

STATISTICAL TIME DIVISION MULTIPLEXING ARCHITECTURES AND DESIGN

A2

15 mV

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200mV

20mV



0.1 500ns

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28. Speech quality for Energy Criterion in Multiplexing

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28.0 Abstract

The energy of speech frames and their usage has been experienced in STDM architectures. Based upon this criterion the design of STDM architecture is experimented and results in terms of extra users and speech quality with 3% frame loss rate is presented in this chapter.

28.1 Test scores

The test scores are presented in Table, for energy based frame discarding. It is interesting to note -that at 12 users the MOS result is a bit lower than the mean square error criterion based frame discarding. This performance is better than the cyclic and random frame discarding schemes.

users	file (a)	file (b)	file (c)	file (d)	file (e)
9	3.5	3.5	3.5	3.5	3.5
10	3.5	3.5	3.0	3.5	2.7
11	3.0	3.5	3.0	3.7	2.7
• 12	3.0	3.5	3.0	3.7	1.7
13	2.5	3.5	2.2	3.0	1.7
14	2.5	2.5	1.5	2.5	1.7
15	2.0	2.5	1.5	2.0	1.5

Table 28-1: MOS of energy criterion in multiplexing

28.2 LPC Envelope Distortion Sensitivity

The sensitivity test for LPC envelope criterion is also carried out in a similar way to those of the previous two criterion, figure 6.20 indicates the threshold verses frame loss. The low sensitivity operational range of threshold can be around 2. The Tables 6.11 and 6.12 indicate the SNRseg distortion against threshold and loss rate. The threshold of 1 in Table is the lower limit of frame sensitivities where 6% frame loss is received. When a threshold was set to 8, the frame received loss was 8%. It can be seen in Table that 8% higher sensitivity frames cause more degradation in SNRseg than 6% frame loss of lower sensitivity frames.