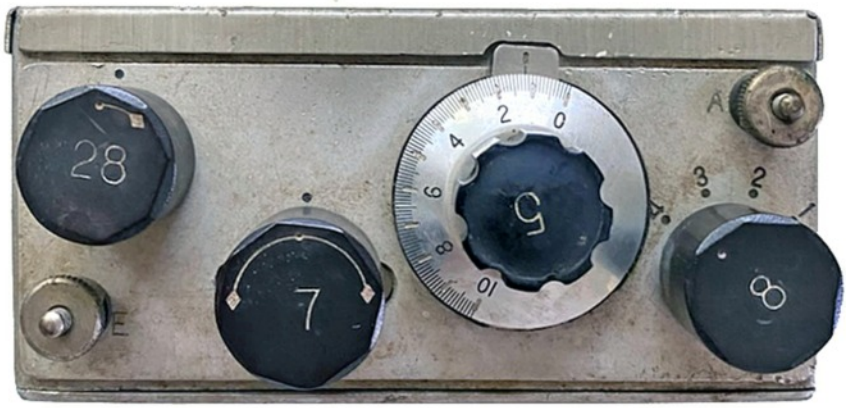


Miniature Japanese receiver

Country of origin: Japan

Front panel view of the miniature Japanese receiver.

DATA SUMMARY

Organisation: Unknown.

Design/Manufacturer: Unknown.

Year of introduction: Believed 1944.

Purpose: Possibly agents, intelligence or monitoring.
Circuit features: Regenerative detector, 2x AF stage. AM R/T and CW.
Frequency coverage: 1.8-10MHz in 4 ranges: 1.8-2.9, 2.5-4, 3.5-6, 5.7-10MHz.
Valves: 3x B03, (an 1T4 equivalent), manufactured by Shinagawa Electric.

Power Supply: 1½V LT and 67½V HT battery, carried in a separate box.

Size (cm): height 5, length 10.6, width 10.

Accessories: Headphone, aerial and earth wire. Probably spare valves and batteries.

Acknowledgements

- Many thanks to Lian, the owner of this rare receiver, for taking photographs, tracing/drawing the circuit diagram and giving permission for publication. Without his generous information this chapter would not have been possible.
- Ben Nock of the Military Wireless Museum (M.W.M.) in the UK granted permission to publish photographs of his Mukinanu type receiver, which was of a smaller size and possibly a later variant. Website: https://www.qsl.net/g4bxd/japanese.htm

References

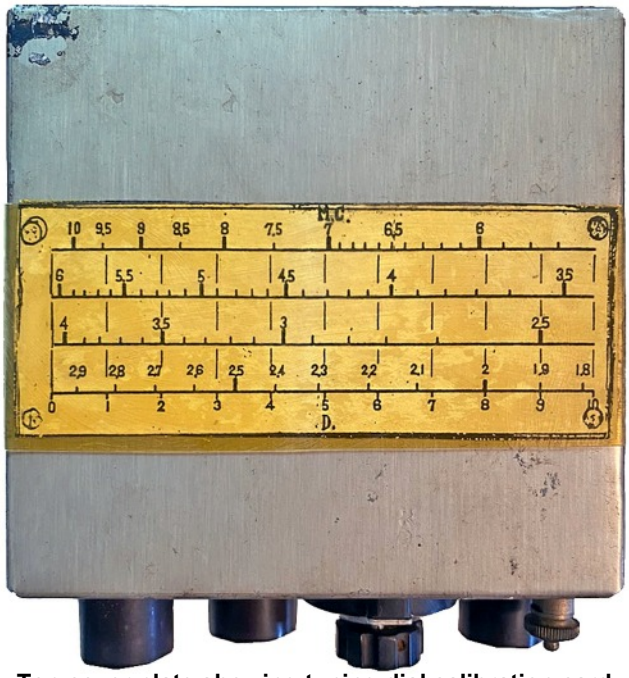
- Yokohama Former Military Radio Communication Museum. Website: www.yokohamaradiomuseum.com
- Facebook group: WWII Japanese Military Radio Etc.
- Captured Enemy Equipment, Japanese Receiver 1568, Report No. J-2, 21 April 1945 (Declassified 8 Nov. 1945).

Remarks

This not yet identified miniature receiver was believed to be used by Japanese agents, monitoring own traffic or intelligence. Considering that the valves of the miniature radio were produced in Japan by Shinagawa Electric from 1943 onwards, it was thought that the receiver was made in 1944. The circuit comprised a regenerative detector followed by two r/c coupled audio stages. With a frequency range of 1.8 to 10 MHz in four switched bands, the receiver was housed in an aluminium enclosure with three detachable lids providing easy access. The controls on the front had no lettering, but numbers engraved on the knobs. These numbers might have corresponded to part numbers on the original circuit diagram. The 1½V LT and 67½V HT batteries were carried in a separate box, which was connected by a 3-Pin cable and plug. There was no type number plate or any other identification apart from the letter 'A' (near the aerial terminal), probably indicating 'Aerial' or 'Antenna' in English, and 'E' (near the earth terminal) for 'Earth.' This may indicate that the receiver was developed for agents operating in British English-speaking countries, as 'Earth' is usually expressed as 'Ground' in the United States. If this was an attempt to conceal the manufacturer of the receiver, one may wonder why a drawing with Japanese characters was attached to the inside of the easy-to-open top cover plate, and why the valves had factory labels.

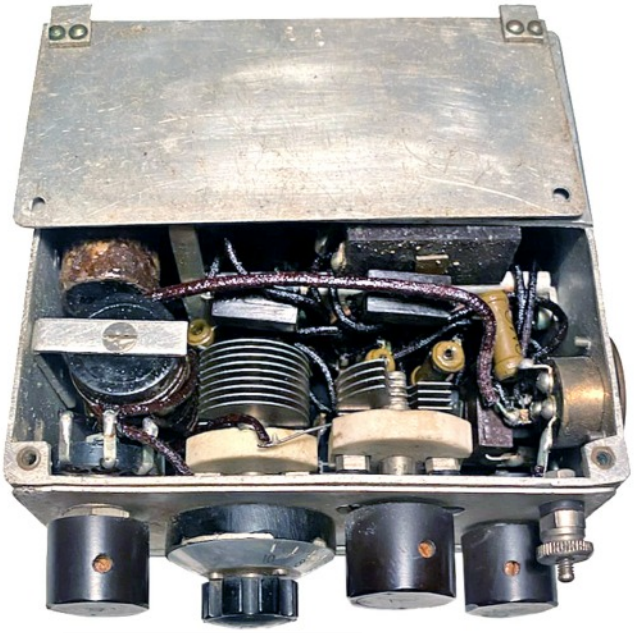
The only official reference found to date for this receiver was an American report in the 'Captured Enemy Equipment' series, issued in April 1945. Though labelled as the 'Japanese receiver 1568', the report stated that '… it is not known whether the 1568 stamped on the case and cover was the serial or model number...'.

Original single headphones issued with the miniature Japanese receiver.

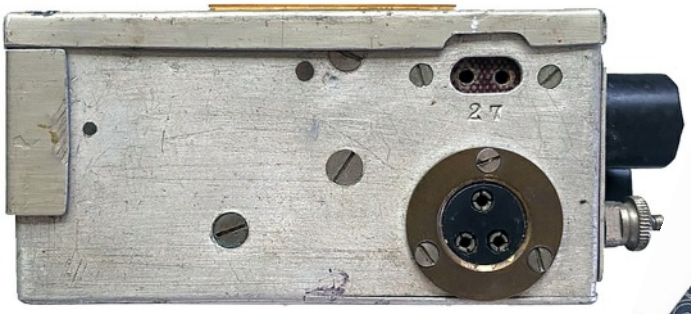


Top cover plate showing tuning dial calibration card.

Components seen at the top side with cover detached. The valves shown here are modern 1T4 replacements to save the original WW2 originals during tests.

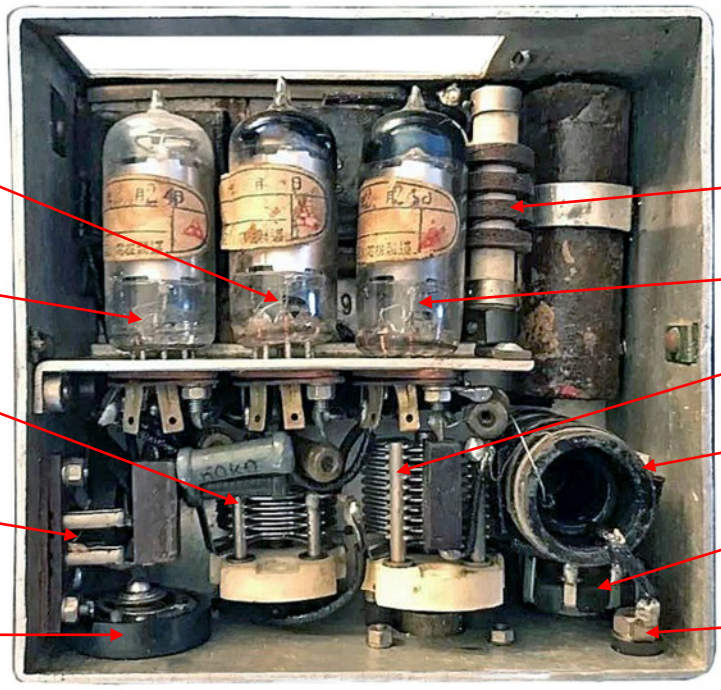


View with cover detached, showing components at the bottom side.

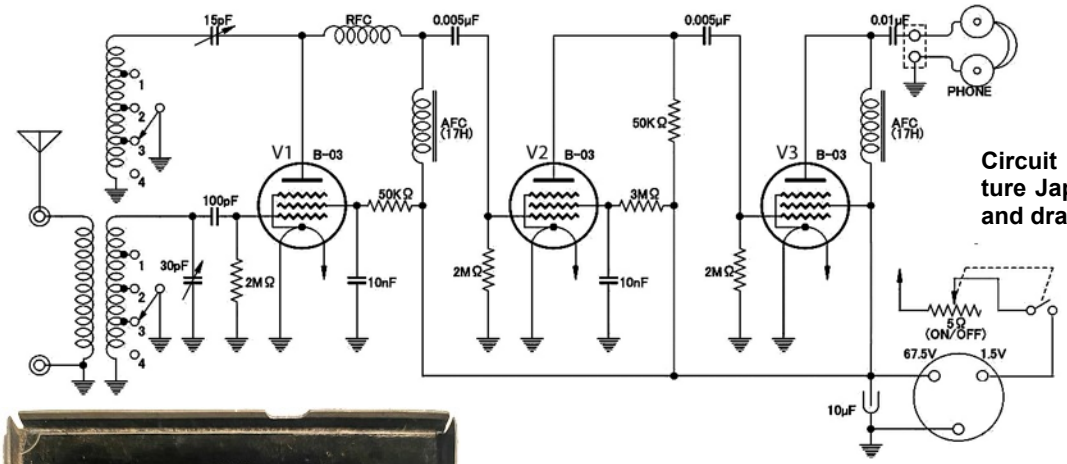


Left-hand side view with 3-pin power socket and headphone socket (marked 27).

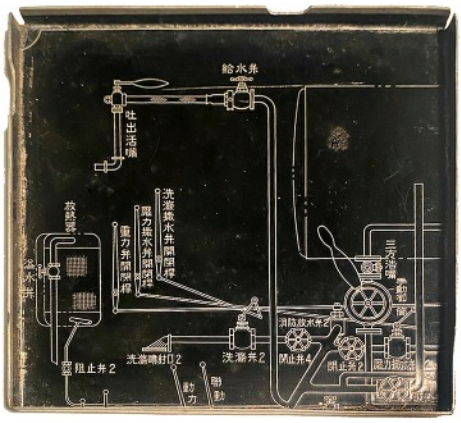
Rear view showing opening for removing the valves.



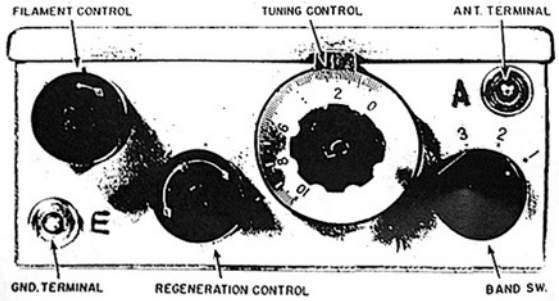
The receiver with top cover detached, showing the original type B03 miniature battery valves.



Circuit diagram of the miniature Japanese receiver, traced and drawn by Lian.



This drawing (of apparently an oil lubrication system or water cooling system for an engine or machine) had been attached to the underside of the top cover plate of the miniature Japanese receiver (left). It is assumed that the cover plate was originally intended for another purpose (left).



Scanned from a photocopy of US Report No. J-2. Note the American phrase 'Ground' to E(arth).

'Mikunanu', a smaller and possible later variation of the Miniature Japanese Receiver.

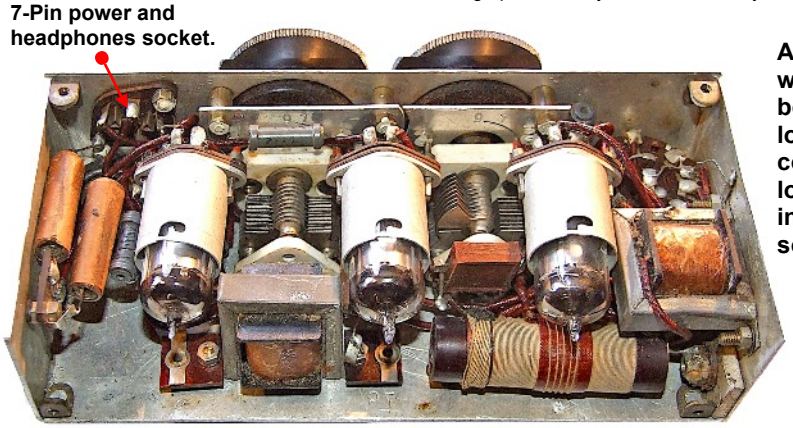
s/n 609 ?

The receiver was carried in a wooden box with partitions for batteries and accessories.

On display at the Military Wireless Museum in the UK is a 'Mikunanu' receiver, having design similarities to the miniature Japanese receiver. It had an extended frequency coverage of 3-16MHz, and was considerably smaller with the same circuit features. It also used three Japanese type B-03 miniature valves. The batteries and headphones were connected to a 7-Pin socket on top of the control panel by a special cable.

Photographs courtesy Ben Nock, Military Wireless Museum.

7-Pin power and headphones socket.



View of components, valves with screening cans, reaction and tuning capacitors, tuning coil, AF chokes and slow motion drives.

A removable insert within the wooden box contained a loop aerial, the two contacts of which, located inside, slid into the receiver sockets (right).