

TABLE OF CONTENTS

1. INTRODUCTION.....	5
1.1 Subband Coder Topology	5
1.2 Coding Gain	6
1.3 Polyphase Representation	8
1.4 Blocking and Problem Formulation	9
2. STATE OF ART	12
2.1 Subband Coding of WSS Signals.....	12
2.2 Two Channel Filter Bank for WSCS Signals	14
3. OPTIMUM SOLUTION.....	15
3.1 Mathematical Concept	15
3.2. Existence of the Optimum Solution	17
3.3 Remarks on Minimum Sum	20
4. OPTIMUM ENERGY COMPACTION	21
4.1 Nyquist-M filter	21
4.2 Nyquist-M Process for WSCS Signals	22
4.3 Optimum Energy Compaction with Nyquist-M Filter	23
5. FILTER BANK MODEL FOR WSCS SIGNALS	25
5.1 Quadrature Mirror Filter-bank	27
5.2 Design of the Power Symmetric Filters	28
5.3 Description of the Simulation Model	29
5.4 Quantizing Noise Model Description	31
5.5 Analysis of the Results.....	31
6. CONCLUSION.....	34
7. BIBLIOGRAPHY	35
CURRICULUM VITAE OF THE AUTHOR	36