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INTERNATIONAL TELECOMMUNICATION UNION

RADIOCOMMUNICATION STUDY GROUPS

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DRAFT REVISION OF QUESTION ITU-R 64-3/11

OBJECTIVE PICTURE QUALITY PARAMETERS AND ASSOCIATED MEASUREMENT AND MONITORING METHODS FOR TELEVISION IMAGES ~~SIGNALS~~

(1990-1993-1996)

The ITU Radiocommunication Assembly,

considering

a) that considerable progress in digital TV and HDTV technology especially in the digital field, has been achieved and reported to Radiocommunication Study Group 11;

b) that the Radiocommunication Bureau is responsible for setting the overall quality performance of broadcasting chains;

c) that for television systems, ranging from standard definition TV to HDTV and including specific applications such as multiprogramming and scalable coding, it is essential to identify objective picture quality parameters as well as associated performance measurement and monitoring methods, for the studio environment and in broadcasting;

d) that it would be an advantage if measurement methods used for such tasks were unified for HDTV and conventional TV;

e) that impairments to television pictures can be shown to correlate with measurable features of the signals;

f) that overall picture quality is related to the combination of all impairments;

g) that recent developments in the statistical characterization of television images and modelling of the human visual system may lead to the replacement of subjective assessment by objective measurement in certain applications;

h) that in the case of digital TV it is necessary in particular to assess the performance of bit rate reduction methods both in terms of subjective and objective parameters;

j) that the measurement of performance requires agreed standard test materials based on moving images and test methods;

k) that the scrambling process used in conditional access broadcasting may require special steps to be taken where bit-rate reduction is to be employed,

decides that the following Question should be studied

1 What are the objective performance parameters for each application identified, and for each standard?

2 What are the necessary test materials and test signals required for the objective picture quality measurement of these applications and standards?

3 What methods should be used for measuring and monitoring the parameters defined in § 1 and 2?

4 What characteristics should be recommended for a quality meter which gives a direct displayed indication of picture quality?

5 What impairments may be expected to the bit-rate reduced signals, and what steps should be taken to counteract them?

6 Where conditional access is employed, what steps are necessary to coordinate the scrambling and bit-rate reduction processes so as to maintain the desired subjective and objective quality?

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 1999.