throughout the study is, the pronunciation of the sounds and the NIGORI signs which completely change the sound. The NIGORI sign is represented by two dots similar to our letter "I" (eye). The Japanese also use what is known as the HAN-NIGIRO sign represented by two dots and two dashes and one dot (...--.). These signs are sent immediately after a sound such as - which changes the sound "HA" to "BA" etc. The HAN-NIGORI sign is only used on five of the sounds and changes the sounds to the consonant "P". The five vowels are often used by themselves also the letter "N" which sounds like (NG).

JAPANESE ROMAJI ALPHABET

The alphabet consists of some 52 sounds and is based on Roman letters of the English Language. However, they also use what is known as NIPPONGO which is adding to the above sounds in order to create words. The entire alphabet consists of approximately 73 ideographic pictures which represent sounds. For further information of this topic, the September issue of "QST" has an article wherein Messrs. Don Millikin and Chas. Holden give a good review of the KANA code.

ALPHABET					KANA RADIO CODE		
A	I	U	E	O N(G)	I --	SO ---.	TE --.--
SA	SI(SHI)	SU	SE	SO	RO --.-	TU ---.	A --.--
KA	KI	KU	KE	KO	HA ---.	NE --.-	SA --.-
TA	TI(CHI)	TU(TSU)	TE	TO	NI --.-	NA --.	KI --.-
NA	NI	NU	NE	NO	HO --.	RA ...	YU --.-
MA	MI	MU	ME	MO	HE .	MU -	ME ---.
HA	HI	HU(FU)	HE	HO	TO ---.	U --.	MI ---.
RA	RI	RU	RE	RO	TI ---.	WI ---.	SI ---.
YA	YI-I	YU	YE-E	YO	RI --.	NO ---.	WE ---.
WA	WI	WU-U	WE	WO	NU ---.	O ---.	HI ---.
GA	GI	GU	GE	GO	RU ---.	KU ---.	MO ---.
ZA	ZI(JI)	ZU	ZE	ZO	WO ---.	YA --.	SE ---.
DA	DI(JI)	DU(ZU)	DE	DO	WA --.	MA --.	SU ---.
BA	BI	BU	BE	BO	KA ---.	KE --.	N --.-
(PA	PI	PU	PE	PO)	YO --	FU ---.	(") ..
LAST LINE IS THE HAN-NIGORI SIGN							(NIGORI)
					TA --.	KO ----(o)	.....
							(HAN-NIGORI)
					RE ---	E ----(-)	.....
							(LONG SOUND)
SINGLE BREAK (written as one dash) --.-.					Some handy procedure signs :		
DOUBLE BREAK (" " two ") ---.-.					KAN means QRK		MUFU means OK
SEPARATOR (//) ---.-.					KAKU " CQ	YUFU " NIL	
COMMA (,) ---.-.					SARA " REPEAT	INUNA " MORE	
PERIOD (.) ---.-.					TIHO " MSG		TFC.
					TIME " RCD		
1. iohi 2. ni 3. san 4. shin 5. go					HI I means "YES"		
6. roku 7. shichi 8. hachi 9. ku 10. ju.					I YE " "NO"		

THE NIGORI SIGN (..)

HOW IT CHANGES THE SOUND. IT ACTUALLY CHANGES THE CONSONANT BEFORE THE VOWEL. THE SIGN, WHICH IS SIMILAR TO THE ENGLISH I (..) IMMEDIATELY FOLLOWS THE SOUND.

CODE	NIGORI	CHANGES	CODE	NIGORI	CHANGES
....	..	HA to BA	....	..	SI to ZI
....	..	HI " BI	....	..	SU " ZU
....	..	HU " BU	....	..	SE " ZE
....	..	HE " BE	....	..	SO " ZO
....	..	HO " BO	....	..	TA " DA
....	..	KA " GA	....	..	TI " DI
....	..	KI " GI	....	..	TU " DU
....	..	KU " GU	....	..	TE " DE
....	..	KE " GE	....	..	TO " DO
....	..	KO " GO			
....	..	SA " ZA			

NIGORI SIGN IS WRITTEN AS (")

THE HAN-NIGORI SIGN (o) (o---)

THE HAN-NIGORI SIGN IS ONLY USED ON FIVE SOUNDS, NAMELY HA HI FU HE HO. IT IS WRITTEN AFTER A SOUND AS "o" AND IS SENT THE SAME AS THE NIGORI SIGN. THE CODE IS

CODE	HAN-NIGORI	CHANGES	SINGLE BREAK	DOUBLE	
....	o---	HA to PA		"	"
....	o---	HI " PI		"	"
....	o---	FU " PU		"	"
....	o---	HE " PE		"	"
....	o---	HO " PO		"	"

Bracket begin ((

" end))

Separator between

code groups.

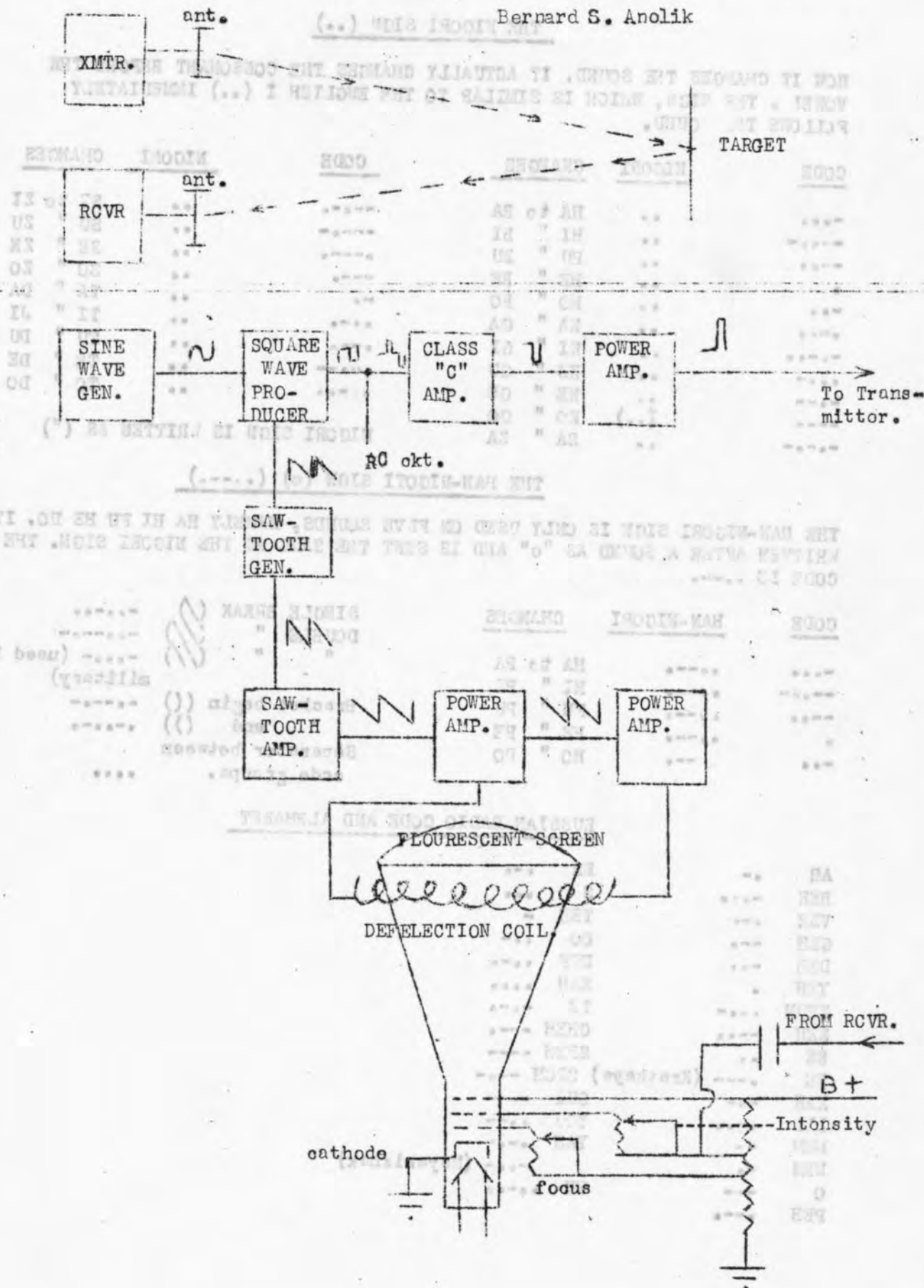
(used by military)

RUSSIAN RADIO CODE AND ALPHABET

AH	..	ER	...
BEH	....	S	...
VEH	....	TEH	..
GEH	....	OO	...
DEH	....	FFF	....
YEH	..	HAH	....
ZFUH	....	TE	....
ZEH	....	CHEH	....
EE	..	SEEH	....
EE	.... (Kratkaya)	STCH	....
KAH	....	OUI	....
LLL	....	YOU	....
MM	..	YAH	....
NNN	..		.... (Mayakiznak)
O	....	EH	....
PEH	....	

RADAR DIAGRAM.....Refer to Page 49, article by

Bernard S. Anolik



THE RADIO OFFICERS' UNION OF THE COMMERCIAL TELEGRAPHERS UNION

A. F. of L.

1440 BROADWAY—SUITE 1568
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Phone { LA 4-5093
LA 4-5022



FRED M. HOWE, *General Secretary-treasurer*
on S. S. WEST ALSEK, shortly before the war.



HAROLD W. FALBEE
New York Dispatcher

Airways Division

OF THE

RADIO OFFICERS' UNION

C. T. U. — A. F. of L.

1440 BROADWAY, NEW YORK, N. Y.

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