

CRIST

THE  
DOUBLE INTERLEAVED  
PRODUCT (DIP) CODE

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202000

A Thesis  
Presented to  
the Graduate Division  
of the College of Engineering  
De La Salle University

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In Partial Fulfillment  
of the Requirements for the Degree of  
Master in Engineering Education  
Major in Electronics and Communications Engineering

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Submitted by

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March, 1991

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## ABSTRACT

Interleaving error detection codes, instead of the usual single-error correcting codes, can be used to correct long burst errors. To prove this point, schemes that interleave single-error correcting codes are discussed in contrast with schemes formulated that interleave error detection codes. Several forms of these schemes, particularly for the schemes that interleave error detection codes, are investigated to search for one that will correct the longest burst possible. The double interleaved product code with message redundancy is suggested. It has the capability of correcting up to two hundred and forty four transmitted bits affected by error burst. Two consecutive convolutional interleaving techniques are utilized to provide the needed bit separation of the burst. It also uses the simple even parity and the cyclic redundancy check schemes interspersed within the two convolutional interleaving techniques to correct the bits in error.

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