

# TRIPLE DIVERSITY INDEPENDENT SIDEBAND RECEIVER

## TYPE HR. 23

### 1 INTRODUCTION

The Type HR.23 receiver is an independent sideband receiving equipment covering the band 3 to 27.5 Mc/s in four ranges. The equipment consists of fifteen removable units mounted in two steel cabinets as shown in the frontispiece. The receiver is a double-superheterodyne and may be crystal-controlled on six spot frequencies, or it may be tuned to any required frequency in the band by means of a variable oscillator incorporated in the equipment. First and second intermediate frequencies of 2600 kc/s and 100 kc/s are employed.

The equipment is intended for the reception of independent side-band, single-sideband or double-sideband transmissions which may carry music, telephony, multi-channel voice frequency telegraph or facsimile signals.

When receiving a double-sideband transmission, single-sideband reception is employed, the two radiated sidebands being demodulated separately by a carrier of constant and relatively large amplitude. In this way a considerable reduction in the harmonic distortion due to selective fading is obtained, and since the output from either sideband may be utilised, it is possible to select the sideband which is more free from adjacent-channel interference. A block diagram of the equipment is shown on Fig.1.

### 2 TECHNICAL SUMMARY

#### 2.1 SALIENT FEATURES

##### 2.1.1 Service

Reception of independent, single and double sideband transmissions.

##### 2.1.2 Frequency Coverage

From 3 to 27.5 Mc/s in four ranges:-

Range 1	3.0 to 6.0 Mc/s
Range 2	6.0 to 10.0 Mc/s
Range 3	10.0 to 17.0 Mc/s
Range 4	17.0 to 27.5 Mc/s

##### 2.1.3 Aerial Inputs

The equipment is designed to accept signals from 75 ohm coaxial cables.

