

## Appendix

# MAKING A CAREER IN MARINE ELECTRONICS - THE MARCONI INTERNATIONAL MARINE CO. LTD.



MAKING A CAREER IN MARINE ELECTRONICS  
THE MARCONI INTERNATIONAL MARINE CO. LTD.  
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### Choosing for the Future

The time comes in the life of every boy when the first definite step towards his future career must be taken. The direction of that step will be decided by several factors, the youngster's natural inclinations, his own special aptitudes and capabilities not least among them. This is a time for serious thought, both by the boy and by his parents, for the matter is urgent and vital. "What shall I be?" is a question that cannot be shelved. A whole lifetime of happiness, of security, promotion and progress, depends upon its answer. We of Marconi Marine have produced this booklet in the hope that it will assist the anxious parent, and that it will prove of very real interest to the young man whose ambitions lie beyond the near horizon of office desk or factory bench; who will welcome an opportunity of being well paid to see the world as a Marconi Marine Radio Officer in the Merchant Navy; and who, in later life, may well fill a position of executive responsibility ashore within our very extensive organisation.

The Radio Officer fills an important and indispensable post aboard ship. While the vessel is at sea, he is the link between her and the shore, and with other ships.

When on board, he is directly responsible to the Captain of his ship, and it is his duty to maintain a keen and vigilant watch in the radio room where he listens to the wireless signals of coast stations and of other ships for any messages addressed to his own ship, and for weather reports, time signals, news broadcasts, or any other wireless communications which may affect the voyage or be of interest to his commander.

He is also required to transmit any messages authorised by the Captain, and to keep in touch with coast stations along the ocean route, advising them of his ship's position and progress. When they are required he may also play his part in the safe navigation of his ship by supplying the Captain with accurate radio bearings taken on the direction-finder.

### AN EXPERT IN HIS FIELD

His training has embraced a very thorough theoretical and practical knowledge of the transmitters, receivers, radar, echo sounders, closed-circuit television and an ever-widening range of other electronic equipment used at sea, so that he is fully capable of maintaining all the apparatus under his charge in first-class order. This means that he is by no means only a telegraphist, but an expert in electronics and an important and responsible member of the crew, fully recognised as such, for without him and his knowledge the ship on the high seas would have no communication with the world. Britain's merchant fleet needs more Radio Officers. More than 3,000 British vessels are required by law to have radio installations, and each ship must therefore have at least one Radio Officer. In fact, some of the larger vessels carry a complement of from three to seven. New ships are constantly going into commission, while every year a number of Radio Officers leave the sea service for promotion ashore.

## **A CONTINUING NEED**

This means that there is a continuing need for young men entering the service, and this need will exist far into the future. The Marconi International Marine Co., Ltd., which mans the radio stations of the great majority of British ships, can therefore guarantee employment to a very considerable number of young men of the right type, of British nationality, and with the proper qualifications.

## **OFFICER RANK**

The British Merchant Navy is essentially a civilian service and its officers are appointed by qualification and suitability and are not commissioned like those of the Armed Forces. The young Radio Officer's career is therefore a civilian one and he is in no way bound to serve at sea for any fixed number of years. From the time when he completes his training and is accepted for employment he begins to earn a good salary with progressive increases in step with his length of service. In fact, in five years at sea he will have earned at least £5,000 while leading a life of interest and variety. From the day of his first appointment to a ship he has officer status with all its privileges and responsibilities. He has his own private cabin aboard ship, with steward service, and takes his meals with his brother officers. His food, attendance, bed linen, etc., are provided free, over and above his salary, and he has the benefit of many other amenities of shipboard life and of the British Merchant Navy.

If a Radio Officer falls ill while in the United Kingdom he may have sick leave on full pay, less any National Health Insurance benefit received, for as much as three months in any consecutive twelve months. If taken ill abroad, he may, if necessary, have twelve weeks' sick leave, again on full pay less National Health Insurance benefit, while all costs of medical attendance, hospital charges, and subsequent repatriation are borne by his employers.

## **UNIFORM**

The new entrant to the Radio Officer service is expected to provide himself with a standard Merchant Navy Officer's uniform and to fit himself out with the necessary kit for his life on board ship. Although no uniform or clothing allowance is paid, the Marconi Marine Company recognizes that this outlay may fall hard on a young man at the outset of his career and is therefore prepared to make a cash advance to new entrants, repayable by monthly installments from salary, to assist in the purchase of suitable uniform and equipment. If the new Radio Officer anticipates financial difficulty in purchasing his uniform and other kit, he may apply to the Company for a form to be completed and submitted at the Depot to which he reports for appointment to the seagoing staff. Advice on how to kit himself out will be given.

## **ATTRACTIVE SALARY RATES**

The current salary rates are detailed in the leaflet inserted in the pocket on the back of this book, and it will be seen from these that the Radio Officer earns an attractive salary right at the start, with substantial guaranteed increments during his first ten years in step with the length of service in the Marconi Marine Company. It is therefore the rule rather than the exception for a young man to be completely self-supporting and financially independent by the time he is eighteen or nineteen. After ten years guaranteed increments come at three-yearly intervals, while the senior man's salary is also adjusted to the class of ship in which he is serving and will probably have 'In Charge Pay' added.

Employment is continuous whether the Radio Officer is attached to a ship, on leave, or standing by between voyages. Additional allowances are paid for service in oil tankers or in vessels on prolonged voyages, and subsistence is paid while ashore, either standing by or on leave, to offset the fact that during such times he has not the benefit of food and living quarters on board ship.

Security for the future is an essential part of career planning. For the Marconi Marine Radio Officer, membership of the Merchant Navy Officers' Pension Fund is obligatory. This provides the sure knowledge of an adequate pension on reaching the retiring age of 65. Contributions can, of course, be withdrawn if the Radio Officer leaves the service before attaining that age.

### **LEAVE IS ON FULL PAY**

Because his free time while at sea must be spent on board, the Radio Officer, like other crew members, is entitled to leave on a scale much more generous than the 'annual fortnight' of the shore employee. The amount of leave earned varies depending upon the time spent at sea, but it

can total up to as much as 114 days, more than 16 weeks on full pay, in a year. While in port abroad, too, he is, with the Captain's permission, a free agent and may spend as much time ashore as he wishes, providing that all necessary maintenance work, etc., is attended to. This gives him unrivalled opportunities and ample time to see the many countries he will visit in the course of his career - India and the Far East, Australia, the United States, South America, Africa, the West Indies . . . for in the Marconi Marine sea service his seagoing experience need not be limited to a regular run back and forth between two ports, or indeed to any one ship. In fact, it is no uncommon thing for a Radio Officer to return from a voyage to San Francisco and back, go on leave, then on reporting for duty again be appointed to another ship bound for Bombay, Colombo, New Zealand, Valparaiso, and home again via the Panama Canal. As they say at sea, perhaps ironically, at times, "Millionaires pay money for this!"

## **STUDY AND PROMOTION**

It goes without saying that life as a Radio Officer is not all sunshine and sightseeing. It has its rough times when a full winter gale whips the crests off the North Atlantic combers and sends them rattling in driven spray against the stout steel of the ship's bridge; when she dips her bows deep in the trough between the waves and brings them up again in a cascade of white water. Even so, there is exhilaration in the feel of a good ship making her way against such difficulties, and arrival in port is all the more appreciated after a 'dusting'. There are the quiet times, too, when the ship goes steadily on her way, with comfortable off-watch relaxation in the company of other officers or in the privacy of your own cabin. A total of eight hours spent on watch out of twenty-four leaves ample time for letter-writing, hobbies, or reading, and many Radio Officers make good use of this by studying for further qualifications. Ships' libraries are provided, and the Seafarers' Education Service will arrange to supply books on special subjects, or complete study courses, on request.

This is well worth bearing in mind, for it is the declared policy of The Marconi International Marine Co., Ltd., to draw upon its seagoing Radio Officers for promotion to its technical and administrative staff ashore, selecting, of course, those whose sea service record shows initiative, enthusiasm, ability and a sense of responsibility. In general, promotion ashore is not considered until a Radio Officer has spent at least five years at sea, for it has been well established by experience that the seafaring life, with its rich variety of scene, its world travel, and the opportunities it presents to meet interesting people of all nationalities, does much to broaden the mind and build character.

This means that all the principal executives of the Company, including the General Manager and the managers of its Service Depots in the principal ports, have risen by promotion from the sea staff. There is therefore a clear and close understanding between the shore and seafaring personnel of the Company which makes for the 'family feeling' which we are happy to say exists within our ranks. Other opportunities for progress exist, for the Marconi Marine Company, apart from its own world-wide organisation and its overseas associates, is a member of the English Electric Group of Companies, engaged in many different aspects of industry from manufacturing famous aircraft to producing electronic computers. The paths of progress within this group are many and varied and have led many men to highly responsible and well-paid positions.

### **How do you qualify?**

Before you can be accepted as a Radio Officer you must first possess either a First or Second Class Certificate of Competence in Radio-telegraphy. This means more studying after leaving school, but it is a qualification well worth having, and therefore deserves a little more work.

The Certificate of Competence is issued by the Postmaster-General, who is the responsible authority for all British radiotelegraphic matters. He sets the standard of examination required and arranges the examinations themselves, but does not undertake the training of candidates. Nor does The Marconi International Marine Co., Ltd., but students commencing the period of training (which may take twelve to eighteen months, depending on the student himself and whether he means to take the First or Second Class Certificate) will find it helpful if they will advise the Marconi Marine Company of their enrolment and of their intention to apply to the Company for appointment to the Radio Officer staff after qualifying. The Company has Service Depots in many ports and the Depot Manager will, in each case, be glad to give an interview, by appointment, to interested students or their parents. The Depot Manager's advice and assistance can be most valuable. He, too, began his career as a Radio Officer at sea! You will find the address of the Depot nearest your home in the list on page 19 of this booklet.

## **TRAINING FACILITIES**

These are available at Radio Colleges in many parts of the country, as will be seen from the list in the pocket at the back of this book. Each College is equipped with all the necessary approved radio equipment for the comprehensive training required, and each is licensed by the Postmaster-General as a Training Establishment. Fees at the Colleges differ. Several are maintained by the local municipal authority and assistance with fees and other training expenses may be given favourable consideration by the Education Authority in the area concerned.

## **THE EXAMINATION**

The syllabus set for the Postmaster-General's examination is a very comprehensive one indeed, but a student who holds the General Certificate of Education, or who is up to G.C.E. Standard, particularly in mathematics and physics, should have no difficulty in mastering it and passing the examination. However, no qualification, such as the G.C.E., gives a candidate exemption from any part of the examination, which must be taken in its entirety. While it is not compulsory for an examination candidate to have trained at a Radio College, a practical knowledge of the radio equipment is demanded, so that tuition on the apparatus installed at the College where the examination is to take place is essential.

In order to be eligible for the British examination a candidate must be either a citizen of the United Kingdom; of a British Colony; or of one of the Commonwealth countries, if at least one of his parents, is or was, if no longer alive, a British citizen. A candidate is also eligible if he is a naturalised British citizen. If the applicant has none of these citizenship qualifications, the Postmaster-General may still consider his application if he is closely connected with Her Majesty's Dominions either by ancestry, upbringing or residence, or by reason of such service that an exception may be made in his favour. Any doubts about this nationality requirement should be referred to the Inspector of Wireless Telegraphy, Radio Services Department, General Post Office, Union House, St. Martin's-le-Grand, London, E.C.1. This requirement refers, of course, to qualification for the British Postmaster-General's Certificate issued in the United Kingdom and Northern Ireland. Prospective candidates in the Republic of Ireland may take the examination for the equivalent Irish Certificate, which is fully recognised as the necessary qualification for service in the British Merchant Navy, and which has enabled a great many citizens of the Republic to become Radio Officers with the Marconi Marine Company. The examinations themselves, whether for First or Second Class Certificates, are conducted in two parts. Applications for entry are made separately for each part and separate examination fees are payable. Part One consists of a written theory examination, while Part Two is a practical examination covering Morse Code working, tests on the various Regulations, and a practical and oral test of the candidate's knowledge of the radio equipment installed at the College.

In Part One of the examination for the Second Class Certificate two papers, on 'Technical Electricity' and 'Radio Communication' respectively, are set. The candidate is allowed 3 hours for each paper, answering 6 out of the 8 questions which each contains. The pass mark for each paper is 60% and candidates must obtain a pass in Part One before becoming eligible for Part Two. This is a practical examination including such subjects as the Morse Code, Regulations, radiotelephony, the taking of direction-finder bearings, radio working routines, and a practical and oral test on the actual radio equipment. It is not necessary - although it is advisable - for a candidate to take Part Two immediately following his success in Part One. He may, if he wishes, take Part Two at any time within 12 months afterwards. Furthermore, if he has the bad luck to fail Part Two after having passed Part One he does not have to sit Part One again - provided that he passes Part Two within 12 months. He is allowed up to three attempts at Part Two within that period. If he is unsuccessful in that time, he loses the benefit of his Part One pass and has to start again.

Candidates should not be discouraged by this, however. That is the regulation laid down, but in practice a young man capable of taking the Part One hurdle successfully should have not great difficulty with Part Two.

The First Class examination, in which success brings a higher qualification, is naturally a little more comprehensive. Part One is similar to that of the Second Class examination in that there are again two 3-hour papers covering the same subjects, but the pass mark for the 'Radio Communication' paper is 75% for First Class Certificate candidates, while the standard of the questions in this paper is higher. Part Two of the First Class Examination is also similar in make-up to Part Two, Second Class, but the oral and practical tests are more searching. Altogether the

First Class Certificate is not so easy to obtain as is the Second Class, but this is as it should be for a higher qualification which is more valuable to the man who has it.

A pass in Part One is necessary before going on to Part Two, but if a First Class candidate already holds a Second Class Certificate he may, within two years of qualifying in Part One, Second Class, qualify for Part One, First Class, by taking the 'Radio Communication' paper only. If he has been on a long voyage in foreign waters, which has prevented him from taking the First Class paper within two years, an extension of time may be granted. Part Two, First Class, may then be taken under the same conditions as those applying to the Second Class examination.

The written 3-hour paper on 'Technical Electricity', identical for First and Second Class examinations, covers the following subjects:

Magnetism, Electro-Magnetism, and Electro-Magnetic Induction.

Electricity in theory and in practical use.

Primary Cells and Accumulators.

Test and Measurement Apparatus.

Inductors and Capacitors.

Inductance and Capacitance.

Alternating Current.

Generators and Meters.

Power Supplies and Transformers.

Thermionic Valves.

Under these headings the whole field of electricity is covered, from the electron theory, up to its use in the radio valve. The 'Radio Communication' paper progresses from that point with the use of electrical techniques in radio work. Its subject headings are:

Circuitry.

Production and Propagation of Electro-Magnetic Waves.

Transmitters.

Marine Radio Receivers.

Automatic Alarms.

Direction-Finders.

Aerials.

Wavemeters.

Cathode- Ray Tubes.

It will be clear that the young man who has studied these subjects, and has passed the examination dealing with them, really knows his job and has necessarily received a very complete and thorough training in the basics of electronics, the industry of our age.

The written examinations of Part One are conducted simultaneously at the G.P.O. London Headquarters and at all the Radio Colleges. They are held three times a year, in mid-March, early July, and early December. Results are published as soon as possible so that successful candidates can go on to Part Two.

Part Two is held about one month after Part One, and the examiners make a tour of the Radio Colleges, arranged to enable those who have passed in Part One to take the further examination with the least delay, and any who may have failed in a previous attempt at Part Two to re-sit.

### **Your own suitability**

This booklet, so far, has been devoted to providing information about the profession of the Radio Officer which will tell you if the career is one which will suit you. If you think that it would, the time has come to consider it from the other angle - will you suit the career?

The matter of general education has already been mentioned in earlier pages and the P.M.G. examination syllabus will have given you an indication of the further study necessary. What about your age, your health, and other personal details that you know more about than we do?

No age limits are laid down so far as the employment of marine Radio Officers is concerned, which means, in theory, that a man may enter the service at any age. In practice, the Marconi Marine Company does not normally engage anyone below the age of 16½ years and prefers a minimum entry age of 17½. Since the Radio Officer holds a responsible position on board ship, especially in connection with the safety of navigation and life at sea, and since, of course, he has officer status, it is better that he should not be too young when he takes up his duties. In any case, by the time a boy has completed his general education and then gone on to further study for the P.M.G. Certificate, he is not likely to be much less than 17½ years of age.

It goes without saying that a Radio Officer must be physically and mentally fit. Good hearing is absolutely essential for his work, and although eyesight is not so important, there is a minimum standard of sight for each eye. However, the wearing of glasses is not a bar, if the eyesight with them is up to the standard; nor is colour blindness regarded as a disability.

If you have any doubt at all about your physical fitness for the career you would be well advised, before enrolling as a student at a Radio College, to make arrangements for a medical examination by one of the doctors appointed by the Marconi Marine Company. The Company will gladly make the necessary arrangements for such an examination, although the prospective student would be required to meet the doctor's fee, usually two and a half guineas. If you want to be absolutely sure that you are up to the medical standard, an examination is a wise form of 'insurance' before committing yourself to a training course. These are the requirements of suitability which we set. The others - quite as important - are within yourself, in your mind, in your brain, your personality, your outlook, the many things about you that go to make up your character.

These cannot be listed. Perhaps the best thing we can do is to quote from a letter received from a ship's Captain about the Marconi Marine Radio Officer serving on his ship:- 'I have always found him very keen and enthusiastic in his work and the neatness and smart appearance of the wireless office is a credit to him. He has always been very smart in receiving and clearing my traffic (not always in the best atmospheric conditions) and I have been very pleased with the care he has taken with the ship's sounding devices, of which we have visual and recorder. His handling of the direction-finder has given utmost satisfaction and has been of very great assistance. 'In addition to his duties as Radio Officer, he has been of valuable assistance to me in many ways, and by his bearing and conduct he is extremely popular with all the officers of the ship which, I am sure you will agree, is very desirable. 'In closing, I would say that I have either been very fortunate in the Radio Officers appointed to this vessel, or you are to be congratulated on having such a fine staff.' That, we think, is a fine tribute to a fine young man, keen on his job and a good mixer. His life on board ship must be a happy one, because the qualities to make it so are there within himself. You know best whether you, too, possess such qualities.

If you do, if you believe that you and the Radio Officer's career are mutually suitable, we will be only too pleased to help you achieve your ambition. Any further information you require on the subject will be gladly given if you will send your queries to:

THE PERSONNEL & OPERATING MANAGER,  
THE MARCONI INTERNATIONAL MARINE CO. LTD.,  
ELETTRA HOUSE,  
WEST WAY,  
CHELMSFORD,  
ESSEX.

### **Marconi Marine Service Depots**

The Marconi International Marine Co. Ltd., maintains Service Depots in principal ports throughout the world. The list below gives the addresses of those in the United Kingdom and the Republic of Ireland. A letter to the Depot Manager, The Marconi International Marine Co. Ltd., at the address nearest your home will lead to an appointment for interview.

Aberdeen: Marconi House, Regent Road, Aberdeen.

Belfast: Marconi House, 2 Corporation Square, Belfast.

Bristol: Marconi House, 76-78 Portview Road, Avonmouth, Bristol.

Dublin: 49 North Wall, Dublin.

Cardiff: Marconi House, Mountstuart Square, Cardiff.

London: Marconi House, Wakefield Street, East Ham, London, E.6.

Falmouth: 43 The Docks, Falmouth.

Fleet wood: Orient Buildings, Station Road, Fleetwood.

Glasgow: Marconi House, 233 St. Vincent Street, Glasgow.

Grimsby: Marconi House, Fishdock Road, Grimsby.

Hull: Marconi House, Osborne Street, Hull.

Edinburgh: 54 Constitution Street, Leith, Edinburgh, 6.

Liverpool: Marconi House, Pall Mall, Liverpool, 3.

Lowestoft: 9 Battery Green Road, Lowestoft.

Milford Haven: The Docks, Milford Haven.

Newcastle-upon-Tyne: Marconi House, Melbourne Street, Newcastle-upon-Tyne.

Southampton: Marconi House, 107 High Street, Southampton.