LIST OF FIGURES

Fig. No.	Title	Page
1.1	Shematic Representation of Ferroelectric Hysterisis Loop	13
1.2	Shematic Representation of Frequency Dependence of the Several Contribution to the Total Polarizability.	20
2.1	Phase Equilibria in the System $BaTiO_3$	35
2.2	The Schematic of Sample Mount	42
2.3	LF 357 Buffer Circuit.	47
3.1	The Unit Cell of the The Cubic Perovskite type Structure $BaTiO_3$	54
3.2	X-Ray Diffraction of $BaTiO_3$	56
3.3	X-Ray Diffraction of $BaSb_{0.0125}Mn_{0.0125}Ti_{0.975}O_3$	57
3.4	X-Ray Diffraction of $BaSb_{0.1}Mn_{0.1}Ti_{0.8}O_3$	58
3.5	X-Ray Diffraction of $BaSb_{0.2}Mn_{0.2}Ti_{0.6}O_3$	59
3.6	X-Ray Diffraction of $BaSb_{0.0125}Co_{0.0125}Ti_{0.975}O_3$	60
3.7	X-Ray Diffraction of $BaSb_{0.1}Co_{0.1}Ti_{0.8}O_3$	61
3.8	X-Ray Diffraction of $BaSb_{0.2}Co_{0.2}Ti_{0.6}O_3$	62
3.9	Variation of 'Lattice Parameter' with Concentration for SbMn and SbCo System.	63

4.1	Variation of ϵ_r with Temperature for $BaSb_{0.0125}Mn_{0.0125}Ti_{0.975}O_3$	72
4.2	Variation of ϵ_r with Temperature for $BaSb_{0.025}Mn_{0.025}Ti_{0.95}O_3$	73
4.3	Variation of ϵ_r with Temperature for $BaSb_{0.05}Mn_{0.05}Ti_{0.9}O_3$	74
4.4	Variation of ϵ_r with Temperature for $BaSb_{0.1}Mn_{0.1}Ti_{0.8}O_3$	75
4.5	Variation of ϵ_r with Temperature for $BaSb_{0.2}Mn_{0.2}Ti_{0.6}O_3$	76
4.6	Variation of ϵ_r with Temperature for $BaTi_3$	77
4.7a	Equivalent ϵircuit with Capacitance In Parallel with D.C. Resistance	78
4.7b	Equivalent ϵircuit with Additional Capacitance In Shunt.	79
4.8	Variation of ϵ_r with Temperature for $BaSb_{0.0125}Co_{0.0125}Ti_{0.975}O_3$	85
4.9	Variation of ϵ_r with Temperature for $BaSb_{0.025}Co_{0.025}Ti_{0.95}O_3$	86
4.10	Variation of ϵ_r with Temperature for $BaSb_{0.05}Co_{0.05}Ti_{0.9}O_3$	87
4.11	Variation of ϵ_r with Temperature for $BaSb_{0.1}Co_{0.1}Ti_{0.8}O_3$	88
4.12	Variation of ϵ_r with Temperature for $BaSb_{0.2}Co_{0.2}Ti_{0.6}O_3$	89
5.1	The Schematic of Band Model	103
5.2	Log 6 as a function (1/T) for $BaSb_{0.0125}Mn_{0.0125}Ti_{0.975}O_3$	104

5.3	Log 6 as a function (1/T) for $BaSb_{0.025}Mn_{0.025}Ti_{0.95}O_3$	105
5.4	Log 6 as a function (1/T) for $BaSb_{0.05}Mn_{0.05}Ti_{0.9}O_3$	106
5.5	Log 6 as a function (1/T) for $BaSb_{0.1}Mn_{0.1}Ti_{0.8}O_3$	107
5.6	Log 6 as a function (1/T) for $BaSb_{0.2}Mn_{0.2}Ti_{0.6}O_3$	108
5.7	Log 6 as a function (1/T) for $BaSb_{0.0125}Co_{0.0125}Ti_{0.975}O_3$	109
5.8	Log 6 as a function (1/T) for $BaSb_{0.025}Co_{0.025}Ti_{0.95}O_3$	110
5.9	Log 6 as a function (1/T) for $BaSb_{0.05}Co_{0.05}Ti_{0.9}O_3$	111
5.10	Log 6 as a function (1/T) for $BaSb_{0.1}Co_{0.1}Ti_{0.8}O_3$	112
5.11	Log 6 as a function (1/T) for $BaSb_{0.2}Co_{0.2}Ti_{0.6}O_3$	113
5.12	Variation Q with T for $BaSb_{0.0125}Mn_{0.0125}Ti_{0.975}O_3$	114
5.13	Variation Q with T for $BaSb_{0.025}Mn_{0.025}Ti_{0.95}O_3$	115
5.14	Variation Q with T for $BaSb_{0.05}Mn_{0.05}Ti_{0.9}O_3$	116
5.15	Variation Q with T for $BaSb_{0.1}Mn_{0.1}Ti_{0.8}O_3$	117
5.16	Variation Q with T for $BaSb_{0.2}Mn_{0.2}Ti_{0.6}O_3$	122

5.17 Variation Q with T for $BaSb_{0.0125}Co_{0.0125}Ti_{0.975}O_3$ 123

5.18 Variation Q with T for $BaSb_{0.025}Co_{0.025}Ti_{0.95}O_3$ 124

5.19 Variation Q with T for $BaSb_{0.05}Co_{0.05}Ti_{0.9}O_3$ 125

5.20 Variation Q with T for $BaSb_{0.1}Co_{0.1}Ti_{0.8}O_3$ 126

5.21 Variation Q with T for $BaSb_{0.2}Co_{0.2}Ti_{0.6}O_3$ 127