



Present Status of Interference to GNSS in Japan

Yoshiaki SATO

Radio Monitoring Office

Radio Department

Telecommunications Bureau

Ministry of Internal Affairs and Communications (MIC)

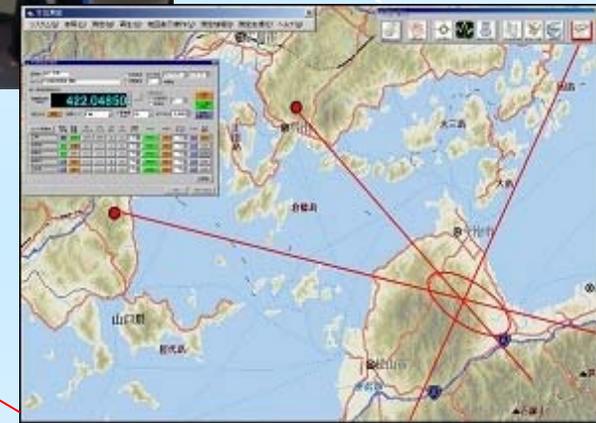
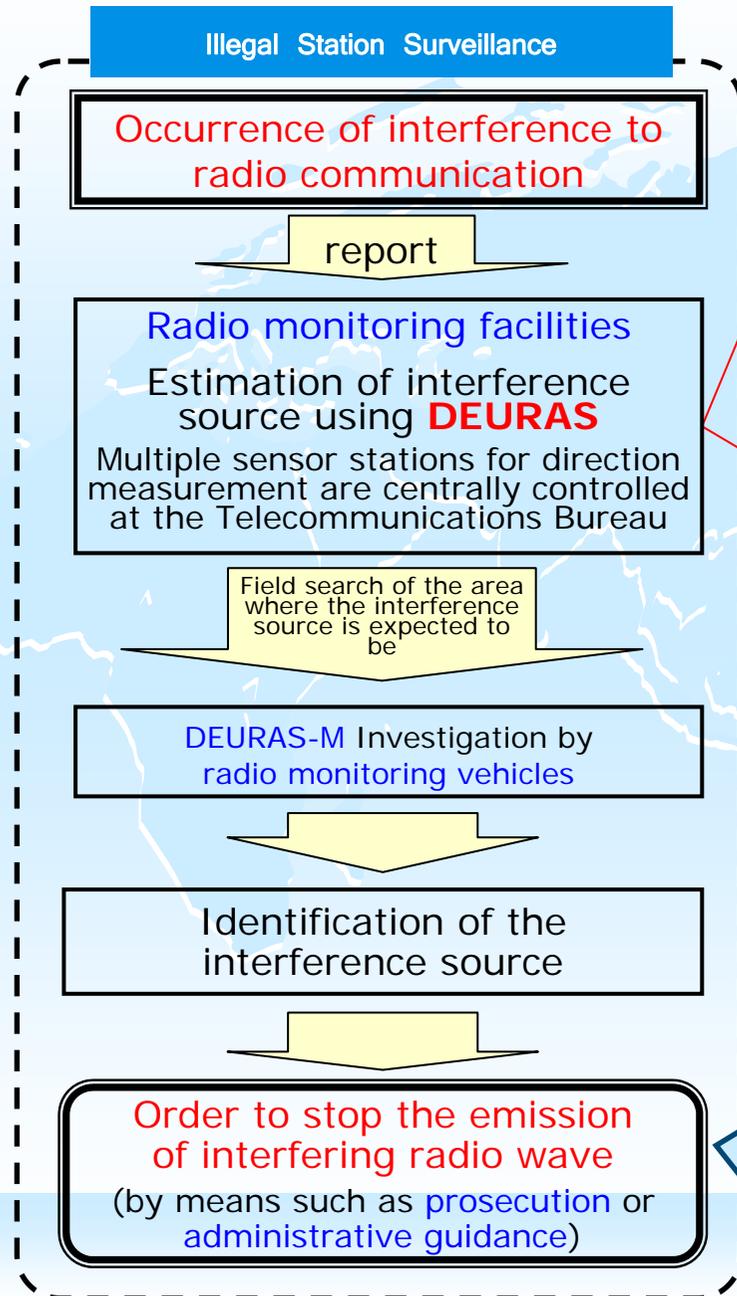
Present status of the interference to GNSS

There is no detected case of the interference to GNSS in Japan.

In case the interference to GNSS take place in Japan,

MIC identifies the source of the interference to GNSS, and deals with it as **Unlicensed Radio Station**.

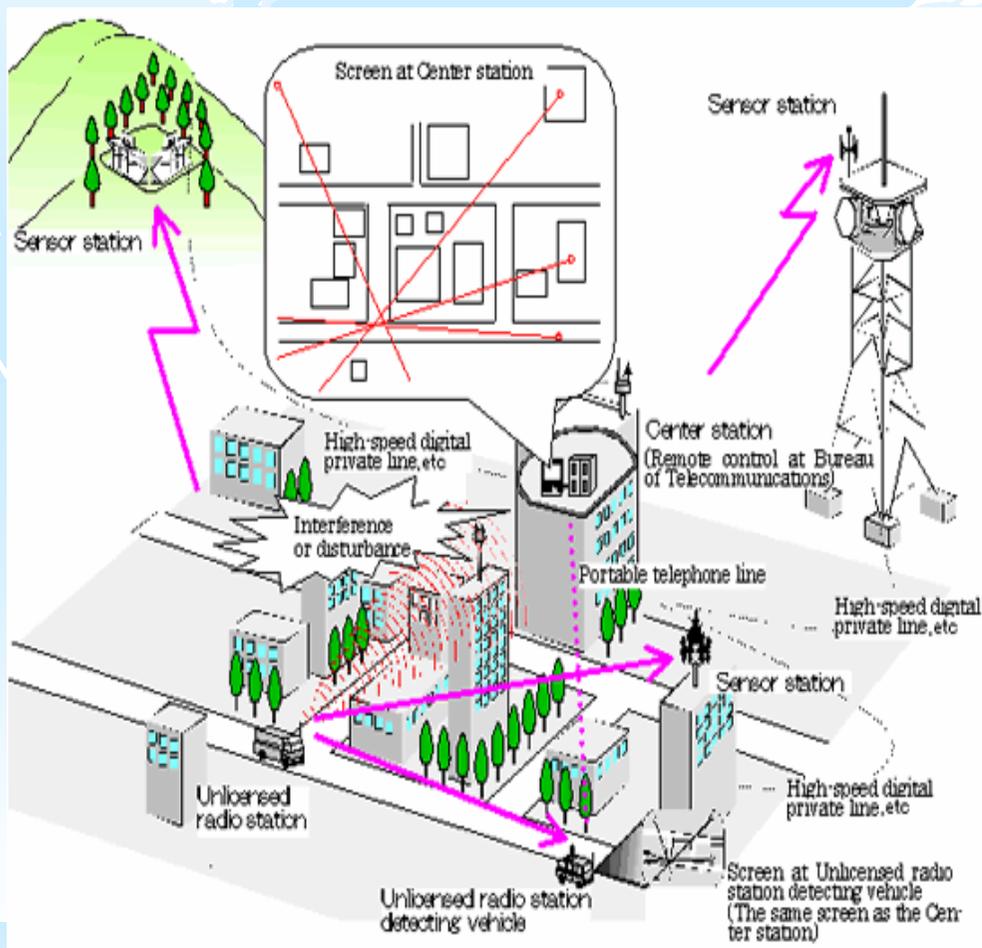
Detection of and Enforcement on Unlicensed Radio Stations



- MIC officers do not have any judicial power, so they must report to enforcement agencies in order to prosecute infringements.
- Infringing users who have been reported to enforcement agencies will be prosecuted if their act is recognized as criminal. If convicted guilty, they could **be imprisoned for a maximum of one year or fined up to 1 million yen** (about USD12,500).

Outline of DEURAS-D

The DEURAS-D system consists of center stations and numerous sensor stations which measure the frequency, band width, modulation and direction of the emission in question. Based on this information, the location of the emission source can be displayed on a map at the center station.



| Items | Specifications |
|---------------------------------|--|
| Frequency range | 25MHz-3GHz |
| Identifiable modulation schemes | AM, FM, SSB, CW, BPSK, QPSK, $\pi/4$ shift QPSK, 8-PSK, 16QAM, FSK, MSK (including GMSK) |



Sensor station



Center station



Console screen display

Outline of Radio Monitoring Vehicles (DEURAS-M)

DEURAS-M are vehicles that function as part of the DEURAS-D system to pin-point the location of unlicensed radio stations.



Radio monitoring vehicle



Radio monitoring vehicle (from side)

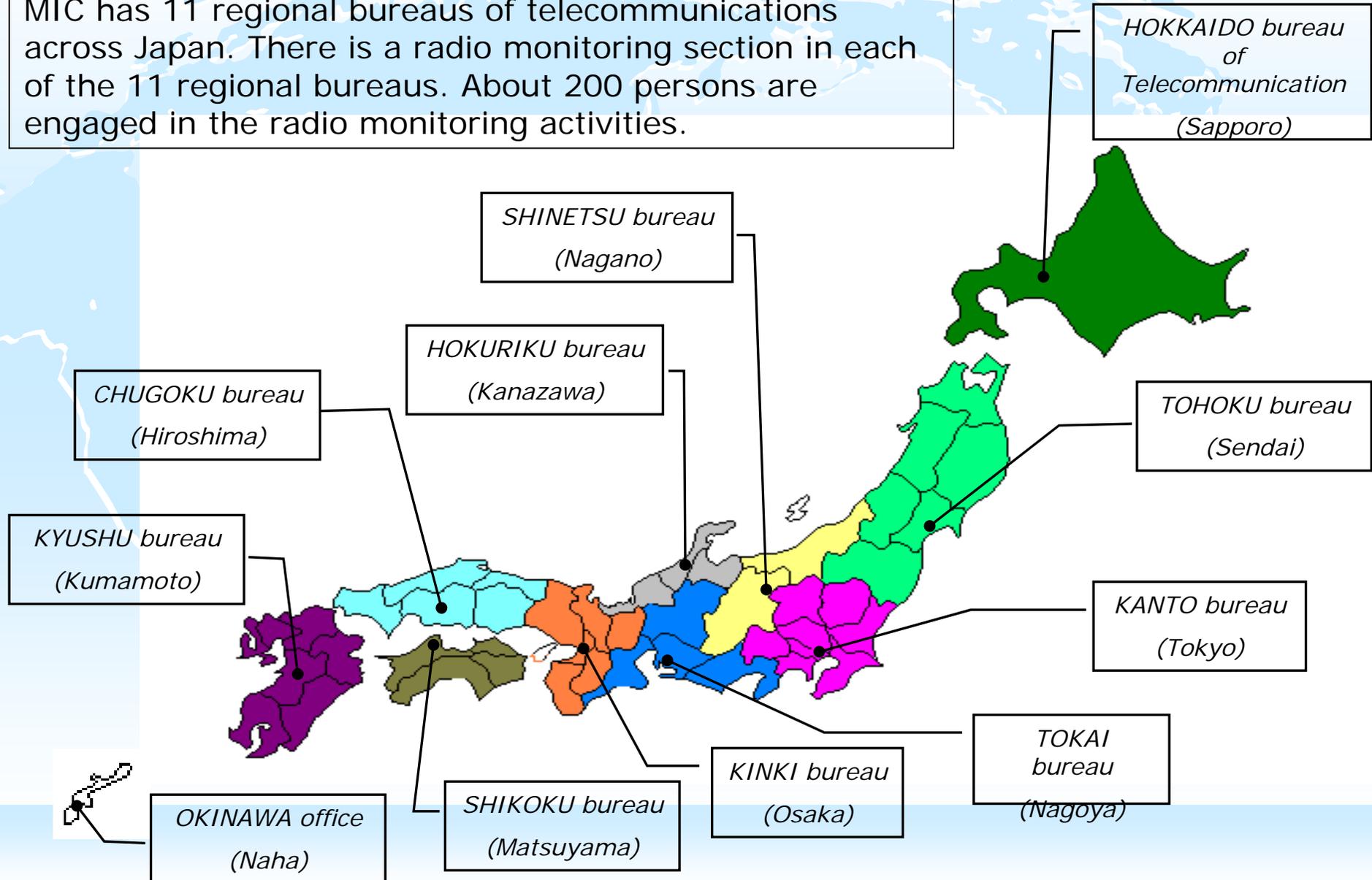
| Items | Specification |
|-----------------|---------------|
| Frequency range | 25MHz-2.4GHz |



console

Radio Monitoring Offices

MIC has 11 regional bureaus of telecommunications across Japan. There is a radio monitoring section in each of the 11 regional bureaus. About 200 persons are engaged in the radio monitoring activities.



Thank You !



Ministry of Internal Affairs and Communications ("MIC"), Japan

<http://www.soumu.go.jp>