

History of Time Guns and Time-Balls in South Africa

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- 22 Nov 1798 A wad of cotton waste was left in the time-gun barrel. When the gun was fired from the Castle the waste landed on the thatched roof of the dragoon stables. Many horses died and all naval/military rations in the stores were lost. (1)
- 1807 Noon Gun fired from Imhoff Battery , Cape Town Castle.
Used to rate ships chronometers. (3)
- 1821 Instruments for time determination erected at the Obs. (2)
- 04 Jan 1833 Flash pistol and powder magazine purchased for visually signalling time. (2)
- 30 Sep 1836 Time-Ball erected to S E of the Observatory (8)
- Oct 1853 Observatory time ball not visible from whole of Table Bay.
Repeating time-ball on Lions Rump (8)
- 1857 Time-Ball in Simons Town. A portable transit instrument determined the time which to drop the time ball. (8)
- 21 May 1860 Observatory time-ball hidden by trees, re-located N (8)
- Sep 1861 Electric release of 3 time-balls from Observatory. (8)
- Jun 1863 Observatory time-ball once again moved (8)
- 1864 Gun fired electrically from Royal Observatory (3)
- 1873 Return signal from Port Elizabeth time ball .3 to .6 sec after trigger signal sent. (4)
- 1877 Time distribution by telegraph. (5)
- 1878 Noon ball dropped at docks for shipping.
13:00:00 : Time Balls dropped at :-
Observatory , Simons Town , Port Elizabeth, Kimberley (6)
- 1883 17 foot time ball tower erected at docks (7)(17)
Clock to be controlled from Observatory was erected. (7)
- 21 Jul 1889 Electric time signals :
Noon signal drops time ball at docks
13:00:00 Time Ball dropped at Simon's Bay
Time Ball dropped at Port Elizabeth
Time Ball dropped at East London
Gun fired at Imhoff battery.
Govt. telegraphic system distributed a time signal for use in the Cape colony, OFS and Tvl. (9)
- 07 Feb 1892 Arrangements made for changing civil time of colony. Previously Observatory mean time was used for telegraphic purposes throughout the colony and different railway systems used local time of their main station. At junction of E and W railway systems it was decided to adopt 22.5 degrees E as longitude for all time purposes. This worked so well that that the uniform time of the Cape Colony was adopted by both the Transvaal and the OFS. (10)
- 08 Feb 1892 Time signals at Observatory mean time noon and 1pm discontinued in favour of a single signal at Greenwich mean

noon which corresponds to 13 30 00 of
Uniform South African time. (10)

1893 Daily signals from Observatory at GMT noon :-
 1. Disc dropped at Simon's Bay for shipping.
 2. Gun fired at Imhoff Battery for shipping and town.
 3. Time ball dropped at docks in Cape Town.
 4. Disc dropped at Lighthouse in Port Elizabeth
 5. Ball dropped at East London.
 6. Ball dropped at Port Alfred.
 7. Signal to all telegraph offices in Cape, O.F.S. and TvI
 A clock in the Harbour Tower at the C.T. docks is
 electrically controlled from the observatory. (11)

1894 Daily signals from the Observatory at GMT noon :-
 Same as 1893.
 New Time-Ball erected in a conspicuous position near Resident
 Engineer's Office of the Cape Town Docks. (12)

1895 Daily signals from the Observatory at GMT noon :-
 Same as 1894. (13)

20 Mar 1895 Two return signals from C.T. time ball
 1. at the instant the ball begins to fall
 2. at the bottom of its drop. (13)

1896 Daily signals from the Observatory at GMT noon :-
 Same as 1895.
 Simon's Bay disc failed often from old age. (14)

1897 Daily signals from the Observatory at GMT noon :-
 Same as 1896
 Simon's Bay disc dropped up to 11 Dec 1898 (15)

01 Jan 1898 Simon's Bay disc being replaced by time-ball. (15)

02 Feb 1898 to 09 Feb 1898 Cape Town gun under repair. (16)

14 Apr 1898 Simon's Bay time-ball operational. (16)

1898 Daily signals from the Observatory at GMT noon :-
 Same as 1897 except for the Port Alfred ball which was
 discontinued. Telegraphic signals also go to Rhodesia. (16)

18 Dec 1900 Cape Town time-ball position :-
 74.83 ft above l.w.o.s.t.
 30 ft above ground level (ball drops 10 ft)
 Latitude 33 deg 54'24" S
 Longitude 18 deg 25' 10.4"E (18)

1901 Daily signals from the Observatory at GMT noon :-
 Same as 1898.
 Failures at P.E. and E.L. partly due to interruption
 of the lines by the Boers. (19)

01 Nov 1901 Hourly signal sent to Wynberg station-set clocks every hr(19)

1902 Daily signals from the Observatory at GMT noon :-
 Same as 1901. (20)

04 Aug 1902 Noon Gun to Lion Battery on Signal Hill.
 Gun now fired from Signal Hill battery. (3)(20)

28 Feb 1903 Midnight. The whole of South Africa adopts longitude 30

- degrees E for time determination. That is 2 hrs ahead of Greenwich time. (21)
- 1903 Ramrod shot over city. (2)
- 1904 Second floor added to time-ball building. (17)
- 1914 Daily signals from the Observatory at 10 00 00 GMT :-
1. Ball dropped at Simon's Bay for shipping.
 2. Gun fired from battery on Signal Hill.
 3. Time ball dropped at docks in Cape Town.
 4. Disc dropped at Lighthouse in Port Elizabeth.
 5. Ball dropped at East London. (22)
- 01 Sep 1914 Daily transmission of wireless time signal for shipping on Union Government wireless station at Slangkop. (22)
- 14 May 1918 Midday pause for 2 min - war remembrance (3)
- 17 Jan 1919 Midday pause discontinued (3)
- 06 Feb 1925 Broadcast of time but Noon Gun retained (3)
- 1925 Daily signals from the Observatory at 10 00 00 GMT :-
1. Ball dropped at Simonstown dockyard for shipping.
 2. Gun fired from battery on Signal Hill.
 3. Time ball dropped at docks in Cape Town.
 4. Disc dropped at Lighthouse in Port Elizabeth.
 5. Ball dropped at East London.
- Time signal sent to telegraphic system and railway services.
A clock in the Harbour Tower at the C.T. docks is electrically controlled from the observatory.
Daily transmission of wireless time signal for shipping on Union Government wireless station at Slangkop. (23)
- 06 Feb 1925 Time signal from the Observatory consisting of 4 dashes, the commencement of the last being on the hour, was transmitted by Local Broadcasting Association 3 times per day (23)
- 1926 Daily signals from the Observatory at 10 00 00 GMT :-
1. Ball dropped at Simonstown dockyard for shipping.
 2. Gun fired from battery on Signal Hill.
 3. Time ball dropped at docks in Cape Town.
 4. Disc dropped at Lighthouse in Port Elizabeth.
 5. Ball dropped at East London.
- Time signal sent to telegraphic system and railway services.
A clock in the Harbour Tower at the C.T. docks is electrically controlled from the Observatory.
Time signal also received at meteorological stations in Bulawayo and Salisbury.
Daily transmission of wireless time signal for shipping on Union Government wireless station at Slangkop. (24)
- 1927 Daily signals from the Observatory at 10 00 00 GMT :-
Same as 1926. (25)
- 1928 Daily signals from the Observatory at 10 00 00 GMT :-
Same as 1927. (26)
- Aug 1928 Automatic control of clock in Harbour Tower discontinued as Harbour Administration considered it unnecessary. (26)

15 Sep 1928 Belin apparatus to send international (ONOGO) time signals installed. Transmission from Slangkop once a day.

Local Broadcasting Association transmits last group of ONOGO signal (6-pips) at 1500 and 1800 GMT. Beginning of 6th pip is on the hour. (26)

1929 Daily signals from the Observatory at 10 00 00 GMT :-
Same as 1928. (27)

08 Feb 1929 Simonstown time-ball dismantled. (27)

1930 Daily signals from the Observatory at 10 00 00 GMT :-
Same as 1929. (28)

30 Sep 1930 Disc in Port Elizabeth dismantled. (28)

1933 Daily signals from the Observatory at 10 00 00 GMT :-
1. Gun fired from battery on Signal Hill.
2. Time ball dropped at docks in Cape Town.
Time signal sent to telegraphic system and railway services.
Time signal also received at meteorological stations in Bulawayo and Salisbury.
Daily transmission of wireless time signal for shipping on Union Government wireless station at Slangkop. (29)

31 Oct 1933 6-pip signal transmitted by African Broadcasting Company changed from 1700 and 2000 SAST to 1300 , 1700 , 1800 , 1900, 2000 , 2100 SAST. (29)

1934 Daily signals from the Observatory at 12 00 00 SAST :-
1. Gun fired from battery on Signal Hill. (30)

01 Feb 1934 Time ball at docks in Cape Town discontinued.
Time signal sent to telegraphic system and railway services.
Time signal also received at meteorological stations in Bulawayo and Salisbury.
Daily transmission of wireless time signal for shipping on Union Government wireless station at Slangkop. (30)

07 Sep 1934 Removal of the Time Ball at the Docks. The ball was made in 1932 from thin steel plate. (31)

1935 Daily signals from the Observatory at 12 00 00 SAST :-
Same as 1934. (32)

20 Sep 1942 Summer Time introduced with clocks advanced by 1hr during the summer months until 21 March 1943. (33)(34)

20 Sep 1943 Summer Time (clocks advanced 1hr) until 21 March 1944 when the use of summer time was dropped. (33)(34)

Miscellaneous Information

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Noon Gun :

" H M King George III ( 1760 - 1820 )"

18-pounder 42 CWT smooth bore charged with 1.3 Kg black powder (3)

The report of the Noon gun on Signal Hill is not always audible at the Observatory. When conditions allow it is heard 18.5 seconds after detonation. (35)

## References

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