

## **ACKNOWLEDGEMENT**

*I dedicate this thesis to my parents:*

*“Shri Lalit Chandra Kalita, an ideal school headmaster and cancer survivor,  
and Smti Putuli Kalita, an illiterate mother throwing herself with all efforts  
in educating me“*

*- For your endless sacrifices to make me what I am today.*

From the bottom of my heart I thank the following people and express gratitude for making this research work possible:

1. Professor Dr. Pran Hari Talukdar sir for his patience, wisdom and guidance.
2. My wife Mrs. Bhumija Thakuria (kalita) and two sons Bhargav and Manpreet for their unconditional love and cooperation.
3. DEPARTMENT OF INSTRUMENTATION & USIC, Gauhati University.
4. Friends Deepak Kumar Das and Chittaranjan Adhyapak for their wise advice, logistic support and encouragement.

*-Bimal Kumar Kalita*

*Note: Most of the diagrams are self compiled. I sincerely acknowledge that a few diagrams are compiled taking help from the MATLAB and internet sources.*