



Radiocommunication Study Group 6

QUESTION ITU-R 9/6*

Universal transmitters and retransmitters for both analogue and digital terrestrial TV broadcasting

(2001)

The ITU Radiocommunication Assembly,

considering

- a) that introduction and implementation of digital terrestrial TV broadcasting should be realized taking account of existing terrestrial broadcasting;
- b) that digitalization of TV distributional network leads to a radical increase in the number of programs delivered by the network and thus to the need for additional transmitters and retransmitters to be installed;
- c) that most of additional transmitters and retransmitters are currently being installed for existing terrestrial broadcasting;
- d) that there are advantages in reuse of currently installed transmitters and retransmitters, i.e. their further use for digital terrestrial TV broadcasting;
- e) that such reuse is especially important when digital terrestrial TV broadcasting are being implemented not in addition to existing terrestrial TV broadcasting but as their replacement, because of the lack of frequencies;
- f) that the reuse of currently installed transmitters and retransmitters for digital terrestrial TV broadcasting should be preferably realized with a minimum alteration or no alteration at all;
- g) that signal transfer into the broadcasting frequency band, amplification and transmission are common function for both analogue transmitters (with amplitude modulated PAL/NTSC/SECAM input signal) and digital transmitters (with multiprogram digital TV signal modulated for digital broadcasting, or HDTV, as input signal);
- h) that part of the functions of present analogue transmitters and retransmitters – i.e. amplitude modulation of the TV signal and sideband filtering – can be shifted to the digital decoders of the

* This Question should be brought to the attention of the International Standardization Organization/International Electrotechnical Commission (ISO/IEC).

distributional network, which will implement these procedures digitally and with a higher quality by producing amplitude modulated PAL/NTSC/SECAM signals with a partly suppressed sideband and also frequency modulated audio;

j) that in case if newly installed transmitters and retransmitters will only have to transfer the amplitude modulated PAL/NTSC/SECAM signals (produced by above mentioned digital decoders) into the broadcasting frequency band, to amplify and to transmit them, they also would be able to realize this task with a multiprogram digital TV signal modulated for digital broadcasting (or HDTV signal);

k) that such simplified universal transmitters and retransmitters must transfer, amplify and transmit a multiprogram digital TV signal, modulated for digital broadcasting, such a way that it will not interfere with the adjacent frequency channels;

l) that such universal transmitters and retransmitters for both analogue and digital terrestrial broadcasting and also digital decoders (producing amplitude modulated PAL/NTSC/SECAM signals with a partly suppressed sideband and frequency modulated audio), should meet special requirements,

decides that the following Question should be studied

1 What are the special requirements for amplitude modulated PAL/NTSC/SECAM signal with a partly suppressed sideband, produced by digital decoder of the distributional network for further transfer, amplification and transmission by universal transmitter and retransmitter used for existing terrestrial broadcasting?

2 What are the special requirements for frequency modulated audio signal, produced by digital decoder of the distributional network for further transfer, amplification and transmission by universal transmitter and retransmitter used for existing terrestrial broadcasting?

3 What are the special requirements for a universal transmitter used for digital terrestrial TV broadcasting to provide its non interference with existing terrestrial broadcasting?

4 What kind of additional pre-correction and filtering is necessary, in case when a universal transmitter is used for digital terrestrial TV broadcasting, to provide its complete non interference with existing terrestrial broadcasting?

5 What are the requirements for TV studio equipment to make it compatible with universal transmitter in case when such transmitter is being feeded directly by TV studio output signal?

6 For what range of output RF broadcasting power the use of transmitters and retransmitters is possible without alteration of feeder and antenna systems?

further decides

1 that the results of the above studies should be included in (a) Recommendation(s);

2 that the above studies should be completed by 2005.