

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

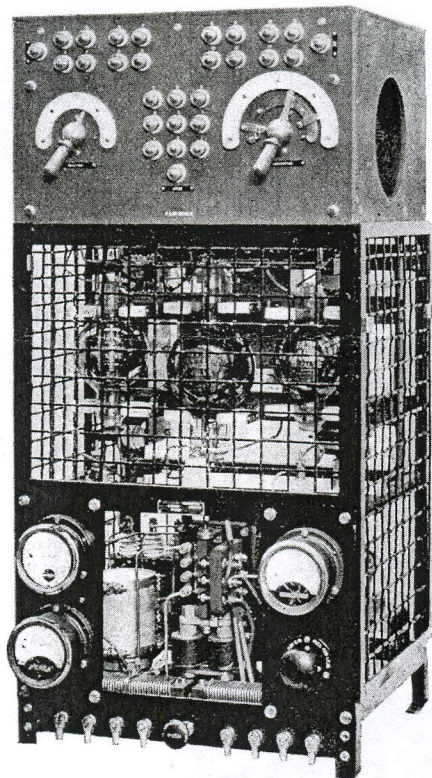
Type MC 13.

MARCONI INTERNATIONAL
MARINE COMMUNICATION
CO., LTD.

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

Marconi $1\frac{1}{2}$ -Kilowatt Interrupted Continuous Wave Installation for Ships Type MC13.

THE Marconi Type MC13 Interrupted Continuous Wave installation is the latest development of valve transmission and reception for the use of ships. It conforms to all Government regulations and requirements and is designed to meet all the demands of modern technical practice. It will be found to be highly efficient under all service conditions.



Marconi Type M.C. 13 Transmitter.

The $1\frac{1}{2}$ kilowatt TRANSMITTER consists of a single oscillator valve directly connected to the aerial, and two rectifying valves. It is arranged to transmit Interrupted Continuous Waves on any wave between 600 and 800 metres.

The oscillator valve is supplied with high tension current from a transformer working at 500 cycles, the supply being double rectified.

The filaments of the valves (two rectifiers and one oscillator) are heated by means of alternating current supplied by the main alternator, special arrangements being made to keep the filaments at constant brilliancy in spite of variations in the voltage of the alternator, or of the supply voltage.

Arrangements are also made so that the power of the transmission can be reduced by small stages down to about one-quarter of the full range of the installation.

If continuous wave transmission is required in the same band of waves, an additional internal fitting can be supplied.

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 filaments, is 1,500 watts on a prolonged dash. At this output the supply to the alternator for all purposes is about $2\frac{1}{2}$ kilowatts.

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. The test applied to the motor alternator is a six-hours' continuous run at 1,500 watts output followed by a 30 minutes' run at 25 per cent. overload.

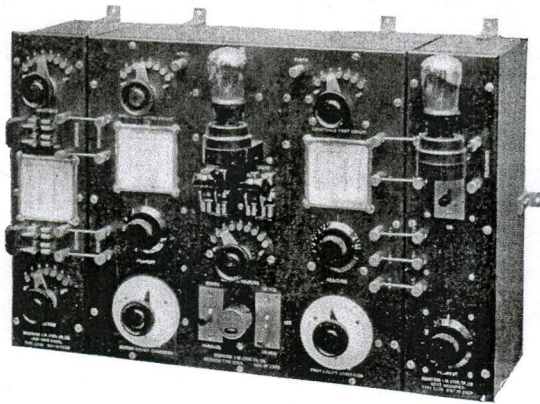
The Receiver Type M.R.4.B. consists of a single self-oscillating valve, making use of grid rectification, and a note magnifier. When receiving spark or interrupted continuous wave signals, selectivity is provided for by the use of two coupled circuits.

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 provided 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.



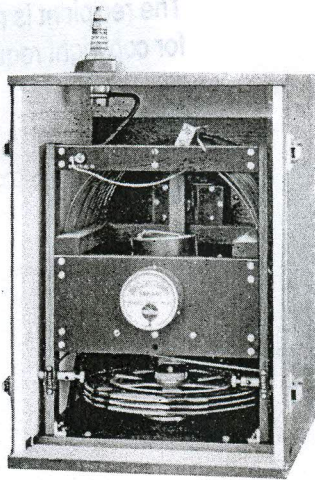
Marconi Type M.R.4B. Receiver.

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.

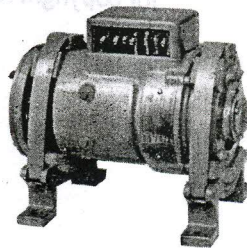


Marconi Emergency Transmitter.

Range.

The normal range of the installation working in medium waves with a station of similar capacity is 800-1,000 miles.

The normal range of the emergency transmitter is 200 miles.



Marconi Emergency Alternator.

The range of a receiver cannot be stated, as it obviously depends 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 long wave 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.