

Non-Automatic Time Signals.—

- (1) To ships and watchmakers in Wellington, and to the Public Works Department by telephone, on application to the Observatory.
- (2) The Observatory automatic time signals sent to the General Post Office are distributed by telegraphic hand signals to some 2,300 telegraph and telephone offices distributed all over New Zealand at 9 a.m. daily.
- (3) Similar hand signals are also sent to all railway offices in New Zealand at 9 a.m. daily—by telegraph to 221 offices and by telephone to 257 stations.

The following list gives the number of time signals sent out during the year 1932 :—

	Signals.
Radio time signals through Station ZLW	464
Radio time signals through Station 2YA	729
Time signals by telegraph	556
Time signals by lights at Wellington	365
Time signals by lights at Auckland	104
Time signals by time-ball at Lyttelton	102
Time signals by telephone	68
Total number of signals sent out in 1932	2,388

On October 16th the radio time signals through ZLW failed, on account of a faulty relay at the Observatory, and on December 2nd a partial failure of the signals resulted from the same cause.

The following table indicates the degree of accuracy of the radio time signals sent out from the Observatory, through station ZLW, during the year 1932.

Number of times correction did not exceed 0.25 sec.	424
Number of times correction between 0.26 and 0.50 sec.	35
Number of times correction between 0.51 and 1.00 sec.	4
Number of times correction exceeded 1.00 sec.	0
Total signals sent through ZLW	463

There was a considerable improvement in the accuracy of the ZLW signals as compared with 1931. This was mainly due to the fact that the check signal from Bordeaux at 20 hours G.M.T., and also the signal from Annapolis at 21 hours G.M.T., were available during the greater part of the year.

With the exception of January 15th, when a fault occurred at the Observatory, both afternoon and evening time signals were regularly supplied to station 2YA. As the actual broadcast of these signals is controlled by 2YA, the Observatory cannot be responsible for the regularity of the service. During the year 1932 the afternoon signals from 2YA were checked and the result showed that on fifteen occasions a partial failure in the broadcast occurred, while on twenty-one occasions a complete failure was noted.

Time signals by telephone included signals frequently given to Government House, to Trentham Military Camp, and to the Telegraph Office or Public Works Department for the purpose of setting Parliament clocks.

Government Buildings Clock.

The Government Buildings clock has been kept under fairly close control. A record is obtained at the Observatory each day, by direct circuit from the clock, and the adjusting weights on the pendulum are altered as occasion requires. The greatest errors of this clock were 26 seconds fast on August 18th and 58 seconds slow on December 7th.

General Post-office Clock.

The Post-office clock is checked by W/T at 3 p.m. daily, except Saturdays, Sundays, and Government holidays. The greatest errors observed during 1932 were 11 seconds fast on January 20th and 7 seconds slow on April 4th. This clock is not under the control of the Observatory.

Occultations.

The programme of observing occultations at Wellington with the 9 in. Wellington City telescope by the Dominion Observatory staff, and the 6 in. telescope at New Plymouth by the local astronomical society, has been continued. The Observatory is indebted in this work to a considerable amount of