

Ruling the Waves

The imminent termination of analogue TV broadcasting in Japan will free up a raft of radio frequency bands. How will these valuable resources be distributed? **Utsumi Yoshio**, former secretary-general of the International Telecommunication Union, comments.

In Japan, existing analogue broadcasting is scheduled to terminate, with use of the frequency band being suspended, by 2011. This turn of events is due to the complete digitalization of terrestrial TV broadcasting. As a result, the valuable radio resources for VHF/UHF bands will become available for other applications.

The radio waves are used internationally, in principle, on a first-come, first-served basis, just as was the case with possession of land. This principle is common to humanity concerning possession of articles of which the owner is not defined, and is something of an axiom underlying the entire universe.

Contrary to the principle of first come, first served, there are cases when the use of a set radio frequency band is prohibited. In these cases, a plan is prepared for the future use of the radio wave band, and its use is licensed in accordance with the "plan." A typical example is the licensing of broadcasting stations in accordance with channel plans.

In 2006, a conference to determine the allocation and coordination of terrestrial digital TV frequency bands was held at the International Telecommunication Union (ITU) for the Europe, Africa and West Asia regions. The purpose of the meeting was to formulate a channel plan for terrestrial digital TV broadcasting in these regions. The participating countries are to grant licenses to broadcasting stations in accordance with the plan finalized at the meeting.

In drawing up the plan, an enormous volume of data was processed, requiring several months for computation even with super computers. Instead of super computers, the cutting-edge grid method utilizing PCs all over the world was used for simultaneous processing and computing. As such, the plan is supposed to be regarded as a scientific and reasonable one.

However, the principle adopted at the

meeting was not of allocating the channels in proportion to the population and land area of each country. Instead, the participating countries made arbitrary claims concerning the number of broadcasting stations and radio bands they wished to use and bounced the claims off each other. Then each country moderated its claims to a level where the radio waves would not interfere with each other, just like haggling over the price of bananas or suchlike. As is self-evident, the process may

formulated by the Ministry of Internal Affairs and Communications through neatly organized procedures.

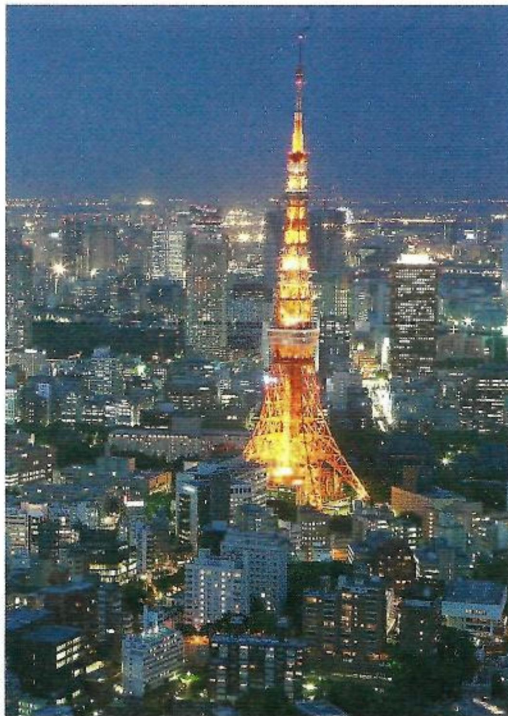
Many research meetings and council meetings were held to solicit the opinions of service providers wishing to use the bands, through which high-level principles are formulated in order to prepare plans deemed to be most reasonable. However, the Minister of Internal Affairs and Communications or the government is to make the final decision, no matter what procedures are taken.

Whichever fairest way the assessments are conducted, no plan would satisfy all service providers that wish to conduct businesses using the valuable frequency bands. Since frequency bands are never auctioned in Japan, they are available virtually free of charge and, naturally, anyone would want as many as they could get.

A succession of requests has been filed to have the radio bands allocated to mobile phones, WiMax (Worldwide Interoperability for Microwave Access), Intelligent Transport Systems (ITS) and others.

In Japan, where decisions by the government are normally regarded as the ultimate authority, plans are prepared assuming that no one would object to those that are laid down by the minister. Therefore, plans ought to be made based on totally reasonable principles, different from those described above in the international community where no world government or superpower exists.

It is sincerely hoped that the plan will be one with which "all involved are equally dissatisfied but equally convinced," so that the rare radio wave resources can be used effectively for decades to come. ■



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Tokyo Tower, the capital's landmark transmitter for both analogue and digital terrestrial broadcasting

not be a reasonable one in the sense of economy. The computer simulation mentioned above was merely for checking whether the radio bands would interfere with each other.

An unused radio frequency band is rare these days. Under these circumstances, the suspension of terrestrial analogue TV broadcasting offers a rare opportunity. Plans to use this "vacant space" are being

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