

Terrestrial Digital Broadcasting Relay Station WG, Broadcasting Systems Committee
Telecommunication Technology Subcommittee, Telecommunications Council
Summary of Minutes (4th Meeting)

1. Date

Monday, December 4, 2006, from 2 p.m.

2. Location

Conference Room 3, Sanbancho Chamber in Common Use

3. Agenda

- (1) Review of the minutes from the previous meeting
- (2) Matters concerning the draft report
- (3) Other matters

4. Attendees (honorifics omitted)

Kobayashi (ARIB) — Chair, Seki (Fuji Television) — Vice-Chair, Ueda (Matsushita Electric), M. Oota (TV Tokyo), H. Oota (NICT), Takada (NAB — substitute for Ogura), Ozaki (NHK ITEC), Saito (Hitachi — substitute for Otosaki), Kato (TV Asahi), Kawabe (Sharp), Kawamoto (JCTEA), Kurihara (Miharu Communications), Sugawara (TBS TV), Sugiura (Maspro Denko), Hayashi (NTV), Higuchi (NEC), Hirose (Toshiba), Fujimaki (Sony), Magabuchi (Japan Radio), Akisada (Japan Cable Laboratories — substitute for Maruyama), Moriyama (NHK), Yamamoto (Yagi Antenna)

Secretariat: Fuseda, Fukushima, Endo, Kikuchi (Broadcasting Technology Division, MIC)

5. Distributed materials

Reference 4-1: Provisional Summary of Minutes of the Third Meeting of the
Terrestrial Digital Broadcasting Relay Station WG

Reference 4-2: Draft Report of the Broadcasting Systems Committee,
Telecommunication Technology Subcommittee, Telecommunications
Council

Supplementary material: Technical standards on television broadcasts (470–770
MHz)

6. Outline of proceedings

After checking the distributed materials, the following proceedings took place.

(1) Review of the minutes from the previous meeting

The Working Group approved the Provisional Summary of Minutes of the Third Meeting of the Terrestrial Digital Broadcasting Relay Station WG.

(2) Matters concerning the draft report

a. Opinions and comments since the previous meeting

Members with additional comments or opinions following the close of the previous meeting were requested to contact the Secretariat by Tuesday, November 28. Before commencing discussions, the Secretariat indicated that no specific comments were received.

b. Antenna power deviation (+20%/-20%)

The Secretariat explained the following points concerning the situation since the previous meeting:

- At the previous meeting, since it had been found that a deviation of +10% was achievable by some manufacturers and not by others, it was decided to suspend the issue and submit the conclusion at the present meeting after the Chair and the Secretariat had organized the issue further.
- After hearing and investigating the opinions of manufacturers and broadcasters, the Chair and the Secretariat decided on a proposal recognizing deviations of +20%/-20% only where MCPAs [multiple carrier power amplifiers] are used for the following reasons:

- (1) The use of MCPAs is growing in low-power relay stations used for digital broadcasting

- (2) When relay stations with MCPAs that do not use AGC [automatic gain control] are installed in relatively simple centers, the antenna power may fluctuate by as much as $\pm 20\%$ due to the ambient temperature.
- (3) Relay stations of 0.5 W or less, anticipated to become the largest category of installed stations, make use of inexpensive MCPAs for the economical and quick establishment of relay stations.

The proposal was approved without any specific comments following this explanation.

c. Labeling of the vertical axis in Figure 3: Spectral Masks Accounting for Low-Power Broadcast Systems under Section 4.2 Relaxed Stipulated Values of Spectral Masks

The Secretariat indicated that it had added an explanation of “attenuation” to Figure 3 and that it wanted to include a figure with a “relative value [dB]” vertical axis in the explanatory materials to be used in the next report to the Broadcasting Systems Committee. The following questions were raised after this explanation.

- As the Secretariat proposed, using a figure in the explanation may well be a good idea, but the figure is skewed. I feel that the figure must be made more accurately.

(H. Oota)

→ The offset is the result of the center frequency of digital broadcasts being 1/7 MHz higher than the center frequency of analog broadcasts. It is not a mistake.

(Secretariat)

*Because there was a mistake in the skew in the figure, the Secretariat had informed the members by e-mail about the correction to the figure.

d. Handling of the 7/8 encoding ratio data

The Secretariat introduced a proposal to stay with the description reached at the previous meeting, even though it had decided to continue listing this data together with the 3/4 encoding ratio data.

The Chair then stated that he would make a separate explanation pertaining to this should there be any questions at the next report to the Broadcasting Systems Committee. The proposal was approved without any specific comments.

e. Reason for setting the permissible frequency tolerance to 10 kHz

The Secretariat reported the argument for setting the permissible frequency tolerance to 10 kHz in the following paragraphs:

- (1) The 10 kHz tolerance is appropriate because, unlike analog broadcasts, digital broadcasts do not have an offset frequency (thus, the approach is the same as the stipulated value of 3 kHz for analog broadcasts).
- (2) Heterodyne relaying using TCXOs [temperature-compensated crystal oscillators] will satisfy the regulations if a 10 kHz tolerance is adopted (this is also achievable from the device side).
- (3) Conversely, if the tolerance remains at 3 kHz, the tolerance may have an adverse effect on the prompt establishment of relay stations due to the additional time spent in development (also in consideration of the effects on people receiving the broadcasts).
- (4) The 10 kHz tolerance does not pose any impediment on the receiving device side (also in consideration of the effects on people receiving the broadcasts).

In response to this explanation, the Chair stated “Previously, we only had the statement on the performance of oscillators. With these statements, a convincing explanation looks possible.” The proposal was approved without any specific comments.

f. Economic benefits from the spectral mask (30 dB mask) regulations

The Secretariat indicated it had decided that the report should touch on the economic benefits from the spectral mask regulations because the WG is to deliberate on “technical conditions for relay stations that are also economically superlative” and because the report already expresses the economic benefits in the items on permissible frequency tolerance and antenna power deviation. To this end, the Secretariat has drafted a statement on the economic benefits from the spectral mask regulations. The proposal was approved without any specific comments.

g. Statement on the performance of oscillators

The Secretariat indicated it had drafted a statement on the performance of oscillators in accordance with the structure approved at the previous meeting. In response, Mr. Hayashi stated that the statements pertaining to TCXOs should be changed to “ 10^{-6} ” and “ 10^{-7} ” to be consistent with other statements. The statement will be revised accordingly.

h. Organization of the wording in the conditions applicable to extremely low power stations

The Secretariat indicated that it had drafted the report in keeping with statements (1) through (5) in Section 1.3 Conditions Applicable to Extremely Low Power Stations. The following questions were raised after this explanation.

- We confirmed that the statement “transmission facilities for ‘rebroadcasting’” is also used in Conditions of Equipment for Broadcasting Stations Performing Television Broadcasting at Very Low Power (Ministry of Posts and Telecommunications Announcement No. 819, 1975). (Secretariat)

- Consequently, it is understood that this “rebroadcasting” here is being used as the term expressing general technical details and not the “rebroadcasting” used in “rebroadcasting approval.” (Chair)

→ I understand. Previously, I suggested that it had the intention of “rebroadcasting” as used in the Cable Television Broadcast Law, but now I realize this is used here as the general expression “rebroadcasting.” (Kato)

- Is the expression “with approval of the broadcaster” used in the Cable Television Broadcast Law? Also, has “wireless community facilities” been used in any regulations? (Vice-Chair)

→ The expression “with approval of the broadcaster” is used in the Cable Television Broadcast Law. The term “wireless community” has not been previously defined and this WG is the first to use this term. (Secretariat)

- Is there a specific “underground arcade” concept? For example, does this include subway stations?

→ We believe it encompasses subway stations. (Secretariat)

- Can “underground arcade” here be thought of as an “enclosed space”? In other words, “underground arcade” can be defined as the speaker wants and even include areas with large openings to the surface. In this case, electric fields may propagate above ground. (H. Oota)
 - It doesn’t need to be said that electric fields must not propagate above ground and cause interference. (Chair)
 - In our discussions so far, the assumption has been the shielded space indicated in Reference 2. Since we are also assuming no interference is caused, as the Chair has said, I think we should consider leaving the expression at “enclosed space.” (Moriyama)

- Does the licensed entities in (4) refer only to broadcasters? (Kato)
 - The licensed entities are outside the scope of our examinations, so we have not stated any limitations on the licensed entities. We don’t believe there is any misunderstanding about the statement, but we will reconfirm this. (Secretariat)

- The expression “reception impediment” in (5) may cause readers to think this includes reception impediments on the top of buildings if they only read this line and not the previous paragraph. Should a different expression be used?
 - We believe the expression is self explanatory if read in sequence from the previous paragraph, but we will try to reconfirm this. (Secretariat)

After these questions, the Chair stated that Reference 4-2 would be revised based on the content of today’s discussions and that the matters and relevant materials reported to the third meeting of the Broadcasting Systems Committee would be organized and prepared by the Chair and the Secretariat.

(3) Other matters

The Secretariat explained the upcoming schedule as follows:

- Third meeting of the Broadcasting Systems Committee (Thursday, December 7)
- Submission of public comments on the draft report (to be conducted soon after December 7)