

*Kenneth Garry*  
 Your reception report of Station VNG 530890.  
 of 5th + 10th July 1960 at 10<sup>h</sup> 08<sup>m</sup> 35<sup>s</sup> GMT  
 on 12000 kHz or 7500 30911

is confirmed with thanks.

*Donaldson*

for Telecom Australia

COVER: MELBOURNE FROM NAUHU HOUSE

# VNG

The time signal service from 'VNG' was inaugurated by the Australian Post Office on 21 September 1964 using transmitters located at Lyndhurst which is approximately 37 km south-east of Melbourne in the state of Victoria.

Two transmitters modulated by the same time signals are feeding half wave dipole aerials for all transmissions.

The transmission schedule is as follows:

Times of Emission GMT	Frequency kHz	Power kW
0945-2130	4 500	10
2245-2230	7 500	10
2145-0930	12 000	10

# VNG standard frequency & time signal service

The purpose of the service is to provide accurate time signals and standard frequencies for use throughout Australia by organisations making seismic and other scientific measurements, and by surveying and exploration teams throughout the continent.

Text of the normal voice announcement: "This is VNG, Lyndhurst, Victoria, Australia on 4.5, 7.5 or 12 Megahertz. VNG is a standard frequency and time signal service of the Australian Telecommunications Commission. This is VNG, Lyndhurst, Victoria, Australia on 4.5, 7.5 or 12 Megahertz".

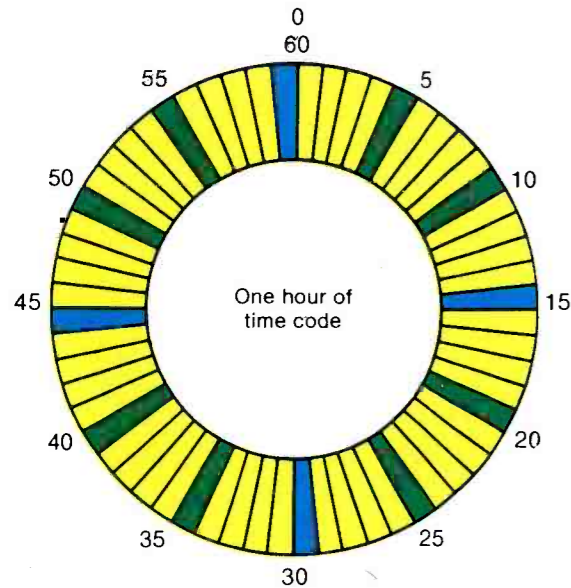
Time coding is performed by varying the length of the 1000 Hz tone bursts which form the seconds markers (see diagram overleaf).

Astronomical time deviation is given each minute by a group of emphasised seconds markers.

The time signals are maintained to within 0.1 millisecond of Co-ordinated Universal Time (UTC). Occasional step adjustments of precisely one second as determined by the Bureau International de l'Heure are made to keep the time signals within about 0.9 second of astronomical time (UT1).

Carrier frequencies and time signals both originate from the same crystal frequency standard at Lyndhurst which is controlled by a caesium beam primary standard at the Telecom Australia Research Laboratories.




The carrier frequencies of the service are maintained such that average daily deviations do not exceed  $\pm 1$  part in  $10^{10}$ .

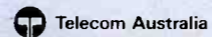


## VNG time code

Seconds markers are normally 50 milliseconds long.

Seconds marker 59 is omitted. Minute marker (seconds marker 60) is 500 milliseconds long.

-  Station identification announcement (in English) is given during the 15th, 30th, 45th and 60th minutes of the hour without interruption to the time signals.
-  During the 5th, 10th, 15th, etc. minutes, seconds markers 50 to 58 are 5 milliseconds long.
-  During normal minutes, seconds markers 55 to 58 are 5 milliseconds long.



# VNG

