Transmission and Functionality Test of MMT-Based Next-Generation Satellite Broadcasting System over “KIZUNA (WINDS)” Satellite
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Since the implementation of digital broadcasting, the distribution environment for video contents has undergone major changes owing to the widespread use of the internet and mobile devices. MPEG Media Transport (MMT), a new transmission technology that incorporates internet technologies, will be adopted for 4K/8K satellite broadcasting. The presentation timing for video and audio in conventional digital broadcasting is controlled using different clocks for each transmission channel. Thus, without a mechanism for providing information regarding the correlation between the clocks for each channel, it was not possible to synchronize the videos from different channels at the receiving end in integrated broadcast-broadband services. MMT, on the other hand, controls the presentation timing for videos based on universal time, which enables precise synchronization without special mechanisms. Prior to 4K/8K satellite test broadcasting, we conducted transmission experiments to demonstrate the synchronization function of MMT over the “KIZUNA (WINDS)” experimental communication satellite. To transmit multi-angle videos, we constructed two physical channels using the transmission scheme for 4K/8K satellite broadcasting. Our results showed that the display of the two videos transmitted over the two channels could be synchronized as intended at the receiving end even if their transmission delays were different.