

Nigeria Space Tracking Stations



Gemini VIII at
Armstrong Air and
Space Museum in
2010

Tony Plumbe – WASC Zoom 13/9/25

Nigeria Space Tracking Stations: Background

Concerns two spacecraft programmes:

Mercury 1958-63

Gemini 1961-66

**Each programme had 3 development components:
launch vehicle, spacecraft, & tracking and
communications network**

**Mercury programme: 20 uncrewed test flights 1959-61
(1 with great ape & 2 with chimpanzees) to develop
launch vehicles, launch escape system, spacecraft &
tracking network
+ 6 crewed flights (2 sub-orbital, 4 orbital) 1961-63**

Nigeria Space Tracking Stations

Mercury Space Flight Network

Comprised 18 ground tracking stations & 2 ships, including Kano and the 'Atlantic ship' USNS *Kingsport* (sometimes in Apapa Harbour)

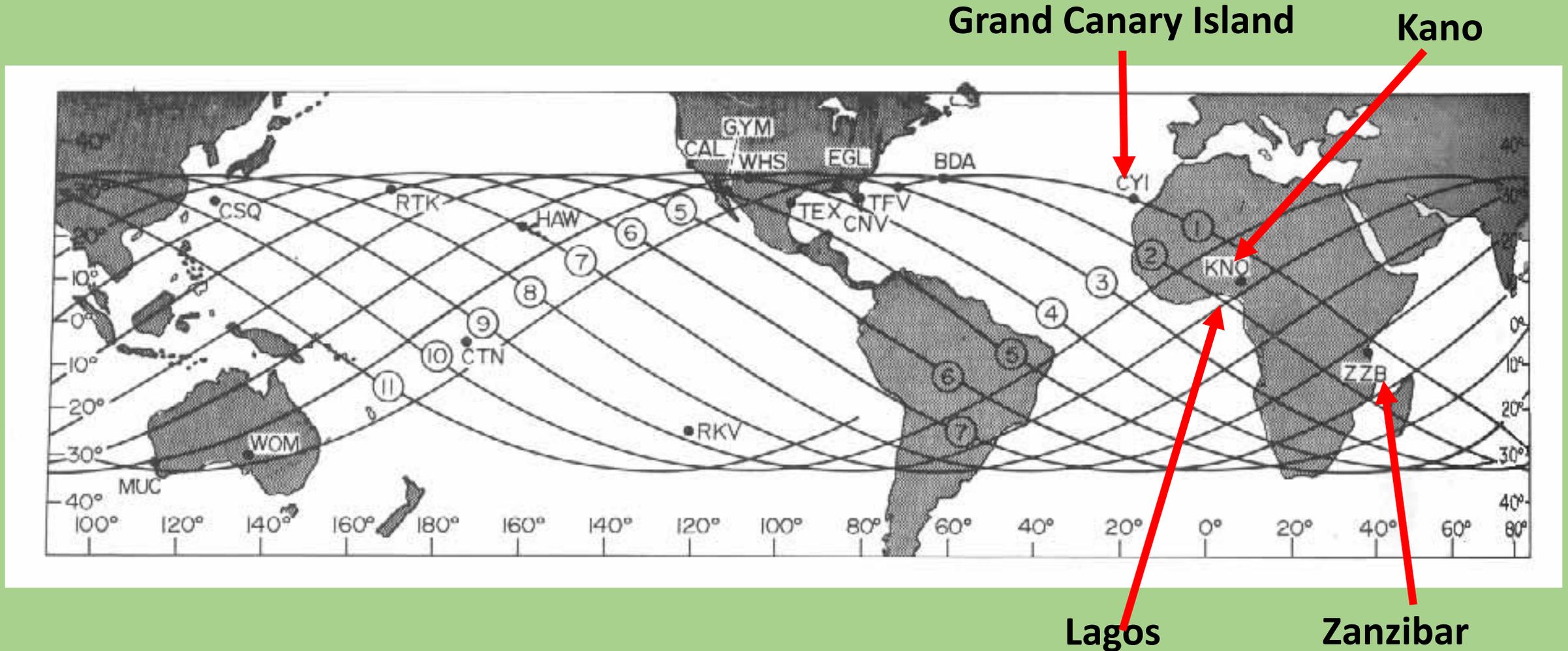
Orbit of Earth took c.88 minutes, Kano afforded 3 to 6.5 mins communications window (depending on orbit trajectory) between Grand Canary and Zanzibar tracking stations to spacecraft travelling at 17,500 miles per hour. Orbit max height (apogee) 150 nautical miles; min height (perigee) c.87 nautical miles

Network completed by 1961 with Kano the last in March 1961

Only 21 June 1963 stamps commemorating Peaceful Use of Outer Space, their artwork, and covers from USNS *Kingsport* reflect this era

Nigeria Space Tracking Stations

Mercury Ellipsoidal Orbital Paths



Nigeria Space Tracking Stations: USNS 'Kingsport'

23 April 1963 Jamaica New York State, USA
to Cicero, USA airmail at 8c rate, signed
Capt. W A Reddel and USNS 'Kingsport'
cachet



22 April 1963 Lagos to Cicero, USA airmail
with Peaceful Use of Outer Space stamps
making 1/9d rate, transit New York 23
August 1963, signed Capt. W A Reddel

Nigeria Space Tracking Stations: Peaceful Use of Outer Space Stamp Issue



Issued 21 June 1963
6d: Mercury capsule and Kano tracking station

1/3d: Satellite and Lagos Harbour

Harrison & Sons using photogravure

Designer: R Hegeman

Watermark: FN

P 14¹/₂ X 14



Nigeria Space Tracking Stations: Kano in the Mercury Programme

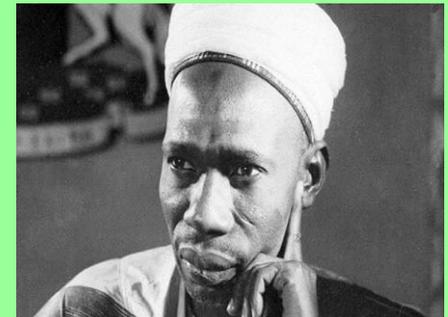
Covers not to hand

On Mercury 6 (first American crewed sub-orbital flight): over Kano was where Glenn first saw Earth after blast off, and where he ate his first food from the tripa tube of apple juice and malted milk pills

Kano monitoring station used to monitor the health of John Glenn: Col. Vance Marchbanks Jr, M.D. of the US Air Force and Head Physician for the Mercury programme, was based at Kano monitoring Glenn's pulse, heartbeat and medical reaction.



Later, on 23 August 1963, Kano monitoring station enabled the first telephone call relayed by satellite using the Syncom Communications Satellite made between two Heads of State. President John F Kennedy spoke to Prime Minister Abubakar Tafawa Balewa



Nigeria Space Tracking Stations

Gemini Space Flight Network

Comprised 22 ground tracking stations & 2 ships, including Kano but not USNS *Kingsport*. Had fewer primary stations & more secondary stations, some Mercury stations dropped, many had their hardware supplemented as did Kano

Gemini spacecraft had capacity for two astronauts, computer aboard, controls aboard, modular assembly, solid-state electronics.

2 uncrewed and 10 crewed flights 1964-66, docking with target vehicle, spacewalks, endurance testing, 3 to 206 orbits, all prep for Apollo programme, Americans caught up with Russian space programme

Main period from which covers from Nigeria exist (for selected flights)

Nigeria Space Tracking Stations

Gemini 7, 4-18 December 1965



1965
6 December.
Kano to Des
Plaines, USA,
standard hand
cachet, 1961 &
1965 Defs,
Frank Borman &
Jim Lovell
aboard

Nigeria Space Tracking Stations

Gemini 6-A, 15-16 December 1965



1965
13 December. Kano
to Des Plaines,
USA, standard
hand cachet, 1965
commemoratives,
Wally Schirra &
Thomas Stafford
aboard, first
rendezvous with a
target vehicle

Nigeria Space Tracking Stations

Gemini 8, 16-17 March 1966

1966 16 March. Kano to
Sudan Interior Mission
at Makurdi, standard
hand cachet, 1961 &
1965 defs, Neil
Armstrong & David Scott
aboard, first docking
with a target vehicle,
emergency return



Nigeria Space Tracking Stations

Gemini 10, 18-21 July 1966

1966 19 July. Kano to Makurdi,
standard hand cachet, 1965
defs, John Young & Michael
Collins aboard

NASA
SPACE TRACKING STA.
P. O. BOX 789
KANO
NIGERIA



Don van Reken
Care "De Groot"
P.O. Box 24
Makurdi

NASA
SPACE TRACKING STA.
P. O. BOX 789
KANO
NIGERIA



AIR MAIL

Don van Reken
44 E. 15th Street
Holland, Mich. 49423
U.S.A.

JUL 18 1966

Kano to Holland, USA, 1961 & 1965
defs, used target vehicle's propulsion
systems, stood at hatch 49 mins &
spacewalk of 39 mins retrieving
experiments from target vehicle

Nigeria Space Tracking Stations

Gemini 11, 12-15 September 1966

1966 12 September.
Kano to Goppingen,
Germany, standard hand
cachet, 1966 Commem.,
Kano Station Director
signed, 'Pete' Conrad &
Richard Gordon aboard,
docked with & used
propulsion system of
target vehicle, 33 mins
spacewalk, 44 orbits



Nigeria Space Tracking Stations

Gemini 11, 12-15 September 1966

1966 13 September. Registered Size G Kano to Holland, USA, standard hand cachet, 1961 & 1965 Defs., 'Pete' Conrad & Richard Gordon aboard

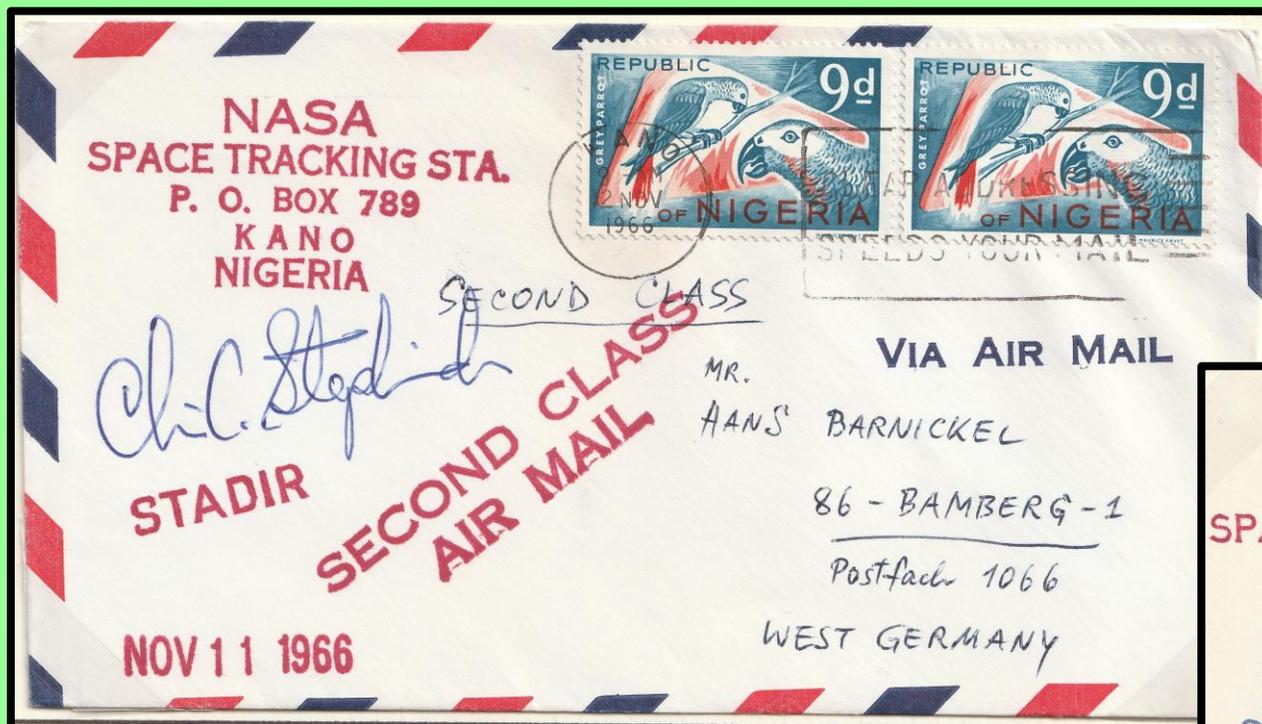


1966 13 September. Registered Size H Kano to Holland, USA, standard hand cachet, 1961 & 1965 Defs., docked with & used propulsion system of target vehicle, 33 mins spacewalk, 44 orbits



Nigeria Space Tracking Stations

Gemini 12, 11-15 November 1966



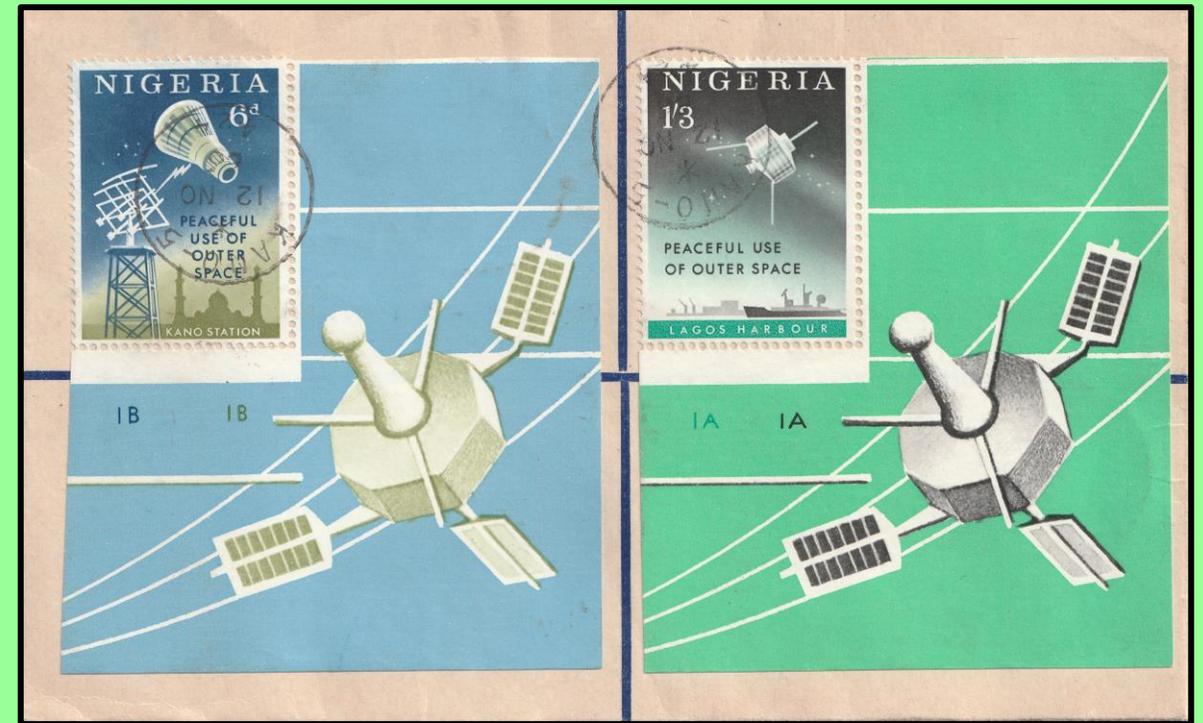
1966 12 November. Kano to Bamberg, Germany, standard hand cachet, 1965 Defs, Kano Station Director signed, Jim Lovell & Buzz Aldrin aboard

1966 12 November. Kano to Hamburg, Germany, standard hand cachet, 1965 Defs., Kano Station Director signed, rendezvous & docking, 3 spacewalks 2 being stand-up exercises lasting 5.5 hours, 59 orbits, last Gemini flight



Nigeria Space Tracking Stations

Gemini 12, 11-15 November 1966



1966 12 November Registered airmail envelope Size G sent self-addressed by Don van Reken from Kano to Holland, USA with Peaceful Use of Outer Space commemorative stamps on face and plated same from corner of sheetlets on reverse. Totally 'philatelic' but attractive uprating of a 9d registered envelope!

Nigeria Space Tracking Station at Kano



SSB HF Radio set operator during NASA's Gemini 3 two man orbit, Kano, Nigeria, March 1965



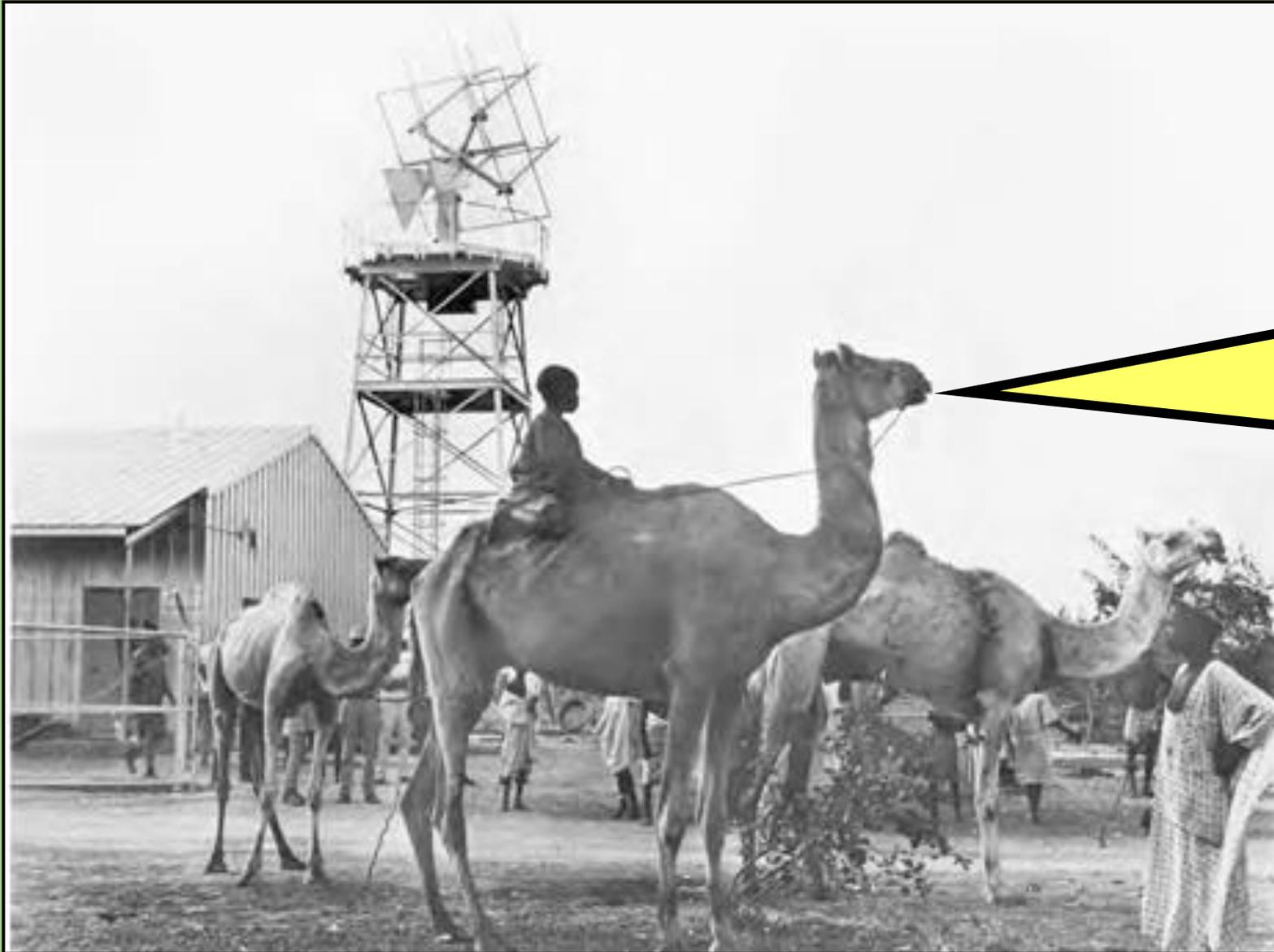
SSB Room Gemini 4, Kano, Nigeria, June 1965

Nigeria Space Tracking Stations



Helicopter UH-1B and Transport Aircraft C-130 on rescue standby at Kano, Nigeria during Gemini 5, Kano, Nigeria, August 1965

Nigeria Space Tracking Station at Kano



Well, I could guide you across the Sahara – I've been doing it for years without Satnav !

Interested parties at the Kano Tracking Station

Source:

<https://www.nasa.gov/history/SP-4001/p2b.htm> Figure 49.