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Title : PROPOSAL FOR ADDITIONS TO DRAFT RECOMMENDATION Y.221

1. ABSTRACT

In Draft Recommendation Y.221 there is no scheme to provide synchronization between two B channels. Implementations that require that the two B-channels be synchronized will have to use a higher layer scheme. This may cause some compatibility problems, unless this scheme is standardized.

In addition, it is acknowledged that in the current Draft Recommendation bits E and C1-C4 are reserved for the purpose of a CRC procedure, and that the procedure itself is under study. However, some organizations expressed reservations about including a CRC procedure at the Y.221 layer, and there have been some suggestions to make this procedure optional or to be defined for national use.

In Annex 1 to this proposal the channel synchronization problem is addressed. A scheme which uses currently reserved bits for channel synchronization procedure is proposed. In Annex 2, a scheme which allows the use of the E and C1-C4 bits for CRC purposes to be optional is proposed.

ANNEX 1

PROPOSAL TO USE CURRENTLY RESERVED BITS FOR CHANNEL SYNCHRONIZATION OR ERROR DETECTION

This document proposes a scheme which provides the means for implementing channel synchronization procedure by using bits that were originally reserved for future use. It is proposed that the scheme be included in Draft Recommendation Y.221.

1. Selection of Bits

In the current version of Y.221, the first bit of the FAW of even frames is reserved for future use. Also, the first bit of the FAW of frames 13 and 15 is reserved. It is proposed to use the first bits of the FAW of frames 0, 2, 4, and 6 (currently referred to as R1, R2, R3, and R4), for the channel synchronization procedure.

2. Channel Synchronization Pattern

The transmitter uses bits R1-R4 to sequentially number the multiframes on the two outgoing channels. Multiframe alignment between the two channels should be synchronized, that is, the transmitter multiframing of the two channels is the same at any given time. The same number is assigned to the outgoing multiframes on both channels. Since there are 4 bits, 16 numbers can be assigned (0-15). The numbering should be modulo 16, with the least significant bit in R1.

If the synchronization scheme is not used, the bits are constantly set to 0.

The receiver can use the numbers to align the two incoming channels accordingly. This scheme allows asynchronous arrival of up to 1280 msec to be correctly aligned.

ANNEX 2

PROPOSAL TO MAKE THE CRC PROCEDURE OPTIONAL

This document proposes a scheme to allow terminals to optionally use the CRC procedure. It is proposed that the scheme be included in Draft Recommendation Y.221.

1. Proposal

When the CRC procedure is not used, bits C1-C4 will be set to 1.

The receiving terminal will initiate the CRC decoding procedure when a pattern different than 1111 is detected in bits C1-C4 for two consecutive times. The receiving terminal will disable the CRC decoding procedure when the pattern 1111 is detected in bits C1-C4 for 8 consecutive times.