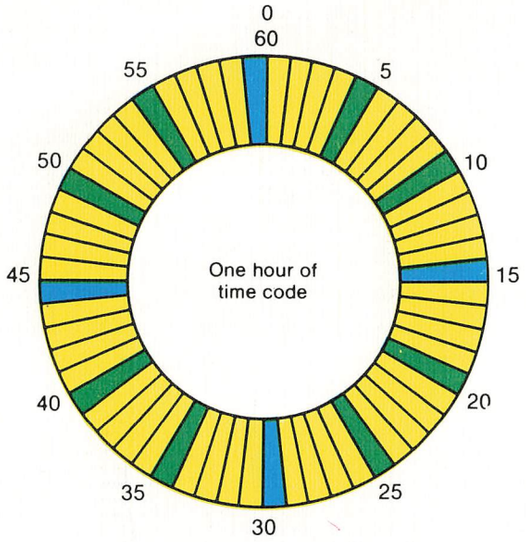


VNG time code

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.

Telecom Australia

VNG

Mr Carl Mann

Your reception report of Station VNG of 18 / 10 / 80 at 8:05 ~ 8:45 GMT on 12000 kHz is confirmed with thanks.

Mr P. Separito.

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).

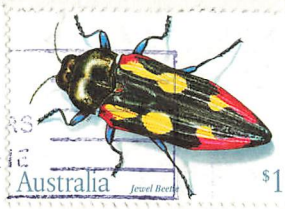
Carrier frequencies and time signals both originate from the same crystal frequency standard at Lyndhurst which is controlled by a caesium beam primary standard at the Telecom Australia Research Laboratories.

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

Tudor 100% RECYCLED PAPER

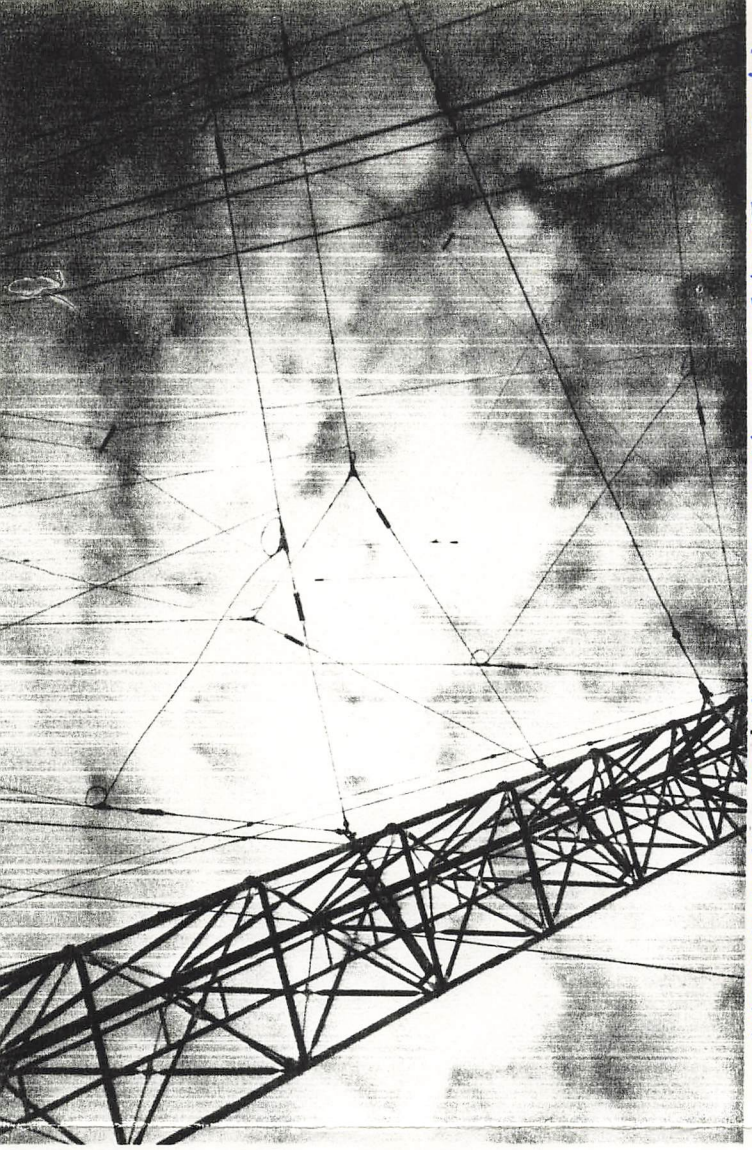
AIR MAIL
PAR AVION
Australia Post

AIRMAIL



Carl Mann
6711 South 139 Avenue Circle
Omaha, NEBRASKA 68137
U. S. A.

Marion Leiba VNG USERS CONSORTIUM
GPO BOX 1090 CANBERRA ACT AUSTRALIA 2601



VNG LLANDILO NEW SOUTH WALES AUSTRALIA

Photo:

Delta matched quadrant aerials at Llandilo.

The second lowest in the stack is the one currently used for 16 MHz

I apologise for the quality of the photocopy.

VNG

LLANDILO NEW SOUTH WALES AUSTRALIA

Mr. Carl Mann

Your reception report of station VNG

of 10th May 1991 at 0919-0930 UTC

on 16.000 MHz

is confirmed with thanks.

Marion Leiba

for VNG Users Consortium

VNG
4·5 7·5
12·0 MHZ
USERS CONSORTIUM

Correspondence: 26 Fimister Circuit
Kambah ACT 2902

Phone: 062-499355 (business)
062-319476 (home)

VNG
Standard frequency & time signal service

VNG FACTS — UNTIL 2ND JULY 1991

LOCATION: International Transmitting Station, Civil Aviation Authority, Llandilo, New South Wales, Australia, 33°42′52″S, 150°47′33″E .

TRANSMITTERS: STC HF broadcast transmitters, 10 kW carrier power.

EMISSION: Double-sideband full-carrier amplitude modulated telephony.
16 MHz is going out at 3kW.

AERIALS: 5 and 10 MHz are radiated from Wells quadrant aerials. 16 MHz is radiated from a delta-matched quadrant aerial with a single strand of wire on each arm.

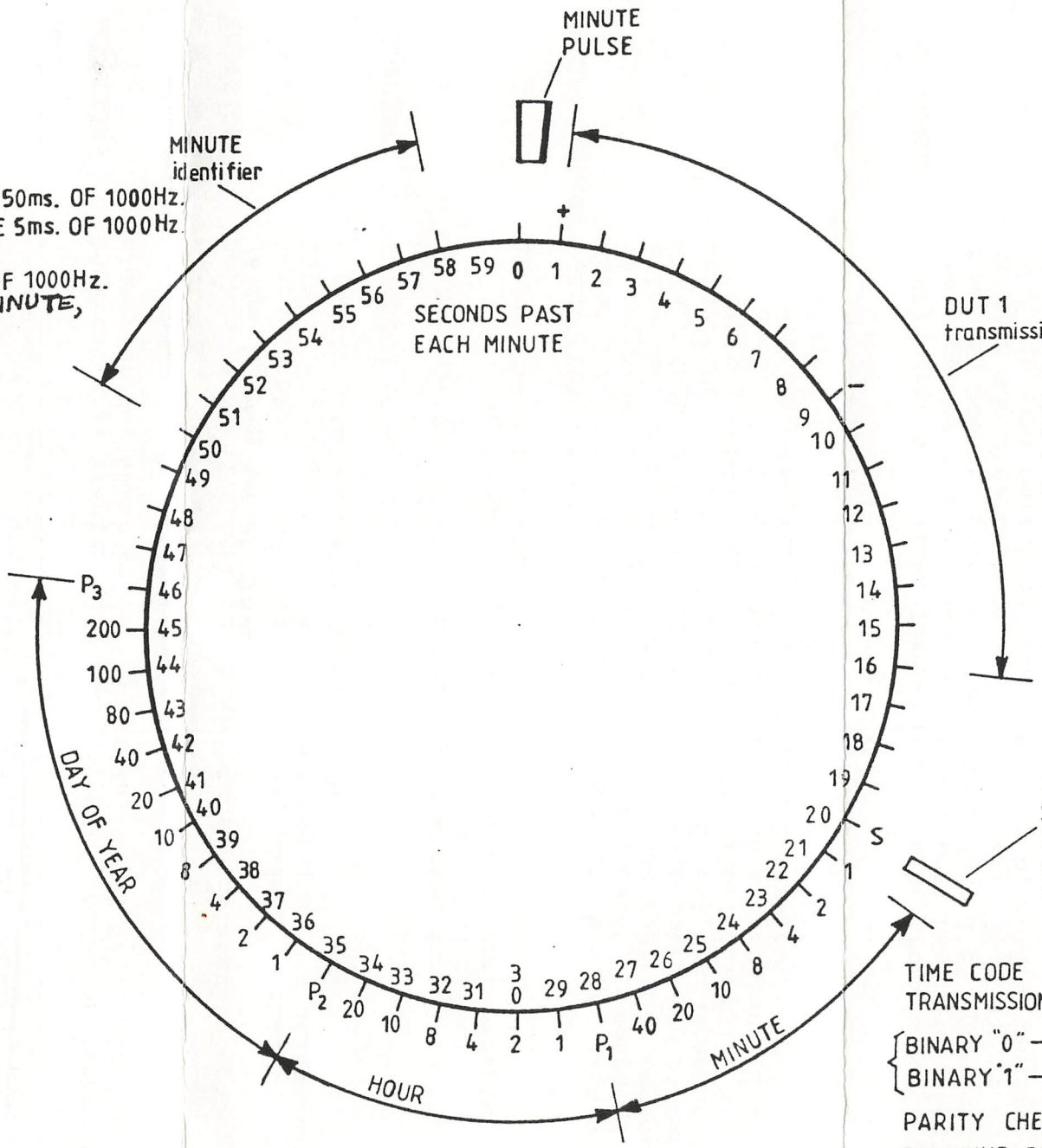
TEMPORARY TRANSMISSION SCHEDULE:
5 MHz : continuous
10 MHz: 2200-0700 UTC - No time pips during 9th, 10th and 11th minutes, and from 46th to 52nd minute inclusive on 10 MHz only. Carrier continues uninterrupted.
16 MHz: 2200-1100 UTC

VOICE STATION IDENTIFICATION ANNOUNCEMENT:
Given during the 15th, 30th, 45th and 60th minutes without interruption to the time signals. The speech is "notched" to allow seconds markers to continue and has spectral components around 1000 Hz removed to avoid erroneous operation of tuned relay time circuits. The text of the normal announcement is:

"This is VNG, Llandilo, New South Wales, Australia on 5, 10 or 16 Megahertz. VNG is an Australian standard frequency and time signal service. Enquiries may directed to: VNG Users Consortium, G.P.O. Box 1090 Canberra, ACT, Australia 2601."

VNG FUNDING: AUSLIG (the Australian Surveying and Land Information Group of the Department of Administrative Services) has undertaken to fund VNG for at least five years from June 1989, provided that it gets adequate cost recovery from users. This may be achieved by purchasing Bulletins from AUSLIG or by making donations payable to the VNG Users Consortium.

TIME CODE: The time code format is shown on the reverse side of this sheet. It incorporates time of day and day number of year information in binary-coded-decimal (BCD) form and the method of encoding complies with CCIR recommendations for time codes. The BCD time code transmission takes place between seconds marker 20 and seconds marker 46.



SECONDS MARKERS NORMALLY 50ms. OF 1000Hz.
SECONDS MARKERS 55-58 ARE 5ms. OF 1000Hz.
SECONDS MARKER 59 OMITTED.
MINUTE MARKER IS 500ms. OF 1000Hz.
DURING 5th, 10th, 15th ETC. MINUTE,
SECONDS MARKERS 50-58 ARE
5ms. OF 1000 Hz.

DUT 1 transmission

NORMAL SECONDS MARKERS OF 50ms. OF 1000 Hz EMPHASISED BY 50ms. OF 900 Hz. TONE IMMEDIATELY FOLLOWING.

SECONDS MARKER 20
200 ms. DURATION.
DESIGNATES THE START OF THE TIME INFORMATION.

TIME CODE
TRANSMISSION (UTC)-VALID AT NEXT MINUTE

BINARY "0" → 100 ms. DURATION
BINARY "1" → 200 ms. DURATION

PARITY CHECK BITS P_1, P_2, P_3
COUNTING BINARY "ONES" OF EACH GROUP PLUS THE CORRESPONDING PARITY BIT GIVES AN EVEN NUMBER.

VNG TIME CODE FORMAT

26th June 1990

Dear Carl,

Thank you very much for your letter, reception report, very attractive postcard, and (US$1.00.

I enclose a QSL card for verification. I also enclose a fact sheet with a ~~soon~~-to-be-outdated transmission schedule, and with VNG's time code on the ~~back~~ of it. ~~The reverse side of~~ my letter has one written by me on 3rd June warning of VNG's change of frequencies and schedule.

You mentioned that you last monitored VNG when it was at Lyndhurst. I don't know whether you have heard the story of the revival of VNG following its closure at Lyndhurst. I had two articles on the earlier part of the saga published in Amateur Radio, and I have enclosed them in case you are interested.

I found your letter very interesting. Please excuse this being untidy. I am writing it in bed, as I have one of those "bugs" which one tends to get at the onset of Winter. I am an earthquake seismologist by profession, and a married woman with two children. My VNG-work is done unpaid in my "spare" time. My husband, Courtney, is West Indian from Trinidad. He said to tell you that he played in the Trinidad Tripoli Steelband at the Ak-Sar-Ben in Omaha, Nebraska, July 14th-18th 1969!!

Canberra, where we live, has a population of about 250000 and is located in grazing country. Llandilo, where VNG is situated, is a western suburb of Sydney, about 4 hours drive from Canberra.

Very best wishes from Australia,

Marion.

OVER

VNG
4·5 7·5
12·0 MHZ
USERS CONSORTIUM

Correspondence: 26 Fimister Circuit
Kambah ACT 2902

Phone: 062-499355 (business)
062-319476 (home)

VNG
Standard frequency & time signal service

3 June 1991

Dear Colleague,

On 28 May 1991, Australia's standard frequency and time signal service, VNG, was issued a licence on 8.638 MHz. Like 12.984 MHz, 8.638 MHz is on loan from the Royal Australian Navy and we are again very grateful. It must be remembered however, that the Navy reserves the right to take back these frequencies at any time should they need them.

These new transmissions will both be double sideband at 10 kW power, but with the bandwidth restricted to 3 kHz at the Navy's request. Also, because of the international spectrum allocations, VNG is not permitted to transmit voice on either frequency. Instead, the letters "VNG" will be transmitted in slow Morse, probably three times a minute with a frequency of 750 Hz. For those who don't know Morse, "VNG" is "•••– –• ––•".

The frequency synthesisers for 8.638 and 12.984 MHz are being built in the Geology Department of the University of Tasmania in Hobart by Vagn Jensen. Vagn also designed the synthesisers and construction is almost complete.

The staff at Llandilo are going to shuffle aerials and transmitters. The present VNG standby transmitter will be used for 16 MHz with yet to be constructed transmission lines and a single wire quadrant aerial. The present 16 MHz (formerly 15 MHz) transmitter will be used for 12.984 MHz and the current 16 MHz quadrant will be modified for this purpose. The present 10 MHz transmitter will be used for 8.638 Mhz with a spare single wire quadrant which will be remade. The 5 MHz transmitter and Wells quadrant aerial will remain as is.

If there are no problems with completing the line work, we hope to start transmitting on 8.638 and 12.984 MHz at 0000 UTC on 3 July 1991.

Please note that transmission on 10 Mhz is expected to cease at 0700 UTC on 2 July 1991.

From 3 July 1991, all going well, VNG's new transmission schedule will be:

5.000 MHz, 8.638 MHz, 12.984 MHz: continuous
16.000 MHz: 2200 - 0500 UTC.

We are intending to have a celebration at Llandilo on July 3rd to mark the start of transmission on VNG's new frequencies. We do not yet know how the party will be funded, but it is going to happen, as long as the new broadcasts commence on that day. You are invited! Please let me know if you are coming, and also if you need a more official invitation, either from the Consortium or from AUSLIG.

Yours sincerely

Marion Leiba

Dr Marion Leiba VK1VNG, VK1BNG
Honorary Secretary
VNG Users Consortium

Personal letter on other side of this sheet!

OVER