

Acknowledgements

I am grateful to the member of the Ph. D committee in Instrumentation Engineering of the Department of Applied Physics, University of Calcutta who, after my formal seminar presentation, have kindly recommended the submission of the research work for the award of the Ph.D. (Tech) degree of the University of Calcutta. Their advices were very helpful.

I wish to express my deep gratitude to Professor A. K. Datta, who as my guide has always inspired and encouraged me in every step of my research work.

For guidance on academic matter of large scale or small, I have turned repeatedly to my teachers Prof. A. Basuray and Dr. A. Ghosh in the Department of Applied Physics. Time and again they helped to mould a hundred ways of thought and have given me good support with better ideas. I am grateful to all of them.

I would like to thank my friends and my fellow research scholars specially Dr. Mina Ray and Ms. Saumika Munshi, for their encouraging words at many moments of utter inactiveness.

Lastly, I wish to thank the Council of Scientific and Industrial Research, Govt. of India for the award of Senior Research Fellowship which helped me to carry out the research work.

30th January 2002

BITHIKA