Document # 360
September 19, 1988

CCITT SGXV
Working Party XV/1
Specialists Group on Coding for Visual Telephony

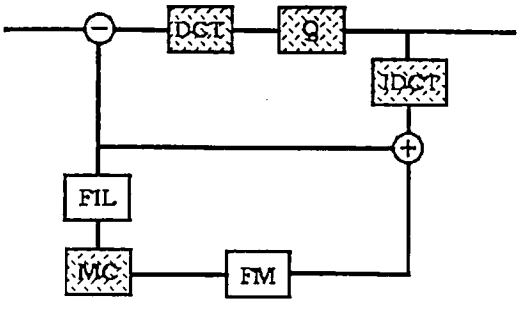
Source : Japan
Title : Enhancement to the encoding characteristics

1. Introduction

Various methods are under study for enhancement of the encoding characteristics as compared to the RM5. Purpose of this document is to show that improvement of the image quality is somewhat proportional to the complexity of the signal processings required. The method reported here is a new movement-adaptive DCT, which is reducible to the RM5 when the adaptive control is held inactive (β - DCT).

Conditions of the simulation performed :

(1) 2 methods (β - I, β - II), which differ in complexity, were simulated.
(2) No pre-filter, post-filter were applied.
(3) Fast DCT algorithm was used for the computation of DCT.
(4) In-the-loop filter was the same as that of the RM5.
(5) Movement estimation algorithm is not that of the RM5.
(6) RM5 buffer control was also applied.



(The new method differs from RM5 in the shaded blocks.)

2. Simulations result

The complexity of the signal processing required increases some 70 % (β - I) and 100 % (β - II), as compared to the RM5.

Fig.1 Comparison of the encoding performance (CLAIRE)

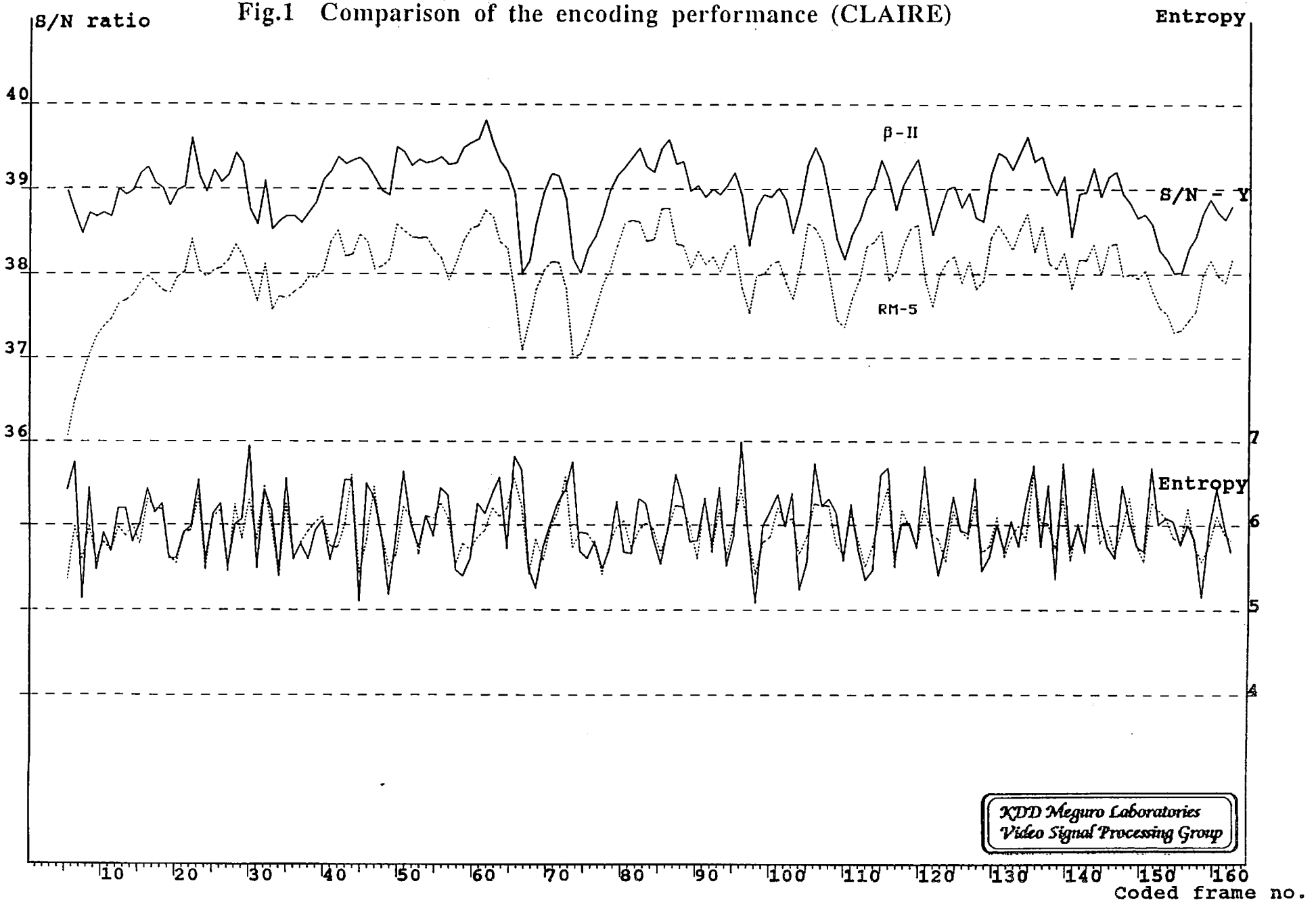


Fig.2 Comparison of the encoding performance (SALESMAN)

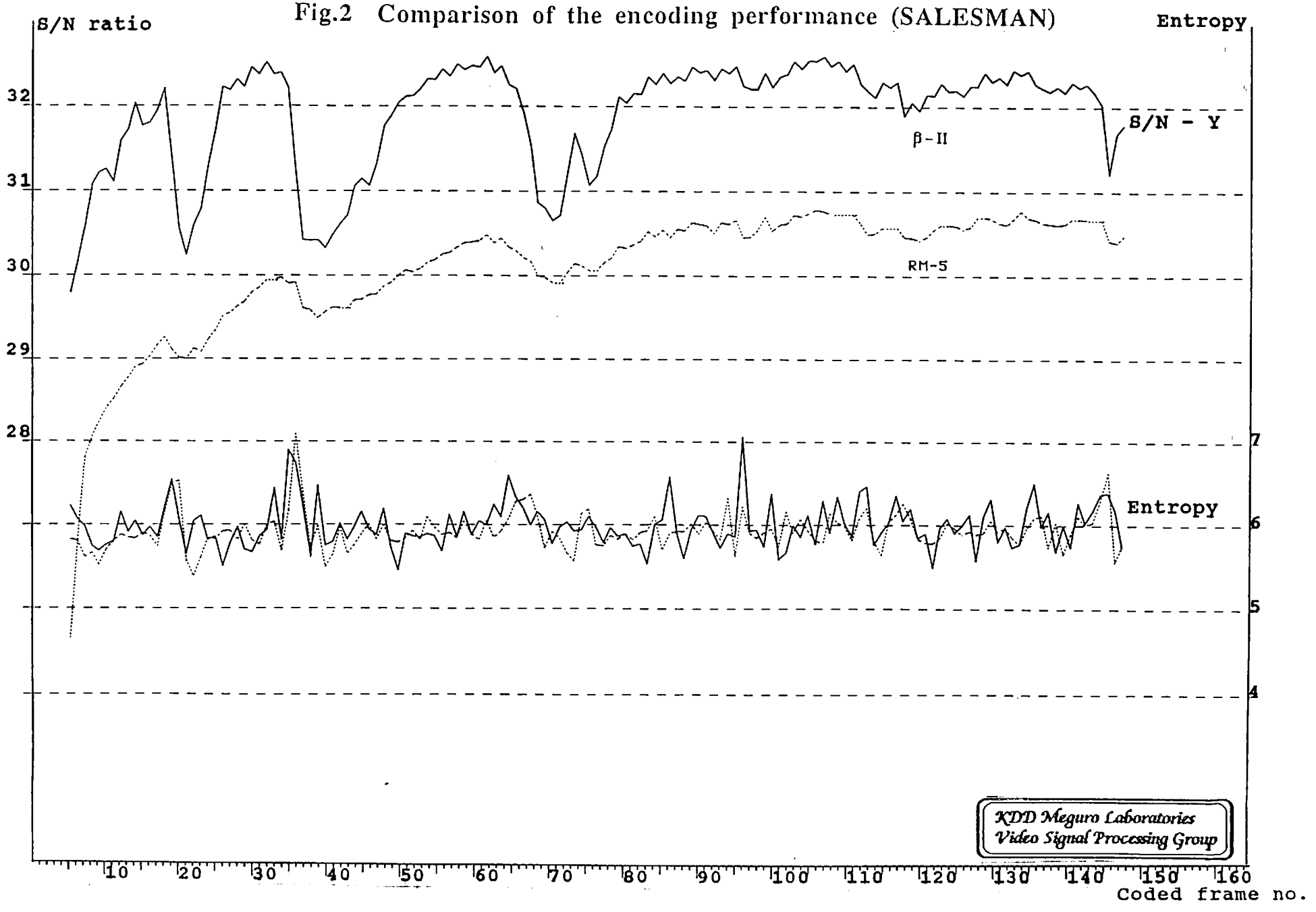


Fig.3 Comparison of the encoding performance (CLAIRE with starting 5 frames encoded by RM5)