

BOOK OF INSTRUCTIONS FOR W/T INSTALLATIONS TYPES TW12A/B/C/D/E AND
H/F ATTACHMENT.

CHAPTER I.

INTRODUCTORY.

1. GENERAL DESCRIPTION.

Transmitter TW12 and its associated Receiver Type 394E/F/G are commercial sets, which have been adopted for use in the Naval Service chiefly for small craft.

Provision is made for the transmission of C.W., I.C.W. and R/T on any frequency between 375-500 kc/s (600-800 metres) and between 1200-3000 kc/s (100-250 metres).

By the addition of an "H/F Attachment", consisting of two plug-in units, an H/F band of 4071-8650 kc/s (35-75 metres) is also covered.

Arrangements have been made to utilise the existing power supplies in ships for the transmitter and, in certain cases, to provide an additional receiving line by the addition of a Naval Receiver Outfit CSB.

Several installations have, therefore, been introduced to cover these requirements and these are described below.

W/T INSTALLATION TYPE TW12A. This comprises a Marconi Type TW12 transmitter together with a Marconi Type 394E/F/G receiver and associated apparatus, for fitting in small craft (e.g., motor torpedo boats), fitted with a 12-volt D.C. ship's mains. In this set H.T. supplies for the transmitter and receiver are obtained from rotary converters driven from the ship's 12-volt D.C. supply.

W/T INSTALLATION TYPE TW12B. This comprises a Marconi Type TW12 transmitter, a Marconi Type 394E/F/G Receiver, a Naval Receiver Outfit CSB (Tuner-Amplifier B13) and its associated apparatus for fitting in vessels such as A/S, M/S, Trawlers, etc. In this set the transmitter H.T. supply is obtained from a rotary converter driven from a 36-volt battery consisting of Pattern 6038A Cells, and the transmitter filament supply from a 12-volt battery consisting of Pattern 5503 Cells. The H.T. supply for the receivers is obtained from a 144-volt battery consisting of Pattern 6034C batteries and the filament supply from a 2-volt battery consisting of Pattern 1551B Cells. Both the H.T. and filament batteries are duplicated.

A 16-volt battery consisting of Pattern 6035A Cells is supplied as a grid bias battery for the Marconi Receiver. This battery is not normally fitted commercially, but is necessary in Type TW12B as the H.T. supply battery is connected as a common H.T. supply to both the Marconi Receiver and Receiver Outfit CSB, thus preventing the automatic grid bias method, as employed in Marconi Receiver when fitted as a component of Type TW12A, being used.

The transmitter and receivers are fitted in a W/T office with arrangements for remote control of R/T on the upper bridge where a remote starter for the TW12 rotary converter is also fitted.

A separate receiving aerial is fitted for the Receiver Outfit CSB.

W/T INSTALLATION TYPE TW12C. This is normally fitted in M.T.B's, M.A/S.B. and M.L's and similar light craft, and comprises a Marconi Type TW12 transmitter together with a Marconi Type 394E, F or G Receiver and associated apparatus suitable for fitting in motor boats with 24-volt D.C. battery supply.

H.T. and L.T. power supplies for the transmitter are obtained from a dual-purpose motor generator, and the H.T. supply for the receiver from a rotary converter, both motored from the 24-volt battery supply.

The filament supply for the receiver is obtained from a 2-volt battery consisting of a Pattern 1551B Cell, Accumulator, which is duplicated, and provision is made for charging from a 24-volt supply.

W/T INSTALLATION TYPE TW12D. This is normally fitted in certain motor boats having either 220, 110 or 65 volt ship's mains and comprises a Marconi Type TW12 transmitter together with a Marconi Type 394F/G Receiver, and a duplicate set of Pattern W1469, 24-volt batteries with their associated apparatus for charging from the ship's mains.

The H.T. and L.T. power supplies for the transmitter are obtained from a dual-purpose motor generator, and the H.T. supply for the receiver from a rotary converter, both motored from the 24-volt battery.

The filament supply for the receiver is supplied by a 2-volt battery, consisting of a Pattern 1551B Cell, Accumulator, which is duplicated, and provision made for charging from the ship's mains.

W/T INSTALLATION TYPE TW12E. This comprises a Marconi Type TW12 transmitter together with a Marconi Type 394F/G Receiver and a 36-volt battery with associated apparatus for charging from the ship's mains. Provision is made in the charging arrangements for either 220, 110 or 65 volts ship's mains.

This set is identical with Type TW12B, except that the battery and battery charging equipment are of a smaller and lighter type, using special Marconi charging boards and resistances.

Receiver Outfit CSB is normally included in this equipment.

This set supersedes Type TW12B.

H/F ATTACHMENT. All future TW12 transmitters will be modified to take an H/F Attachment; when so modified the transmitter will be known as Pattern M335A, and any set fitted with this pattern transmitter will bear the suffix letter "M" to indicate that an H/F Attachment can be fitted, without change of transmitter, e.g., TW12BM, CM, etc.

The H/F Attachment for TW12 sets is in two parts and consists of:-

- Pattern M359 - Coil Drive for Pattern M360 Attachment.
- " M360 - H/F Attachment for TW12 Sets.

When the above attachment is fitted, the suffix letter "H" will follow the type number, e.g., TW12BH, CH, etc.