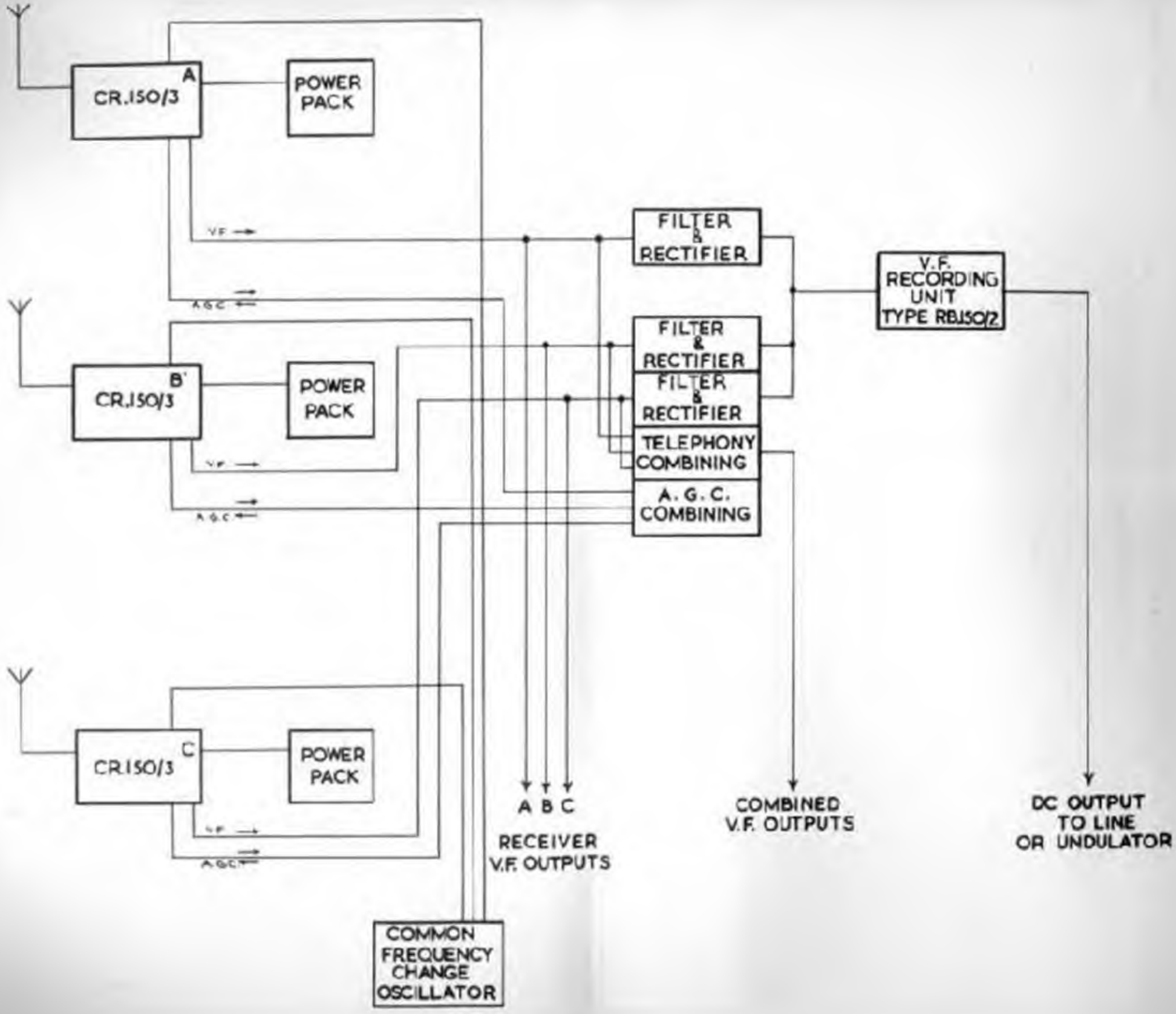

CR.150/3 A
POWER PACK
VF
AGC
CR.150/3 B
POWER PACK
VF
AGC
CR.150/3 C
POWER PACK
VF
AGC
FILTER & RECTIFIER
FILTER & RECTIFIER
FILTER & RECTIFIER
TELEPHONY COMBINING
A. G. C. COMBINING
V.F. RECORDING UNIT TYPE RB.150/2
A B C
RECEIVER V.F. OUTPUTS
COMBINED V.F. OUTPUTS
DC OUTPUT TO LINE OR UNDULATOR
COMMON FREQUENCY CHANGE OSCILLATOR

# TRIPLE DIVERSITY OUTFIT

[redacted] CGE

## 1 INTRODUCTION

The original triple diversity receiver equipment supplied by Marconi's Wireless Telegraph Company to the Admiralty was the Type CRD.150, based on the Type CR.150 receiver. This consisted of a horizontal two-shelf bench rack, on the top of which were mounted two of the receivers and the three power units, while the third receiver, the recording bridge and the combining unit were mounted below.

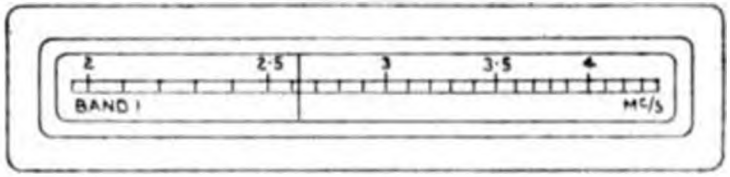
The [redacted] CGE equipment provides the same facilities as the Type CRD.150, but is housed in a 7 foot vertical cabinet occupying a floor space about 2 feet wide and $1\frac{3}{4}$ feet deep. It is based on the Type CR.150/3 (Handbook Ref. T.2148/1) receiver, and any standard receiver of this type can be incorporated in [redacted] CGE equipments by changing over one lead. The equipment incorporates the standard type RB.150/2 high speed recording unit (Handbook Ref. T.1862/1) (BR.2046). The advantages of diversity reception for the more important classes of point to point communication are too well known to require a laboured description. Briefly, the method involves the use of two or more independent receivers handling the same message, the receiver outputs being normally combined to give a common VF output.

The term "spaced diversity" may be applied to a system in which two or more receivers operate on the same distant transmitter, but have their aerial systems separated in location, or otherwise differing in their reception characteristics. Because the fading of the received signal does not, in general, occur simultaneously on each aerial, the combined output from the two or more receivers tends to maintain a substantially more constant level than that which would be obtained from a single receiver.

The term "frequency diversity" may be used to cover the method of reception in which the same signal is received simultaneously from two or more transmitters working on different frequencies. This method of diversity likewise improves reception, since fading of the received signal does not normally occur simultaneously on the different frequencies.

The [redacted] CGE equipment employs three receivers and can be used for either spaced or frequency diversity.


S 6 7




(P3)

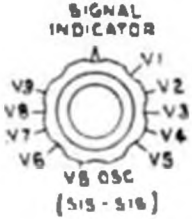

(P3 & P4)


(C1 - C4)

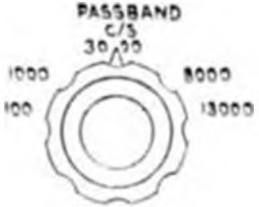

(C9)

(M1)


(C62)



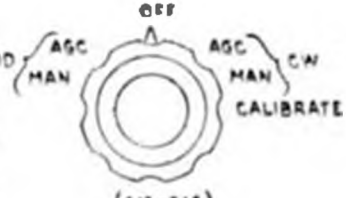

(S15 - S16)



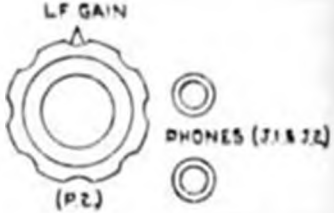

(S8 - S12)


(S1 - S7)


(S17)




(S13 - S14)




(P2)