

Marconi  $\frac{1}{2}$ -Kilowatt  
Interrupted Continuous Wave  
Installation for Ships.

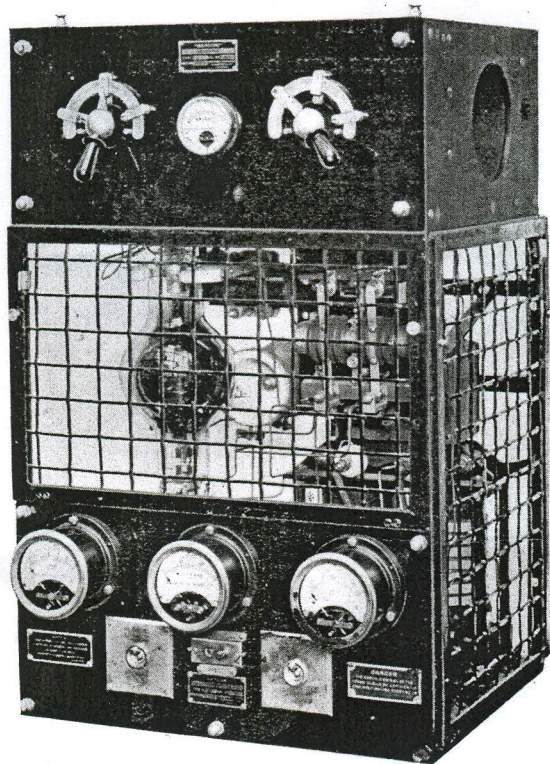
Type MC8a.

MARCONI INTERNATIONAL  
MARINE COMMUNICATION  
CO., LTD.

MARCONI HOUSE, STRAND, LONDON, W.C.2

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Wave Installation for Ships  
Type MC8a

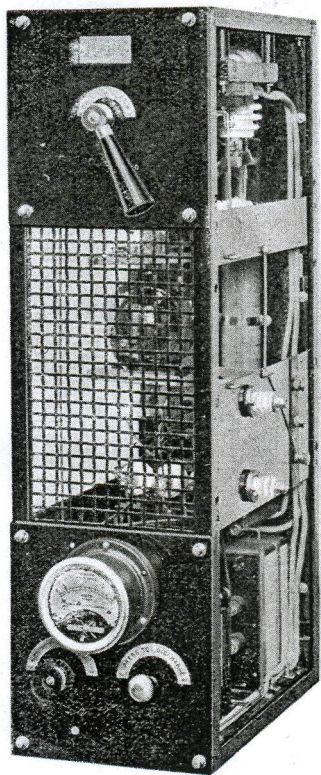
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**T**HE Marconi Type MC8a Interrupted Continuous Wave Installation has been designed to meet the demand for apparatus of high efficiency conforming to all the requirements of modern technical practice, and capable of giving excellent service on vessels which do not require more powerful equipment.



The  $\frac{1}{2}$  kilowatt Transmitter consists of a single oscillator valve directly connected to the aerial, so arranged that any wavelength between 600 and 800 metres can be transmitted, alterations in wavelength being made by one control which is calibrated after installation. Three "spot" waves are provided, the adjustment being fixed by means of spring clips. Additional "spot" waves can be arranged for, if necessary.



*C.W. Transmitter Panel.*

The oscillator valve is supplied with high tension current from a transformer working at 1,000 cycles per second.

The filament of the valve is heated by means of alternating current supplied by the main alternator, special arrangements being made so as to keep the filament at a constant brilliancy in spite of variations in the voltage of the main alternator, or in the voltage of supply.

Arrangements are also made to reduce the power, when required.

If continuous wave transmission is required in the same band of waves, an additional panel, matching the main transmitter in appearance, can be provided as an adjunct.

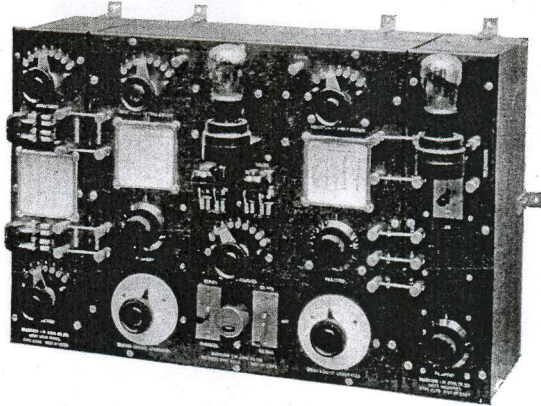
Signalling is carried out by means of an electrically operated relay, which instantly re-connects the receiving instruments when the key is raised. This relay is capable of following the highest hand speed morse and is arranged so that its contacts are readily adjustable and replaceable.

The total power taken from the alternator, including the power required for the filament, is 500 watts on a prolonged dash. At this output the Direct Current supply to the alternator for all purposes is about 800 watts.

The test applied to the transmitter is half an hour continuous dash followed by  $2\frac{1}{2}$  hours continuous morse transmission at the power stated below. The test applied to the motor alternator is a six-hour continuous run at 500 watts output, followed by 30 minutes at 25 per cent. overload.



*The Receiver Type MR4b* consists of a single self-oscillating valve, making use of grid rectification, and a note magnifier. When receiving spark or interrupted continuous wave signals, selectivity is provided for by the use of two coupled circuits.



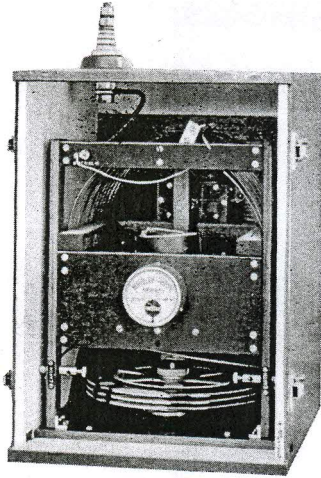
*Marconi Type M.R.4B. Receiver.*

The Receiver provides for the reception of signals on waves between 220 and 27,000 metres.

As a general rule, for continuous wave signals the receiver is worked as a single circuit receiver, and for spark or interrupted continuous wave signals it is worked as a two-circuit receiver. The note magnifier can be switched into or out of the circuit at will, independently of the other arrangements.

A crystal detector is incorporated as a stand by, to comply with International Regulations.

Full provision is made for charging the receiver batteries, both high and low tension. Both are accumulator batteries, and the switchgear allows for putting them on charge or connecting them to the receiver.



*Marconi Emergency Transmitter.*

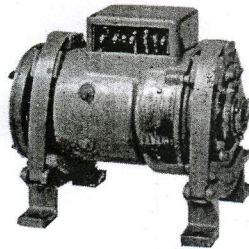
*The Emergency Apparatus* consists of an independent spark transmitter of the quenched gap type, a special motor alternator, and an emergency battery with its charging and discharging arrangements. The transmitter is adjusted to the wavelength of 600 metres only, and is rated at 100 watts input.

The motor alternator is designed to run from a 24-volt accumulator battery, but it is equally efficient over a large range of supply volts. It can be used when the battery is being charged and will continue to give full service until the battery is discharged down to the safe working limit. The alternator

is rated at 100 watts at 600 cycles per second, and is arranged for an output at 700 volts, thus obviating the necessity for a transformer.

The whole arrangement is very efficient, the total current taken from the battery when transmitting a prolonged dash being less than 12 amperes, and the construction is such that even if the emergency battery is run down to only half its nominal voltage the transmitter will still work, though, of course, at much reduced power and range.

The standard emergency battery is 100 ampere hours 24 volts, and is sufficient to provide for about 9 hours continuous transmission of morse.



*Marconi Emergency Alternator.*

*Range.*

The range of the main transmitter must depend to a great extent on the height of the ship's masts, but with masts 95 feet high a range of 500 miles can be expected by day over sea to a similar vessel equipped with a similar installation, whatever wave between 600 and 800 metres may be employed.



The range of the emergency transmitter must also depend on the size and height of the ship's masts, but under the conditions stated above a range of about 150 miles can be expected.

The range of a receiver cannot be stated, as it is obviously dependent on the power of the transmitting station, but the receiver supplied as standard with this set is capable of receiving the press messages sent out by the modern high power stations practically all over the world, and of receiving signals from a ship equipped with a transmitter as described above at distances at least as great as those quoted as the range of the transmitter.

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